# NATIONAL CENTER FOR EDUCATION STATISTICS NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS 

# National Assessment of Educational Progress (NAEP) 

2019 and 2020

Appendix K1

NAEP 2019 Student Questionnaires

OMB\# 1850-0928 v. 10


September 2018

Appendix F provides the library of possible items to be used in the NAEP 2019 and 2020 questionnaires. This appendix (Appendix K1) includes the final version of the NAEP 2019 Student questionnaires, as well as a summary of any minor, non-substantive, wording changes made as a result of pilot and cognitive interview results and final reviews. In addition, note that some of the questionnaires will utilize spiraling in order to minimize respondent burden while maximizing the amount of items that can be piloted. The spiral maps for these questionnaires are also included.

The confidentiality citation has been updated in September 2018. The student log-in screen will reflect the new confidentiality citation, as reflected in Part A.

| Abbreviation Key |
| :--- |
| CAFS: Computer Access and Familiarity |
| ESQ: Extended Student Questionnaire |
| NIES: National Indian Education Study |

The items presented in this appendix are those to be used in the digitally based assessments. Some of the questionnaires will also be administered in paper based assessments. Adaptations to the item-level directions may be made, as appropriate (for example, "select one answer choice on each row" in DBA would become "fill in one oval on each line" in PBA).

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## Student Login Screen

## Welcome to NAEP



Appendix K-1a: Summary of Changes Operational and Pilot Student Debrief Grades 4, 8, and 12

2019 Operational and Pilot Grade 4, 8, and 12 Debrief Student

| Previous item | 2019 item |  | Rationale |
| :---: | :---: | :---: | :---: |
| 1. How important was it to you to do well on this test? <br> (8) Not very important <br> (1) Somewhat important <br> (1) Important <br> (1) Very important <br> (2018 Grade 4, 8, and 12) | N/A | D | To keep student burden low, this item was dropped. |
| 2. How easy or difficult was this test? <br> (4) Extremely difficult <br> (1) Quite difficult <br> © Somewhat difficult <br> (1) Somewhat easy <br> (๑) Quite easy <br> (1) Extremely easy <br> (2018 Grade 4, 8, and 12) | 1. How easy or difficult was this test? <br> (4) Extremely difficult <br> (1) Quite difficult <br> (6) Somewhat difficult <br> (6) Somewhat casy <br> (1) Quite easy <br> (3) Extremely casy <br> Issue: Debrief | NC | N/A |
| 3. How much effort did you apply to succeed on this test? <br> (4) No effort at all <br> (1) Very little effort <br> © Some effort <br> (1) Quite a bit of effort <br> (c) A lot of effort <br> (2018 Grade 4, 8, and 12) | 2. How much effort did you apply to succeed on this test? <br> (4) No effort at all <br> (1) Very little effort <br> © Some effort <br> (1) Quite a bit of effort <br> (1) A lot of effort <br> Issue: Debrief | NC | N/A |
| 4. How challenging was taking this test? <br> (4) Not challenging at all <br> (1) A little challenging <br> © Somewhat challenging <br> (1) Quite challenging <br> (1) Extremely challenging <br> (2018 Grade 4, 8, and 12) | N/A | D | To keep student burden low, this item was dropped. |

2019 Operational and Pilot Grade 4, 8, and 12 Debrief Student


Appendix K-1b: Operational and Pilot Student Debrief Grades 4, 8, and 12

1. How easy or difficult was this test?
(A) Extremely difficult
(B) Quite difficult
© Somewhat difficult
(D) Somewhat easy
(E) Quite easy
() Extremely easy
2. How much effort did you apply to succeed on this test?
(A) No effort at all
(B) Very little effort
(c) Some effort
(D) Quite a bit of effort
(E) A lot of effort

## Appendix K-1c: Summary of Changes Operational Grade 4 Core

2019 Operational Grade 4 Core Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 6. Are you Hispanic or Latino? Select one or more answer choices. <br> (4) No, I am not Hispanic or Latino. <br> (B) Yes, I am Mexican, Mexican American, or Chicano. <br> © Yes, I am Puerto Rican or Puerto Rican American. <br> (1) Yes, I am Cuban or Cuban American. <br> (8) Yes, I am from some other Hispanic or Latino background. <br> (2018 Grade 4) | 3. Are you Hispanic or Latino? Select one or more answer choices. <br> (4) No, I am not Hispanic or Latino. <br> (D) Yes, I am Mexican, Mexican American, or Chicano. <br> © Yes, I am Puerto Rican or Puerto Rican American. <br> (1) Yes, I am Cuban or Cuban American. <br> (1) Yes, I am from some other Hispanic or Latino background. <br> Issue: Race/Ethnicity | NC | N/A |
| 7. Which of the following best describes you? Select one or more answer choices. <br> (4) White <br> (B) Black or African American <br> © Asian <br> (1) American Indian or Alaska Native <br> (1) Native Hawaiian or other Pacific Islander <br> (2018 Grade 4) | 4. Which of the following best describes you? Select one or more answer choices. <br> (A) White <br> (8) Black or African American <br> © Asian <br> (1) American Indian or Alaska Native <br> (1) Native Hawaiian or other Pacific Islander <br> Issue: Race/Ethnicity | NC | N/A |
| 8. About how many books are there in your home? <br> (4) Few $(0-10)$ <br> (B) Enough to fill one shelf (11-25) <br> © Enough to fill one bookcase (26-100) <br> (1) Enough to fill several bookcases (more than 100) <br> (2018 Grade 4) | 5. About how many books are there in your home? <br> (4) Few ( $0-10$ ) <br> (B) Enough to fill one shelf (11-25) <br> (0) Enough to fill one bookcase (26-100) <br> (1) Enough to fill several bookcases (more than 100) <br> Issue: Socioeconomic Status | NC | N/A |


| 2019 Operational Grade 4 Core Student |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 9. Do you have any of the following in your home? Select one answer choice on each row. |  |  |  | 6. Do you have any of the following in your home? Select one answer choice on each row. |  |  |  | R | Due to concerns about content relevance and to keep student burden low, sub-items b and c were dropped. |
|  | Yes | No |  |  | Yes | No |  |  |  |
| a. Access to the Internet | $\stackrel{\square}{6}$ | ${ }_{\square}$ | vinvies | a. Access to the Internet | ${ }_{\square}$ | © |  |  |  |
| b. Clothes dryer just for your family | $\stackrel{\oplus}{\odot}$ | ${ }_{\square}^{\oplus}$ | vixass | b. Your own bedroom | © | ${ }^{\circ}$ |  |  |  |
| C. Dishwasher | ${ }_{\square}{ }^{\circ}$ | ${ }_{\square}{ }^{\circ}$ | vixase | c. A desktop or laptop computer (including <br> Chromebooks) that you can use | © | © | viswve |  |  |
| (e. A desktop or laptop computer (including | © | $\oplus$ | v𠃊5\%\% | d. A tablet (for example, Surface Pro, iPad, Kindle Fire) that you can use | $\odot$ | $\odot$ | нидии |  |  |
|  | © | ¢ | vermo | e. A smartphone (for example, iPhone, Samsung Galaxy, HTC One) that you can | $\odot$ | © | чигл |  |  |
| g. A smartphone (for example, iPhone, Same ang Galaxy, HTC One) that you can use | $\odot$ | $\oplus$ | verun | - ${ }^{\text {Samse }}$ (e) | $\odot$ | © | virme |  |  |
| (2018 Grade 4) |  |  |  | Issue: Socioeconomic Status |  |  |  |  |  |
| 10. How often der visser |  |  |  | 7. How often do you use the Internet for homework at home? visser |  |  |  | NC | N/A |
| 10. How often do you use the Internet for homework at home? <br> (4) Never <br> (8) About once or twice a month <br> © About once or twice a week <br> (1) Almost every day <br> (1) Every day <br> (2018 Grade 4) |  |  |  |  |  |  |  |  |  |
|  |  |  |  | (4) Never <br> (B) About once or twice a month <br> © About once or twice a week <br> (1) Almost every day <br> (c) Every day |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  | Issue: Technology Use |  |  |  |
| 11. How many days were you absent from school in the last month? |  |  |  |  |  | 8. How many days were you absent from school in the last month? |  |  |  | NC | N/A |
|  |  |  |  |  |  |  |  |  |  |  |  |
| (1) 1 or 2 days |  |  |  |  |  | (1) 1 or 2 days |  |  |  |  |  |
| - 3 or 4 days |  |  |  |  |  | - 3 or 4 days |  |  |  |  |  |
| (1) 5 to 10 days |  |  |  |  |  | (1) 5 to 10 days |  |  |  |  |  |
| © More than 10 days |  |  |  | (1) More than 10 days |  |  |  |  |  |  |
| (2018 Grade 4) |  |  |  | Issue: School Climate |  |  |  |  |  |  |
| 12. How often do you talk about things you have studied in school with someone in your family? |  |  |  | 9. How often do you talk about things you have studied in school with someone in |  |  | venu\|e | NC | N/A |  |
|  |  |  |  |  |  |  |  |  |  |  |
| (1) Never or hardly ever |  |  |  | (8) Never or hardly ever |  |  |  |  |  |  |
| (1) Once every few weeks |  |  |  | (1) Once every few weeks |  |  |  |  |  |  |
| $\bigcirc$ About once a week |  |  |  | © About once a weck |  |  |  |  |  |  |
| (1) Two or three times a week |  |  |  | © Two or three times a week |  |  |  |  |  |  |
| © Every day |  |  |  | (1) Every day |  |  |  |  |  |  |
| (2018 Grade 4) |  |  |  | Issue: Socioeconomic Status |  |  |  |  |  |  |


| 2019 Operational Grade 4 Core Student |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 13. Do any of the following people live in row. <br> (2018 Grade 4) | Select <br> Yes <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ | eon e <br> No <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ |  | 10. Do any of the following people live in y row. <br> Issue: Socioeconomic Statu | Select <br> Yes <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ | on cac <br> No <br> $\oplus$ <br> $\oplus$ <br> $\oplus$ <br>  <br>  <br> $\oplus$ |  | NC | N/A |
| 14. In this school year, how often did you use Chromebooks) during your classes at schoo? <br> (4) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (1) In all or almost all classes <br> (2018 Grade 4) | deskto | ding | \%ea | 11. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school? <br> (4) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (1) In all or almost all classes <br> Issue: Technology Use |  |  |  | NC | N/A |
| 15. In this school year, how often did you use Kindle Fire) during your classes at school? <br> (1) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (c) In all or almost all classes <br> (2018 Grade 4) |  |  |  | 12. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school? <br> (4) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (1) In all or almost all classes <br> Issue: Technology Use |  |  | ${ }^{216}$ | NC | N/A |



2019 Operational Grade 4 Core Student


## Appendix K-1d: Operational Grade 4 Core

1. How easy or difficult was this test?
(A) Extremely difficult
(B) Quite difficult
© Somewhat difficult
(D) Somewhat easy
(E) Quite easy
() Extremely easy
2. How much effort did you apply to succeed on this test?
(A) No effort at all
(B) Very little effort
© Some effort
(D) Quite a bit of effort
(E) A lot of effort
3. Are you Hispanic or Latino? Select one or more answer choices.
(A) No, I am not Hispanic or Latino.
(B) Yes, I am Mexican, Mexican American, or Chicano.
© Yes, I am Puerto Rican or Puerto Rican American.
(®) Yes, I am Cuban or Cuban American.
© Yes, I am from some other Hispanic or Latino background.
4. Which of the following best describes you? Select one or more answer choices.
(4) White
(B) Black or African American
© Asian
(D) American Indian or Alaska Native
(E) Native Hawaiian or other Pacific Islander
5. About how many books are there in your home?
(4) Few (0-10)
(B) Enough to fill one shelf (11-25)
© Enough to fill one bookcase (26-100)
(D) Enough to fill several bookcases (more than 100)
6. Do you have any of the following in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Access to the Internet | (4) | (8) | VH271105 |
| b. Your own bedroom | (4) | (B) | VH336762 |
| c. A desktop or laptop computer (including Chromebooks) that you can use | (1) | (B) | vH591976 |
| d. A tablet (for example, Surface Pro, iPad, Kindle Fire) that you can use | (1) | © | vH271110 |
| e. A smartphone (for example, iPhone, Samsung Galaxy, HTC One) that you can use | (1) | ® | VH271112 |

7. How often do you use the Internet for homework at home?
(4) Never
(B) About once or twice a month
© About once or twice a week
(D) Almost every day
(E) Every day
8. How many days were you absent from school in the last month?
(A) None
(B) 1 or 2 days
© 3 or 4 days
(D) 5 to 10 days
(E) More than 10 days
9. How often do you talk about things you have studied in school with someone in your family?
(4) Never or hardly ever
(B) Once every few weeks
© About once a week
(D) Two or three times a week
(E) Every day
10. Do any of the following people live in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Mother | (4) | (8) | VH271145 |
| b. Stepmother | (4) | (8) | VH271146 |
| c. Foster mother or other female legal guardian | (4) | © | vH271147 |
| d. Father | (4) | © | VH271148 |
| e. Stepfather | (4) | (8) | vH271149 |
| f. Foster father or other male legal guardian | (4) | (B) | VH271150 |

11. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school?
(A) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(E) In all or almost all classes
12. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school?
(A) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(®) In all or almost all classes
13. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I finish whatever I begin. | (1) | (B) | © | (1) | (1) | vH737142 |
| b. I try very hard even after making mistakes. | (4) | (B) | © | (1) | (1) | vH733143 |
| c. I keep working hard even when I feel like quitting. | (1) | (B) | © | (1) | (1) | vH733145 |
| d. I keep trying to improve myself, even when it takes a long time to get there. | (4) | (B) | © | (1) | (c) | vH733144 |

14. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I like complex problems more than easy problems. | (4) | (B) | © | (1) | (E) | vH733150 |
| b. I like activities that challenge my thinking abilities. | (4) | (B) | © | (1) | (1) | vH733151 |
| c. I enjoy situations where I will have to think about something. | (4) | (B) | © | (1) | (c) | vH733155 |
| d. I enjoy thinking about new solutions to problems. | (1) | (B) | © | (1) | (E) | VH733154 |

15. In this school year, how often have you done each of the following? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I started working on assignments right away rather than waiting until the last minute. | (4) | (B) | $\bigcirc$ | (1) | © | VH271370 |
| b. I paid attention and resisted distractions. | (1) | (B) | © | (1) | © | VH271372 |
| c. I stayed on task without reminders from my teacher | (4) | (B) | © | (1) | © | VH271374 |
| d. I paid attention in class even when I was not interested. | (4) | © | © | © | (1) | VH271375 |

16. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I felt awkward and out of place at school. | (4) | (B) | © | (1) | (E) | vH271942 |
| b. I felt happy at school. | (1) | (B) | © | (1) | (1) | vH271944 |
| c. I felt that I learned something that I can use in my daily life. | (4) | (B) | $\bigcirc$ | (1) | (1) | vH336903 |

## Appendix K-1e: Summary of Changes Pilot Grade 4 Core



## 2019 Pilot Grade 4 Core Student

| Previous item |  |  |  | 2019 item |  |  |  | D/A/ <br> R/NC+ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10. How often do you use the Internet for h <br> (4) Never <br> (B) About once or twice a month <br> © About once or twice a week <br> (1) Almost every day <br> (1) Every day <br> (2017 Grade 4) | hom |  | vissen | 3. How often do you use the Internet for home <br> (4) Never <br> (B) About once or twice a month <br> (0) About once or twice a week <br> (1) Almost every day <br> (1) Every day <br> Issue: Technology Use | me? |  | (s) | NC | N/A |
| 11. How many days were you absent from sch <br> (4) None <br> (B) 1 or 2 days <br> © 3 or 4 days <br> (1) 5 to 10 days <br> (5) More than 10 days <br> (2017 Grade 4) | last m |  | vemom | 4. How many days were you absent from sch <br> (4) None <br> (B) 1 or 2 days <br> © 3 or 4 days <br> (1) 5 to 10 days <br> (1) More than 10 days <br> Issue: School Climate | last m |  | vrewo | NC | N/A |
| 12. How often do you talk about things you your family? <br> (4) Never or hardly ever <br> (B) Once every few weeks <br> © About once a week <br> (1) Two or three times a week <br> (1) Every day <br> (2017 Grade 4) | din sc |  | мmas | 5. How often do you talk about things you h your family? <br> (4) Never or hardly ever <br> (8) Once every few weeks <br> © About once a week <br> (1) Two or three times a week <br> (1) Every day <br> Issue: Socioeconomic Status | in sc |  | mente | NC | N/A |
| 13. Do any of the following people live in your home? Select one answer choice on each row. |  |  |  | 6. Do any of the following people live in your home? Select one answer choice on each row. |  |  |  | NC | N/A |
|  | Yes | No |  |  | Yes | No |  |  |  |
| a. Mother | © | ${ }_{\square}$ | , | a. Mother | (1) | © | varlus |  |  |
| b. Stepmother <br> c. Foster mother or other female legal | © | ${ }^{\circ}$ | vャrıle | b. Stepmother | $\stackrel{\square}{\square}$ | $\oplus$ | verıne |  |  |
| $\begin{aligned} & \text { c. Foster mother or other female legal } \\ & \begin{array}{l} \text { gaurdian } \\ \hline \text { d. Father } \end{array} \\ & \hline \end{aligned}$ | - | - | virus | c. Foster mother or other female legal guardian | $\triangle$ | $\odot$ | verıuer |  |  |
| d. Father <br> e. Stepfather | $\stackrel{\oplus}{\oplus}$ | $\stackrel{\oplus}{\oplus}$ | vernes | d. Father | $\stackrel{\square}{+}$ | $\stackrel{\square}{\circ}$ | verrue |  |  |
| f. Foster father or other male legal guardian |  |  |  | e. Stepfather <br> f. Foster father or other male legal guardian | $\frac{\oplus}{\Phi}$ |  | $\begin{aligned} & \text { varıut } \\ & \hline \text { varziso } \end{aligned}$ |  |  |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |

## 2019 Pilot Grade 4 Core Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school? <br> (4) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (1) In all or almost all classes <br> (2017 Grade 4) |  |  |  |  |  |  | 7. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school? <br> (4) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (1) In all or almost all classes <br> Issue: Technology Use |  |  |  |  |  |  | NC | N/A |
| 15. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school? <br> (4) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (1) In all or almost all classes <br> (2017 Grade 4) |  |  |  |  |  |  | 8. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school? <br> (4) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (c) In all or almost all classes <br> Issue: Technology Use |  |  |  |  |  |  | NC | N/A |
| 16. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 9. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The stem of |
|  | Notat all | $\begin{gathered} \text { A little bit } \\ \text { like me } \end{gathered}$ | Somewhat like me | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Very much } \\ \text { like me } \end{array} \end{array}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |  | revised for |
| a. ${ }_{\text {a }}$ If ifinish whatever I | ¢ | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | venzas | a. ${ }^{\text {I finish whatever I }}$ begin. <br> b. | © | $\bigcirc$ | $\bigcirc$ | ¢ | $\odot$ | Ssich |  |  |
| b. $\begin{array}{c}\text { Itry very hard even } \\ \text { atter making mistakes }\end{array}$ <br> . | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | verzas | b. I try very hard even after making mistakes. | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | нияан |  |  |
| $\begin{aligned} & \text { c. I } \begin{array}{l} \text { Ikeep working hard } \\ \text { even when Ifeel } \\ \text { quititiong } \end{array} \\ & \hline \text { d.aken tring to } \end{aligned}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | $\xrightarrow{\text { verraa }}$ | $\begin{array}{\|l} \text { a. Iter making misktakes. } \\ \begin{array}{c} \text { even working hard } \\ \text { quitting. Ifecl like } \end{array} \\ \hline \end{array}$ | © | © | - | $\odot$ | $\odot$ | ${ }_{\text {\% }}$ |  |  |
|  | $\odot$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | $\odot$ | тедия 5 |  | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ |  |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Grit |  |  |  |  |  |  |  |  |


| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 17. In this school year, how often have you done each of the following? Select one answer choice on each row. |  |  |  |  |  |  | 10. In this school year, how often have you done each of the following? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\left\lvert\, \begin{aligned} & \text { Never or } \\ & \text { hardly ever } \end{aligned}\right.$ | $\begin{array}{\|c} \begin{array}{c} \text { Less than } \\ \text { halfo of the } \\ \text { time } \end{array} \\ \hline \hline \end{array}$ | About half of the time | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \hline \text { harfo than the } \\ \text { timme } \end{array}$ | $\left.\begin{array}{\|c\|} \hline \text { All or } \\ \text { almost } \\ \text { all of of time } \end{array} \right\rvert\,$ |  |  | Never or hardly ever | Less than half of the time | About half of the time | More than halfof the time | $\begin{array}{\|c} \text { All or } \\ \text { almost all of } \\ \text { the time } \end{array}$ |  |  |  |
|  | © | ${ }^{\circ}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | 30 |  | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ |  |  |  |
|  | $\oplus$ | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | 132 | minute. b. I paid attention and resisted distractions. | © | © | $\odot$ | $\oplus$ | © | vпитя |  |  |
| c. I stayed on task <br> without reminders <br> from my teacher. d. I paid attention in | $\oplus$ | ${ }^{\circ}$ | - | $\odot$ | © | ventas | resisted distractions. <br> c. I stayed on task <br> without reminders <br> from my teacher. <br> . | © | ${ }_{\square}$ | $\odot$ | $\oplus$ | $\odot$ | vигдия |  |  |
| $\substack{\text { d. I paid attention in } \\ \text { class iten when } \\ \text { not interestect. }}$ <br> was | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\oplus$ | $\mathrm{w}_{3}$ | from my teacher. <br> d. I paid attention in <br> class even when I was <br> not interested. | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | vппиas |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Grit |  |  |  |  |  |  |  |  |
| 18. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 11. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The stem of this item was revised for clarity. |
|  | Not at all like me | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Very much } \\ & \text { like me } \end{aligned}$ |  |  | $\begin{aligned} & \text { Not at all } \\ & \text { like me } \end{aligned}$ | $\begin{gathered} \text { A little bit } \\ \text { like me } \end{gathered}$ | $\begin{aligned} & \text { Somewhat } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | Very much like me |  |  |  |
| $\begin{array}{\|l\|} \hline \text { a. } \begin{array}{l} \text { Ilike complex } \\ \text { problems more than } \\ \text { easy problems. } \end{array} \\ \hline \end{array}$ | © | $\odot$ | $\odot$ | $\oplus$ | $\oplus$ | ${ }^{155}$ |  | © | © | $\bigcirc$ | $\oplus$ | $\odot$ | ${ }^{3150}$ |  |  |
| b. I like activities that challenge my thinking abilities. abilitics. | $\bullet$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | ventre | b. I like activities that challenge my thinking abilities. | © | $\oplus$ | $\odot$ | ${ }^{\circ}$ | © | wrust |  |  |
| $\begin{array}{\|l} \hline \text { c. I enioy situations } \\ \text { where I will have to } \\ \text { think about } \\ \text { something. } \end{array}$ | © | © | $\odot$ | $\oplus$ | $\oplus$ | 70s | c. I enjoy situations <br> where I will have to <br> think about <br> something. | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | Hzu15 |  |  |
| $\begin{aligned} & \text { d. I Injoy thinking about } \\ & \text { new solutions to } \\ & \text { problems. } \end{aligned}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | IT6 | $\begin{aligned} & \text { d. I enioy thinking about } \\ & \text { new solutions to } \\ & \text { problems. } \\ & \hline \end{aligned}$ | © | $\oplus$ | $\bigcirc$ | $\odot$ | $\odot$ | Heats |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Desire for Learning |  |  |  |  |  |  |  |  |

2019 Pilot Grade 4 Core Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row. |  |  |  |  |  |  | 12. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row. |  |  |  |  |  |  | R | New subitems (d, e, and f) were added to expand measurement of this content. |
|  | $\begin{aligned} & \text { Never or } \\ & \text { hardll ever } \end{aligned}$ | $\begin{array}{\|l\|} \hline \begin{array}{l} \text { Less than } \\ \text { half of the } \\ \text { time } \end{array} \\ \hline \end{array}$ | About half of the time | $\begin{array}{\|c\|c\|c\|c\|c\|} \hline \text { More than } \\ \text { halfof the } \\ \text { time } \end{array}$ | $\left.\begin{array}{\|c\|} \hline \text { All or } \\ \text { almost all of } \\ \text { the time } \end{array} \right\rvert\,$ |  |  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | Less than half of the | About half of the time | More than halfof the time | $\begin{array}{\|c\|} \hline \text { All or } \\ \text { almost oll of } \\ \text { the time } \end{array}$ |  |  |  |
| $\begin{array}{\|l} \hline \text { a. I felt awkward and out } \\ \text { of place at school. } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | ,1920 | a felt awkward and out of place at school. | © | © | $\odot$ | $\odot$ | $\oplus$ | verise2 |  |  |
| b. If elt happy at school. | ${ }_{\square}$ | $\oplus$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | \%enve4 | b. I felt happy at school. | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\odot$ | vangea |  |  |
|  | © | $\odot$ | $\odot$ | $\oplus$ | $\odot$ | soss | c. I felt that I learned. <br> something that I can <br> use in my daily life. | ¢ | $\odot$ | $\odot$ | ${ }_{\square}$ | $\odot$ | Sess |  |  |
|  |  |  |  |  |  |  | $\begin{aligned} & \text { d. I worried about crime } \\ & \text { and violence at my } \\ & \text { school. } \end{aligned}$ | © | © | $\odot$ | $\oplus$ | $\odot$ | 1900 |  |  |
|  |  |  |  |  |  |  |  | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | 1717 |  |  |
|  |  |  |  |  |  |  |  | © | ${ }^{\bullet}$ | $\odot$ | ${ }^{\circ}$ | $\oplus$ | suns |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: School Climate |  |  |  |  |  |  |  |  |
| 20. Write the ZIP code of your home address in the box. <br> 매님 |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | Due to the |
|  |  |  |  |  |  |  |  | time burden |  |  |
|  |  |  |  |  |  |  |  | associated |  |  |
|  |  |  |  |  |  |  |  | with |  |  |
|  |  |  |  |  |  |  |  | completing |  |  |
|  |  |  |  |  |  |  |  | this item and |  |  |
|  |  |  |  |  |  |  |  | to keep |  |  |
|  |  |  |  |  |  |  |  | student |  |  |
|  |  |  |  |  |  |  |  | burden low |  |  |
|  |  |  |  |  |  |  |  | this item was |  |  |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |  |  |  |  |  | dropped |

## Appendix K-1f: Pilot Grade 4 Core

1. About how many books are there in your home?
(4) Few (0-10)
(B) Enough to fill one shelf (11-25)
© Enough to fill one bookcase (26-100)
(D) Enough to fill several bookcases (more than 100)
2. Do you have any of the following in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Access to the Internet | (A) | (B) | VH271105 |
| b. Your own bedroom | (A) | (B) | vH336762 |
| c. Your own desktop or laptop computer (including Chromebooks) | (A) | (B) | VH853088 |
| d. Your own tablet (for example, Surface Pro, iPad, or Kindle Fire) | (A) | (B) | VH853090 |
| e. Your own smartphone (for example, iPhone, Samsung Galaxy, or HTC One) | (A) | (B) | VH853089 |

3. How often do you use the Internet for homework at home?
(4) Never
(B) About once or twice a month
(c) About once or twice a week
(D) Almost every day
(E) Every day
4. How many days were you absent from school in the last month?
(A) None
(B) 1 or 2 days
© 3 or 4 days
(D) 5 to 10 days
(E) More than 10 days
5. How often do you talk about things you have studied in school with someone in your family?
(4) Never or hardly ever
(B) Once every few weeks
© About once a week
(D) Two or three times a week
(©) Every day
6. Do any of the following people live in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Mother | (4) | (8) | VH271145 |
| b. Stepmother | (4) | (8) | vH271146 |
| c. Foster mother or other female legal guardian | (4) | (B) | vH271147 |
| d. Father | (4) | (8) | VH271148 |
| e. Stepfather | (4) | (8) | VH271149 |
| f. Foster father or other male legal guardian | (4) | (8) | VH271150 |

7. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school?
(4) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(E) In all or almost all classes
8. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school?
(A) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(E) In all or almost all classes
9. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I finish whatever I begin. | (4) | (B) | © | (1) | (1) | VH733142 |
| b. I try very hard even after making mistakes. | (4) | (B) | © | (1) | (1) | vH733143 |
| c. I keep working hard even when I feel like quitting. | (4) | (B) | © | (1) | (1) | vH733145 |
| d. I keep trying to improve myself, even when it takes a long time to get there. | (4) | (B) | © | (1) | (1) | VH733144 |

10. In this school year, how often have you done each of the following? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I started working on assignments right away rather than waiting until the last minute. | (4) | (B) | © | (1) | (1) | vH271370 |
| b. I paid attention and resisted distractions. | (4) | (B) | © | (1) | (1) | vH271372 |
| c. I stayed on task without reminders from my teacher. | (4) | (B) | © | (1) | (1) | vH271374 |
| d. I paid attention in class even when I was not interested. | (4) | (B) | © | (1) | (1) | vH271375 |

11. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I like complex problems more than easy problems. | (4) | (B) | © | (1) | (1) | vH733150 |
| b. I like activities that challenge my thinking abilities. | (1) | (B) | © | (1) | (1) | vH733151 |
| c. I enjoy situations where I will have to think about something. | (1) | (B) | © | (1) | (1) | VH733155 |
| d. I enjoy thinking about new solutions to problems. | (1) | (B) | © | (1) | (c) | VH733154 |

12. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I felt awkward and out of place at school. | (4) | (B) | © | (1) | (c) | vH271942 |
| b. I felt happy at school. | (4) | (8) | © | (1) | © | VH271944 |
| c. I felt that I learned something that I can use in my daily life. | (4) | (B) | © | (1) | (1) | vH336903 |
| d. I worried about crime and violence at my school. | (4) | (B) | © | (1) | (1) | VH271940 |
| e. I felt my teachers treated me fairly. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH853117 |
| f. I felt safe on my way to or from school. | (4) | (B) | © | (1) | (1) | VH853118 |

13. Are you Hispanic or Latino? Select one or more answer choices.
(A) No, I am not Hispanic or Latino.
(B) Yes, I am Mexican, Mexican American, or Chicano.
© Yes, I am Puerto Rican or Puerto Rican American.
(D) Yes, I am Cuban or Cuban American.
© Yes, I am from some other Hispanic or Latino background.
14. Which of the following best describes you? Select one or more answer choices.
(4) White
(B) Black or African American
© Asian
(D) American Indian or Alaska Native
(E) Native Hawaiian or other Pacific Islander

## Appendix K-1g: Spiral Map Grade 4 Core

| Accnum | Grade | Grade 4 OMB PDF Sequence Number | Number of Grade 4 booklets item appears in | Grade 4 booklets item appears in |
| :---: | :---: | :---: | :---: | :---: |
| VH240186 | 4, 8, 12 | 01_00 | 3 | 1, 2, 3 |
| VH880711 | 4, 8, 12 | 02_00 | 2 | 1,2 |
| VH271105 | 4, 8, 12 | 02_01 | 2 | 1,2 |
| VH336762 | 4, 8, 12 | 02_02 | 2 | 1, 2 |
| VH853088 | 4, 8, 12 | 02_03 | 2 | 1,2 |
| VH853090 | 4, 8, 12 | 02_04 | 2 | 1, 2 |
| VH853089 | 4, 8, 12 | 02_05 | 2 | 1,2 |
| VH354591 | 4, 8, 12 | 03_00 | 3 | 1, 2, 3 |
| VH240190 | 4, 8, 12 | 04_00 | 1 | 3 |
| VH240189 | 4, 8, 12 | 05_00 | 1 | 3 |
| VH271144 | 4, 8, 12 | 06_00 | 2 | 1,2 |
| VH271145 | 4, 8, 12 | 06_01 | 2 | 1, 2 |
| VH271146 | 4, 8, 12 | 06_02 | 2 | 1, 2 |
| VH271147 | 4, 8, 12 | 06_03 | 2 | 1,2 |
| VH271148 | 4, 8, 12 | 06_04 | 2 | 1,2 |
| VH271149 | 4, 8, 12 | 06_05 | 2 | 1,2 |
| VH271150 | 4, 8, 12 | 06_06 | 2 | 1, 2 |
| VH591969 | 4, 8, 12 | 07_00 | 1 | 3 |
| VH271276 | 4, 8, 12 | 08_00 | 1 | 3 |
| VH733141 | 4, 8, 12 | 09_00 | 2 | 1,2 |
| VH733142 | 4, 8, 12 | 09_01 | 2 | 1, 2 |
| VH733143 | 4, 8, 12 | 09_02 | 2 | 1,2 |
| VH733145 | 4, 8, 12 | 09_03 | 2 | 1, 2 |
| VH733144 | 4, 8, 12 | 09_04 | 2 | 1, 2 |
| VH271367 | 4, 8, 12 | 10_00 | 2 | 1, 2 |
| VH271370 | 4, 8, 12 | 10_01 | 2 | 1,2 |
| VH271372 | 4, 8, 12 | 10_02 | 2 | 1, 2 |
| VH271374 | 4, 8, 12 | 10_03 | 2 | 1, 2 |
| VH271375 | 4, 8, 12 | 10_04 | 2 | 1,2 |


| VH271944 | Grade | Grade 4 OMB PDF <br> Sequence Number | Number of <br> Grade 4 <br> booklets item <br> appears in | Grade 4 booklets item <br> appears in |
| :--- | :---: | :---: | :---: | :---: |
| VH733149 | $4,8,12$ | $11 \_00$ | 1 |  |
| VH733150 | $4,8,12$ | $11 \_01$ | 1 | 3 |
| VH733151 | $4,8,12$ | $11 \_02$ | 1 | 3 |
| VH733155 | $4,8,12$ | $11 \_03$ | 1 | 3 |
| VH733154 | $4,8,12$ | $11 \_04$ | 1 | 3 |
| VH271934 | $4,8,12$ | $12 \_00$ | 2 | 3 |
| VH271942 | $4,8,12$ | $12 \_01$ | 2 | 1,2 |
| VH336903 | $4,8,12$ | $12 \_02$ | 2 | 1,2 |
| VH271940 | $4,8,12$ | $12 \_03$ | 2 | 1,2 |
| VH853117 | $4,8,12$ | $12 \_04$ | 2 | 1,2 |
| VH853118 | $4,8,12$ | $12 \_05$ | 2 | 1,2 |
| VH240387 | $4,8,12$ | $13 \_00$ | 3 | $1,2,3$ |
| VH240388 | $4,8,12$ | $14 \_00$ | 3 | $1,2,3$ |

Appendix K-1h: Summary of Changes Operational Grade 8 Core

## 2019 Operational Grade 8 Core Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 6. Are you Hispanic or Latino? Select one or more answer choices. <br> (4) No, I am not Hispanic or Latino. <br> (B) Yes, I am Mexican, Mexican American, or Chicano. <br> © Yes, I am Puerto Rican or Puerto Rican American. <br> (1) Yes, I am Cuban or Cuban American. <br> (1) Yes, I am from some other Hispanic or Latino background. <br> (2018 Grade 8) | 3. Are you Hispanic or Latino? Select one or more answer choices. <br> (4) No, I am not Hispanic or Latino. <br> (B) Yes, I am Mexican, Mexican American, or Chicano. <br> © Yes, I am Puerto Rican or Puerto Rican American. <br> (1) Yes, I am Cuban or Cuban American. <br> (c) Yes, I am from some other Hispanic or Latino background. <br> Issue: Race/Ethnicity | NC | N/A |
| 7. Which of the following best describes you? Select one or more answer choices. <br> (4) White <br> (B) Black or African American <br> © Asian <br> (1) American Indian or Alaska Native <br> (1) Native Hawaiian or other Pacific Islander <br> (2018 Grade 8) | 4. Which of the following best describes you? Select one or more answer choices. <br> (4) White <br> (B) Black or African American <br> © Asian <br> (1) American Indian or Alaska Native <br> (1) Native Hawaiian or other Pacific Islander <br> Issue: Race/Ethnicity | NC | N/A |
| 8. About how many books are there in your home? <br> (4) Few (0-10) <br> (8) Enough to fill one shelf (11-25) <br> - Enough to fill one bookcase (26-100) <br> (1) Enough to fill several bookcases (more than 100) <br> (2018 Grade 8) | 5. About how many books are there in your home? <br> (4) Few (0-10) <br> (B) Enough to fill one shelf (11-25) <br> (c) Enough to fill one bookcase (26-100) <br> (1) Enough to fill several bookcases (more than 100) <br> Issue: Socioeconomic Status | NC | N/A |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).


## 2019 Operational Grade 8 Core Student

| Previous item |  | 2019 item |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 13. How far in school did your mother go? <br> (4) She did not finish high school. <br> (B) She graduated from high school. <br> © She had some education after high school. <br> (1) She graduated from college. <br> (a) I don't know. <br> (2018 Grade 8) | vemen | 10. How far in school did your mother go? <br> (4) She did not finish high school. <br> (B) She graduated from high school. <br> © She had some education after high school. <br> (1) She graduated from college. <br> (1) I don't know. <br> Issue: Socioeconomic Status | vemen | NC | N/A |
| 14. How far in school did your father go? <br> (4) He did not finish high school. <br> (B) He graduated from high school. <br> © He had some education after high school. <br> (1) He graduated from college. <br> (1) I don't know. <br> (2018 Grade 8) | vemus | 11. How far in school did your father go? <br> (4) He did not finish high school. <br> (D) He graduated from high school. <br> © He had some education after high school. <br> (1) He graduated from college. <br> (1) I don't know. <br> Issue: Socioeconomic Status | vinums | NC | N/A |
| 15. Does your mother work? <br> (D) Yes <br> (B) No <br> © I don't know. <br> (2018 Grade 8) |  | 12. Does your mother work? <br> (4) Yes <br> (B) No <br> © I don't know. <br> Issue: Socioeconomic Status | vix\%76 | NC | N/A |
| 16. Does your father work? <br> (4) Yes <br> (1) No <br> © I don't know. <br> (2018 Grade 8) | vixamo | 13. Does your father work? Yes No I don't know. <br> Issue: Socioeconomic Status | vixz\%9 | NC | N/A |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | Issue: Grit |  |  |  |  |  |  |  | of the item |
|  | Not at all | A little bit | Somewhat | Quite a bit like me | $\begin{array}{\|c\|} \hline \text { Very much } \\ \text { like me } \end{array}$ |  |  |  |  |  |  |  |  |  |  |
| (a. Ifinish whatever I | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | vusata |  |  |  |  |  |  |  |  |  |
| b. I try very hard even after making mistakes. | $\odot$ | $\odot$ | $\odot$ | $\oplus$ | $\odot$ | $4{ }^{\text {ances }}$ |  |  |  |  |  |  |  |  |  |
| c. I keep working hard <br> even when I feel like <br> quitting. | © | $\oplus$ | - | $\odot$ | $\odot$ | ${ }^{3.5}$ |  |  |  |  |  |  |  |  |  |
| $\begin{array}{\|l} \hline \text { d. I keep trying to } \\ \text { improve myself, even } \\ \text { when it takes a long } \\ \text { time to get there. } \end{array}$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\oplus$ | $\odot$ | мпззи |  |  |  |  |  |  |  |  |  |
| (2018 Grade 8) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22. In this school year, how often have you done each of the following? Select one answer choice on each row. |  |  |  |  |  |  | 19. In this school year, how choice on each row.$\qquad$ | w often have yo | ou done each | of the followin | g? Select one | answer | vax | NC | N/A |
|  | Never or hardly ever | $\begin{aligned} & \text { Less than } \\ & \text { half of the } \\ & \text { time } \end{aligned}$ | $\begin{aligned} & \text { About half } \\ & \text { of the time } \end{aligned}$ | $\begin{gathered} \text { More than } \\ \text { half of the } \\ \text { time } \end{gathered}$ | $\begin{gathered} \text { All or } \\ \text { al } \\ \text { almof tall } \\ \text { the time } \end{gathered}$ |  |  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | Less than half of the time | About half of the time | More than <br> half of the <br> time | $\left\|\begin{array}{c\|} \text { All or } \\ \text { almost all of } \\ \text { the time } \end{array}\right\|$ |  |  |  |
|  | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | vпит |  | © | © | $\odot$ | $\odot$ | $\odot$ | 27400 |  |  |
| b.I paid attention and <br> resisted distractions. <br> c. | $\bullet$ | $\oplus$ | $\odot$ | ${ }^{\oplus}$ | ${ }^{\circ}$ | verraz | b. minute. |  |  |  |  |  |  |  |  |
| c. Istayed on task withoutreminders from my teacher. | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | verias |  | $\stackrel{\square}{\oplus}$ | ${ }_{\odot}{ }^{\circ}$ | $\odot$ | $\stackrel{\oplus}{\odot}$ | $\stackrel{\odot}{\odot}$ |  |  |  |
|  | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | verus | $\begin{array}{\|l\|} \hline \text { wromouy teawhers } \\ \hline \text { from matecher. } \\ \hline \begin{array}{c} \text { d. Paid attention in } \\ \text { clas sen when } I \text { was } \\ \text { not interested. } \end{array} \\ \hline \end{array}$ | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\odot$ | 27475 |  |  |
| (2018 Grade 8) |  |  |  |  |  |  | Issue: Grit |  |  |  |  |  |  |  |  |
| 23. How much does each one answer choice on $\square$ <br> a. I like complex | of the follow each row. | wing statement | ts describe a p | person like you? | u? Select | venve | 18. How much does each choice on each row. | of the followi | ng statemen | ts describe you | ? Select one | answer | vı3149 | R | After examining data from the two versions of this item that were administered in the pilot, one version |
|  | $\begin{aligned} & \text { Not at all } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Somewhat } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Very much } \\ & \text { like me } \end{aligned}$ |  |  | Not at al like me | A little bit like me | $\begin{array}{c\|} \hline \begin{array}{c} \text { Somewhat } \\ \text { like me } \end{array} \\ \hline \end{array}$ | Quite a bit like me | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Very much } \\ \text { like me } \end{array} \\ \hline \end{array}$ |  |  |  |
| $\begin{array}{\|l\|} \hline \text { a. } \begin{array}{l} \text { I like complex } \\ \text { problems more than } \\ \text { casy problems. } \end{array} \\ \hline \end{array}$ | © | ${ }^{\circ}$ | © | $\oplus$ | $\odot$ | u7so | a. I like complex <br> problems more than <br> easy problems. | © | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\odot$ | нгам |  |  |
| b. <br> like activities that <br> challenge my thinking <br> abilitiss. <br> C. I$\|$niou stuations | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | ventre | b. I like activities that challenge my thinking abilities. | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | © | 45 |  |  |
|  | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | $\xrightarrow{\text { varus }}$ | abilities. <br> c. I enjoy situations <br> where I will have to <br> think about <br> sonething | © | © | $\odot$ | $\odot$ | © | ниد"5 |  |  |
| $\begin{array}{\|l\|} \hline \begin{array}{c} \text { d. I enioy thinking about } \\ \text { ner solutions to to } \\ \text { problems. } \end{array} \\ \hline \end{array}$ | © | © | $\odot$ | $\oplus$ | $\odot$ | ventrs | something. <br> d. I enioy thinking about <br> new solutions to <br> problems. | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | wrass |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 8 Core Student


+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 8 Core Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 2. Are you taking an art course now, or have you taken an art course this year? <br> (2) Yes <br> (c) No <br> (2016 Grade 8) | 21. Are you taking an art course this school year (for example, drawing, painting, or studio art)? <br> (4) Yes <br> (b) No <br> Issue: Educational Experiences | A | This item was adapted from the arts questionnaire to assess student participation in arts coursework. |

## Appendix K-1i: Operational Grade 8 Core

1. How easy or difficult was this test?
(A) Extremely difficult
(B) Quite difficult
© Somewhat difficult
(D) Somewhat easy
(E) Quite easy
() Extremely easy
2. How much effort did you apply to succeed on this test?
(A) No effort at all
(B) Very little effort
© Some effort
(D) Quite a bit of effort
(E) A lot of effort
3. Are you Hispanic or Latino? Select one or more answer choices.
(A) No, I am not Hispanic or Latino.
(B) Yes, I am Mexican, Mexican American, or Chicano.
© Yes, I am Puerto Rican or Puerto Rican American.
(®) Yes, I am Cuban or Cuban American.
© Yes, I am from some other Hispanic or Latino background.
4. Which of the following best describes you? Select one or more answer choices.
(4) White
(B) Black or African American
© Asian
(D) American Indian or Alaska Native
(E) Native Hawaiian or other Pacific Islander
5. About how many books are there in your home?
(4) Few (0-10)
(B) Enough to fill one shelf (11-25)
© Enough to fill one bookcase (26-100)
(D) Enough to fill several bookcases (more than 100)
6. Do you have any of the following in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Access to the Internet | (4) | (8) | VH271105 |
| b. Your own bedroom | (4) | (B) | VH336762 |
| c. A desktop or laptop computer (including Chromebooks) that you can use | (1) | (B) | vH591976 |
| d. A tablet (for example, Surface Pro, iPad, Kindle Fire) that you can use | (1) | © | vH271110 |
| e. A smartphone (for example, iPhone, Samsung Galaxy, HTC One) that you can use | (1) | ® | VH271112 |

7. How often do you use the Internet for homework at home?
(4) Never
(B) About once or twice a month
© About once or twice a week
(D) Almost every day
(E) Every day
8. How many days were you absent from school in the last month?
(A) None
(B) 1 or 2 days
© 3 or 4 days
(D) 5 to 10 days
(E) More than 10 days
9. How often do you talk about things you have studied in school with someone in your family?
(A) Never or hardly ever
(B) Once every few weeks
© About once a week
(D) Two or three times a week
(©) Every day
10. How far in school did your mother go?
(A) She did not finish high school.
(B) She graduated from high school.
© She had some education after high school.
(D) She graduated from college.
(ㄹ) I don't know.
11. How far in school did your father go?
(A) He did not finish high school.
(B) He graduated from high school.
© He had some education after high school.
(D) He graduated from college.
(E) I don't know.
12. Does your mother work?
(A) Yes
(B) No
© I don't know.
13. Does your father work?
(A) Yes
(B) No
© I don't know.
14. Do any of the following people live in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Mother | (4) | (8) | VH271145 |
| b. Stepmother | (4) | (8) | vH271146 |
| c. Foster mother or other female legal guardian | (4) | (8) | VH271147 |
| d. Father | (4) | (8) | VH271148 |
| e. Stepfather | (4) | (8) | VH271149 |
| f. Foster father or other male legal guardian | (4) | (8) | VH271150 |

15. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school?
(4) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(®) In all or almost all classes
16. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school?
(A) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(E) In all or almost all classes
17. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I finish whatever I begin. | (4) | (B) | © | (1) | (E) | vH733142 |
| b. I try very hard even after making mistakes. | (4) | (B) | © | (1) | (E) | vH733143 |
| c. I keep working hard even when I feel like quitting. | (4) | (B) | $\bigcirc$ | (1) | (E) | vH733145 |
| d. I keep trying to improve myself, even when it takes a long time to get there. | (1) | (B) | $\bigcirc$ | (1) | (1) | vH733144 |

18. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I like complex problems more than easy problems. | (4) | (B) | © | (1) | (c) | vH733150 |
| b. I like activities that challenge my thinking abilities. | (1) | (B) | © | (1) | (1) | vH733151 |
| c. I enjoy situations where I will have to think about something. | (4) | (B) | © | (1) | (c) | vH733155 |
| d. I enjoy thinking about new solutions to problems. | (4) | (B) | © | © | (c) | VH733154 |

19. In this school year, how often have you done each of the following? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I started working on assignments right away rather than waiting until the last minute. | (4) | (B) | © | (1) | (1) | vH271370 |
| b. I paid attention and resisted distractions. | (1) | (B) | © | (1) | (e) | vH271372 |
| c. I stayed on task without reminders from my teacher. | (4) | (B) | © | (1) | (c) | vH271374 |
| d. I paid attention in class even when I was not interested. | (1) | (B) | © | (1) | (e) | vH271375 |

20. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I felt awkward and out of place at school. | (4) | (B) | © | (1) | (1) | VH271942 |
| b. I felt happy at school. | (4) | (8) | © | (1) | © | VH271944 |
| c. I felt that I learned something that I can use in my daily life. | (4) | © | © | © | © | VH336903 |

21. Are you taking an art course this school year (for example, drawing, painting, or studio art)?
(4) Yes
(B) No

## Appendix K-1j: Summary of Changes Pilot Grade 8 Core

| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6. Are you Hispanic or Latino? Select one or more answer choices. <br> (A) No, I am not Hispanic or Latino. <br> (B) Yes, I am Mexican, Mexican American, or Chicano. <br> © Yes, I am Puerto Rican or Puerto Rican American. <br> (1) Yes, I am Cuban or Cuban American. <br> (1) Yes, I am from some other Hispanic or Latino background. <br> (2017 Grade 8) |  |  |  | 20. Are you Hispanic or Latino? Select one or more answer choices. <br> (4) No, I am not Hispanic or Latino. <br> (1) Yes, I am Mexican, Mexican American, or Chicano. <br> © Yes, I am Puerto Rican or Puerto Rican American. <br> (1) Yes, I am Cuban or Cuban American. <br> (1) Yes, 1 am from some other Hispanic or Latino background. <br> Issue: Race/Ethnicity |  |  |  | NC | N/A |
| 7. Which of the following best describes you? <br> (4) White <br> (B) Black or African American <br> © Asian <br> (1) American Indian or Alaska Native <br> (c) Native Hawaiian or other Pacific Island <br> (2017 Grade 8) | or mor |  | vensis | 21. Which of the following best describes you? Select one or more answer choices. <br> (4) White <br> (1) Black or African American <br> (0) Asian <br> (2) American Indian or Alaska Native <br> (1) Native Hawaiian or other Pacific Islander <br> Issue: Race/Ethnicity |  |  |  | NC | N/A |
| 8. About how many books are there in your <br> (4) Few (0-10) <br> (B) Enough to fill one shelf (11-25) <br> © Enough to fill one bookcase (26-100) <br> (1) Enough to fill several bookcases (more <br> (2017 Grade 8) |  |  | vumex | 1. About how many books are there in your $h$ <br> (4) Few $(0-10)$ <br> (B) Enough to fill one shelf (11-25) <br> © Enough to fill one bookcase (26-100) <br> (1) Enough to fill several bookcases (more <br> Issue: Socioeconomic Status |  |  | venols | NC | N/A |
| 9. Do you have any of the following in your home? Select one answer choice on each row. |  |  |  | Issue: Socioeconomic Status2. Do you have any of the following in your home? Select one answer choice on each row. viseonl |  |  |  | R | Sub-items b |
|  | Yes | No |  |  | Yes | No |  |  | and c were |
| a. Access to the Internct | $\stackrel{\square}{\circ}$ | © | varries | 2. Access to the Internet | © | © | vivzrios |  | dropped to |
| b. Clothes dryer just for your family | ${ }_{\square}{ }^{\circ}$ | ${ }_{\square}{ }^{\circ}$ |  | b. Your own bedroom | © | $\stackrel{\square}{\square}$ | visucter |  | keep student |
| c. Dishwasher | ${ }_{\square}$ © | ${ }_{\square}{ }^{\circ}$ | visuce | c. Your own desktop or laptop computer | © | © | Hessess |  | keep student |
| e. A desktop or laptop computer (including Chromebooks) that you can use | © | $\odot$ | viswve | d. Your own tablet (for example, Surface Pro, iPad, or Kindle Fire) | © | $\stackrel{\square}{1}$ | visseos |  |  |
| $\begin{array}{\|l} \hline \text { f. A tablet (for example, Surface Pro, iPad, } \\ \text { Kindle Fire) that you can use } \end{array}$ | © | $\stackrel{\square}{\circ}$ | viruno | e. Your own smartphone (for example, iPhone, Samsung Galaxy, or HTC One) | © | (1) | vixsase |  | $e, f$, and $g$ |
| g. A smartphone (for example, iPhone, Samsung Galaxy, HTC One) that you can use <br> (2017 Grade 8) | © | $\oplus$ | тигтиа | Issue: Socioeconomic Status |  |  |  |  | were revised to examine performance of alternative item wording. |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

| 2019 Pilot Grade 8 Core Student |  |  |  |
| :---: | :---: | :---: | :---: |
| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 10. How often do you use the Internet for homework at home? <br> (4) Never <br> (B) About once or twice a month <br> © About once or twice a week <br> (1) Almost every day <br> (a) Every day <br> (2017 Grade 8) | 3. How often do you use the Internet for homework at home? <br> (4) Never <br> (8) About once or twice a month <br> © About once or twice a week <br> (1) Almost every day <br> (1) Every day <br> Issue: Technology Use | NC | N/A |
| 11. How many days were you absent from school in the last month? <br> (4) None <br> (B) 1 or 2 days <br> © 3 or 4 days <br> (1) 5 to 10 days <br> (c) More than 10 days <br> (2017 Grade 8) | 4. How many days were you absent from school in the last month? <br> (4) None <br> (8) 1 or 2 days <br> © 3 or 4 days <br> (1) 5 to 10 days <br> (c) More than 10 days <br> Issue: School Climate | NC | N/A |
| 12. How often do you talk about things you have studied in school with someone in your family? <br> (4) Never or hardly ever <br> (B) Once every few weeks <br> © About once a week <br> (1) Two or three times a week <br> (a) Every day <br> (2017 Grade 8) | 5. How often do you talk about things you have studied in school with someone in your family? <br> (4) Never or hardly ever <br> (B) Once every few weeks <br> © About once a week <br> (1) Two or three times a week <br> (c) Every day <br> Issue: Socioeconomic Status | NC | N/A |
| 13. How far in school did your mother go? <br> (4) She did not finish high school. <br> (B) She graduated from high school. <br> © She had some education after high school. <br> (1) She graduated from college. <br> (1) I don't know. <br> (2017 Grade 8) | 6. How far in school did your mother go? <br> (4) She did not finish high school. <br> (B) She graduated from high school. <br> © She had some education after high school. <br> (1) She graduated from college. <br> (1) I don't know. <br> Issue: Socioeconomic Status | NC | N/A |

[^0]
## 2019 Pilot Grade 8 Core Student



[^1]| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school? <br> (4) Never <br> (8) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (1) In all or almost all classes <br> (2017 Grade 8) |  |  |  |  |  |  | 12. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school? <br> (4) Never <br> (3) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (b) In all or almost all classes <br> Issue: Technology Use |  |  |  |  |  |  | NC | N/A |
| 20. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 13. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The stem of |
|  | Not at all <br> like me | A little bit like me | Somewhat like me | Quite a bit like me | $\begin{aligned} & \text { Very much } \\ & \text { like me } \end{aligned}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much |  |  | revised for |
| a. I finish whatever I | - | $\odot$ | - | © | © | virzass | a. Ifinish whatever I | © | © | - | $\odot$ | © | \%sas |  | clarity. |
| b. I try very hard even <br> after making mistakes. | © | © | - | $\odot$ | $\odot$ | verras | b. Itry very hard even after making mistakes. | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | ) |  |  |
| $\begin{aligned} & \hline \text { c. I Keep working hard } \\ & \text { even when I feel like } \\ & \text { quitting. } \end{aligned}$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | $\oplus$ | verzas | c. I keep working hard even when f feel like quitting. | © | $\odot$ | - | $\oplus$ | $\oplus$ | 315 |  |  |
| $\begin{array}{\|l} \hline \text { d. Ikeep trying to } \\ \text { improve myself, even } \\ \text { when it takes a long } \\ \text { time to get there. } \end{array}$ | © | $\odot$ | $\odot$ | $\odot$ | $\oplus$ | virums | d. I Reep trying to <br> improve myself, even <br> when it takes a long <br> time to get there. | © | $\oplus$ | $\odot$ | ${ }^{\circ}$ | $\odot$ | 35 |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Grit |  |  |  |  |  |  |  |  |
| 21. In this school year, how often have you done each of the following? Select one answer choice on each row. |  |  |  |  |  |  | 14. In this school year, how often have you done each of the following? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | $\begin{aligned} & \text { Less than } \\ & \text { half of the } \\ & \text { tom } \end{aligned}$ time | About half of the time | $\begin{array}{\|c} \hline \text { More than } \\ \text { halfo t the the } \\ \text { time } \end{array}$ | $\left\lvert\, \begin{gathered} \text { All or } \\ \text { almost oll of } \\ \text { the time } \end{gathered}\right.$ |  |  | Never or hardly ever | Less than halfof the time time | About half of the tim | More than halfof the time | $\begin{gathered} \text { All or } \\ \text { almost all of } \\ \text { the time } \end{gathered}$ |  |  |  |
| a. I started working on <br> assignments right <br> away rather than <br> waiting until the last <br> minute. | © | $\oplus$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\text {vиrдão }}$ | a. I started working on <br> assigmentent right <br> away rather than <br> waiting until the last <br> minute. | © | © | $\odot$ | $\odot$ | © |  |  |  |
| $\begin{array}{\|l\|} \hline \text { b. Ipaid attention and } \\ \text { resisted distractions. } \end{array}$ | © | $\odot$ | $\odot$ | © | $\odot$ | vи\% 18 | b. I paid attention and <br> resisted distractions. | © | © | $\odot$ | $\odot$ | $\odot$ |  |  |  |
| $\begin{array}{\|l} \hline \text { c. I stayed on task } \\ \text { without reminders } \\ \text { from my teacher. } \end{array}$ | © | $\oplus$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | $\stackrel{\text { verras }}{ }$ |  | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | w\% |  |  |
| d. I paia d attention in class aven when I was not interested. | $\oplus$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | ${ }^{105}$ |  | © | © | - | $\odot$ | $\odot$ | "s |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Grit |  |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{7}{|l|}{Previous item} \& \multicolumn{7}{|l|}{2019 item} \& \[
\begin{aligned}
\& \text { D/A/ } \\
\& \text { R/NC+ }
\end{aligned}
\] \& Rationale \\
\hline \multicolumn{7}{|l|}{22. How much does each of the following statements describe a person like you? Select one answer choice on each row.} \& \multicolumn{7}{|l|}{15. How much does each of the following statements describe you? Select one answer choice on each row.} \& \multirow[t]{7}{*}{R} \& \multirow[t]{7}{*}{The stem of this item was revised for clarity.} \\
\hline \& Not at all like me \& A little bit \& \begin{tabular}{l}
Somewhat \\
like me
\end{tabular} \& Quite a bit
like me \& Very much like me \& \& \& Not at all like me \& A little bit \& Somewhat like me \& Quite a bit like me \& Very much \& \& \& \\
\hline \[
\begin{aligned}
\& \text { a. I like complex } \\
\& \text { problems more than } \\
\& \text { easy problems. } \\
\& \hline
\end{aligned}
\] \& © \& \(\oplus\) \& \(\odot\) \& \(\oplus\) \& © \& ventrso \&  \& © \& © \& \(\odot\) \& \(\odot\) \& \(\odot\) \& 500 \& \& \\
\hline b. I like activities that
challenge my thinking
abilities. \& © \& \({ }^{(1)}\) \& \(\odot\) \& \(\odot\) \& \({ }^{\circ}\) \& verrus \& b. Ilike activities that
challenge my thinking
abilities. \& © \& \(\oplus\) \& \(\odot\) \& \(\odot\) \& \(\odot\) \& \%asi \& \& \\
\hline \begin{tabular}{|l|}
\hline \begin{tabular}{c} 
c. I enioy situations \\
whener Ivill have to \\
think bout \\
something.
\end{tabular} \\
\hline
\end{tabular} \& © \& \({ }^{\circ}\) \& \(\odot\) \& \(\oplus\) \& \(\odot\) \& verivs \& \begin{tabular}{|l|}
\hline c. I enioy situations \\
where I Iwill have to \\
think about \\
somethint
\end{tabular} \& © \& \({ }^{\circ}\) \& \(\odot\) \& \(\odot\) \& \({ }^{\circ}\) \& vuxals \& \& \\
\hline \begin{tabular}{|l|}
\hline \begin{tabular}{c} 
d. I enjoy thinking about \\
new solutions to \\
problems.
\end{tabular} \\
\hline
\end{tabular} \& © \& \({ }^{\circ}\) \& \(\odot\) \& \(\odot\) \& \(\odot\) \& viviss \& \[
\begin{array}{|l|}
\text { something. } \\
\hline \begin{array}{l}
\text { d. I enioy thinking about } \\
\text { new solutions to } \\
\text { problems. }
\end{array} \\
\hline
\end{array}
\] \& © \& \(\oplus\) \& \(\odot\) \& \(\odot\) \& © \& wnzıs \& \& \\
\hline \multicolumn{7}{|l|}{(2017 Grade 8)} \& \multicolumn{7}{|l|}{Issue: Desire for Learning} \& \& \\
\hline \multicolumn{7}{|l|}{23. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row.} \& \multicolumn{7}{|l|}{16. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row.} \& R \& New subitems (d, e \\
\hline \& \[
\begin{gathered}
\text { Never or } \\
\text { hardly ever }
\end{gathered}
\] \& \[
\begin{gathered}
\text { Less than } \\
\text { hall of the } \\
\text { time }
\end{gathered}
\] \& About half of the time \& \[
\begin{array}{|c|c|c|c|c|c|c|c|c|}
\hline \text { half of the } \\
\text { time }
\end{array}
\] \& \[
\left.\begin{array}{|c|}
\hline \text { All or } \\
\text { almost all of } \\
\text { the time }
\end{array} \right\rvert\,
\] \& \& \& Never or
hardly ever \& \[
\begin{aligned}
\& \text { Less than } \\
\& \text { half of the } \\
\& \text { time }
\end{aligned}
\] \& About half
of the time \& \[
\begin{array}{|c}
\hline \begin{array}{c}
\text { More than } \\
\text { half of the } \\
\text { time }
\end{array} \\
\hline
\end{array}
\] \& \[
\begin{array}{|c|}
\hline \begin{array}{c}
\text { All or } \\
\text { almost all of of } \\
\text { the time }
\end{array} \\
\hline
\end{array}
\] \& \& \& and f) were \\
\hline \begin{tabular}{|l|}
\hline a. I felt awkward and out \\
of place at school.
\end{tabular} \& © \& \(\oplus\) \& \(\odot\) \& \(\oplus\) \& ¢ \& veriven \& a. I felt awkward and out of place at school. \& © \& \(\oplus\) \& \(\odot\) \& \(\odot\) \& © \& virzea \& \& expand \\
\hline b. I felt happy at school. \& \(\stackrel{\square}{\square}\) \& \(\bigcirc\) \& \(\bigcirc\) \& \(\stackrel{\square}{\circ}\) \& \(\bigcirc\) \& virvom \& b. I felt happy at school. \& © \& \({ }^{(1)}\) \& \(\bigcirc\) \& \({ }_{\square}\) \& \(\stackrel{\square}{\square}\) \& varigu \& \& expand \\
\hline \[
\begin{gathered}
\text { c. I Ifelt that Ilearned } \\
\text { something that can } \\
\text { use in my daily life. }
\end{gathered}
\] \& © \& \(\oplus\) \& \(\odot\) \& \(\oplus\) \& \(\oplus\) \& vizese \& c. I felt that I Iearned
something that I can
use in my daily life. \& © \& © \& \(\odot\) \& \(\odot\) \& \(\odot\) \& vexes \& \& measurement of this \\
\hline \multicolumn{7}{|l|}{\multirow[t]{4}{*}{(2017 Grade 8)}} \& \[
\begin{array}{|l|}
\hline \text { d. I worried about crime } \\
\text { and violence at my } \\
\text { school. }
\end{array}
\] \& © \& © \& \(\odot\) \& \(\odot\) \& \(\oplus\) \& ต127900 \& \& content. \\
\hline \& \& \& \& \& \& \& e. I felt my teachers
treated me fairly. \& \(\oplus\) \& \({ }^{\bullet}\) \& \(\odot\) \& \(\odot\) \& \(\odot\) \& vesar \& \& \\
\hline \& \& \& \& \& \& \& f. I felt safe on my way
to or from school. \& © \& © \& \(\odot\) \& \(\oplus\) \& \(\oplus\) \& \({ }^{315}\) \& \& \\
\hline \& \& \& \& \& \& \& \multicolumn{8}{|l|}{Issue: School Climate} \& \\
\hline \multicolumn{6}{|l|}{24. Write the ZIP code of your home address in the box.

$\square$
$\square$
$\square$} \& \& \multicolumn{7}{|l|}{N/A} \& D \& Due to the time burden associated with completing this item and to keep student burden low, <br>
\hline
\end{tabular}

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).


## 2019 Pilot Grade 8 Core Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
|  |  |  | this item was dropped. |
| $\mathrm{N} / \mathrm{A}$ | 17. Are you taking a language course other than English this school year (for example, Spanish, French, or Chinese)? <br> (4) Yes <br> (B) No <br> Issue: Educational Experiences | A | This item was added to assess student involvement in coursework on languages (other than English). |
| 2. Are you taking an art course now, or have you taken an art course this year? Yes No. <br> (2016 grade 8) | 18. Are you taking an art course this school year (for example, drawing, painting, or studio art)? Yes No <br> Issue: Educational Experiences | A | This item was added to assess student involvement in art coursework. |
| N/A | 19. Are you taking a music course this school year (for example, choir, band, or orchestra)? Yes No <br> Issue: Educational Experiences | A | This item was added to assess student involvement in music coursework. |

[^2]
## Appendix K-1k: Pilot Grade 8 Core

1. About how many books are there in your home?
(4) Few (0-10)
(B) Enough to fill one shelf (11-25)
© Enough to fill one bookcase (26-100)
(D) Enough to fill several bookcases (more than 100)
2. Do you have any of the following in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Access to the Internet | (A) | (B) | VH271105 |
| b. Your own bedroom | (A) | (B) | vH336762 |
| c. Your own desktop or laptop computer (including Chromebooks) | (A) | (B) | VH853088 |
| d. Your own tablet (for example, Surface Pro, iPad, or Kindle Fire) | (A) | (B) | VH853090 |
| e. Your own smartphone (for example, iPhone, Samsung Galaxy, or HTC One) | (A) | (B) | VH853089 |

3. How often do you use the Internet for homework at home?
(4) Never
(B) About once or twice a month
(c) About once or twice a week
(D) Almost every day
(E) Every day
4. How many days were you absent from school in the last month?
(A) None
(B) 1 or 2 days
© 3 or 4 days
(D) 5 to 10 days
(E) More than 10 days
5. How often do you talk about things you have studied in school with someone in your family?
(A) Never or hardly ever
(B) Once every few weeks
© About once a week
(D) Two or three times a week
(©) Every day
6. How far in school did your mother go?
(A) She did not finish high school.
(B) She graduated from high school.
© She had some education after high school.
(D) She graduated from college.
(E) I don't know.
7. How far in school did your father go?
(A) He did not finish high school.
(B) He graduated from high school.
© He had some education after high school.
(D) He graduated from college.
(E) I don't know.
8. Does your mother work?
(A) Yes
(B) No
© I don't know.
9. Does your father work?
(4) Yes
(B) No
(c) I don't know.
10. Do any of the following people live in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Mother | (4) | (8) | vH271145 |
| b. Stepmother | (4) | (8) | vH271146 |
| c. Foster mother or other female legal guardian | (1) | (B) | vH271147 |
| d. Father | (1) | (B) | vH271148 |
| e. Stepfather | (1) | (B) | vH271149 |
| f. Foster father or other male legal guardian | (4) | (B) | vH271150 |

11. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school?
(4) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(E) In all or almost all classes
12. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school?
(A) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(E) In all or almost all classes
13. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I finish whatever I begin. | (4) | (B) | © | (1) | (E) | vH733142 |
| b. I try very hard even after making mistakes. | (4) | (B) | © | (1) | (E) | vH733143 |
| c. I keep working hard even when I feel like quitting. | (4) | (B) | $\bigcirc$ | (1) | (1) | vH733145 |
| d. I keep trying to improve myself, even when it takes a long time to get there. | (1) | (B) | © | (1) | (1) | vH733144 |

14. In this school year, how often have you done each of the following? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I started working on assignments right away rather than waiting until the last minute. | (4) | (B) | © | (1) | (1) | vH271370 |
| b. I paid attention and resisted distractions. | (4) | (B) | © | (1) | (1) | vH271372 |
| c. I stayed on task without reminders from my teacher. | (4) | (B) | © | (1) | (1) | vH271374 |
| d. I paid attention in class even when I was not interested. | (4) | (B) | © | (1) | (1) | vH271375 |

15. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I like complex problems more than easy problems. | (4) | (B) | © | (1) | (c) | vH733150 |
| b. I like activities that challenge my thinking abilities. | (4) | (B) | © | (1) | (1) | vH733151 |
| c. I enjoy situations where I will have to think about something. | (4) | (B) | © | (1) | (c) | vH733155 |
| d. I enjoy thinking about new solutions to problems. | (4) | (B) | © | (1) | (c) | vH733154 |

16. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I felt awkward and out of place at school. | (4) | (B) | © | (1) | (c) | VH271942 |
| b. I felt happy at school. | (4) | (B) | © | (1) | (1) | VH271944 |
| c. I felt that I learned something that I can use in my daily life. | (4) | (B) | © | © | (1) | vH366903 |
| d. I worried about crime and violence at my school. | (4) | (B) | © | (1) | (c) | VH271940 |
| e. I felt my teachers treated me fairly. | (4) | (B) | © | (1) | (1) | VH853117 |
| f. I felt safe on my way to or from school. | (4) | (B) | © | (1) | (1) | VH853118 |

17. Are you taking a language course other than English this school year (for example, Spanish, French, or Chinese)?
(4) Yes
(B) No
18. Are you taking an art course this school year (for example, drawing, painting, or studio art)?
(A) Yes
(B) No
19. Are you taking a music course this school year (for example, choir, band, or orchestra)?
(4) Yes
(B) No
20. Are you Hispanic or Latino? Select one or more answer choices.
(A) No, I am not Hispanic or Latino.
(B) Yes, I am Mexican, Mexican American, or Chicano.
© Yes, I am Puerto Rican or Puerto Rican American.
(®) Yes, I am Cuban or Cuban American.
© Yes, I am from some other Hispanic or Latino background.
21. Which of the following best describes you? Select one or more answer choices.
(A) White
(B) Black or African American
© Asian
(D) American Indian or Alaska Native
(E) Native Hawaiian or other Pacific Islander

## Appendix K-11: Spiral Map Grade 8 Core

| Accnum | Grade | Grade 8 OMB PDF Sequence Number | Number of Grade 8 booklets item appears in | Grade 8 booklets item appears in |
| :---: | :---: | :---: | :---: | :---: |
| VH240186 | 4, 8, 12 | 01_00 | 3 | 1, 2, 3 |
| VH880711 | 4, 8, 12 | 02_00 | 2 | 1,2 |
| VH271105 | 4, 8, 12 | 02_01 | 2 | 1, 2 |
| VH336762 | 4, 8, 12 | 02_02 | 2 | 1, 2 |
| VH853088 | 4, 8, 12 | 02_03 | 2 | 1, 2 |
| VH853090 | 4, 8, 12 | 02_04 | 2 | 1, 2 |
| VH853089 | 4, 8, 12 | 02_05 | 2 | 1,2 |
| VH354591 | 4, 8, 12 | 03_00 | 3 | 1, 2, 3 |
| VH240190 | 4, 8, 12 | 04_00 | 1 | 3 |
| VH240189 | 4, 8, 12 | 05_00 | 1 | 3 |
| VH240192 | 8,12 | 06_00 | 2 | 1, 2 |
| VH240193 | 8,12 | 07_00 | 2 | 1,2 |
| VH336776 | 8,12 | 08_00 | 2 | 1,2 |
| VH336779 | 8,12 | 09_00 | 2 | 1, 2 |
| VH271144 | 4, 8, 12 | 10_00 | 2 | 1,2 |
| VH271145 | 4, 8, 12 | 10_01 | 2 | 1, 2 |
| VH271146 | 4, 8, 12 | 10_02 | 2 | 1, 2 |
| VH271147 | 4, 8, 12 | 10_03 | 2 | 1, 2 |
| VH271148 | 4, 8, 12 | 10_04 | 2 | 1,2 |
| VH271149 | 4, 8, 12 | 10_05 | 2 | 1, 2 |
| VH271150 | 4, 8, 12 | 10_06 | 2 | 1, 2 |
| VH591969 | 4, 8, 12 | 11_00 | 1 | 3 |
| VH271276 | 4, 8, 12 | 12_00 | 1 | 3 |
| VH733141 | 4, 8, 12 | 13_00 | 2 | 1, 2 |
| VH733142 | 4, 8, 12 | 13_01 | 2 | 1, 2 |
| VH733143 | 4, 8, 12 | 13_02 | 2 | 1,2 |
| VH733145 | 4, 8, 12 | 13_03 | 2 | 1, 2 |
| VH733144 | 4, 8, 12 | 13_04 | 2 | 1,2 |


| Accnum | Grade | Grade 8 OMB PDF Sequence Number | Number of Grade 8 booklets item appears in | Grade 8 booklets item appears in |
| :---: | :---: | :---: | :---: | :---: |
| VH271367 | 4, 8, 12 | 14_00 | 1 | 3 |
| VH271370 | 4, 8, 12 | 14_01 | 1 | 3 |
| VH271372 | 4, 8, 12 | 14_02 | 1 | 3 |
| VH271374 | 4, 8, 12 | 14_03 | 1 | 3 |
| VH271375 | 4, 8, 12 | 14_04 | 1 | 3 |
| VH733149 | 4, 8, 12 | 15_00 | 1 | 3 |
| VH733150 | 4, 8, 12 | 15_01 | 1 | 3 |
| VH733151 | 4, 8, 12 | 15_02 | 1 | 3 |
| VH733155 | 4, 8, 12 | 15_03 | 1 | 3 |
| VH733154 | 4, 8, 12 | 15_04 | 1 | 3 |
| VH271934 | 4, 8, 12 | 16_00 | 1 | 3 |
| VH271942 | 4, 8, 12 | 16_01 | 1 | 3 |
| VH271944 | 4, 8, 12 | 16_02 | 1 | 3 |
| VH336903 | 4, 8, 12 | 16_03 | 1 | 3 |
| VH271940 | 4, 8, 12 | 16_04 | 1 | 3 |
| VH853117 | 4, 8, 12 | 16_05 | 1 | 3 |
| VH853118 | 4, 8, 12 | 16_06 | 1 | 3 |
| VH852895 | 8,12 | 17_00 | 2 | 1,2 |
| VH852900 | 8,12 | 18_00 | 2 | 1, 2 |
| VH852901 | 8,12 | 19_00 | 2 | 1,2 |
| VH240387 | 4, 8, 12 | 20_00 | 3 | 1, 2, 3 |
| VH240388 | 4, 8, 12 | 21_00 | 3 | 1,2,3 |

## Appendix K-1m: Summary of Changes Operational Grade 12 Core

2019 Operational Grade 12 Core Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 5. Are you Hispanic or Latino? Select one or more answer choices. <br> (4) No, I am not Hispanic or Latino. <br> (1) Yes, I am Mexican, Mexican American, or Chicano. <br> - Yes, I am Puerto Rican or Puerto Rican American. <br> (1) Yes, I am Cuban or Cuban American. <br> (1) Yes, I am from some other Hispanic or Latino background. <br> (2018 Grade 12) | 3. Are you Hispanic or Latino? Select one or more answer choices. <br> (4) No, I am not Hispanic or Latino. <br> (B) Yes, I am Mexican, Mexican American, or Chicano. <br> © Yes, I am Puerto Rican or Puerto Rican American. <br> (1) Yes, I am Cuban or Cuban American. <br> (c) Yes, I am from some other Hispanic or Latino background. <br> Issue: Race/Ethnicity | NC | N/A |
| 6. Which of the following best describes you? Select one or more answer choices. <br> (1) White <br> (®) Black or African American <br> - Asian <br> (1) American Indian or Alaska Native <br> (1) Native Hawaiian or other Pacific Islander <br> (2018 Grade 12) | 4. Which of the following best describes you? Select one or more answer choices. <br> (A) White <br> (b) Black or African American <br> © Asian <br> (D) American Indian or Alaska Native <br> (1) Native Hawaiian or other Pacific Islander <br> Issue: Race/Ethnicity | NC | N/A |
| 7. About how many books are there in your home? <br> (4) Few (0-10) <br> (B) Enough to fill one shelf (11-25) <br> © Enough to fill one bookcase (26-100) <br> (1) Enough to fill several bookcases (more than 100) <br> (2018 Grade 12) | 5. About how many books are there in your home? <br> (4) Few $(0-10)$ <br> (B) Enough to fill one shelf (11-25) <br> (c) Enough to fill one bookcase (26-100) <br> (1) Enough to fill several bookcases (more than 100) <br> Issue: Socioeconomic Status | NC | N/A |

[^3]

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).


## 2019 Operational Grade 12 Core Student

| Previous item |  | 2019 item |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12. How far in school did your mother go? <br> (4) She did not finish high school. <br> (1) She graduated from high school. <br> (8) She had some education after high school. <br> (1) She graduated from college. <br> (c) I don't know. <br> (2018 Grade 12) | vizame | 10. How far in school did your mother go? <br> (4) She did not finish high school. <br> (B) She graduated from high school. <br> © She had some education after high school. <br> (1) She graduated from college. <br> (1) I don't know. <br> Issue: Socioeconomic Status | vemen | NC | N/A |
| 13. How far in school did your father go? <br> (4) He did not finish high school. <br> (B) He graduated from high school. <br> © He had some education after high school. <br> (1) He graduated from college. <br> (1) I don't know. <br> (2018 Grade 12) | vzaus | 11. How far in school did your father go? <br> (4) He did not finish high school. <br> (1) He graduated from high school. <br> © He had some education after high school. <br> (1) He graduated from college. <br> (1) I don't know. <br> Issue: Socioeconomic Status | vames | NC | N/A |
| 14. Does your mother work? <br> Yes No I don't know <br> (2018 Grade 12) |  | 12. Does your mother work? <br> (4) Yes <br> (B) No <br> © I don't know. <br> Issue: Socioeconomic Status | ${ }^{\text {mine76 }}$ | NC | N/A |

[^4]
## 2019 Operational Grade 12 Core Student



+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).


## 2019 Operational Grade 12 Core Student

| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 17. What does your father do for work? Select the choice that most closely describes what he does at work. |  |  |  | N/A |  |  |  | D | Due to the substantial |
| (1) Accountant (1) Farmer | (1) Farmer | © Religious worker |  |  |  |  |  |  | time burden |
| (3) Artist © Firefig | (1) Firefighter | © Repair technician |  |  |  |  |  |  | associated |
| (1) Athlete © Groun |  | (1) Salesperson |  |  |  |  |  |  | with |
| © Carpenter © Healt | (8) Health aide | © Scientist |  |  |  |  |  |  | completing |
| $\bigcirc$ Cashier - Helper | (2) Helper | © Secretary |  |  |  |  |  |  | completing |
| © Cleaner © Hous | (1) Housekeeper | (1) Security guard |  |  |  |  |  |  | is item and |
| (1) Clerk (1) Janitor | (1) Janitor | (1) Server |  |  |  |  |  |  | to keep |
| (1) College professor (1) Lawy | (1) Lawyer | (1) Social worker |  |  |  |  |  |  | student |
| (1) Construction worker © Librar | © Librarian | (1) Software developer |  |  |  |  |  |  | burden low, |
| © Cook (1) Mana | (1) Manager | Stocker |  |  |  |  |  |  | this item was |
| (1) Customer service (1) Mark | (1) Marketing | (1) Supervisor |  |  |  |  |  |  | dropped. |
| (1) Day care worker (1) Mech | (1) Mechanic | (*) Surgeon |  |  |  |  |  |  |  |
| (1) Dental hygienist Medic | (1) Medical technician | (1) Surveyor |  |  |  |  |  |  |  |
| (1) Dentist (1) Milita | (1) Military | (1) Taxi driver |  |  |  |  |  |  |  |
| (1) Designer M Miner | (18) Miner | (1) Teacher |  |  |  |  |  |  |  |
| (1) Doctor ${ }^{\text {a }}$ Nurs | © Nurse | (1) Therapist |  |  |  |  |  |  |  |
| (1) Education administrator Offic | (1) Office support | (1) Transportation |  |  |  |  |  |  |  |
| (1) Electrician Painte | © Painter | © Truck driver |  |  |  |  |  |  |  |
| © Engineer (aharm | (1) Pharmacist | (9) Veterinarian |  |  |  |  |  |  |  |
| (1) Executive Police | (1) Police | Witer |  |  |  |  |  |  |  |
| (1) Factory worker © Recep | (1) Receptionist | (1) Other (Please specify): |  |  |  |  |  |  |  |
| (2018 Grade 12) |  |  |  |  |  |  |  |  |  |
| 18. Do any of the following people live in your home? Select one answer choice on each row. |  |  |  | 14. Do any of the following people live in your home? Select one answer choice on each row. |  |  |  | NC | N/A |
|  | Yes | No |  |  | Yes | No |  |  |  |
| a. Mother | © | © | \%rents | a. Mother | (1) | (1) |  |  |  |
| b. Stepmother | © | © | мггпие | b. Stepmother | ® | ${ }^{\circ}$ | vartue |  |  |
| c. Foster mother or other female legal guardian | © | ${ }^{\bullet}$ | ${ }^{\text {une }}$ | c. Foster mother or other female legal guardian | © | © | verice |  |  |
| d. Father | © | © | тадй | d. Father | © | $\stackrel{\square}{1}$ | мпрлин |  |  |
| e. Stepfather | $\triangle$ | © | , | e. Stepfather | © | © | vincta |  |  |
| 4 Foster latier or oner male legal guardian | - | © | \%unve | f. Foster father or other male legal guardian | © | ${ }^{\circ}$ | mantiso |  |  |
| (2018 Grade 12) |  |  |  | Issue: Socioeconomic Status |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).


## 2019 Operational Grade 12 Core Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school? <br> (4) Never <br> (1) In some classes <br> © In about half of the classes <br> (D) In more than half of the classes <br> (1) In all or almost all classes <br> (2018 Grade 12) |  |  |  |  |  |  | 15. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school? <br> (4) Never <br> (1) In some classes <br> (O) In about half of the classes <br> (1) In more than half of the classes <br> (d) In all or almost all classes <br> Issue: Technology Use |  |  |  |  |  |  | NC | N/A |
| 20. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school? <br> (4) Never <br> (B) In some classes <br> © In about half of the classes <br> (1) In more than half of the classes <br> (2) In all or almost all classes <br> (2018 Grade 12) |  |  |  |  |  |  | 16. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school? <br> (4) Never <br> (B) In some classes <br> (0) In about half of the classes <br> (1) In more than half of the classes <br> (D) In all or almost all classes <br> Issue: Technology Use |  |  |  |  |  |  | NC | N/A |
| 21. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 17. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | After |
|  | ( Not at all | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Somewhat } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{array}{\|c\|} \hline \text { Very much } \\ \text { like me } \end{array}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |  | data from the |
| a. $\begin{aligned} & \text { a } \\ & \text { beginish whatever I } \\ & \text { begin }\end{aligned}$ | © | $\bullet$ | $\bigcirc$ | $\oplus$ | $\oplus$ | verzas | $\begin{array}{\|l\|} \hline \text { a. I finish whatever I } \\ \text { begin. } \end{array}$ | © | © | - | © | $\odot$ | мугм |  | two versions |
| $\begin{array}{\|l} \text { b. I try very hard even } \\ \text { after making mistakes. } \end{array}$ | © | © | $\odot$ | $\oplus$ | $\oplus$ | verusas | b. I try very hard even after making mistakes. | © | © | $\odot$ | $\oplus$ | © | 4 |  | of this item |
| c. I keep working hard even when Ifeel like quitting. | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | vurisa | c. I keep working hard even when I feel like quitting. | © | $\stackrel{\square}{\circ}$ | $\odot$ | $\odot$ | $\odot$ | 4 |  | that were administered |
| $\begin{array}{\|l\|} \hline \text { d. I keep trying to } \\ \text { improve myself, even } \\ \text { when it takes a long } \\ \text { time to get there. } \end{array}$ | $\oplus$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | verzas | quitting. <br> d. I keep trying to <br> improve myself, even <br> when it takes a long <br> time to get there. <br> Issue: Grit | ${ }^{\circ}$ | $\oplus$ | ${ }^{\bullet}$ | ${ }^{\circ}$ | ${ }^{\odot}$ | 15 |  | in the pilot, one version of the item was dropped. |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 12 Core Student


+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 12 Core Student


+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 12 Core Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 28. Which of the following best describes your high school program? <br> (4) General <br> (B) Academic or college preparatory <br> (0) Vocational or technical <br> (2018 Grade 12) | 23. Which of the following best describes your high school program? <br> (4) General <br> (1) Academic or college preparatory <br> © Vocational or technical <br> Issue: Post High School Preparation | NC | N/A |
| 29. Write the ZIP code of your home address in the box. $\square$ $\square$ $\square$ $\square$ <br> (2018 Grade 12) | N/A | D | Due to the time burden associated with completing this item and to keep student burden low, this item was dropped. |
| 2. Are you taking an art course now, or have you taken an art course this year? <br> (2) Yes <br> (1) No <br> (2016 Grade 8) | 21. Are you taking an art course this school year (for example, drawing, painting, or studio art)? <br> (4) Yes <br> (B) No <br> Issue: Educational Experiences | A | This item was adapted from the arts questionnaire to assess student participation in arts coursework. |

[^5]Appendix K-1n: Operational Grade 12 Core

1. How easy or difficult was this test?
(A) Extremely difficult
(B) Quite difficult
© Somewhat difficult
(D) Somewhat easy
(E) Quite easy
() Extremely easy
2. How much effort did you apply to succeed on this test?
(A) No effort at all
(B) Very little effort
© Some effort
(D) Quite a bit of effort
(E) A lot of effort
3. Are you Hispanic or Latino? Select one or more answer choices.
(A) No, I am not Hispanic or Latino.
(B) Yes, I am Mexican, Mexican American, or Chicano.
© Yes, I am Puerto Rican or Puerto Rican American.
(®) Yes, I am Cuban or Cuban American.
© Yes, I am from some other Hispanic or Latino background.
4. Which of the following best describes you? Select one or more answer choices.
(4) White
(B) Black or African American
© Asian
(D) American Indian or Alaska Native
(E) Native Hawaiian or other Pacific Islander
5. About how many books are there in your home?
(4) Few (0-10)
(B) Enough to fill one shelf (11-25)
© Enough to fill one bookcase (26-100)
(D) Enough to fill several bookcases (more than 100)
6. Do you have any of the following in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Access to the Internet | (4) | (8) | VH271105 |
| b. Your own bedroom | (4) | (B) | VH336762 |
| c. A desktop or laptop computer (including Chromebooks) that you can use | (1) | (B) | vH591976 |
| d. A tablet (for example, Surface Pro, iPad, Kindle Fire) that you can use | (1) | © | vH271110 |
| e. A smartphone (for example, iPhone, Samsung Galaxy, HTC One) that you can use | (1) | ® | VH271112 |

7. How often do you use the Internet for homework at home?
(4) Never
(B) About once or twice a month
© About once or twice a week
(D) Almost every day
(E) Every day
8. How many days were you absent from school in the last month?
(A) None
(B) 1 or 2 days
© 3 or 4 days
(D) 5 to 10 days
(E) More than 10 days
9. How often do you talk about things you have studied in school with someone in your family?
(A) Never or hardly ever
(B) Once every few weeks
© About once a week
(D) Two or three times a week
(©) Every day
10. How far in school did your mother go?
(A) She did not finish high school.
(B) She graduated from high school.
© She had some education after high school.
(D) She graduated from college.
(ㄹ) I don't know.
11. How far in school did your father go?
(A) He did not finish high school.
(B) He graduated from high school.
© He had some education after high school.
(D) He graduated from college.
(E) I don't know.
12. Does your mother work?
(A) Yes
(B) No
© I don't know.
13. Does your father work?
(A) Yes
(B) No
© I don't know.
14. Do any of the following people live in your home? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Mother | (4) | (8) | VH271145 |
| b. Stepmother | (4) | (8) | vH271146 |
| c. Foster mother or other female legal guardian | (4) | (8) | VH271147 |
| d. Father | (4) | (8) | VH271148 |
| e. Stepfather | (4) | (8) | VH271149 |
| f. Foster father or other male legal guardian | (4) | (8) | VH271150 |

15. In this school year, how often did you use a laptop or desktop computer (including Chromebooks) during your classes at school?
(4) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(®) In all or almost all classes
16. In this school year, how often did you use a tablet (for example, Surface Pro, iPad, Kindle Fire) during your classes at school?
(4) Never
(B) In some classes
© In about half of the classes
(D) In more than half of the classes
(E) In all or almost all classes
17. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I finish whatever I begin. | (4) | (B) | © | (1) | (E) | vH733142 |
| b. I try very hard even after making mistakes. | (4) | (B) | © | (1) | (E) | vH733143 |
| c. I keep working hard even when I feel like quitting. | (4) | (B) | $\bigcirc$ | (1) | (E) | vH733145 |
| d. I keep trying to improve myself, even when it takes a long time to get there. | (1) | (B) | $\bigcirc$ | (1) | (1) | vH733144 |

18. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Very much like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I like complex problems more than easy problems. | (4) | (B) | © | (1) | (c) | vH733150 |
| b. I like activities that challenge my thinking abilities. | (1) | (B) | © | (1) | (1) | vH733151 |
| c. I enjoy situations where I will have to think about something. | (4) | (B) | © | (1) | (c) | vH733155 |
| d. I enjoy thinking about new solutions to problems. | (4) | (B) | © | © | (c) | VH733154 |

19. In this school year, how often have you done each of the following? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I started working on assignments right away rather than waiting until the last minute. | (4) | (B) | © | (1) | (1) | VH271370 |
| b. I paid attention and resisted distractions. | (4) | (B) | © | (1) | (E) | VH271372 |
| c. I stayed on task without reminders from my teacher. | (4) | (B) | © | (1) | (1) | VH271374 |
| d. I paid attention in class even when I was not interested. | (4) | © | © | (1) | © | VH271375 |

20. In this school year, how often have you felt any of the following ways about your school? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I felt awkward and out of place at school. | (4) | (B) | © | (1) | (e) | vH271942 |
| b. I felt happy at school. | (4) | (B) | $\bigcirc$ | (1) | © | VH271944 |
| c. I felt that I learned something that I can use in my daily life. | (4) | (B) | © | (1) | (1) | vH336903 |

21. Are you taking an art course this school year (for example, drawing, painting, or studio art)?
(A) Yes
(B) No
22. During this school year, which of the following have you done? Select one answer on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Taken the SAT or ACT College Entrance Exams | (1) | (B) | vH740702 |
| b. Submitted the Free Application for Federal Student Aid (FAFSA) | (1) | (B) | vH740703 |
| c. Applied to a 2-year college | (1) | (8) | vH740704 |
| d. Been accepted to a 2-year college | (1) | (8) | vH740705 |
| e. Applied to a 4-year college | (4) | (B) | vH740706 |
| f. Been accepted to a 4-year college | (4) | (8) | vH740708 |
| g. Applied to a certificate or diploma program at a school that provides occupational training (such as electrician, beautician, mechanic, computer programmer, etc.) | (1) | (B) | vH740709 |
| h. Been accepted to a technical training program | (1) | (8) | vH740710 |
| i. Talked with a military recruiter | (4) | (B) | vH740711 |
| j. Enlisted in the military | (4) | (B) | vH740712 |
| k. Applied for a full-time job | (4) | (B) | vH740713 |
| 1. Been interviewed for a full-time job | (A) | (B) | vH740714 |

23. Which of the following best describes your high school program?
(A) General
(B) Academic or college preparatory
(c) Vocational or technical

## Appendix K-10: Summary of Changes Operational Grade 4

 Reading2019 Operational Grade 4 Reading Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 1. How often does your teacher ask you to read a book you have chosen yourself? <br> (2) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | N/A | D | This item was dropped to keep student burden low and create opportunity for future development. |
| 2. How often does your teacher ask you to discuss new or difficult vocabulary? <br> (4) Never <br> (1) About once or twice a year <br> (a) About once or twice a month <br> (2) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | 17. How often does your teacher ask you to discuss new or difficult vocabulary? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About onee or twice a week <br> (1) Every day or almost every day <br> Issue: Organization of Instruction | NC | N/A |
| 3. For school this year, how often do you work in pairs or small groups to talk about something that you have read? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | 18. For school this year, how often do you work in pairs or small groups to talk about something that you have read? <br> (2) Never <br> (1) About once or twice a year <br> Q About once or twice a month <br> (1) About once or twice a week <br> © Every day or almost every day <br> Issue: Organization of Instruction | NC | N/A |
| 4. For school this year, how often do you have a class discussion about something that the class has read? <br> (4) Never <br> (1) About once or twice a year <br> Q About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | 19. For school this year, how often do you have a class discussion about something that the class has read? <br> (1) Never <br> (1) About once or twice a year <br> - About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Organization of Instruction | NC | N/A |

2019 Operational Grade 4 Reading Student

| Previous item |  | 2019 item |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading? <br> (2) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (D) More than five times <br> (2017 Grade 4) | weme | 20. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading? <br> (D) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (D) More than five times <br> Issue: Organization of Instruction | cems | NC | N/A |
| 6. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork and homework? <br> (4) Less than 30 minutes <br> (1) About 30 minutes <br> (a) About 1 hour <br> (1) About 2 hours <br> (c) About 3 hours <br> (c) 4 or more hours <br> (2017 Grade 4) | m | 21. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork? <br> (d) Less than 30 minutes <br> (1) About 30 minutes <br> © About 1 hour <br> (1) About 2 hours <br> (D) About 3 hours <br> (D) 4 or more hours <br> Issue: Resources for Learning and Instruction |  | R | The word "homework" was removed. |
| 7. In this school year, how often do you borrow reading materials (such as books or magazines) from your school library or media center? <br> (4) Never <br> (1) About once or twice a year <br> - About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | visex | 22. In this school year, how often do you borrow reading materials (such as books or magazines) from your classroom library, school library, or media center? <br> (1) Never <br> © About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  | R | The phrase "classroom library" was added. |

2019 Operational Grade 4 Reading Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. Do you think you would be able to do each of the following when reading? Select one answer choice on each row. |  |  |  |  |  |  | 23. Do you think you would be able to do each of the following when readingi Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{array}{\|c} \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { I probably } \\ \text { can } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c} \hline \text { I definitely } \\ \text { can } \end{array}$ |  |  | $\begin{array}{\|c\|} \hline 1 \text { definitely } \\ \text { can't } \end{array}$ | $\begin{array}{\|c\|} \hline 1 \text { probably } \\ \text { can't } \end{array}$ | Maybe | $\underset{\text { can }}{\substack{\text { I probably }}}$ | $\begin{array}{\|c\|} \hline \text { I definitely } \\ \text { can } \end{array}$ |  |  |  |
| a. Figure out the <br> meaning of a word you <br> dont know by <br> oher wing <br> other words in the text | (1) | © | $\odot$ | $\oplus$ | © | sem | a. Figure out the meaning of a word you don't know by using other words in the text | © | ${ }^{(1)}$ | © | © | ${ }^{\circ}$ | veses |  |  |
| $\begin{array}{\|l\|} \text { b. Explain the maning } \\ \text { of something you have } \\ \text { read } \end{array}$ | © | © | $\odot$ | $\oplus$ | $\oplus$ | $\cdots$ | b. Explain the meaning of something you have read | © | (1) | $\bullet$ | $\oplus$ | $\oplus$ | vreate |  |  |
| c. Figure out the main idea of a text | © | © | $\bigcirc$ | $\oplus$ | © | vuess |  | © | © | - | © | ¢ | vneast |  |  |
| d. Find text in a reading <br> passage to telp you <br> answer a question on a <br> test | © | $\oplus$ | $\odot$ | $\oplus$ | © | nnames | d. Find text in a reading <br> passsige to help you <br> answer a question on a <br> test | © | $\oplus$ | $\odot$ | $\oplus$ | © | nnesss |  |  |
| e. Recognize when you <br> don'tunderstand <br> somethining you are <br> reading | © | (1) | $\odot$ | $\oplus$ | $\oplus$ | as | test <br> e. Recognize when you <br> don't understand <br> something you are <br> reading | © | ${ }^{(1)}$ | ${ }^{\circ}$ | ¢ | ${ }^{\circ}$ | 5 |  |  |
| f. Recognize the differcnec between fact and opinion in a text | © | ${ }^{\text {® }}$ | $\odot$ | $\oplus$ | $\oplus$ | - | $\begin{array}{\|l} \hline \text { f. } \begin{array}{l} \text { Recognize the } \\ \text { differnence between } \\ \text { fact and opinion in a } \\ \text { text } \end{array} \\ \hline \end{array}$ | ${ }^{\circ}$ | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\oplus}$ | soma |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 9. How much does each of the following statements describe a person like you! Select one answer choice on each row. |  |  |  |  |  |  | 24. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The phrase "a person like" was removed and two subitems were added. |
|  | $\begin{gathered} \text { Not at all } \\ \text { like me } \end{gathered}$ | $\begin{array}{\|c\|} \hline \text { A little bit } \\ \text { like me } \\ \hline \end{array}$ | $\begin{aligned} & \text { Somewhat } \\ & \text { Sike me } \\ & \hline \end{aligned}$ | $\begin{array}{\|c\|} \hline \text { Quite a bit } \\ \text { like me } \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Exactly like } \\ \text { me } \end{array} \\ \hline \hline \end{array}$ |  |  | Not at all like me | $\begin{array}{\|c} \hline \begin{array}{c} \text { A little bit } \\ \text { like me } \end{array} \\ \hline \end{array}$ | Somewhat like me | Quite a bit like me | $\begin{array}{\|c\|} \hline \text { Exactly like } \\ \text { me } \end{array}$ |  |  |  |
| a. I want other students to think $/$ am good at reading. | © | © | $\odot$ | $\oplus$ | $\oplus$ | 4 | a. I want other students <br> to think 1 am good at <br> reading. | © | $\oplus$ | - | $\oplus$ | Ф | numess |  |  |
| $\begin{aligned} & \text { b. I want to show others } \\ & \text { than myy mplish/ } \\ & \text { languascors } \\ & \text { schoolwork is casy for } \\ & \text { me. } \end{aligned}$ | © | © | $\bullet$ | $\oplus$ | $\oplus$ | ans | b. I want to show others that my English/ language arts schoolwork is casy for me. | © | $\pm$ | © | © | ¢ | нкх |  |  |
|  | ${ }^{\circ}$ | © | $\cdots$ | $\oplus$ | ${ }^{\circ}$ | \%om | I. I want to look smart in <br> comparison to the the <br> oother studentes sin my <br> Eng ish <br> clanguage arts <br> cliss. | (1) | $\pm$ | $\bigcirc$ | © | ${ }^{\circ}$ | nex |  |  |
| $\begin{array}{\|l\|} \hline \begin{array}{c} \text { d I want to learn as } \\ \text { muth has opssible in } \\ \text { my Englishlanguage } \\ \text { arrs class. } \end{array} \\ \hline \end{array}$ | $\otimes$ | © | - | $\odot$ | $\odot$ | \% | d. I want to get better <br> Englishlanguage arts <br> grades than most other <br> students in my class. | (1) | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\oplus}$ | 5 |  |  |
| $\begin{array}{\|l} \hline \text { c. } \begin{array}{l} \text { I want to become a } \\ \text { better reader this year. } \end{array} \\ \hline \end{array}$ | © | $\oplus$ | © | $\oplus$ | $\stackrel{\square}{\circ}$ | vimus |  |  |  |  |  |  |  |  |  |
| f. I want to undcrstand as much has I can in my English/anguage arts class. | © | (1) | © | ${ }^{\circ}$ | ${ }^{\circ}$ | vs |  |  |  |  |  |  |  |  |  |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



2019 Operational Grade 4 Reading Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school? <br> (4) Never <br> (1) About once or twice a year <br> (6) About once or twice a month <br> (1) About once or twice a week <br> (()) Every day or almost every day <br> (2017 Grade 4) |  |  |  |  |  |  | 28. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school? <br> (3) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 13. How often do you typically do each of the following things outside of school? Select one answer choice on each row. |  |  |  |  |  |  | 29. How often do you typically do each of the following things outside of school Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | $\begin{array}{\|c} \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { year } \end{array} \\ \hline \end{array}$ | $\begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { month } \end{gathered}$ | $\left.\begin{array}{\|c\|c\|} \text { About once } \\ \text { or twiee a } \\ \text { week } \end{array} \right\rvert\,$ | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \text { almost } \\ \text { every day } \end{array}$ |  |  | Never | About once or twice a year | About once or twice a month | About once or twice a week | $\left.\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { avery day } \end{array} \right\rvert\,$ |  |  |  |
| $\begin{aligned} & \text { a. Talk about books } \\ & \text { (print or online) with } \\ & \text { other people } \\ & \hline \end{aligned}$ | © | $\oplus$ | $\odot$ | $\oplus$ | ¢ | nemen | a. Talk about books (arint or online) with other people | $\oplus$ | $\oplus$ | $\bigcirc$ | $\oplus$ | $\bigcirc$ | nowos |  |  |
| $\begin{array}{\|l} \text { b. Co oo my local library } \\ \text { to borrow books (print } \\ \text { or online) } \end{array}$ | © | (1) | $\odot$ | $\odot$ | ${ }^{\circ}$ | neown | ```Go to my local hibrary to borrow books (print or online)``` | © | ${ }^{1}$ | $\odot$ | $\oplus$ | $\oplus$ | man |  |  |
| c. Read blogs | $\stackrel{\square}{\square}$ | ${ }^{1}$ | $\odot$ | ¢ | ${ }^{\circ}$ | noma | c. Read logs | ¢ | © | $\bullet$ | $\oplus$ | $\stackrel{\square}{\square}$ | veuen |  |  |
| d. Use social median (for <br> $\begin{array}{l}\text { cxample, Facebook. } \\ \text { Twitter. Instagram) }\end{array}$ | © | © | $\odot$ | $\oplus$ | $\oplus$ | ${ }^{\text {numeas }}$ | d. Use social media (for example. Facecoook, Twitter, Instagram) | © | © | $\odot$ | $\pm$ | © | ${ }^{\text {a }} 2$ |  |  |
| e. $\begin{gathered}\text { elelp friends wirt } \\ \text { reading homework }\end{gathered}$ | © | © | © | $\oplus$ | ${ }^{\circ}$ | weom | $\begin{aligned} & \text { e. Help friends with } \\ & \text { reading homework } \end{aligned}$ | (1) | © | $\bigcirc$ | $\oplus$ | $\oplus$ | , |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

## Appendix K-1p: Operational Grade 4 Reading

17. How often does your teacher ask you to discuss new or difficult vocabulary?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
18. For school this year, how often do you work in pairs or small groups to talk about something that you have read?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(®) Every day or almost every day
19. For school this year, how often do you have a class discussion about something that the class has read?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
20. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading?
(4) Never
(B) Once
© Two or three times
(D) Four or five times
(E) More than five times
21. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork?
(A) Less than 30 minutes
(B) About 30 minutes
(c) About 1 hour
(D) About 2 hours
(E) About 3 hours
() 4 or more hours
22. In this school year, how often do you borrow reading materials (such as books or magazines) from your classroom library, school library, or media center?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
23. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\underset{\text { can probably }}{\substack{\text { I }}}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Figure out the meaning of a word you don't know by using other words in the text | (4) | (B) | $\bigcirc$ | (1) | (E) | VH260848 |
| b. Explain the meaning of something you have read | (4) | (B) | © | (1) | (®) | VH260849 |
| c. Figure out the main idea of a text | (4) | (B) | © | (1) | (1) | VH260851 |
| d. Find text in a reading passage to help you answer a question on a test | (4) | (B) | © | (1) | (1) | VH260859 |
| e. Recognize when you don't understand something you are reading | (4) | (B) | $\bigcirc$ | (1) | (E) | VH260861 |
| f. Recognize the difference between fact and opinion in a text | (4) | (B) | © | (1) | (1) | VH260863 |

24. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at reading. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH84065 |
| b. I want to show others that my English/ language arts schoolwork is easy for me. | (4) | (B) | © | © | (1) | vH840066 |
| c. I want to look smart in comparison to the other students in my English/language arts class. | (4) | (B) | © | (1) | (c) | VH840068 |
| d. I want to get better English/language arts grades than most other students in my class. | (4) | (B) | $\bigcirc$ | (1) | (®) | VH844070 |

25. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my English/language arts class. | (4) | (B) | © | (1) | (®) | vH84096 |
| b. I want to become a better reader this year. | (4) | (B) | © | (1) | (1) | vH84097 |
| c. I want to understand as much as I can in my English/language arts class. | (4) | (B) | © | (1) | (E) | vH844098 |
| d. I want to master a lot of new English/ language arts skills in my class. | (4) | (B) | © | (1) | © | vH844100 |

26. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Reading is one of my favorite activities. | (4) | (B) | © | (1) | (B) | VH844169 |
| b. I like talking about books with other people. | (4) | (B) | $\bigcirc$ | (1) | (E) | VH844170 |
| c. I think reading is important. | (4) | (B) | © | (1) | (8) | vH84172 |
| d. I enjoy going to a bookstore or a library. | (4) | (B) | © | (1) | © | VH844171 |

27. Besides doing homework, how much time do you spend reading outside of school?
(A) Less than 30 minutes a day
(B) About 30 minutes a day
© About 1 hour a day
(D) About 2 hours a day
(E) About 3 hours a day
© 4 or more hours a day
28. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school?
(A) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
29. How often do you typically do each of the following things outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Talk about books (print or online) with other people | (4) | (B) | © | (1) | (E) | vH260907 |
| b. Go to my local library to borrow books (print or online) | (4) | (B) | $\bigcirc$ | (1) | (E) | vH260911 |
| c. Read blogs | (4) | © | $\bigcirc$ | (1) | (1) | vH260913 |
| d. Use social media (for example, Facebook, Twitter, Instagram) | (4) | © | © | (1) | (®) | vH333261 |
| e. Help friends with reading homework | (4) | (B) | © | (1) | (1) | vH260917 |

## Appendix K-1q: Summary of Changes Pilot Grade 4 Reading

## 2019 Pilot Grade 4 Reading Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 21. How often does your teacher ask you to read a book you have chosen yourself? <br> (a) Never <br> (1) About once or twice a year <br> (Q) About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | N/A | D | This item was dropped to reduce student burden and create opportunity for future development. |
| 22. How often does your teacher ask you to discuss new or difficult vocabulary? <br> (4) Never <br> (1) About onee or twice a year <br> (c) About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | 1. How often does your teacher ask you to discuss new or difficult vocabulary? <br> (4) Never <br> (1) About once or twice a year <br> - About once or twice a month <br> (1) About once or twice a week <br> (D) Every day or almost every day <br> Issue: Organization of Instruction | NC | N/A |
| 23. For school this year, how often do you work in pairs or small groups to talk about something that you have read? <br> (4) Never <br> (1) About once or twice a year <br> (2) About once or twice a month <br> (1) About once or twice a week <br> (D) Every day or almost every day <br> (2017 Grade 4) | 2. For school this year, how often do you work in pairs or small groups to talk about something that you have read? <br> (D) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Organization of Instruction | NC | N/A |
| 24. For school this year, how often do you have a class discussion about something that the class has read? <br> (4) Never <br> (1) About once or twice a year <br> Q About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | 3. For school this year. how often do you have a class discussion about something that the class has read? <br> (2) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Organization of Instruction | NC | N/A |

## 2019 Pilot Grade 4 Reading Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 25. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading? <br> (4) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> (2017 Grade 4) | 5. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading? <br> (2) Never <br> (1) Once <br> (a) Two or three times <br> (1) Four or five times <br> (1) More than five times <br> Issue: Organization of Instruction | NC | N/A |
| 26. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork and homework? <br> (A) Less than 30 minutes <br> (1) About 30 minutes <br> (c) About 1 hour <br> (1) About 2 hours <br> (1) About 3 hours <br> (D) 4 or more hours <br> (2017 Grade 4) | 6. On a typical school day. how much time do you use a computer or other digital device to do your English/language arts schoolwork? <br> (2) Less than 30 minutes <br> (1) About 30 minutes <br> (8) About 1 hour <br> (1) About 2 hours <br> (D) About 3 hours <br> (b) 4 or more hours <br> Issue: Resources for Learning and Instruction | R | The word "homework" was removed. |
| 27. In this school year, how often do you borrow reading materials (such as books or magazines) from your school library or media center? <br> (6) Never <br> (1) About once or twice a year <br> (c) About once or twice a month <br> (1) About once or twice a week <br> (丅) Every day or almost every day <br> (2017 Grade 4) | 11. In this school year. how often do you borrow reading materials (such as books or magazines) from your school (for example, a classroom library, school library, or media center)? <br> (4) Never <br> (1) About once or twice a year <br> (a) About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction | R | The phrase "classroom library" was added and "classroom library, school library, media center" was bolded. |




## 2019 Pilot Grade 4 Reading Student

| Previous item | 2019 item |  |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 32. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school? <br> (大) Never <br> (D) About once or twice a year <br> (1) About once or twice a month <br> (1) About once or twice a week <br> (D) Every day or almost every day <br> (2017 Grade 4) | N/A |  |  |  |  |  |  |  | D | This item was dropped to reduce student burden and create opportunity for future development. |
| N/A | 8. How often do you receive the following types of help with English/language arts schoolwork outside of school or after school? Select one answer choice on cach row. |  |  |  |  |  |  |  | A | This item was added |
|  |  | Never |  |  | $\begin{array}{\|c} \text { About once } \\ \text { or twice a } \\ \text { month } \end{array}$ | $\begin{array}{\|c\|c} \mathrm{c} \\ \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { week } \end{array} \end{array}$ | $\begin{array}{\|c\|c\|} \hline \text { Eery day or } \\ \text { almost } \\ \text { every day } \end{array}$ |  |  |  |
|  | a. Help from a teacher | © | a |  | $\bigcirc$ | © | © | and |  |  |
|  | b. Help from a tutor | © | $\square$ |  | $\odot$ | © | © | पwnum |  |  |
|  | c. ${ }^{\text {c. } \text { Help from a family }}$ member or friend | © |  |  | $\odot$ | ${ }^{\circ}$ | $\Phi$ | ninm |  |  |
|  | $\begin{array}{\|l\|} \hline \text { d. Help from online } \\ \text { resources (for example. } \\ \text { websites or apps) } \end{array}$ | © |  |  | $\odot$ | $\oplus$ | $\oplus$ |  |  |  |
|  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |  |
| N/A | 9. How useful do you find each of the following types of help to understand your English/language arts schoolwork? Select one answer choice on each row. |  |  |  |  |  |  |  | A | This item was |
|  |  |  |  | Some use | eewhat | Very useful | $1 \text { don't receive }$ $\begin{aligned} & \text { that type o } \\ & \text { help. } \end{aligned}$ help. |  |  |  |
|  | a. Help from a teacher |  |  |  | © | $\odot$ | $\oplus$ | - |  |  |
|  | b. Help from a tutor |  |  |  | © | $\bigcirc$ | ${ }^{\circ}$ | numbe |  |  |
|  |  |  |  |  | ¢ | $\odot$ | © | ${ }^{1400}$ |  |  |
|  | $\begin{aligned} & \text { d. Help from online resources } \\ & \text { (for example, websites or } \\ & \text { apps) } \end{aligned}$ |  |  |  | © | $\odot$ | $\oplus$ | , |  |  |
|  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |  |


| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | D/A/ <br> R/NC+ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 33. How often do you typically do each of the following things outside of school? Select one answer choice on each row. |  |  |  |  |  |  | 12. How often do you typically do each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | R | In the item stem, "things" was replaced with "activities". In sub-item "c", "Read blogs" was replaced with "Read online about topics I am interested in" and moved to sub-item "a". In sub-item "b", "Go to my local library to borrow books (print or online)" was replaced with "Borrow or download books from a local library" and moved to sub-item "c". |
|  | Never | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { year } \end{array}$ | $\begin{array}{\|c} \text { About once } \\ \text { or wivea } \\ \text { month } \end{array}$ | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { week } \end{array}$ | $\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \\ \hline \end{array}$ |  |  | Never | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { year } \end{array} \\ \hline \end{array}$ | About once or twice a or twice month | About once or twice a week | Every day or <br> almost every dayalmost |  |  |  |
| $\begin{aligned} & \text { a. Talk about books } \\ & \text { (rint or online) with } \\ & \text { other people } \\ & \hline \end{aligned}$ | © | © | © | © | $\oplus$ | veam | $\begin{aligned} & \hline \text { a. Read online about } \\ & \text { topics } 1 \text { am } \\ & \text { interested in } \end{aligned}$ | © | © | $\odot$ | © | 析 | nemes |  |  |
| b. Go to my local library to borrow books (print or online) | - | $\oplus$ | $\odot$ | © | ¢ | nnasos, | b. Talk about things I read with other people | © | © | $\odot$ | $\oplus$ | © | nasam |  |  |
| c. Read hlogs | © | $\oplus$ | $\bigcirc$ | $\odot$ | $\stackrel{\square}{\circ}$ | 0 | c. Borrow or download |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { d. Use ecocial media for for } \\ & \text { example. Facebook. } \\ & \text { Twitter. Instagram) } \\ & \hline \end{aligned}$ | © | © | $\bigcirc$ | © | © | 5 |  | © | © | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | anses |  |  |
| $\begin{aligned} & \text { e. Help friends with } \\ & \text { reading homework } \\ & \hline \end{aligned}$ | © | ${ }^{(1)}$ | $\bigcirc$ | © | $\odot$ | 5 | example, Facchoak, Twitter. Instagram) |  |  |  |  |  | mash |  |  |
| (2017 Grade 4) |  |  |  |  |  |  |  | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\oplus}$ | nses |  |  |

## Appendix K-1r: Pilot Grade 4 Reading

1. How often does your teacher ask you to discuss new or difficult vocabulary?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
2. For school this year, how often do you work in pairs or small groups to talk about something that you have read?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
3. For school this year, how often do you have a class discussion about something that the class has read?
(A) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
4. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Figure out the meaning of a word you don't know by using other words in the text | (4) | (B) | © | (1) | (®) | VH260848 |
| b. Explain the meaning of something you have read | (4) | (B) | © | (1) | (®) | VH260849 |
| c. Figure out the main idea of a text | (4) | (B) | © | (1) | (E) | VH260851 |
| d. Find text in a reading passage to help you answer a question on a test | (4) | (B) | © | (1) | (E) | VH260859 |
| e. Recognize when you don't understand something you are reading | (4) | (B) | © | (1) | © | vH260861 |
| f. Recognize the difference between fact and opinion in a text | (4) | (B) | © | (1) | (E) | vH260863 |
| g. Use evidence from a text to support your answer | (4) | (B) | © | (1) | (1) | vH811215 |

5. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading?
(4) Never
(B) Once
© Two or three times
(D) Four or five times
(E) More than five times
6. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork?
(A) Less than 30 minutes
(B) About 30 minutes
© About 1 hour
(D) About 2 hours
(E) About 3 hours
(®) 4 or more hours
7. Besides doing homework, how much time do you spend reading outside of school?
(A) Less than 30 minutes a day
(B) About 30 minutes a day
© About 1 hour a day
(D) About 2 hours a day
(E) About 3 hours a day
(E) 4 or more hours a day
8. How often do you receive the following types of help with English/language arts schoolwork outside of school or after school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Help from a teacher | (4) | (8) | © | (1) | (1) | VH811190 |
| b. Help from a tutor | (4) | (B) | © | (1) | (1) | vH81192 |
| c. Help from a family member or friend | (4) | (B) | © | (1) | (1) | vH811196 |
| d. Help from online resources (for example, websites or apps) | (4) | (B) | © | (1) | (1) | vH811200 |

9. How useful do you find each of the following types of help to understand your English/language arts schoolwork? Select one answer choice on each row.

|  | Not useful at all | Somewhat useful | Very useful | I don't receive that type of help. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Help from a teacher | (4) | (8) | © | (1) | vH811287 |
| b. Help from a tutor | (4) | (8) | $\bigcirc$ | (1) | vH811291 |
| c. Help from a family member or friend | (4) | (B) | © | (1) | vH811302 |
| d. Help from online resources (for example, websites or apps) | (4) | (B) | © | (1) | vH811304 |

10. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Reading is one of my favorite activities. | (4) | (B) | © | (1) | (E) | VH844169 |
| b. I like talking about books with other people. | (4) | (B) | © | (1) | © | VH844170 |
| c. I think reading is important. | (4) | (B) | © | (1) | (E) | vH844172 |
| d. I enjoy going to a bookstore or a library. | (4) | (B) | © | (1) | © | vH844171 |
| e. I enjoy finding things to read online. | (4) | (B) | © | (1) | (E) | vH853415 |

11. In this school year, how often do you borrow reading materials (such as books or magazines) from your school (for example, a classroom library, school library, or media center)?
(A) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(®) Every day or almost every day
12. How often do you typically do each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Read online about topics I am interested in | (4) | (B) | © | (1) | (1) | vH853656 |
| b. Talk about things I read with other people | (4) | (B) | © | (1) | (E) | vH853657 |
| c. Borrow or download books from a local library | (4) | (B) | © | (1) | (®) | vH853655 |
| d. Use social media (for example, Facebook, Twitter, Instagram) | (4) | (B) | © | (1) | (E) | vH853654 |
| e. Help friends with reading homework | (4) | (B) | © | (1) | (1) | vH853658 |

13. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at reading. | (1) | (B) | © | (1) | (1) | vH853764 |
| b. I want to show others that my English/ language arts schoolwork is easy for me. | (4) | (B) | © | (1) | (1) | vH853765 |
| c. I want to look smart in comparison to the other students in my English/language arts class. | (4) | (B) | © | (1) | © | vH853766 |
| d. I want to get better English/language arts grades than most other students in my class. | (4) | (B) | © | (1) | (1) | vH853776 |

14. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my English/language arts class. | (4) | (B) | © | (1) | (E) | vH853767 |
| b. I want to become a better reader this year. | (4) | (B) | © | (1) | (E) | VH853777 |
| c. I want to understand as much as I can in my English/language arts class. | (4) | (B) | $\bigcirc$ | (1) | (®) | VH853774 |
| d. I want to master a lot of new English/ language arts skills in my class. | (4) | (B) | © | (1) | (E) | vH853770 |

## Appendix K-1s: Spiral Map Grade 4 Reading

| Accnum | Grade | Grade 4 OMB PDF Sequence Number | Number of Grade 4 booklets item appears in | Grade 4 booklets item appears in |
| :---: | :---: | :---: | :---: | :---: |
| VH853176 | 4, 8 | 11_00 | 3 | 1, 2, 3 |
| VH853652 | 4, 8 | 12_00 | 2 | 1, 2 |
| VH853656 | 4, 8 | 12_01 | 2 | 1, 2 |
| VH853657 | 4, 8 | 12_02 | 2 | 1, 2 |
| VH853655 | 4, 8 | 12_03 | 2 | 1, 2 |
| VH853654 | 4, 8 | 12_04 | 2 | 1, 2 |
| VH853658 | 4, 8 | 12_05 | 2 | 1, 2 |
| VH598636 | 4, 8 | 06_00 | 3 | 1, 2, 3 |
| VH844168 | 4, 8 | 10_00 | 2 | 1, 2 |
| VH844169 | 4, 8 | 10_01 | 2 | 1, 2 |
| VH844170 | 4, 8 | 10_02 | 2 | 1, 2 |
| VH844172 | 4, 8 | 10_03 | 2 | 1, 2 |
| VH844171 | 4,8 | 10_04 | 2 | 1, 2 |
| VH853415 | 4, 8 | 10_05 | 2 | 1, 2 |
| VH811176 | 4,8 | 08_00 | 2 | 1, 2 |
| VH811190 | 4, 8 | 08_01 | 2 | 1, 2 |
| VH811192 | 4, 8 | 08_02 | 2 | 1, 2 |
| VH811196 | 4,8 | 08_03 | 2 | 1, 2 |
| VH811200 | 4, 8 | 08_04 | 2 | 1, 2 |
| VH811276 | 4, 8 | 09_00 | 2 | 1, 2 |
| VH811287 | 4, 8 | 09_01 | 2 | 1, 2 |
| VH811291 | 4, 8 | 09_02 | 2 | 1, 2 |
| VH811302 | 4, 8 | 09_03 | 2 | 1, 2 |
| VH811304 | 4,8 | 09_04 | 2 | 1, 2 |
| VH598686 | 4, 8 | 07_00 | 1 | 3 |
| VH337050 | 4,8 | 04_00 | 1 | 3 |
| VH260848 |  | 04_01 |  |  |
|  | 4, 8 |  | 1 | 3 |


| VH260849 |  | 04_02 |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 4, 8 |  | 1 | 3 |
| VH260851 |  | 04_03 |  |  |
|  | 4, 8 |  | 1 | 3 |
| VH260859 | 4, 8 | 04_04 | 1 | 3 |
| VH260861 |  | 04_05 |  |  |
|  | 4, 8 |  | 1 | 3 |
| VH260863 |  | 04_06 |  |  |
|  | 4, 8 |  | 1 | 3 |
| VH811215 | 4,8 | 04_07 | 1 | 3 |
| VH853747 | 4, 8 | 13_00 | 1 | 3 |
| VH853764 | 4,8 | 13_01 | 1 | 3 |
| VH853765 | 4, 8 | 13_02 | 1 | 3 |
| VH853766 | 4, 8 | 13_03 | 1 | 3 |
| VH853776 | 4, 8 | 13_04 | 1 | 3 |
| VH853763 | 4,8 | 14_00 | 1 | 3 |
| VH853767 | 4, 8 | 14_01 | 1 | 3 |
| VH853777 | 4, 8 | 14_02 | 1 | 3 |
| VH853774 | 4, 8 | 14_03 | 1 | 3 |
| VH853770 | 4, 8 | 14_04 | 1 | 3 |
| VH332853 | 4 | 01_00 | 1 | 3 |
| VH332862 | 4 | 02_00 | 1 | 3 |
| VH332871 | 4 | 03_00 | 1 | 3 |
| VH588774 | 4, 8,12 | 05_00 | 1 | 3 |

## Appendix K-1t: Summary of Changes Operational Grade 8 Reading

2019 Operational Grade 8 Reading Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. For your English/language arts class this year, how often do you do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | 22. For your English/language arts class this year, how often do you do each of the following? Select one answer choice on cach row. |  |  |  |  |  |  | NC | N/A |
|  | Never | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { year } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { month } \end{array}$ | $\begin{array}{\|c\|c} \hline \text { About once } \\ \text { or twice a } \\ \text { week } \end{array}$ | $\left\|\begin{array}{c} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}\right\|$ |  |  | Never | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { year } \end{array} \\ \hline \end{array}$ | About once or twice a month | About once <br> or twice a <br> week | $\left\lvert\, \begin{gathered} \text { Every day or } \\ \text { elvery day } \\ \text { ent day } \end{gathered}\right.$ |  |  |  |
|  | © | © | $\odot$ | $\oplus$ | ${ }^{\circ}$ | $\pm$ | a. Have a class discussinn about something hat the whole class has read | © | © | $\bigcirc$ | $\oplus$ | ¢ | muser |  |  |
| $\begin{array}{\|l} \hline \text { b. Work in pairs or small } \\ \text { groups totalk tabout } \\ \text { something that yout } \\ \text { have read } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | 20 | b. Work in pairs or small groups to talk about something that you have read | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | 40 |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 2. In your English/language arts class this year. when reading a story, article, or other passage. how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | 23. In your English/language arts class this year, when reading a story, article, of other passage, how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | R | A sub-item was dropped. |
|  | Never or hardly ever | Once in a while | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \text { almost } \\ \text { always } \end{gathered}$ |  |  | Never or hardly ever | Once in a while | Sometimes | Offen | Always or almost always |  |  |  |
|  | ${ }^{\circ}$ | © | $\bigcirc$ | $\oplus$ | © | mos | .Evaluate the main <br> evidence in a <br> persuasive/argument <br> passage <br> bat | ${ }^{\circ}$ | (1) | $\odot$ | © | $\oplus$ | sem |  |  |
| b. Analyze the author's <br> organization of <br> information in a <br> passagee <br> c. | © | © | $\bigcirc$ | $\oplus$ | ${ }^{\circ}$ | 412 | b. Analyze the author's | © | © | $\odot$ | $\oplus$ | ${ }^{\circ}$ |  |  |  |
| c. Critique the author's craft or technique | © | (1) | $\odot$ | $\oplus$ | ${ }^{\oplus}$ | пай |  |  |  |  |  |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 3. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | 24. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | R | A sub-item was dropped. |
|  |  | Once in a while | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \begin{array}{c} \text { almost } \\ \text { always } \end{array} \\ \hline \end{gathered}$ |  |  | Never or hardly ever | Once in while | Sometimes | Often |  |  |  |  |
| $\qquad$ | $\oplus$ | $\bullet$ | $\odot$ | $\odot$ | $\odot$ | visams |  | $\oplus$ | © | $\odot$ | ¢ | $\stackrel{\square}{\circ}$ | vumes |  |  |
| b. $\begin{gathered}\text { Interpret the meaning } \\ \text { of the passage }\end{gathered}$ | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | viasers | passage <br> b. Interpret the meaning | $\odot$ | ${ }^{\odot}$ | $\odot$ | $\odot$ | $\odot$ |  |  |  |
| $\begin{array}{\|l} \hline \text { c. Question the motives } \\ \text { or feclings of the } \\ \text { characters } \end{array}$ | © | $\oplus$ | $\odot$ | ${ }^{\circ}$ | $\odot$ | $\stackrel{\text { vexsers }}{ }$ | of the passage <br> c. Question the motives <br> or feelings of the <br> charcters | $\stackrel{\square}{\odot}$ | ${ }^{\text {© }}$ | $\odot$ | ${ }^{\circ}$ | $\stackrel{\odot}{\odot}$ | \%naves |  |  |
| $\begin{array}{\|l} \text { d. Identify the main ideas } \\ \text { of the passage } \end{array}$ | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | veraves | $\begin{array}{\|l} \text { characters } \\ \hline \text { d. Identify the main ideas } \end{array}$ | $\odot$ |  |  |  |  | muews |  |  |
| $\begin{aligned} & \text { e. Identify the themes of } \\ & \text { the passage } \end{aligned}$ | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | vизses | d. of the passage <br> e. Identify the themes of | © | © | $\odot$ | $\odot$ | $\stackrel{\odot}{\odot}$ | , muxers |  |  |
| $\begin{array}{\|l\|} \hline \text { f. Analyze two or more } \\ \text { texts on the same } \\ \text { topic } \end{array}$ | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | \%as\% | the passage |  | $\Phi$ | $\odot$ | $\odot$ | $\odot$ |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |

## 2019 Operational Grade 8 Reading Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 4. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading? <br> (4) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (D) More than five times <br> (2017 Grade 8) | 25. For school this year. how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading? <br> (a) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> Issue: Organization of Instruction | NC | N/A |
| 5. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork? <br> (4) Less than 30 minutes <br> (1) About 30 minutes <br> © About 1 hour <br> (1) About 2 hours <br> (1) About 3 hours <br> (c) 4 or more hours <br> (2017 Grade 8) | 26. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork? <br> (4) Less than 30 minutes <br> (1) About 30 minutes <br> © About 1 hour <br> (1) About 2 hours <br> (D) About 3 hours <br> (D) 4 or more hours <br> Issue: Resources for Learning and Instruction | NC | N/A |
| 6. In this school year, how often do you borrow reading materials (such as books or magazines) from your classroom library, school library, or media center? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) | 27. In this school year, how often do you borrow reading materials (such as books or magazines) from your classroom library, school library, or media center? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (c) Every day or almost every day <br> Issue: Resources for Learning and Instruction | NC | N/A |

2019 Operational Grade 8 Reading Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7. Do you think you would be able to do each of the following when reading? Select one answer choice on each row. |  |  |  |  |  |  | 28. Do you think you would be able to do each of the following when reading? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{array}{\|c} \hline \begin{array}{c} \text { I definitely } \\ \text { can't } \end{array} \\ \hline \end{array}$ | $\begin{aligned} & \text { I probably } \\ & \text { can't } \end{aligned}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{array}{\|c} 1 \text { definitely } \\ \text { can } \end{array}$ |  |  | $\begin{array}{\|c\|} \hline \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{aligned} & \text { I probably } \\ & \text { can't } \end{aligned}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{array}{\|c} \text { I definitely } \\ \text { can } \end{array}$ |  |  |  |
| a. Figure out the <br> meaning of a word you <br> dont know by using <br> other words sin the text <br> o. <br> . | (1) | © | $\odot$ | $\odot$ | ${ }^{\circ}$ | man | a. Figure out the <br> meaning of a word you <br> don't know by using <br> other words in the text | © | © | $\odot$ | © | $\oplus$ | cus |  |  |
| $\begin{array}{\|l} \text { b. Explain the meaning } \\ \text { of something you have } \\ \text { read } \end{array}$ | (1) | © | $\cdots$ | $\oplus$ | $\oplus$ | \%es | b. Explain the meaning of omething you have read | © | © | $\odot$ | ${ }^{\circ}$ | $\oplus$ | - |  |  |
| $\begin{aligned} & \text { c. Figure out the main } \\ & \text { idea of a text } \end{aligned}$ | © | © | $\bigcirc$ | © | © | nowes | c. Figure out the main idea of a text | © | $\oplus$ | ¢ | © | © | ast |  |  |
| d. Find text in a reading <br> passage to help you <br> answer a question on a <br> test | (1) | $\oplus$ | $\odot$ | ${ }^{\circ}$ | © | viesss | d. Find text in a reading passage to help you answer a question on a test | © | © | $\odot$ | $\oplus$ | ${ }^{\circ}$ | sass |  |  |
| $\begin{array}{\|l\|} \hline \text { c. Recognize when you } \\ \text { dontunctustand } \\ \text { something you are } \\ \text { reading } \end{array}$ | © | ¢ | ¢ | ${ }^{\oplus}$ | ${ }^{\circ}$ | "w | $\begin{array}{\|l\|} \text { test } \\ \hline \text { e. Recognize when you } \\ \text { dont umderstand } \\ \text { somerthing you are } \\ \text { reading } \end{array}$ | © | $\oplus$ | $\oplus$ | ${ }^{(1)}$ | ${ }^{\circ}$ | nowes |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 8. Do you think you would be able to do cach of the following when readingi Sclect one answer choice on each row. |  |  |  |  |  |  | 29. Do you think you would be able to do each of the following when reading? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{array}{\|c} 1 \text { definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{array}{\|c\|} \hline 1 \text { probably } \\ \text { can } \end{array}$ | $\begin{array}{\|c} \text { I definitely } \\ \text { can } \end{array}$ |  |  | $\begin{array}{\|c\|} \hline 1 \text { definitely } \\ \text { can't } \end{array}$ | 1 probably <br> can't | Maybe | I probably can | $\begin{array}{\|c} \text { I definitely } \\ \text { can } \end{array}$ |  |  |  |
| a. Recognize the <br> difffernencecterwen <br> fact and opinion in a <br> text | © | © | $\odot$ | © | ${ }^{\circ}$ | 5mo | a. Rccognize the <br> difffrence between <br> fact and opinion in a <br> text | (1) | (1) | $\cdots$ | ${ }^{\circ}$ | © | Hemas |  |  |
|  | © | ${ }^{(1)}$ | $\odot$ | © | ${ }^{\circ}$ | nuems | b. Judge the reliabilitity of sources for cexample, how a wesbite might bebbiasdod or inaccurate) | © | © | $\odot$ | $\odot$ | © | vneos |  |  |
|  | © | $\oplus$ | - | © | © | nemem | c. Critique an author's cratt or technique | © | © | $\odot$ | $\oplus$ | ${ }^{\circ}$ | Ispam |  |  |
| d. Use vevidence from a text to support my answer | (1) | $\oplus$ | - | $\cdots$ | ¢ | 4 | d. Use evidence from a text to support my answer | © | © | $\odot$ | $\odot$ | Ф | an |  |  |
| c. $\begin{array}{c}\text { Identify the author's } \\ \text { perspective in } \\ \text { persususive text }\end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | © | - | $\begin{aligned} & \text { e. Identify the author's } \\ & \text { perspective in a } \\ & \text { persuasive text } \end{aligned}$ | © | (1) | $\odot$ | © | ${ }^{\circ}$ |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |


| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9. How much does each of the following statements describe a person like you: Select one answer choice on each row. |  |  |  |  |  |  | 30. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The phrase "a person like" was removed and two subitems were added. |
|  | Not at all like me | A little bit | Somewhat like me | Quite a bit like me | $\underset{\text { me }}{\underset{\text { Exactly like }}{ }}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | $\begin{array}{\|c\|} \hline \text { Exactly like } \\ \text { me } \end{array}$ |  |  |  |
| $\begin{aligned} & \text { a. I want other students } \\ & \text { to think I am good at } \\ & \text { reading. } \end{aligned}$ | © | ${ }^{\text {® }}$ | $\odot$ | $\oplus$ | © | vemes | a. I want other students to think 1 am good at rcading. | © | (1) | © | $\oplus$ | $\bigcirc$ | ,nemes |  |  |
|  | ${ }^{\circ}$ | $\oplus$ | $\odot$ | $\Phi$ | $\oplus$ | тreas | b. Wwant to show orhers <br> that my English $/$ <br> languag ars <br> schoolwork is casy for <br> me. | © | $\oplus$ | $\odot$ | $\odot$ | $\oplus$ | max |  |  |
|  | © | ${ }^{\circ}$ | $\odot$ | © | $\pm$ | Matam |  | © | $\oplus$ | $\odot$ | $\odot$ | $\oplus$ | 4 mex |  |  |
|  | © | ${ }^{1}$ | $\omega$ | ${ }^{*}$ | © | neoses | d. 1 want to get better <br> English/language arts grades than most otherstudents in my class. | (1) | ${ }^{(1)}$ | $\odot$ | © | $\oplus$ | ${ }^{\text {manem }}$ |  |  |
| $\begin{aligned} & \text { f. I want to understand } \\ & \text { as muth an } \text { chan in my } \\ & \text { English } \\ & \text { clask } \\ & \hline \end{aligned}$ | © | $\omega$ | - | $\oplus$ | $\oplus$ | vamas | 31. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | $\begin{gathered} \text { Not at all } \\ \text { like me } \\ \hline \end{gathered}$ | A little bit like me | Somewhat like me | Quite a bit like me | $\begin{array}{\|c\|} \hline \text { Exactly like } \\ \text { me } \end{array}$ |  |  |  |
|  |  |  |  |  |  |  | a. I want to learn as much as possible in my English/language arts class. | © | © | $\odot$ | © | $\odot$ | um |  |  |
|  |  |  |  |  |  |  | b. 1 want to become a better reader this year. | © | (1) | $\odot$ | © | © | numem |  |  |
|  |  |  |  |  |  |  | c. I want to understandas much as I Ican in my <br> Enlish <br> class. language arts | © | © | $\odot$ | $\oplus$ | © | mum |  |  |
|  |  |  |  |  |  |  | d. I want to mastcr a lot of new Englisht language ants skills in my class. | © | (1) | $\odot$ | © | $\oplus$ | пинох |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 10. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 32. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The phrase "a person like" was removed. |
|  | $\begin{aligned} & \text { Not at all } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like m | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\underset{\text { meactly like }}{\text { me }}$ |  |  | $\begin{aligned} & \text { Not at all } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat <br> like me | Quite a bit like me | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Exactly like } \\ \text { me } \end{array} \\ \hline \end{array}$ |  |  |  |
| (2) Reading is one of my | © | © | $\bigcirc$ | © | © | vomer | a. Reading is one of my | © | (1) | $\odot$ | © | $\oplus$ | neutio |  |  |
| $\begin{aligned} & \text { b. like talking about } \\ & \text { books with other } \\ & \text { people. } \end{aligned}$ | © | $\oplus$ | $\cdots$ | $\oplus$ | $\oplus$ | vames | b. I like talking about books with other people. | © | (1) | $\bigcirc$ | © | $\odot$ | \#й |  |  |
| $\begin{array}{\|l\|l} \hline \text { c. } \text { Ithink reading is } \\ \text { important. } \end{array}$ | © | © | $\odot$ | © | $\odot$ | veners | c. It think reading is | © | © | - | © | © | newliz |  |  |
| d. I enioy going toa <br> bookstore or a library. | © | © | $\odot$ | $\oplus$ | © | nower | d. I enioy going to at bookstore or a library. | © | ${ }^{1}$ | $\odot$ | $\oplus$ | $\oplus$ | \%urn |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

## 2019 Operational Grade 8 Reading Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | D/A/ <br> R/NC+ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11. Besides doing homework, how much time do you spend reading outside of school? <br> (2) Less than 30 minutes a day <br> (1) About 30 minutes a day <br> © About 1 hour a day <br> (1) About 2 hours a day <br> (1) About 3 hours a day <br> (D) 4 or more hours a day <br> (2017 Grade 8) |  |  |  |  |  |  | 33. Besides doing homework, how much time do you spend reading outside of school? <br> (8) Less than 30 minutes a day <br> (1) About 30 minutes a day <br> © About 1 hour a day <br> (1) About 2 hours a day <br> (ब) About 3 hours a day <br> (c) 4 or more hours a day <br> Issue: Student Factors |  |  |  |  |  |  | NC | N/A |
| 12. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | 35. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school? <br> (1) Never <br> (D) About once or twice a year <br> Q About once or twice a month <br> (2) About once or twice a week <br> (D) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 13. How often do you typically read each of the following outside of school (print of online): Select one answer choice on each row. |  |  |  |  |  |  | 34. How often do you typically read each of the following outside of school (print or online)? Select one answer choice on each row. |  |  |  |  |  |  | R | Sub-items |
|  | Never | About once or wise a year | About once or twice a month | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or wice a } \\ \text { week } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}$ |  |  | Never | About once or year | About once or twice a month | About once or twiec a | $\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}$ |  |  | removed. |
| a. Storics of novels | ¢ | ¢ | $\odot$ | ¢ | © | $\square$ | a. Storics or novels | $\stackrel{\square}{\square}$ | ${ }_{\square}$ | $\bigcirc$ | ${ }_{\square}$ | © | Mrame |  |  |
| b. Poems | $\stackrel{\square}{\circ}$ | $\stackrel{\square}{\circ}$ | $\odot$ | $\stackrel{\square}{\circ}$ | © | nnbame | b. E-mails | © | (1) | $\bigcirc$ | $\oplus$ | $\stackrel{\square}{\circ}$ | neanem |  |  |
| c. Plays | $\stackrel{\square}{\circ}$ | $\oplus$ | $\bigcirc$ | $\stackrel{\square}{\square}$ | $\stackrel{\square}{\square}$ | ${ }^{\text {anden }}$ | c. Text messages | ¢ | ${ }^{1}$ | $\bigcirc$ | $\stackrel{\square}{\square}$ | $\stackrel{\square}{\circ}$ | newe |  |  |
| d. Biographics | $\stackrel{\square}{\odot}$ | ${ }_{\square}{ }^{\text {® }}$ | $\stackrel{\circ}{\circ}$ | $\stackrel{\square}{\circ}$ | $\stackrel{1}{\square}$ | \% | d. Biographics | ¢ | © | $\bigcirc$ | © | © | matmus |  |  |
| f. Magazines | © | ${ }^{\circ}$ | $\bigcirc$ | $\stackrel{\square}{*}$ | © | verem |  |  |  |  |  |  |  |  |  |
| 8. E-mals | $\stackrel{\square}{\square}$ | ¢ | $\odot$ | $\oplus$ | $\stackrel{\square}{\square}$ | Mrames |  |  |  |  |  |  |  |  |  |
| h. Text messages | ${ }^{\circ}$ | $\oplus$ | $\bigcirc$ | ${ }^{\circ}$ | © | meanes |  |  |  |  |  |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

2019 Operational Grade 8 Reading Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14. How often do you typically do cach of the following things outside of school: Select one answer choice on each row. |  |  |  |  |  |  | 36. How often do you typically do each of the following things outside of school? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | About once of twice a year | About once or twice a month | About once or twice a week | $\left\|\begin{array}{c} \text { Every day or } \\ \text { almose } \\ \text { every day } \end{array}\right\|$ |  |  | Never | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { year } \end{array}$ | $\begin{gathered} \text { About once } \\ \text { or wiece } \\ \text { month } \end{gathered}$ | $\begin{gathered} \text { About once } \\ \text { or wice a } \\ \text { week } \end{gathered}$ | $\left.\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array} \right\rvert\,$ |  |  |  |
| a. Talk about tooks (printor orline with other people | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\oplus$ | nemen | a. Talk about books <br> (rpint or online) with <br> other people | (1) | © | $\bigcirc$ | © | Ф | nom |  |  |
| $\begin{aligned} & \text { b. Go to my local library } \\ & \text { to borrow books (print } \\ & \text { oo online) } \\ & \hline \end{aligned}$ | © | © | $\odot$ | © | $\odot$ | an | $\qquad$ to borrow books (print or online) or online | © | ¢ | $\odot$ | © | ${ }^{\circ}$ | vasom |  |  |
| c. Read blogs | $\stackrel{\square}{\circ}$ | ${ }^{\circ}$ | - | ${ }^{\circ}$ | $\stackrel{\square}{\square}$ | 2018 | c. Read blogs | © | ${ }^{\circ}$ | © | $\odot$ | © | veneme |  |  |
| $\begin{aligned} & \text { d. Use social media (for } \\ & \text { example. Facklook. } \\ & \text { Twitter, Instagramm) } \\ & \hline \end{aligned}$ | © | $\oplus$ | - | $\oplus$ | © | wea | d. Use social media (for Twitter. Instagram) | © | (1) | $\omega$ | $\oplus$ | © | numb |  |  |
| $\begin{aligned} & \text { e. Help friends with } \\ & \text { reading homework } \end{aligned}$ | 당 | © | $\odot$ | © | - | wesin | $\begin{aligned} & \text { c. Helperinds with } \\ & \text { reading homework } \end{aligned}$ | * | © | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | " |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

## Appendix K-1u: Operational Grade 8 Reading

22. For your English/language arts class this year, how often do you do each of the following? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Have a class discussion about something that the whole class has read | (4) | (B) | © | (1) | (e) | vH332888 |
| b. Work in pairs or small groups to talk about something that you have read | (4) | (B) | © | (1) | (1) | vH332889 |

23. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Evaluate the main evidence in a persuasive/argument passage | (4) | (B) | © | (1) | (E) | vH260256 |
| b. Analyze the author's organization of information in a passage | (4) | (B) | © | (1) | (1) | vH333142 |

24. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Summarize the passage | (4) | (8) | © | (1) | (1) | vH333075 |
| b. Interpret the meaning of the passage | (4) | (B) | © | (1) | (E) | vH333076 |
| c. Question the motives or feelings of the characters | (1) | (B) | © | (1) | (1) | vH333079 |
| d. Identify the main ideas of the passage | (4) | (B) | © | (1) | (1) | vH333078 |
| e. Identify the themes of the passage | (4) | (B) | © | (1) | (8) | vH333094 |

25. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading?
(4) Never
(B) Once
© Two or three times
(D) Four or five times
© More than five times
26. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork?
(A) Less than 30 minutes
(B) About 30 minutes
© About 1 hour
(D) About 2 hours
(E) About 3 hours
(®) 4 or more hours
27. In this school year, how often do you borrow reading materials (such as books or magazines) from your classroom library, school library, or media center?
(A) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
28. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | I probably can | $\underset{\text { can }}{\text { I definitely }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Figure out the meaning of a word you don't know by using other words in the text | (4) | (B) | © | (1) | (1) | vH260848 |
| b. Explain the meaning of something you have read | (1) | (B) | © | (1) | (1) | vH260849 |
| c. Figure out the main idea of a text | (4) | (B) | © | (1) | (1) | vH260851 |
| d. Find text in a reading passage to help you answer a question on a test | (1) | (B) | © | (1) | (1) | vH260859 |
| e. Recognize when you don't understand something you are reading | (4) | (B) | © | (1) | (1) | vH260861 |

29. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Recognize the difference between fact and opinion in a text | (4) | (8) | © | (1) | © | vH260863 |
| b. Judge the reliability of sources (for example, how a website might be biased or inaccurate) | (4) | (8) | © | (1) | © | VH200857 |
| c. Critique an author's craft or technique | (4) | (8) | © | (1) | (c) | VH260866 |
| d. Use evidence from a text to support my answer | (4) | (B) | © | (1) | (®) | VH616841 |
| e. Identify the author's perspective in a persuasive text | (4) | © | © | (1) | © | VH260868 |

30. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at reading. | (4) | (B) | © | (1) | (1) | VH844065 |
| b. I want to show others that my English/ language arts schoolwork is easy for me. | (4) | (B) | © | (1) | (1) | VH844066 |
| c. I want to look smart in comparison to the other students in my English/language arts class. | (4) | (B) | © | (1) | (1) | VH844068 |
| d. I want to get better English/language arts grades than most other students in my class. | (4) | (B) | © | (1) | (c) | VH844070 |

31. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my English/language arts class. | (4) | (B) | © | (1) | (®) | VH84096 |
| b. I want to become a better reader this year. | (4) | (B) | © | (1) | (E) | VH84097 |
| c. I want to understand as much as I can in my English/language arts class. | (4) | (B) | © | (1) | (e) | VH84098 |
| d. I want to master a lot of new English/ language arts skills in my class. | (4) | (B) | © | (1) | (1) | vH844100 |

32. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Reading is one of my favorite activities. | (4) | (B) | © | (1) | (E) | VH844169 |
| b. I like talking about books with other people. | (4) | (B) | © | (1) | (®) | VH844170 |
| c. I think reading is important. | (4) | (B) | © | (1) | (E) | VH844172 |
| d. I enjoy going to a bookstore or a library. | (4) | (B) | © | (1) | (1) | VH844171 |

33. Besides doing homework, how much time do you spend reading outside of school?
(A) Less than 30 minutes a day
(B) About 30 minutes a day
© About 1 hour a day
(D) About 2 hours a day
(E) About 3 hours a day
© 4 or more hours a day
34. How often do you typically read each of the following outside of school (print or online)? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Stories or novels | (4) | (8) | © | (1) | (1) | VH261066 |
| b. E-mails | (4) | (B) | © | © | (1) | VH261074 |
| c. Text messages | (4) | (8) | © | (1) | © | VH261075 |
| d. Biographies | (4) | (B) | © | (1) | (1) | vH617043 |

35. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school?
(A) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(®) Every day or almost every day
36. How often do you typically do each of the following things outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Talk about books (print or online) with other people | (4) | (B) | © | (1) | (1) | vH260907 |
| b. Go to my local library to borrow books (print or online) | (4) | (B) | © | (1) | (1) | VH260911 |
| c. Read blogs | (4) | (B) | © | (1) | (1) | VH260913 |
| d. Use social media (for example, Facebook, Twitter, Instagram) | (4) | (B) | © | (1) | (1) | vH333261 |
| e. Help friends with reading homework | (4) | (B) | © | (1) | (c) | VH260917 |

## Appendix K-1v: Summary of Changes Pilot Grade 8 Reading

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25. For your English/language ants class this year, how often do you do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | 4. For your English/language arts class this year, how often do you do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | $\begin{aligned} & \text { About once } \\ & \text { or twice a } \\ & \text { year } \end{aligned}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { month } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c} \text { About once } \\ \text { or wiece } \\ \text { week } \end{array}$ | $\left.\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array} \right\rvert\,$ |  |  | Never | About once or twice a or twice <br> year | $\begin{aligned} & \text { About once } \\ & \text { or twice a } \\ & \text { month } \end{aligned}$ | $\begin{array}{\|c} \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { week } \end{array} \\ \hline \end{array}$ | $\left\lvert\, \begin{gathered} \text { Every day or } \\ \text { almot } \\ \text { every day } \end{gathered}\right.$ |  |  |  |
| a. Have a class <br> discussion about <br> something that the <br> whole class has read | © | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | , | a. Havc a class discussion about something that the whole class has read | © | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | $\oplus$ | mom |  |  |
| b. Work in pairs or small groups to takl about something that you have read | © | $\oplus$ | $\bigcirc$ | $\oplus$ | $\oplus$ | $\pm$ | b. Work in pairs or small groups to talk about something that we have read | (1) | © | $\odot$ | $\odot$ | ${ }^{\circ}$ | mss |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 26. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | 1. In your English/language arts class this year, when reading a story, article, or other passage. how often does your reacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | Once in a while | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \text { almost } \\ \text { always } \end{gathered}$ |  |  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |  |  |
| .. Evaluate the main <br> evidence in <br> persuasin <br> passagec <br> pargument | (1) | $\bullet$ | $\bigcirc$ | © | © | 2020 | a. Evaluate the main <br> evidence in a <br> persuasive/argument <br> passage | © | (1) | $\odot$ | $\oplus$ | $\oplus$ | nomem |  |  |
| b. Anallyze the author's <br> organization of <br> information in a <br> passagce | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | enc | b. Analyzc the author's oranainzation of information in a passagc | © | ${ }^{(1)}$ | ¢ | $\oplus$ | © | mame |  |  |
| $\begin{aligned} & \text { c. Critique the author's } \\ & \text { craft or technique } \\ & \hline \end{aligned}$ | © | © | - | $\oplus$ | © | nuesse |  |  |  |  |  |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 27. In your English/language arts class this year, when reading a story, atricle, or other passage. how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | 5. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | R | A sub-item was removed. |
|  | $\begin{aligned} & \text { Never or } \\ & \text { hardly ever } \end{aligned}$ | $\begin{gathered} \text { Once in a } \\ \text { while } \end{gathered}$ | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \text { almost } \\ \text { always } \end{gathered}$ |  |  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | Once in a while | Sometimes | Often | Always or almost almost always |  |  |  |
|  | © | © | $\bigcirc$ | © | © | os | a. Summarize the passage | © | © | $\bigcirc$ | $\odot$ | © | nuens |  |  |
| $\begin{array}{\|l} \text { 1. Interpret the meaning } \\ \text { of the passage } \\ \hline \end{array}$ | © | ${ }^{\circ}$ | - | © | © | west | b. Interpret the meaning of the passage | © | © | $\odot$ | ${ }^{\circ}$ | © | nuem |  |  |
| $\begin{array}{\|l} \text { c. Question the motives } \\ \text { or felings of the } \\ \text { characters } \end{array}$ | (1) | © | $\odot$ | © | © | ${ }^{\text {nuwx }}$ | c. Question the motives or feclings of the characters | © | © | © | $\oplus$ | © | tuabs |  |  |
| $\begin{array}{l}\text { d. Identify the main ideas } \\ \text { of the passage }\end{array}$ <br> . | © | $\oplus$ | $\bigcirc$ | © | $\oplus$ | numes. | $\begin{array}{\|l\|} \hline \text { d. Identify the main ideas } \\ \text { of the passage } \end{array}$ | $\oplus$ | ${ }^{\circ}$ | $\bigcirc$ | $\oplus$ | © | muues |  |  |
| $\begin{aligned} & \text { e. Idenify the themes of } \\ & \text { tep passage } \end{aligned}$ | © | © | $\bigcirc$ | © | © | упизм | e. Identify the themes of <br> the passage. | © | © | © | ${ }^{\circ}$ | © | nuser |  |  |
| f. Analyze two or more texts on the same topic | © | $\oplus$ | $\bigcirc$ | $\oplus$ | © | ver | the passage |  |  |  |  |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |

[^6]
## 2019 Pilot Grade 8 Reading Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 28. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading? <br> (1) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> (2017 Grade 8) | 17. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading? <br> (b) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> Issue: Organization of Instruction | NC | N/A |
| 29. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork and homework? <br> (D) Less than 30 minutes <br> (1) About 30 minutes <br> Q About 1 hour <br> (1) About 2 hours <br> (1) About 3 hours <br> (c) 4 or more hours <br> (2017 Grade 8) | 6. On a typical school day, how much time do you use a computer or other digital devicc to do your English/language arts schoolwork? <br> (1) Less than 30 minutes <br> (1) About 30 minutes <br> (a) About 1 hour <br> (1) About 2 hours <br> (1) About 3 hours <br> (1) 4 or more hours <br> Issue: Resources for Learning and Instruction | R | The word "homework" was removed. |
| 30. In this school year. how often do you borrow reading materials (such as books or magazines) from your school library or media center? <br> (4) Never <br> (D) About once or twice a year <br> - About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) | 13. In this school year, how often do you borrow reading materials (such as books or magazines) from your school (for example, a classroom library, school library, or media center)? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About onee or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction | R | The phrase "classroom library" was added and "classroom library, school library, media center" was bolded. |

[^7]| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 31．Do you think you would be able to do each of the following when reading：Select one answer choice on each row． |  |  |  |  |  |  | 2．Do you think you would be able to do each of the following when reading！Select one answer choice on each row． |  |  |  |  |  |  | NC | N／A |
|  | $\begin{array}{\|l} \hline \text { I definitely } \\ \text { cañt } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ |  |  |  | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { definitely } \\ \text { cant't } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c} \text { I probably } \\ \text { can't } \end{array}$ | Maybe | $\begin{gathered} 1 \text { probably } \\ \text { can } \end{gathered}$ | $\begin{array}{\|c} \hline \text { I definitely } \\ \text { can } \end{array}$ |  |  |  |
| a．Figure out the <br> meaning ofa word you <br> dont know by using <br> other words in the text | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | © | somest | $\begin{array}{\|l\|} \hline \text { a. Figure out the } \\ \text { meaning of a word you } \\ \text { don't know by using } \\ \text { other words in the text } \end{array}$ | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | － | mus |  |  |
| $\begin{aligned} & \text { b. Explain the meaning } \\ & \text { os something you have } \\ & \text { read } \end{aligned}$ | © | © | $\odot$ | $\oplus$ | $\oplus$ | 5 | b．Explain the meaning of fomething you have read | （1） | （1） | $\odot$ | $\oplus$ | ${ }^{\circ}$ | somm |  |  |
| $\begin{array}{\|l} \hline \text { c. Figure out the main } \\ \text { idea of a text } \\ \hline \end{array}$ | © | © | $\bigcirc$ | $\oplus$ | © | n⿴囗十⿰幺幺力 | c．Figure out the main | © | ${ }^{(1)}$ | © | © | ${ }^{\circ}$ | nuess |  |  |
| $\begin{array}{\|c\|} \hline \text { d. Find exx in a reading } \\ \text { passace to help you } \\ \text { answer a question on a } \\ \hline \end{array}$ | （1） | ${ }^{\circ}$ | $\odot$ | $\oplus$ | Ф | nuass | d．Find text in a reading passage to help you answer a question on a test | $\oplus$ | ${ }^{(1)}$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | mom |  |  |
| c．Recognize when you domituderstand something you are reading | $\oplus$ | $\oplus$ | $\bigcirc$ | $\oplus$ | $\oplus$ | ast | e．Recognize when you <br> donttundertand <br> something <br> reasding | © | © | $\odot$ | $\oplus$ | ${ }^{\circ}$ | max |  |  |
| （2017 Grade 8） |  |  |  |  |  |  | Issue：Student Factors |  |  |  |  |  |  |  |  |
| 32．Do you think you would be able to do each of the following when reading！Select one answer choice on each row． |  |  |  |  |  |  | 8．Do you think you would be able to do each of the following when reading：Select one answer choice on cach row． |  |  |  |  |  |  | R | In sub－item ＂d＂，＂my answer＂was replaced with ＂your answer＂． |
|  | $\begin{array}{\|c} \hline \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{array}{\|c} \hline \begin{array}{c} \text { probably } \\ \text { can } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { d definitely } \\ \text { can } \end{array} \\ \hline \hline \end{array}$ |  |  | $\begin{array}{\|c} \hline \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{array}{\|c} \hline 1 \text { definitely } \\ \text { can } \end{array}$ |  |  |  |
| a．Recognize the liffercuce between lact and opinion in a text | © | （1） | $\odot$ | $\oplus$ | ${ }^{\circ}$ | итезes | 2．Recognize the difference between fact and opinion in a text | $\triangle$ | ${ }^{(1)}$ | － | © | ¢ | mex |  |  |
| $\qquad$ | $\oplus$ | ${ }^{\text {® }}$ | $\cdots$ | $\oplus$ | ${ }^{\circ}$ | mos |  | © | （1） | $\odot$ | © | $\odot$ | Exes |  |  |
| c．Critique an author＇s <br> ceaft or technique | © | （1） | $\oplus$ | $\oplus$ | $\oplus$ | nuam | c．Critique an author＇s craft or technique | © | $\oplus$ | ${ }^{\circ}$ | $\oplus$ | ${ }^{\circ}$ | мих |  |  |
| $\substack{\text { d．Use evidence from } \\ \text { tent tosupport my } \\ \text { answer }}$ | © | $\oplus$ | $\bigcirc$ | © | ¢ | ＂nutuen | d．Use evidence from a text to support your answer | $\triangle$ | $\oplus$ | $\bigcirc$ | © | $\Phi$ |  |  |  |
| e．Identify the author＇s <br> $\substack{\text { perspective } \\ \text { perssuasive text }}$ | © | （1） | $\odot$ | $\oplus$ | ¢ | － | $\begin{aligned} & \text { e. Identify the author's } \\ & \text { perspective in a } \\ & \text { persuasive text } \end{aligned}$ | ${ }^{\circ}$ | $\Phi$ | $\odot$ | $\Phi$ | $\odot$ |  |  |  |
| （2017 Grade 8） |  |  |  |  |  |  | Issue：Student Factors |  |  |  |  |  |  |  |  |

[^8]| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 33. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 15. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The previous matrix was separated into two matrices of achievement goals items (performance and mastery). In order to create indices for both performance and mastery goals based on a total of at least 4 items, VH844052 and VH844081 were added. <br> The stem was revised from "describe a person like you" to "describe you". |
|  | $\begin{gathered} \text { Not at all } \\ \text { like me } \end{gathered}$ | A little bit | $\begin{gathered} \text { Somewhat } \\ \text { like me } \end{gathered}$ | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | ${\underset{c}{\text { Exactly like }} \text { me }}^{\text {me }}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | $\underset{\text { me }}{\text { Exactly like }}$ |  |  |  |
| $\begin{array}{\|l\|} \hline \hline \text { a. I want other students } \\ \text { to think } 1 \text { am good at } \\ \text { reading. } \end{array}$ | © | (1) | $\odot$ | $\oplus$ | $\triangle$ | nomes | $\begin{aligned} & \hline \text { a. I want other students } \\ & \text { to think } k \text { am good at } \\ & \text { reading. } \end{aligned}$ | $\oplus$ | ${ }^{\circ}$ | $\odot$ | ${ }_{\square}{ }^{\circ}$ | $\oplus$ | maswe |  |  |
| $\begin{aligned} & \text { b. I want to sto sow others } \\ & \text { that may Engish } \\ & \text { languag arts } \\ & \text { schoolvork is casy for } \\ & \text { me. } \end{aligned}$ | © | © | $\odot$ | $\oplus$ | $\oplus$ | 20ns | $\begin{array}{\|c} \text { b. T want to show ohers } \\ \text { that my English/ } \\ \text { languga ears } \\ \text { schoolwork is casy for for } \end{array}$ | (1) | ${ }^{\oplus}$ | $\odot$ | © | $\oplus$ | mass |  |  |
| c. 1 want to look smart in <br> companson to to tc <br> other students in my <br> English/language arts <br> class. | (1) | © | $\odot$ | ${ }^{\circ}$ | $\Phi$ | $\cdots$ |  | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | $\oplus$ | Esure |  |  |
| $\begin{array}{\|l} \hline \text { d. I want to leam as } \\ \text { much as possible in } \\ \text { my English/language } \\ \text { arts class. } \end{array}$ | © | ${ }^{\circ}$ | $\bigcirc$ | ${ }^{\circ}$ | © | nueses | $\begin{array}{\|l\|} \hline \text { class. } \\ \hline \text { d. I want to get better } \\ \text { English/language arts } \\ \text { grades than most other } \\ \text { students in my class. } \\ \hline \end{array}$ | © | ${ }^{(1)}$ | $\odot$ | $\odot$ | $\oplus$ | astro |  |  |
| e. I want to become a better reader this year. | ${ }^{\text {® }}$ | ${ }^{\oplus}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | mbasu | 16. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  |  |  |
| f. I want to understand <br> as much as I can in my <br> English/language arts <br> class. | © | ${ }^{(1)}$ | $\odot$ | © | $\odot$ | nuese |  |  |  |  |  |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  |  | Not at all like m | A litule bit like me | Somewhat like me | Quite a bit like me | $\underset{\text { me }}{\text { Exactly like }}$ |  |  |  |
|  |  |  |  |  |  |  | a. I want to learn as much tas possible in my Englishliblanguage arts class. | (1) | © | $\odot$ | $\oplus$ | $\oplus$ | 18050 |  |  |
|  |  |  |  |  |  |  | b. I want to become a <br> better reader this y yar. | $\pm$ | ${ }^{\oplus}$ | $\odot$ | ${ }^{\circ}$ | ¢ | voum |  |  |
|  |  |  |  |  |  |  | c. I want to understand as much as Ican in my English/language arts class. | (1) | (1) | $\odot$ | $\oplus$ | $\oplus$ | atm |  |  |
|  |  |  |  |  |  |  | $\begin{array}{\|l} \text { d. I want to master a lot } \\ \text { of new English } \\ \text { lanyuge lish } \\ \text { my class. } \end{array}$ | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | ${ }^{(1)}$ | 4 |  |  |
|  |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | D/A/ R/NC+ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 34. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 12. How much does each of the following statements describe youl Select one answer choice on each row. |  |  |  |  |  |  | R | The phrase "a person like" was removed and a subitem was added. |
|  | Not at all like me like me | A little bit | Somewhat like me | Quite a bit like me | Exactly like |  |  | Not at all like me | A little bit like me | Somewhat | Quite a bit like me | Exactly like me |  |  |  |
| a. Reading is one of my favorite activities. | - | © | $\bigcirc$ | ¢ | © | neant | a. Reading is one of my favorite activities. | $\oplus$ | © | $\odot$ | © | $\odot$ | ппunes |  |  |
| $\begin{array}{\|l} \hline \text { b. } \begin{array}{l} \text { like talking about } \\ \text { books with other } \\ \text { people. } \end{array} \\ \hline \end{array}$ | $\oplus$ | © | $\odot$ | $\oplus$ | © | nower | $\begin{aligned} & \text { b. } 1 \text { like talking about } \\ & \text { books with other } \\ & \text { people. } \end{aligned}$ | © | $\oplus$ | $\bigcirc$ | © | ${ }^{\circ}$ | \%sum |  |  |
| $\begin{aligned} & \text { c. I think reading is } \\ & \text { important. } \\ & \hline \end{aligned}$ | * | © | $\bigcirc$ | © | © | nouns | $\begin{aligned} & \text { c. Ithink reading is } \\ & \text { important. } \\ & \hline \end{aligned}$ | (1) | © | $\bigcirc$ | $\oplus$ | ¢ | ппиw 2 |  |  |
| $\begin{array}{\|l} \text { d. I enioy going to a } \\ \text { bookstore or a library. } \end{array}$ | © | (1) | $\bigcirc$ | $\oplus$ | © | H | d. I enjoy going to a bookstore or a library. | © | ${ }^{(1)}$ | $\bigcirc$ | ${ }^{\circ}$ | © |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | $\begin{aligned} & \text { e. I enioy finding things } \\ & \text { to read online. } \end{aligned}$ | (1) | ¢ | $\odot$ | $\oplus$ | ¢ |  |  |  |
|  |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 35. Besides doing homework, how much time do you spend reading outside of school? <br> (4) Less than 30 minutes a day <br> (1) About 30 minutes a day <br> © About 1 hour a day <br> (ब) About 2 hours a day <br> (1) About 3 hours a day <br> (c) 4 or more hours a day <br> (2017 Grade 8) |  |  |  |  |  |  | 7. Besides doing homework, how much time do you spend reading outside of schoo <br> (4) Less than 30 minutes a day <br> (1) About 30 minutes a day <br> (c) About I hour a day <br> (1) About 2 hours a day <br> (1) About 3 hours a day <br> (c) 4 or more hours a day <br> Issue: Student Factors |  |  |  |  |  |  | NC | N/A |
| 36. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (a) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped to reduce student burden and create opportunity for future development. |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Pilot Grade 8 Reading Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 37. How often do you ty online?? Select one an | Ily read er choice | h of the follo each row. | wing outside of | fschool (prin | to or | newee | 3. How often do you typically read each of the following outside of school (print or online)? Select one answer choice on each row. |  |  |  |  |  |  | R | Sub-items <br> were removed. |
|  | Never | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { year } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { month } \end{array}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { week } \end{array} \\ \hline \end{array}$ | $\left\|\begin{array}{c} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}\right\|$ |  |  | Never | $\begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { year } \\ \hline \end{gathered}$ | About once or twice a month | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { week } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array} \\ \hline \end{array}$ |  |  |  |
| 3. Stonics or novels | $\stackrel{\square}{\circ}$ | $\oplus$ | C | ${ }_{\square}$ | ${ }_{\square}{ }^{\circ}$ | जrata | 2. Stories or novels | ¢ | ¢ | $\bigcirc$ | ¢ | ¢ | visamex |  |  |
| b. Poems | © | $\oplus$ | $\bigcirc$ | $\Phi$ | $\oplus$ | ymatal | b. Biographics | © | ${ }_{\square}$ | - | ${ }_{\square}$ | $\odot$ | ventu4 |  |  |
| c. Plays | © | $\oplus$ | $\odot$ | $\stackrel{\square}{\circ}$ | $\stackrel{\square}{\square}$ | ysamer | c. E-mails | $\stackrel{\square}{\square}$ | (1) | $\stackrel{\square}{\circ}$ | ${ }_{\square}$ | ${ }^{\circ}$ | visame |  |  |
| d. Biographies | $\stackrel{\square}{\circ}$ | ${ }_{\square}$ | $\bigcirc$ | $\stackrel{\square}{6}$ | $\stackrel{\square}{\circ}$ | guma | d. Text messages | $\oplus$ | © | $\bigcirc$ | © | © | vmams |  |  |
| L. Magazines | ${ }_{\square}{ }^{\circ}$ | $\stackrel{\square}{\square}$ | $\bigcirc$ | $\stackrel{\square}{\square}$ | $\stackrel{\square}{\square}$ | \% |  |  |  |  |  |  |  |  |  |
| g. E.mails | © | ${ }_{\square}$ | $\odot$ | $\stackrel{\square}{\square}$ | $\Phi$ | mbamen |  |  |  |  |  |  |  |  |  |
| h. Text messsyges | ¢ | $\omega$ | $\odot$ | $\cdots$ | © | mbans |  |  |  |  |  |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 38. How often do you typically do each of the following things outside of school? Select one answer choice on each row. |  |  |  |  |  |  | 14. How often do you typically do each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | R | In the item stem, "things" was replaced with "activities". In sub item "a", "Talk about books (print or online) with other people" was replaced with "Talk about things I read with other people" and was moved to sub-item "b". In sub-item "c", "Read blogs" was replaced with "Read online about topics I |
|  | Never |  | $\begin{array}{\|c} \begin{array}{c} \text { About once } \\ \text { or trice } \\ \text { month a } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \hline \text { or tween } \\ \text { week } \end{array}$ | $\left.\begin{gathered} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{gathered} \right\rvert\,$ |  |  | Never | $\begin{array}{\|c} \text { About once } \\ \text { or twice a } \\ \text { year } \end{array}$ | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { month } \end{array}$ | $\begin{array}{\|c\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { week } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}$ |  |  |  |
| $\begin{array}{\|l\|} \hline \text { a. Talk about books } \\ \text { (print or online) with } \\ \text { other people } \\ \hline \end{array}$ | © | (1) | $\odot$ | © | $\oplus$ | am | a. Read online about topics $I$ am interested in | © | © | © | $\oplus$ | ¢ | visues |  |  |
| b. Co to my local lilrary to bonow books ( print of online) | © | © | $\bigcirc$ | $\odot$ | $\odot$ | mon | b. Talk abour things I tead with other people | © | ¢ | $\odot$ | $\oplus$ | Ф | nesser |  |  |
| c. Read blogs | © | $\bullet$ | $\bigcirc$ | $\oplus$ | © | voes | c. Borrow or download | © | © | $\bigcirc$ | ${ }^{\circ}$ | ${ }^{\circ}$ | masses |  |  |
| d. Use social media for example. Faccobok. Twitter. Instagram | © | $\oplus$ | - | $\oplus$ | $\oplus$ | wes |  | ¢ | ${ }^{\circ}$ | $\bigcirc$ | ${ }^{\odot}$ | ${ }^{\circ}$ | - |  |  |
| c. Help friends with reading homework | © | ${ }^{\oplus}$ | - | ${ }^{\circ}$ | $\pm$ | voman | (exampli, Faccoook, | © | © | $\odot$ | $\oplus$ |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

[^9]
## 2019 Pilot Grade 8 Reading Student

| Previous item | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | am interested in" and moved to sub-item "a". In sub-item "b", "Go to my local library to borrow books (print or online)" was replaced with "Borrow or download books from a local library" and moved to sub-item "c". |
| N/A | 9. How often do you recei schoolwork outside of | the foll | ing types of hel is school? Select | elp with Englis ct one answer | sh/language ar choice on cach | rts h row. |  | A | This item was added |
|  |  | Never | About once or twice a <br> or year | About once or twice a month | About once or twice a week | $\left.\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array} \right\rvert\,$ |  |  |  |
|  | a. Help from a teacher | $\stackrel{\square}{\circ}$ | $\cdots$ | $\bigcirc$ | ¢ | © | 1santion |  |  |
|  | b. Help from a tutor | © | ${ }_{\square}$ | $\omega$ | © | © | \%enta |  |  |
|  | c. Help from a family | © | © | $\odot$ | $\oplus$ | $\oplus$ | mive |  |  |
|  | $\begin{array}{\|c\|} \hline \text { d. Help from online } \\ \text { resources (for example. } \\ \text { websites or apps) } \end{array}$ | © | ${ }^{\text {® }}$ | $\odot$ | $\oplus$ | © |  |  |  |
|  | Issue: Resources | Lea | ing and | Instruction |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

| Previous item | 2019 item |  |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| N/A | 11. How useful do you find each of the following types of help to understand your English/language arts schoolworki Select one answer choice on each row. |  |  |  |  |  |  |  | A | This item was added. |
|  |  | $\begin{aligned} & \text { Not usefiul at } \\ & \text { all } \end{aligned}$ |  | Somewhat useful |  | Very useful | $\begin{array}{\|c\|} \hline \begin{array}{c} 1 \text { don't receive } \\ \text { that type of } \\ \text { help. } \end{array} \\ \hline \end{array}$ |  |  |  |
|  | a. Help from a teacher | © |  | C |  | © | ${ }_{\square}{ }^{\circ}$ | ทีเ12 |  |  |
|  | b. Help from a tutor | ${ }^{\circ}$ |  | ¢ |  | $\bigcirc$ | ${ }^{\circ}$ | vanas |  |  |
|  | c. Help from a family member or friend | © |  | © |  | © | $\oplus$ | vanue |  |  |
|  | d. Help from online resources <br> $\begin{array}{l}\text { forp example, websites or } \\ \text { apps) }\end{array}$ | ces |  |  |  | $\bigcirc$ | $\oplus$ |  |  |  |
|  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |  |
| N/A | 10. Do you think you would be able to do each of the following when reading? Select one answer choice on each row. <br> Issue: Student Factors |  |  |  |  |  |  |  | A | This item was added. |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

## Appendix K-1w: Pilot Grade 8 Reading

1. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Evaluate the main evidence in a persuasive/argument passage | (4) | (B) | © | (1) | (1) | vH260256 |
| b. Analyze the author's organization of information in a passage | (4) | (B) | © | (1) | © | vH333142 |

2. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | I probably can | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Figure out the meaning of a word you don't know by using other words in the text | (4) | (B) | © | (1) | (E) | VH260848 |
| b. Explain the meaning of something you have read | (4) | (B) | © | (1) | (c) | VH260849 |
| c. Figure out the main idea of a text | (4) | (B) | © | (1) | (1) | VH260851 |
| d. Find text in a reading passage to help you answer a question on a test | (4) | (B) | © | (1) | (c) | VH260859 |
| e. Recognize when you don't understand something you are reading | (4) | (B) | © | (1) | (E) | VH260861 |

3. How often do you typically read each of the following outside of school (print or online)? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Stories or novels | (A) | (B) | © | (1) | ( ${ }^{\text {c }}$ | VH261066 |
| b. Biographies | (4) | (B) | © | (1) | (E) | VH617043 |
| c. E-mails | (4) | (B) | © | (1) | (E) | VH261074 |
| d. Text messages | (A) | (B) | © | (1) | (E) | VH261075 |

4. For your English/language arts class this year, how often do you do each of the following? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Have a class discussion about something that the whole class has read | (4) | (B) | © | (1) | © | vH332888 |
| b. Work in pairs or small groups to talk about something that we have read | (4) | (B) | $\bigcirc$ | (1) | (c) | VH652035 |

5. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Summarize the passage | (4) | (B) | © | (1) | (E) | vH333075 |
| b. Interpret the meaning of the passage | (4) | (B) | © | (1) | (1) | vH333076 |
| c. Question the motives or feelings of the characters | (4) | (B) | © | (1) | (E) | vH333079 |
| d. Identify the main ideas of the passage | (4) | (B) | © | (1) | (E) | vH333078 |
| e. Identify the themes of the passage | (4) | (B) | © | (1) | (E) | vH333094 |

6. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork?
(A) Less than 30 minutes
(B) About 30 minutes
(c) About 1 hour
(D) About 2 hours
(E) About 3 hours
(®) 4 or more hours
7. Besides doing homework, how much time do you spend reading outside of school?
(A) Less than 30 minutes a day
(B) About 30 minutes a day
© About 1 hour a day
(D) About 2 hours a day
(E) About 3 hours a day
© $\left.{ }^{( }\right)$or more hours a day
8. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Recognize the difference between fact and opinion in a text | (4) | (B) | © | (1) | (1) | VH260863 |
| b. Judge the reliability of sources (for example, how a website might be biased or inaccurate) | (4) | (B) | © | (1) | (1) | VH260857 |
| c. Critique an author's craft or technique | (4) | (B) | © | (1) | (1) | VH260866 |
| d. Use evidence from a text to support your answer | (4) | (B) | © | (1) | (1) | VH81215 |
| e. Identify the author's perspective in a persuasive text | (4) | (B) | © | (1) | (1) | VH260868 |

9. How often do you receive the following types of help with English/language arts schoolwork outside of school or after school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Help from a teacher | (4) | (8) | © | (1) | (1) | VH811190 |
| b. Help from a tutor | (4) | (8) | © | (1) | (1) | vH81192 |
| c. Help from a family member or friend | (4) | (B) | © | (1) | (1) | VH811196 |
| d. Help from online resources (for example, websites or apps) | (4) | (B) | © | (1) | © | VH811200 |

10. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | I probably can | $\underset{\text { can }}{\text { I definitely }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Recognize the author's use of figurative language (for example, symbolism, similes, metaphors, or personification) | (4) | (B) | © | (1) | (®) | vH811229 |
| b. Evaluate the author's use of features in a text (for example, figurative language, voice, or transition words) | (4) | (B) | © | (1) | (1) | vH811227 |
| c. Recognize tools the author is using (for example, rhyme, imagery, examples, or repetition) | (4) | (B) | © | (1) | (E) | vH811231 |
| d. Evaluate the strength and quality of evidence used by the author to support his or her position | (1) | (B) | © | (1) | (1) | vH811233 |
| e. Evaluate the author's use of multimedia or non-print text (e.g., texts including images, infographics, or animations) | (4) | (B) | © | (1) | (1) | vH811237 |

11. How useful do you find each of the following types of help to understand your English/language arts schoolwork? Select one answer choice on each row.

|  | Not useful at all | Somewhat useful | Very useful | I don't receive that type of help. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Help from a teacher | (4) | (8) | © | (1) | VH811287 |
| b. Help from a tutor | (4) | (8) | $\bigcirc$ | (1) | VH811291 |
| c. Help from a family member or friend | (4) | (8) | © | (1) | vH811302 |
| d. Help from online resources (for example, websites or apps) | (4) | (B) | © | (1) | vH811304 |

12. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Reading is one of my favorite activities. | (4) | (B) | © | (1) | (1) | VH84169 |
| b. I like talking about books with other people. | (1) | (B) | © | (1) | (1) | VH844170 |
| c. I think reading is important. | (4) | (B) | © | (1) | © | VH84172 |
| d. I enjoy going to a bookstore or a library. | (4) | (B) | © | (1) | (e) | VH844171 |
| e. I enjoy finding things to read online. | (4) | (B) | © | (1) | © | VH853415 |

13. In this school year, how often do you borrow reading materials (such as books or magazines) from your school (for example, a classroom library, school library, or media center)?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
14. How often do you typically do each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Read online about topics I am interested in | (4) | (B) | © | (1) | (1) | vH853656 |
| b. Talk about things I read with other people | (4) | (B) | © | (1) | (E) | vH853657 |
| c. Borrow or download books from a local library | (4) | (B) | $\bigcirc$ | (1) | (E) | vH853655 |
| d. Use social media (for example, Facebook, Twitter, Instagram) | (1) | (B) | $\bigcirc$ | (1) | (1) | vH853654 |
| e. Help friends with reading homework | (4) | (B) | © | (1) | (1) | vH853658 |

15. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at reading. | (1) | (B) | © | (1) | (1) | vH853764 |
| b. I want to show others that my English/ language arts schoolwork is easy for me. | (4) | (B) | © | (1) | (c) | vH853765 |
| c. I want to look smart in comparison to the other students in my English/language arts class. | (4) | (B) | © | (1) | (e) | vH853766 |
| d. I want to get better English/language arts grades than most other students in my class. | (4) | (B) | © | (1) | (c) | vH853776 |

16. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my English/language arts class. | (4) | (B) | $\bigcirc$ | (1) | © | vH853767 |
| b. I want to become a better reader this year. | (4) | (B) | © | (1) | (E) | vH853777 |
| c. I want to understand as much as I can in my English/language arts class. | (4) | (B) | © | (1) | (E) | VH853774 |
| d. I want to master a lot of new English/ language arts skills in my class. | (4) | (B) | © | (1) | (®) | vH853770 |

17. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading?
(A) Never
(B) Once
© Two or three times
(D) Four or five times
(E) More than five times

## Appendix K-1x: Spiral Map Grade 8 Reading

| Accnum | Grade | Grade 8 OMB PDF Sequence Number | Number of Grade 8 booklets item appears in | Grade 8 booklets item appears in |
| :---: | :---: | :---: | :---: | :---: |
| VH853176 | 4, 8 | 13_00 | 3 | 1, 2, 3 |
| VH853652 | 4, 8 | 14_00 | 2 | 1, 2 |
| VH853656 | 4, 8 | 14_01 | 2 | 1, 2 |
| VH853657 | 4, 8 | 14_02 | 2 | 1, 2 |
| VH853655 | 4, 8 | 14_03 | 2 | 1, 2 |
| VH853654 | 4, 8 | 14_04 | 2 | 1, 2 |
| VH853658 | 4, 8 | 14_05 | 2 | 1, 2 |
| VH598636 | 4, 8 | 06_00 | 3 | 1, 2, 3 |
| VH844168 | 4, 8 | 12_00 | 2 | 1, 2 |
| VH844169 | 4,8 | 12_01 | 2 | 1, 2 |
| VH844170 | 4, 8 | 12_02 | 2 | 1, 2 |
| VH844172 | 4, 8 | 12_03 | 2 | 1, 2 |
| VH844171 | 4,8 | 12_04 | 2 | 1, 2 |
| VH853415 | 4, 8 | 12_05 | 2 | 1, 2 |
| VH811176 | 4,8 | 09_00 | 2 | 1, 2 |
| VH811190 | 4, 8 | 09_01 | 2 | 1, 2 |
| VH811192 | 4, 8 | 09_02 | 2 | 1, 2 |
| VH811196 | 4, 8 | 09_03 | 2 | 1, 2 |
| VH811200 | 4, 8 | 09_04 | 2 | 1, 2 |
| VH811276 | 4, 8 | 11_00 | 2 | 1, 2 |
| VH811287 | 4,8 | 11_01 | 2 | 1, 2 |
| VH811291 | 4, 8 | 11_02 | 2 | 1, 2 |
| VH811302 | 4, 8 | 11_03 | 2 | 1, 2 |
| VH811304 | 4,8 | 11_04 | 2 | 1, 2 |
| VH598686 | 4, 8 | 07_00 | 1 | 3 |
| VH332887 | 8 | 04_00 | 1 | 3 |
| VH332888 | 8 | 04_01 | 1 | 3 |
| VH652035 | 8 | 04_02 | 1 | 3 |
| VH260254 | 8 | 01_00 | 1 | 3 |


| VH260256 | 8 | 01_01 | 1 | 3 |
| :---: | :---: | :---: | :---: | :---: |
| VH333142 | 8 | 01_02 | 1 | 3 |
| VH333074 | 8 | 05_00 | 1 | 3 |
| VH333075 | 8 | 05_01 | 1 | 3 |
| VH333076 | 8 | 05_02 | 1 | 3 |
| VH333079 | 8 | 05_03 | 1 | 3 |
| VH333078 | 8 | 05_04 | 1 | 3 |
| VH333094 | 8 | 05_05 | 1 | 3 |
| VH261065 | 8 | 03_00 | 1 | 3 |
| VH261066 | 8 | 03_01 | 1 | 3 |
| VH617043 | 8 | 03_02 | 1 | 3 |
| VH261074 | 8 | 03_03 | 1 | 3 |
| VH261075 | 8 | 03_04 | 1 | 3 |
| VH260847 | 4,8 | 02_00 | 1 | 3 |
| VH260848 | 4, 8 | 02_01 | 1 | 3 |
| VH260849 | 4,8 | 02_02 | 1 | 3 |
| VH260851 | 4,8 | 02_03 | 1 | 3 |
| VH260859 | 4,8 | 02_04 | 1 | 3 |
| VH260861 | 4,8 | 02_05 | 1 | 3 |
| VH611300 | 8 | 08_00 | 1 | 3 |
| VH260863 | 4,8 | 08_01 | 1 | 3 |
| VH260857 | 8 | 08_02 | 1 | 3 |
| VH260866 | 8 | 08_03 | 1 | 3 |
| VH811215 | 4,8 | 08_04 | 1 | 3 |
| VH260868 | 8 | 08_05 | 1 | 3 |
| VH853747 | 4,8 | 15_00 | 1 | 3 |
| VH853764 | 4,8 | 15_01 | 1 | 3 |
| VH853765 | 4,8 | 15_02 | 1 | 3 |
| VH853766 | 4, 8 | 15_03 | 1 | 3 |
| VH853776 | 4,8 | 15_04 | 1 | 3 |
| VH853763 | 4,8 | 16_00 | 1 | 3 |
| VH853767 | 4,8 | 16_01 | 1 | 3 |
| VH853777 | 4,8 | 16_02 | 1 | 3 |
| VH853774 | 4,8 | 16_03 | 1 | 3 |


| VH853770 | 4,8 | $16 \_04$ | 1 | 3 |
| :---: | :---: | :---: | :---: | :---: |
| VH588774 | $4,8,12$ | $17 \_00$ | 1 | 3 |
| VH811222 | 8 | $10 \_00$ | 2 | 1,2 |
| VH811229 | 8 | $10 \_01$ | 2 | 1,2 |
| VH811227 | 8 | $10 \_02$ | 2 | 1,2 |
| VH811231 | 8 | $10 \_03$ | 2 | 1,2 |
| VH811233 | 8 | $10 \_04$ | 2 | 1,2 |
| VH811237 | 8 | $10 \_05$ | 2 | 1,2 |

Appendix K-1y: Summary of Changes Operational Grade 12 Reading

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. For your English/language arts elass so far this year. how many times have you done each of the following? Select one answer choice on each row. |  |  |  |  |  |  | 24. For your English/language arts class so far this year, how many times have you done each of the following? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | Once | 2 or 3 times | 4 or 5 times | $\begin{aligned} & 6 \text { or more } \\ & \text { times } \end{aligned}$ |  |  | Never | Once | 2 or 3 times | 4 or 5 times | 6 or more |  |  |  |
| (ex Made apresentation to | $\pm$ | $\oplus$ | $\odot$ | ${ }^{(1)}$ | ¢ | +00 | a. Madc a prescentation to the class atout something that you have read | © | © | $\bigcirc$ | © | $\oplus$ | 1s0 |  |  |
|  | © | ${ }^{\oplus}$ | $\odot$ | ${ }^{\circ}$ | $\oplus$ | 4te | $\begin{array}{\|l\|} \hline \text { nave real } \\ \text { bone a proiect about } \\ \text { something that you } \\ \text { havitead (for example. } \\ \text { writen play, created } \\ \text { a website) } \end{array}$ | ${ }^{\circ}$ | (1) | $\odot$ | $\oplus$ | ¢ | 18 |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 2. For your English/language arts class this year, how often do you do each of the following? Select one answer choice on cach row. |  |  |  |  |  |  | 25. For your English/language arts class this year, how ofren do you do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | $\begin{array}{\|c} \begin{array}{c} \text { About once } \\ \text { or rwice } \\ \text { year } \end{array} \\ \hline \end{array}$ | $\begin{gathered} \text { About once } \\ \text { or rwice a } \\ \text { month } \end{gathered}$ |  | $\begin{array}{\|c} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}$ |  |  | Never | About once <br> or twice a <br> year | $\left\lvert\, \begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { month } \end{gathered}\right.$ | $\left.\begin{array}{\|c\|} \hline \text { About once } \\ \text { ot wice } \\ \text { week } \end{array} \right\rvert\,$ | $\begin{array}{c}\text { Every day or } \\ \text { almose } \\ \text { every day }\end{array}$ |  |  |  |
| a. Have a class <br> disusion atout <br> something that the <br> whole class has read | © | (1) | $\odot$ | © | © | 5 |  | © | ${ }^{\circ}$ | $\odot$ | © | (1) | mess |  |  |
| b. Work in pairs or small <br> groups to talk about <br> something that we <br> have read <br> hat | $\oplus$ | © | $\bigcirc$ | $\oplus$ | ${ }^{\circ}$ | mas | b. Work is pairs or small groups to talk kabout something that we have read | © | © | $\odot$ | © | ¢ | Insess |  |  |
| $\begin{array}{\|l\|} \hline \text { c. Discuss different } \\ \text { interpretarions of what } \\ \text { we have read } \end{array}$ | © | (1) | $\odot$ | © | © | \%ow | c. Discuss different interpreations of what we have read | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | $\cdots$ |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 3. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | 26. In your English/language arts class this year, when reading a story, article, or other passage. how often does your teacher ask you to do the following? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost alway |  |  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |  |  |
| a. Evaluate the main <br> evidence ina <br> peramainelargument <br> passage <br> Pa | © | (1) | $\odot$ | $\oplus$ | $\oplus$ | 5 | a. Evaluate the main evidence in a persuasive/argument passure | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | © | Wes |  |  |
| b. Analyze the author's <br> orpanizationot <br> information in a <br> passage | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | wesuz | b. Analyze the author's organization of information in a passage c. | © | (1) | $\bigcirc$ | © | $\pm$ | пusw |  |  |
| $\begin{aligned} & \text { c. Critique the author's } \\ & \text { cratt or technique } \end{aligned}$ | (1) | $\oplus$ | $\odot$ | $\oplus$ | © | мпе"4 | c. Critique the author's craft or technique | © | ${ }^{\text {® }}$ | $\odot$ | $\oplus$ | ${ }^{( }$ | пихи, |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |

2019 Operational Grade 12 Reading Student


## 2019 Operational Grade 12 Reading Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7. In this school year, how often do you borrow reading materials (such as books or magazines) from your classroom library, school library. or media center? <br> (4) Never <br> (1) About once or twice a year <br> (2) About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2018 Grade 12) |  |  |  |  |  |  | 30. In this school year, how often do you borrow reading materials (such as books or magazines) from your classroom library, school library, or media center? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (D) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 8. Do you think you would be able to do each of the following when reading? Select one answer choice on each row. |  |  |  |  |  |  | 31. Do you think you would be able to do each of the following when reading! Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{aligned} & \text { I definitely } \\ & \text { can'ty } \end{aligned}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\underset{\text { can }}{\text { I probably }}$ | $\begin{array}{\|c} \hline \text { I definitely } \\ \text { can } \end{array}$ |  |  | $\begin{array}{\|c} \hline \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\underset{\text { can }}{\text { I probably }}$ | $\begin{array}{\|c} \text { I definitely } \\ \text { can } \end{array}$ |  |  |  |
| a. Figure out the nuacaning of a word you don't kow by using other words in the text | © | ${ }^{1}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | neame | a. Figure out the <br> meaning of a word you <br> don't know by using <br> other words in the text | © | (1) | $\odot$ | $\oplus$ | © | mesas. |  |  |
| b. Explain the mcaning <br> of something you hove <br> read | $\oplus$ | Ф | $\odot$ | ${ }^{\circ}$ | Ф |  | b. Explain the meaning of omething you have read | © | © | - | $\oplus$ | $\oplus$ | * |  |  |
| C. Figure out the main <br> idea of a text <br> . | © | © | $\odot$ | $\oplus$ | ${ }^{\circ}$ | nomu | c. Figure out the main idea of a text | © | © | $\cdots$ | $\oplus$ | $\oplus$ | nnuse |  |  |
| d. Find text in a reading <br> passage to help you <br> answer a question on a <br> test | © | © | $\odot$ | © | © | ngasem | d. Find text in a reading passage to hele you answer a question on a test | (1) | © | $\bigcirc$ | $\oplus$ | $\oplus$ | momes |  |  |
| c. Recognize when you <br> dontumerstand <br> something you are <br> readinis | (1) | © | $\odot$ | © | © | nemes | $\begin{array}{\|l\|} \hline \text { e. Recognize when you } \\ \text { don' tumderstand } \\ \text { something you are } \\ \text { reading } \end{array}$ | © | (1) | $\odot$ | $\odot$ | $\oplus$ | mamers |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |




| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school? <br> (1) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2018 Grade 12) |  |  |  |  |  |  | 36. How often do you receive help from a tutor. family member, or friend with English/language arts outside of school or after school? <br> (1) Never <br> (1) About once or twice a year <br> (1) About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 14. How often do you typically read each of the following ouside of school (print or online? 'Select one answer choice on each row. |  |  |  |  |  |  | 38. How often do you typically read each of the following outside of school (print or online)? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | About once or twice a year | About once or twice a month | Abour once or wice a week week | $\begin{gathered} \text { Every day or } \\ \text { almot } \\ \text { every day } \end{gathered}$ |  |  | Never | About once or twice a year | About once or twicea or twice month | $\begin{aligned} & \text { About once } \\ & \text { or twice a } \\ & \text { week } \end{aligned}$ | $\left\|\begin{array}{c} \text { Every day or } \\ \text { almot } \\ \text { every day } \end{array}\right\|$ |  |  |  |
| a. Storics or novels | © | $\square^{\circ}$ | $\bigcirc$ | ${ }_{\square}$ | © | ทвихах | a. Stories or novels | © | © | $\bigcirc$ | © | © | Hasame |  |  |
| b. Pocms | $\stackrel{\square}{\circ}$ | $\stackrel{\oplus}{\oplus}$ | $\stackrel{\circ}{\circ}$ | $\stackrel{\square}{\oplus}$ | $\stackrel{\square}{\odot}$ | ${ }^{\text {anden }}$ | b. Pocms | $\oplus$ | ${ }^{\circ}$ | $\odot$ | © | © | Vranco |  |  |
| d. Biographies | © | ${ }^{\circ}$ | $\bigcirc$ | ¢ | $\stackrel{\square}{\square}$ | ทutam | c. Plays | © | ${ }^{1}$ | $\bigcirc$ | ${ }^{\circ}$ | $\oplus$ | yrame |  |  |
| e. Comic books | ¢ | ${ }_{\square}$ | - | ${ }^{\circ}$ | ¢ | venamis | d. Biographics | $\stackrel{\square}{\square}$ | ${ }_{\square}^{\square}$ | $\bigcirc$ | $\stackrel{\square}{\oplus}$ | $\stackrel{\square}{\square}$ | \%emom |  |  |
| f. Magazines | © | ${ }_{\square}$ | $\bigcirc$ | $\stackrel{\square}{\circ}$ | $\stackrel{\square}{+}$ | yexam | f. Magazines | $\stackrel{\square}{\square}$ | $\oplus$ | $\stackrel{\circ}{\circ}$ | $\stackrel{\square}{\square}$ | $\stackrel{\square}{\oplus}$ | nesami |  |  |
| g. E.mails | ¢ | $\pm$ | $\bigcirc$ | $\stackrel{\square}{+}$ | $\stackrel{\square}{\square}$ | nemat | \%. E-mails | © | ${ }_{\square}$ | $\odot$ | ${ }_{\square}{ }^{\circ}$ | $\stackrel{\square}{\square}$ | veames |  |  |
| h. Text messages | © | (1) | $\odot$ | ${ }^{\circ}$ | $\oplus$ | Hustus) | h. Text messages | , | ${ }_{\square}$ | $\odot$ | $\stackrel{\square}{\circ}$ | $\stackrel{\square}{\odot}$ | vesums |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 15. How often do you typically do each of the following things outside of school? Sclect one answer choice on each row. |  |  |  |  |  |  | 39. How often do you typically do each of the following things outside of school? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | About once or twice a year | About once or twice a mont | About once or t wice a week | $\begin{array}{\|c} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}$ |  |  | Never | $\begin{aligned} & \text { About once } \\ & \text { or twice a } \\ & \text { year } \end{aligned}$ | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { month } \end{array}$ | $\begin{array}{\|c\|c} \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { week } \end{array} \\ \hline \end{array}$ | $\left\|\begin{array}{c} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}\right\|$ |  |  |  |
| a. Talk about books <br> (print or online) with <br> other people | © | © | $\odot$ | - | © | "1umes | a. Talk about books (print or online) with other people | © | © | $\odot$ | © | ¢ | Lem |  |  |
| b. Go to my local library to borrow books (print or online) | $\stackrel{\square}{*}$ | ${ }^{\oplus}$ | ${ }^{\circ}$ | ${ }_{\odot}{ }^{\circ}$ | ${ }_{\odot}^{\circ}$ | niesa | b. Go to my local library to borrow books (print or online) | © | ${ }^{(1)}$ | $\oplus$ | $\oplus$ | © | пгори |  |  |
| d. Use social media for |  |  |  |  |  |  | c. Read blogs | ${ }^{\circ}$ | ${ }^{1}$ | $\odot$ | ${ }^{\circ}$ | $\stackrel{\square}{\circ}$ | ท2amis |  |  |
| $\substack{\text { example. Facebook; } \\ \text { Twitter. Instagram) }}$ <br> e. Help friends with | © | $\oplus$ | - | © | © | ${ }^{\text {numana }}$ | d. Use social media (for <br> $\begin{array}{c}\text { cxample. Facebook, } \\ \text { Twitter, Instagram) }\end{array}$ | © | (1) | $\odot$ | © | Ф | ases |  |  |
| c. Help triends with $\begin{gathered}\text { ceading homework }\end{gathered}$ | ¢ | © | $\odot$ | © | © | mo | e. Help fricnds with reading homework | © | ${ }^{(1)}$ | $\cdots$ | ${ }^{\circ}$ | $\oplus$ | \%ens |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

## 2019 Operational Grade 12 Reading Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 16. Are you currently enrolled in or have you taken an Advanced Placement ( $\mathrm{AP}^{\text {wo }}$ ) course in English/language arts? Select all that apply. <br> (ब) Yes, I am enrolled in or have taken Advanced Placement (AP) English Language and Composition. <br> (i) Yes, I am enrolled in or have taken Advanced Placement (AP) English Literature and Composition. <br> © No. I have never taken an Advanced Placement (AP) English/language arts course. | 40. Are you currently enrolled in or have you taken an Advanced Placement <br> (AP ${ }^{\text {a }}$ ) course in English/language arts? Select all that apply. <br> (4) Yes, 1 am enrolled in or have taken Advanced Placement (AP) English Language and Composition. <br> (1) Yes, I am enrolled in or have taken Advanced Placement (AP) English Literature and Composition. <br> © No, I have never taken an Advanced Placement (AP) English/language arts course. <br> Issue: Organization of Instruction | NC | N/A |
| 17. Are you currently enrolled in or have you taken the International Baccalaureate ${ }^{\text {e }}$ <br> (IB) Language AI course? <br> (4) Yes <br> (1) No <br> (2018 Grade 12) | 41. Are you currently enrolled in or have you taken the International Baccalaureate ${ }^{20}$ <br> (IB) Language Al course? Yes No <br> Issue: Organization of Instruction | NC | N/A |
| 18. Are you currently enrolled in or have you taken any online English/language arts courses for high school or college credit? Yes No <br> (2018 Grade 12) | 42. Are you currently enrolled in or have you taken any online English/language arts courses for high school or college credit? Yes No <br> Issue: Organization of Instruction | NC | N/A |

## Appendix K-1z: Operational Grade 12 Reading

24. For your English/language arts class so far this year, how many times have you done each of the following? Select one answer choice on each row.

|  | Never | Once | 2 or 3 times | 4 or 5 times | $\begin{aligned} & 6 \text { or more } \\ & \text { times } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Made a presentation to the class about something that you have read | (4) | (B) | © | (1) | (1) | vH731530 |
| b. Done a project about something that you have read (for example, written a play, created a website) | (4) | (B) | © | (1) | (®) | vH731529 |

25. For your English/language arts class this year, how often do you do each of the following? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Have a class discussion about something that the whole class has read | (4) | (B) | © | (1) | (1) | vH332888 |
| b. Work in pairs or small groups to talk about something that we have read | (4) | (B) | $\bigcirc$ | (1) | (®) | vH652035 |
| c. Discuss different interpretations of what we have read | (4) | (B) | © | (1) | (1) | VH652037 |

26. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Evaluate the main evidence in a persuasive/argument passage | (4) | (B) | © | (1) | (1) | VH26026 |
| b. Analyze the author's organization of information in a passage | (4) | (B) | © | (1) | (1) | vH333142 |
| c. Critique the author's craft or technique | (4) | (B) | © | (1) | (1) | vH333144 |

27. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Summarize the passage | (4) | (8) | © | (1) | (c) | vH333075 |
| b. Interpret the meaning of the passage | (4) | (8) | © | (1) | © | vH333076 |
| c. Question the motives or feelings of the characters | (1) | (B) | © | (1) | (1) | vH333079 |
| d. Identify the main ideas of the passage | (1) | (B) | © | (1) | (1) | vH333078 |
| e. Identify the themes of the passage | (4) | (8) | © | (1) | (1) | vH333094 |
| f. Analyze two or more texts on the same topic | (1) | (B) | © | (1) | (c) | VH333077 |

28. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved reading?
(4) Never
(B) Once
© Two or three times
(D) Four or five times
(E) More than five times
29. On a typical school day, how much time do you use a computer or other digital device to do your English/language arts schoolwork?
(A) Less than 30 minutes
(B) About 30 minutes
© About 1 hour
(D) About 2 hours
(E) About 3 hours
(®) 4 or more hours
30. In this school year, how often do you borrow reading materials (such as books or magazines) from your classroom library, school library, or media center?
(A) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
31. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\underset{\text { can't }}{\text { I definitely }}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\underset{\text { can }}{\text { I definitely }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Figure out the meaning of a word you don't know by using other words in the text | (4) | (B) | © | (1) | (1) | vH260848 |
| b. Explain the meaning of something you have read | (4) | (B) | © | (1) | (1) | vH260849 |
| c. Figure out the main idea of a text | (4) | (B) | © | (1) | (1) | vH260851 |
| d. Find text in a reading passage to help you answer a question on a test | (4) | (B) | © | (1) | (1) | vH260859 |
| e. Recognize when you don't understand something you are reading | (4) | (B) | © | (1) | (E) | vH260861 |

32. Do you think you would be able to do each of the following when reading? Select one answer choice on each row.

|  | $\begin{aligned} & \text { I definitely } \\ & \text { can't } \end{aligned}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Recognize the difference between fact and opinion in a text | (4) | (B) | © | (1) | (®) | vH260863 |
| b. Judge the reliability of sources (for example, how a website might be biased or inaccurate) | (4) | (B) | © | (1) | (1) | VH260857 |
| c. Critique an author's craft or technique | (1) | (B) | © | (1) | (E) | VH260866 |
| d. Use evidence from a text to support my answer | (4) | (B) | © | (1) | © | vH616841 |
| e. Identify the author's perspective in a persuasive text | (4) | (B) | © | (1) | (®) | VH260868 |

33. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at reading. | (4) | (B) | © | (1) | (c) | VH84065 |
| b. I want to show others that my English/ language arts schoolwork is easy for me. | (4) | (B) | © | (1) | (E) | VH844066 |
| c. I want to look smart in comparison to the other students in my English/language arts class. | (4) | (B) | © | (1) | (®) | vH844068 |
| d. I want to get better English/language arts grades than most other students in my class. | (4) | © | $\bigcirc$ | (1) | (E) | vH844070 |

34. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my English/language arts class. | (4) | (B) | © | (1) | (E) | vH84096 |
| b. I want to become a better reader this year. | (4) | (B) | © | (1) | (E) | VH84097 |
| c. I want to understand as much as I can in my English/language arts class. | (4) | (B) | © | (1) | (®) | VH84098 |
| d. I want to master a lot of new English/ language arts skills in my class. | (4) | (B) | © | (1) | (E) | VH844100 |

35. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Reading is one of my favorite activities. | (4) | (B) | © | (1) | (E) | VH841169 |
| b. I like talking about books with other people. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH844170 |
| c. I think reading is important. | (4) | (B) | © | (1) | (1) | VH844172 |
| d. I enjoy going to a bookstore or a library. | (4) | (B) | © | (1) | (®) | VH844171 |

36. How often do you receive help from a tutor, family member, or friend with English/language arts outside of school or after school?
(A) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
37. Besides doing homework, how much time do you spend reading outside of school?
(A) Less than 30 minutes a day
(B) About 30 minutes a day
© About 1 hour a day
(D) About 2 hours a day
(E) About 3 hours a day
(E) 4 or more hours a day
38. How often do you typically read each of the following outside of school (print or online)? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Stories or novels | (4) | (8) | © | (1) | (1) | VH261066 |
| b. Poems | (4) | (8) | $\bigcirc$ | (1) | (1) | VH261067 |
| c. Plays | (4) | (8) | $\bigcirc$ | (1) | © | VH261068 |
| d. Biographies | (4) | (B) | © | (1) | © | VH617043 |
| e. Comic books | (4) | (B) | © | © | (1) | VH261070 |
| f. Magazines | (4) | (8) | $\bigcirc$ | (1) | (®) | VH261071 |
| g. E-mails | (4) | (B) | © | (1) | (1) | vH261074 |
| h. Text messages | (4) | (B) | $\bigcirc$ | (1) | © | VH261075 |

39. How often do you typically do each of the following things outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Talk about books (print or online) with other people | (4) | (B) | $\bigcirc$ | (1) | (1) | vH260907 |
| b. Go to my local library to borrow books (print or online) | (4) | (B) | © | (1) | (E) | vH260911 |
| c. Read blogs | (4) | (8) | © | (1) | (1) | VH260013 |
| d. Use social media (for example, Facebook, Twitter, Instagram) | (4) | (B) | © | (1) | © | vH333261 |
| e. Help friends with reading homework | (4) | (B) | © | (1) | (E) | vH260917 |

40. Are you currently enrolled in or have you taken an Advanced Placement (AP ${ }^{\circledR}$ ) course in English/language arts? Select all that apply.
(A) Yes, I am enrolled in or have taken Advanced Placement (AP) English Language and Composition.
(B) Yes, I am enrolled in or have taken Advanced Placement (AP) English Literature and Composition.
© No, I have never taken an Advanced Placement (AP) English/language arts course.
41. Are you currently enrolled in or have you taken the International Baccalaureate ${ }^{\circledR}$ (IB) Language Al course?
(4) Yes
(B) No
42. Are you currently enrolled in or have you taken any online English/language arts courses for high school or college credit?
(A) Yes
(B) No

Appendix K-1aa: Summary of Changes Operational Grade 4 Mathematics

2019 Operational Grade 4 Mathematics Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 1. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (4) Never <br> (B) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> (2017 Grade 4) | 17. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (4) Never <br> (B) Once <br> © Two or three times <br> (1) Four or five times <br> (c) More than five times <br> Issue: Organization of Instruction | NC | N/A |
| 2. For school this year, how often do you work in pairs or small groups to talk about something that you have done in math? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (2) Every day or almost every day <br> (2017 Grade 4) | N/A | D | This item was dropped based on the ADC's recommendat ion. |
| 3. How often do you use a computer or other digital device (excluding handheld calculators) for math at school? <br> (4) Never <br> (8) About once or twice a year <br> - About once or twice a month <br> (1) About once or twice a week <br> (c) Every day or almost every day <br> (2017 Grade 4) | N/A | D | This item was dropped based on NCES's review of technologyuse items. |
| 4. How often do you use a computer or other digital device (excluding handheld calculators) for math homework? <br> (4) Never <br> (B) About once or twice a year <br> (a) About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | N/A | D | This item was dropped based on NCES's review of technologyuse items. |

2019 Operational Grade 4 Mathematics Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5. How often do you use the Internet to learn things about math? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped based on NCES's review of technologyuse items. |
| 6. How often do you use a calculator? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (c) Every day or almost every day <br> (2017 Grade 4) |  |  |  |  |  |  | 19. How often do you use a calculator? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (c) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 7. How often do you receive help or tutoring with math outside of school or after school? <br> (4) Never <br> (8) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (c) Every day or almost every day <br> (2017 Grade 4) |  |  |  |  |  |  | 22. How often do you receive help or tutoring with math outside of school or after school? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> () Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 8. This school year, how often did the following things happen in your math class? Select vinsus one answer choice on each row. |  |  |  |  |  |  | 18. This school year, how often did the following things happen in your math class? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never or hardly eve | Less than half of the | About half of the time | More than half of the | $\begin{gathered} \text { All or } \\ \text { almost all of } \\ \text { the time } \end{gathered}$ |  |  | $\begin{aligned} & \text { Never or } \\ & \text { hardly ever } \end{aligned}$ | $\begin{aligned} & \text { Less than } \\ & \text { half of the } \\ & \text { time } \end{aligned}$ | About half of the time | More than half of the time | $\begin{array}{\|c\|} \hline \text { All or } \\ \text { almost all of } \\ \text { the time } \end{array}$ |  |  |  |
| a. My teacher used <br> computer or other <br> digital devices when <br> teaching math to my <br> class. | $\oplus$ | ${ }^{(1)}$ | $\odot$ | $\odot$ | - | ssom |  | © | © | $\odot$ | © | $\oplus$ | som |  |  |
|  | ${ }^{\circ}$ | ${ }^{\circ}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | 640 |  | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | bestis |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |

2019 Operational Grade 4 Mathematics Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9. How often do you use math in everyday life outside of school? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (b) Every day or almost every day <br> (2017 Grade 4) |  |  |  |  |  |  | 20. How often do you use math in everyday life outside of school? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (c) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 10. How often do you participate in each of the following activities outside of sehool? Select one answer choice on each row. |  |  |  |  |  |  | 21. How often do you participate in each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | About once or twice a | About once month | About once or twice a week | $\left\lvert\, \begin{gathered} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{gathered}\right.$ |  |  | Never | $\begin{aligned} & \text { About once } \\ & \text { or wice a } \\ & \text { vear } \end{aligned}$ | About once or twice a month | About once or twice a | $\begin{gathered} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{gathered}$ |  |  |  |
| $\begin{array}{\|l\|} \hline \text {. Talk about math } \\ \text { problems with your } \\ \text { triends } \end{array}$ | © | $\oplus$ | © | © | © | vneas | a. Talk about math <br> problems with your <br> friends | $\odot$ | © | $\odot$ | $\oplus$ | © | vinees |  |  |
| b. Play an instrumentand read music <br> a | © | © | © | © | ${ }^{\circ}$ | am | b. Play an instrument ${ }_{\text {and }}^{\text {and read music }}$ | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | masest |  |  |
| c. Go to websites for help with your math homework | © | $\pm$ | - | $\oplus$ | © |  | $\begin{aligned} & \text { c. Go to websites for } \\ & \text { help with your math } \\ & \text { homework } \end{aligned}$ | © | ${ }^{\circ}$ | - | $\odot$ | $\odot$ |  |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |
| 11. Have you ever helped your friends with their math homework? <br> (A) Yes <br> (B) No <br> (2017 Grade 4) |  |  |  |  |  |  | 24. Have you ever helped your friends with their math homework? Yes No <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
|  |  |  |  |  |  |  |  |  |
| 12. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days. $\square$ <br> (2017 Grade 4) |  |  |  |  |  |  |  |  |  |  |  |  |  | 25. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days. $\square$ <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13. Thinking about math, do you think that you would be able to do each of the following? Do not aetually solve the problems. Select one answer choice on each row. |  |  |  |  |  |  | 26. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{array}{\|c\|} \hline \begin{array}{c} 1 \text { definitely } \\ \operatorname{con}^{\prime} t \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|c\|} \hline 1 \text { probably } \\ \text { can't } \end{array}$ | Maybe | $\begin{array}{\|c} \hline 1 \text { probably } \\ \text { can } \end{array}$ | $\begin{array}{\|c} 1 \text { definitely } \\ \text { can } \\ \hline \end{array}$ |  |  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{array}{\|c\|} \hline \text { I definitely } \\ \text { can } \end{array}$ |  |  |  |
| $\begin{array}{\|l\|} \hline \text { a. Estimate the weight of } \\ \text { 5apples using pounds } \\ \text { (lbs.) } \\ \hline \end{array}$ | © | ${ }^{\circ}$ | $\odot$ | - | © | neem | a. Estimate the weight of <br> 5 apples using pounds  <br> (lbs.)  | © | ¢ | $\odot$ | $\odot$ | ${ }^{\circ}$ | vinges |  |  |
| b. Divide 42 stickers among 6 suddents | $\oplus$ | ¢ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | nown | b. Divide 42 stickers <br> among 6 students | ${ }^{\circ}$ | ${ }^{\oplus}$ | $\odot$ | ${ }^{\circ}$ | © | whatru |  |  |
|  | $\pm$ | ${ }^{\oplus}$ | $\odot$ | ${ }^{\circ}$ | © | nabse |  | © | ${ }^{\bullet}$ | $\odot$ | $\odot$ | ${ }^{\bullet}$ | vnesser |  |  |
|  | © | ${ }^{(1)}$ | $\cdots$ | $\oplus$ | ${ }^{\circ}$ | $\cdots$ | and width <br> d. Know when to take a <br> turkey out of the oven <br> if it goos in at 10.00 <br> A.M.and it takes 3 <br> hours and 45 minutes <br> to cook | $\oplus$ | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | \%eses |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 14. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 27. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The previous matrix was separated into two matrices of achievement goals items (performance and mastery). In order to create indices for both performance and mastery goals based on a total of at least 4 items, VH844882 and VH845114 |
|  | $\begin{gathered} \hline \begin{array}{c} \text { Not at all } \\ \text { like me } \end{array} \\ \hline \hline \end{gathered}$ | $\begin{array}{\|c} \begin{array}{c} \text { A little bit } \\ \text { like me } \end{array} \\ \hline \hline \end{array}$ | $\begin{array}{\|c} \begin{array}{c} \text { Somewhat } \\ \text { like me } \end{array} \\ \hline \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Quite a bit } \\ \text { like me } \end{array}$ | $\begin{gathered} \text { Exactly like } \\ \text { me } \end{gathered}$ |  |  | Not at all like me | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{gathered} \text { Exactly like } \\ \text { me } \end{gathered}$ |  |  |  |
| $\begin{aligned} & \text { a. I want other students } \\ & \text { to think I am good at } \\ & \text { math. } \end{aligned}$ | © | $\odot^{\circ}$ | $\bigcirc$ | © | $\odot$ | wreane | a. I want other students to think I am good at math. | © | $\odot$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | war |  |  |
|  | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\oplus$ | whesesio | b. I want to show others that my math schoolwork is easy for me. | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | , |  |  |
|  | $\odot$ | ${ }^{(1)}$ | $\odot$ | $\odot$ | $\odot$ | Trusess | cme. <br> c. I want to look smart in <br> comparison to the <br> other students in my <br> math class. | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | sums |  |  |
| d. I want to learn as much as possible in my math class. | $\oplus$ | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\odot$ | ${ }^{\text {unesess }}$ | d. I want to get better grades than most other | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ |  |  |  |
| e. I want to become better in math this year. | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | ${ }^{20858}$ | $\substack{\text { students } \\ \text { class. } \\ \hline}$ |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { f. I want to understand } \\ & \text { as much as I I can in my } \\ & \text { math class. } \end{aligned}$ | © | ${ }^{1}$ | $\odot$ | $\odot$ | $\oplus$ | vhesxa | 28. How much does each choice on each row. | the followin | statement | describe y | Select one |  | vestuo |  |  |
|  |  |  |  |  |  |  |  | Not at all like me | A little bit |  | Quite a bit like me | $\begin{gathered} \text { Exactly like } \\ \text { me } \end{gathered}$ |  |  |  |
|  |  |  |  |  |  |  | $\begin{aligned} & \text { a. I want to learn as } \\ & \text { much as possible in } \\ & \text { my math class. } \end{aligned}$ | © | $\oplus$ | $\bigcirc$ | $\odot$ | ${ }^{\circ}$ | \#sur |  |  |
|  |  |  |  |  |  |  | $\begin{array}{\|l\|} \hline \text { b. I want to master a lot } \\ \text { of new slisls in my } \\ \text { math class. } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | 514 |  |  |
|  |  |  |  |  |  |  | c. I want to become better in math this year. | © | $\odot$ | $\odot$ | $\bullet$ | $\odot$ |  |  |  |
|  |  |  |  |  |  |  | d. I want to understand as much as I can in my math class. | ${ }^{\circ}$ | $\oplus$ | $\odot$ | $\odot$ | © | ${ }^{\text {mastus }}$ |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

2019 Operational Grade 4 Mathematics Student

| Previous item | 2019 item | D/A/ <br> R/NC + | Rationale |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |


| Grade 4 Mathematics Student |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 15. How much does each of the following statements describe a person like you? Seleet one answer choice on each row. |  |  |  |  |  |  | 29. How much does each choice on each row.$\square$ | ff the following statements describe you? Select one answer |  |  |  |  |  | R | The stem was revised from "describe a person like you" to "describe you". |
|  | $\begin{array}{\|c\|c\|} \hline \text { Not an all } \\ \text { like me } \end{array}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Somewhat } \\ & \text { like me } \end{aligned}$ | $\begin{array}{\|c\|c\|} \hline \text { Quite a bit } \\ \text { like mee } \end{array}$ | $\begin{array}{\|c\|} \hline \text { Exactiy like } \\ \text { me } \end{array}$ |  |  | Not at all like me | A little bit <br> like me | Somewhat like me | Quite a bit <br> like me | $\begin{array}{\|c} \hline \text { Exactly like } \\ \text { me } \end{array}$ |  |  |  |
| -. Ienioy doing math | (1) | $\cdots$ | - | ${ }^{\circ}$ | ${ }_{\square}$ | nuew |  | $\stackrel{\square}{\square}$ | $\odot$ | $\odot$ | $\odot$ | $\stackrel{\square}{\circ}$ |  |  |  |
|  | $\odot$ | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | youm | b. Ilook forward to my | © | $\odot$ | - | $\oplus$ | $\stackrel{\square}{ }$ | vimemi |  |  |
| c. Iam interested in the <br> things 1 learn in math. | © | © | - | © | ¢ | \% |  | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | sums |  |  |
| $\begin{array}{\|l} \text { d. think making an } \\ \text { ctfort mwhith is } \\ \text { worthbile. } \end{array}$ | © | ${ }^{\circ}$ | $\odot$ | © | © | vewus | d. I think making an <br> effort in math is <br> worthwhile. | $\odot$ | $\oplus$ | - | $\odot$ | $\odot$ | пзйт |  |  |
|  | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | © | - | $\begin{aligned} & \begin{array}{l} \text { e. Ithink math will help } \\ \text { me even when I I am } \end{array} \\ & \text { not in school. } \\ & \text { f. Ithink it isportant } \\ & \text { to do well in math. } \end{aligned}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | sarr |  |  |
| $\begin{aligned} & \text { t. I think it is importan } \\ & \text { to do well in math. } \end{aligned}$ | © | ${ }^{\circ}$ | - | © | $\pm$ | maxem |  | © | © | - | $\odot$ | $\odot$ | ${ }^{\text {T04 }}$ |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 16. How often do you play die dital games (for example, apps, video games, or computergames) outside of school that involve math? |  |  |  |  |  |  | 23. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math? |  |  |  |  |  |  | NC | N/A |
|  |  |  |  |  |  |  |  |  |  |
| (4) Never |  |  |  |  |  |  |  |  |  |  |  |  |  | (1) Never |  |  |  |  |  |  |  |
| (1) About once or twice a year |  |  |  |  |  |  | © A Abever once or twice a year |  |  |  |  |  |  |  |  |
| © About once or twice a month |  |  |  |  |  |  | © About once or twice a month |  |  |  |  |  |  |  |  |
| © About once or twice a week <br> (1) Every day or almost every day |  |  |  |  |  |  | (1) About once or twice a week(1) Every day or almost every day |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |  |  |  |  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |

## Appendix K-1ab: Operational Grade 4 Mathematics

17. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math?
(A) Never
(B) Once
© Two or three times
(D) Four or five times
© More than five times
18. This school year, how often did the following things happen in your math class? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. My teacher used computers or other digital devices when teaching math to my class. | (1) | (B) | © | (1) | © | vH588077 |
| b. My teacher required us to use computers or other digital devices to complete math assignments. | (4) | (B) | © | (1) | © | VH267419 |

19. How often do you use a calculator?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(B) Every day or almost every day
20. How often do you use math in everyday life outside of school?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
21. How often do you participate in each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Talk about math problems with your friends | (4) | (B) | © | (1) | (c) | VH268946 |
| b. Play an instrument and read music | (4) | (B) | © | (1) | (E) | vH268961 |
| c. Go to websites for help with your math homework | (4) | (B) | $\bigcirc$ | (1) | (1) | VH268962 |

22. How often do you receive help or tutoring with math outside of school or after school?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
23. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
24. Have you ever helped your friends with their math homework?
(4) Yes
(B) No
25. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days.
26. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\underset{\text { can probably }}{ }$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Estimate the weight of 5 apples using pounds (lbs.) | (4) | (B) | © | (1) | (E) | vH267674 |
| b. Divide 42 stickers among 6 students | (4) | (B) | $\bigcirc$ | (1) | (8) | vH617317 |
| c. Find the amount of carpet needed to cover a rectangular floor if you know its length and width | (4) | (B) | $\bigcirc$ | (1) | (1) | vH267682 |
| d. Know when to take a turkey out of the oven if it goes in at 10:00 A.M. and it takes 3 hours and 45 minutes to cook | (4) | (B) | $\bigcirc$ | (1) | (®) | vH267683 |

27. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at math. | (4) | (B) | © | (1) | (E) | vH844871 |
| b. I want to show others that my math schoolwork is easy for me. | (4) | (B) | $\bigcirc$ | (1) | (E) | vH844872 |
| c. I want to look smart in comparison to the other students in my math class. | (4) | © | © | (1) | © | vH844873 |
| d. I want to get better grades than most other students in my math class. | (4) | (B) | $\bigcirc$ | (1) | (E) | vH844882 |

28. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my math class. | (4) | (B) | © | (1) | (1) | VH845117 |
| b. I want to master a lot of new skills in my math class. | (4) | (B) | © | (1) | (1) | VH84514 |
| c. I want to become better in math this year. | (4) | (B) | © | (1) | (c) | VH84515 |
| d. I want to understand as much as I can in my math class. | (4) | (8) | © | (1) | (1) | VH845118 |

29. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I enjoy doing math. | (4) | (8) | © | (1) | (1) | vH84470 |
| b. I look forward to my math class. | (4) | (B) | © | (1) | (E) | VH844771 |
| c. I am interested in the things I learn in math. | (4) | (B) | © | (1) | (E) | VH844775 |
| d. I think making an effort in math is worthwhile. | (4) | (B) | © | (1) | (®) | VH844772 |
| e. I think math will help me even when I am not in school. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH84477 |
| f. I think it is important to do well in math. | (4) | (B) | © | (1) | (1) | VH844774 |

## Appendix K-1ac: Summary of Changes Pilot Grade 4 Mathematics

## 2019 Pilot Grade 4 Mathematics Student

| Previous item |  | 2019 item |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 21. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (4) Never <br> (1) Once <br> (a) Two or three times <br> (1) Four or five times <br> (ब) More than five times <br> (2017 Grade 4) | vesus | 5. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (2) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (D) More than five times <br> Issue: Organization of Instruction | viscoils | NC | N/A |
| 22. For school this year, how often do you work in pairs or small groups to talk about something that you have done in math? <br> (4. Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | ${ }^{\text {nubsac }}$ | N/A |  | D | This item was dropped based on the ADC's recommendat ion. |
| 23. How often do you use a computer or other digital device (excluding handheld calculators) for math at school? <br> (4) Never <br> (1) About once or twice a year <br> (Q) About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | nowest | N/A |  | D | This item was dropped based on NCES's review of technologyuse items. |
| 24. How often do you use a computer or other digital device (excluding handheld calculators) for math homework? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (D) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) |  | N/A |  | D | This item was dropped based on NCES's review of technologyuse items. |

[^10]2019 Pilot Grade 4 Mathematics Student

| Previous item |  | 2019 item |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25. How often do you use the Internet to learn things about math? <br> (2) Never <br> (1) About once or twice a year <br> - About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | vames | N/A |  | D | This item was dropped based on NCES's review of technologyuse items. |
| 26. How often do you use a calculator? <br> (2) Never <br> (3) About once or twice a year <br> © About once or twice a month <br> (1) About onee or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 4) | ${ }^{\text {nower }}$ | 4. How often do you use a calculator? <br> (4) Never <br> (1) About once or twice a year <br> (Q) About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction | v1006231 | NC | N/A |
| 27. How often do you receive help or tutoring with math outside of school or after school? <br> (1) Never <br> (1) About once or twice a year <br> (c) About once or twice a month <br> (1) About once or twice a week <br> (D) Every day or almost every day | viruen | N/A |  | D | This item was dropped in place of keeping VH853724, as per similar recommendat ions made for Reading based on pretesting and to ensure consistency across subjects. |

[^11]2019 Pilot Grade 4 Mathematics Student


+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Pilot Grade 4 Mathematics Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 32. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days. $\square$ <br> (2017 Grade 4) |  |  |  |  |  |  | 2. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days. $\square$ <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 33. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select one answer choice on each row. |  |  |  |  |  |  | 13. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems, Select one answer choice on each row. |  |  |  |  |  |  | R | Sub-item "a" was revised from "lbs" to "lb"; sub-item "b" was revised; previous subitem "d" was replaced with an alternate version. |
|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} 1 \text { probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} 1 \text { probably } \\ \text { can } \end{gathered}$ | $\left.\right\|_{\substack{\text { d definitely } \\ \text { can }}}$ |  |  | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { d definitely } \\ \text { can't } \end{array} \\ \hline \end{array}$ | $\begin{aligned} & \text { I probably } \\ & \text { can't } \end{aligned}$ | Maybe | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { I probably } \\ \text { can } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { I definitely } \\ \text { can } \end{array}$ |  |  |  |
| a. Estimate the weight of <br> 5 apples using pounds <br> (dbs.) <br> . | $\oplus$ | Ф | $\odot$ | $\oplus$ | ¢ | nnoses | Estimate the weight of 5 apples using pounds (b) | ¢ | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | Nase |  |  |
| b. Divide 42 stickers <br> among 6 students <br> a. | © | © | $\odot$ | © | © | numat | b. Share 42 stickers | © | ${ }^{\circ}$ | © | ${ }^{\circ}$ | ${ }^{\circ}$ | , |  |  |
| c. Find the amount of <br> carpet needed to cover <br> a rectangular floo if <br> you know its length <br> and width <br> and | ${ }^{(1)}$ | © | ¢ | ${ }^{\circ}$ | ${ }^{\circ}$ | asom |  | © | © | $\cdots$ | ${ }^{\circ}$ | © | -som |  |  |
| d. Know when to take a turkey out of the oven if fit geve in at $10: 00$ A.M and it takes 3 hours and 45 minutes to cook | © | (1) | $\oplus$ | $\oplus$ | ${ }^{( }$ | \%ss | you know its length <br> and width <br> d. Calculate what time <br> the movie ends if it <br> stants at $11: 000$ AM and <br> lasts for 2 hours and <br> 45 minutes. | © | $\oplus$ | $\odot$ | © | ${ }^{\circ}$ | mmass |  |  |
| (2017 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 34. How much does each of the following statements describe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 9. How much does each of the following statements describe you: Select one answer choice on each row. |  |  |  |  |  |  | R | The previous matrix was separated into two matrices of achievement goals items (performance and mastery). In order to create indices for both performance and mastery goals based |
|  | $\begin{array}{\|c} \begin{array}{c} \text { Not at all } \\ \text { like me } \end{array} \\ \hline \end{array}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \\ & \hline \end{aligned}$ | Somewhat like me | Quite a bit like me | $\begin{array}{\|c} \hline \begin{array}{c} \text { Exactly like } \\ \text { me } \end{array} \\ \hline \end{array}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | $\begin{array}{\|l} \hline \text { Quite a bit } \\ \text { like me } \end{array}$ | $\begin{array}{\|c} \text { Exactly like } \\ \text { me } \end{array}$ |  |  |  |
| $\begin{aligned} & \text { a. I want other students } \\ & \text { to think } 1 \text { am good at } \\ & \text { math } \end{aligned}$ | © | © | $\odot$ | $\oplus$ | $\bigcirc$ | nowan | a. I want to learn as much as possible about math in my | © | (1) | $\odot$ | © | © | Wens |  |  |
| b. I want to show others that my math schoolwork is casy for me. c. | © | © | $\odot$ | $\odot$ | ${ }^{\circ}$ | mease | $\begin{array}{\|l} \text { class. } \\ \hline \text { b. I want to master a lot } \\ \text { of new math skills in } \\ \text { my class. } \end{array}$ | © | (1) | $\odot$ | ¢ | © | мй |  |  |
| c. I wamt to look smart in <br> conparison to the <br> ohher sutcons <br> math class. | © | ${ }^{\text {® }}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | veoms | $\begin{aligned} & \text { c. I want to become a } \\ & \text { better math student } \\ & \text { this year. } \end{aligned}$ | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | \%ax |  |  |
| $\begin{aligned} & \text { d. I want to learn as } \\ & \text { much as possible in } \\ & \text { my math class. } \\ & \hline \end{aligned}$ | © | $\oplus$ | $\bigcirc$ | $\oplus$ | © |  | $\begin{array}{\|c\|} \hline \text { d. I want to understand } \\ \text { as much as } \mathrm{I} \text { ( can in my } \\ \text { math class. } \end{array}$ | © | (1) | $\odot$ | $\pm$ | $\oplus$ | $\cdots$ |  |  |
| $\begin{aligned} & \text { c. } \begin{array}{l} \text { want o become } \\ \text { better in math this } \\ \text { year. } \end{array} \\ & \hline \end{aligned}$ | © | © | $\odot$ | $\oplus$ | Ф |  |  |  |  |  |  |  |  |  |  |
| (2017 Grade 4) | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | nuaso |  |  |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).


[^12]
## 2019 Pilot Grade 4 Mathematics Student



[^13]2019 Pilot Grade 4 Mathematics Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
|  |  |  | made for math. |

## Appendix K-1ad: Pilot Grade 4 Mathematics

1. How often do you participate in each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Talk about math problems with your friends | (4) | (B) | © | (1) | (1) | VH268946 |
| b. Play an instrument and read music | (4) | (B) | © | (1) | (c) | vH268961 |
| c. Go to websites for help with your math homework | (4) | (B) | © | (1) | (E) | VH268962 |

2. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days.
$\square$
3. Have you ever helped your friends with their math homework?
(4) Yes
(B) No
4. How often do you use a calculator?
(A) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
5. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math?
(4) Never
(B) Once
© Two or three times
(D) Four or five times
© More than five times
6. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
7. How often do you receive the following types of help with math schoolwork outside of school or after school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Help from a teacher | (4) | (B) | © | (1) | (e) | VH853725 |
| b. Help from a tutor | (4) | (B) | $\bigcirc$ | (1) | © | VH85727 |
| c. Help from a family member or friend | (4) | (B) | © | (1) | (1) | VH85728 |
| d. Help from online resources (for example, websites or apps) | (1) | (B) | © | (1) | © | VH85729 |

8. How useful do you find each of the following types of help to understand your math schoolwork? Select one answer choice on each row.

|  | Not useful at all | Somewhat useful | Very useful | I don't receive that type of help. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Help from a teacher | (4) | (8) | © | (1) | VH853733 |
| b. Help from a tutor | (4) | (8) | © | (1) | VH853734 |
| c. Help from a family member or friend | (4) | (B) | © | (1) | vH853736 |
| d. Help from online resources (for example, websites or apps) | (4) | (B) | © | (1) | VH853737 |

9. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible about math in my class. | (4) | (B) | © | (1) | (1) | vH853957 |
| b. I want to master a lot of new math skills in my class. | (1) | (B) | © | (1) | (1) | vH853961 |
| c. I want to become a better math student this year. | (4) | (B) | © | © | (1) | VH853949 |
| d. I want to understand as much as I can in my math class. | (4) | (B) | © | (1) | (c) | VH853952 |

10. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I enjoy doing math. | (4) | (8) | © | (1) | (1) | vH854029 |
| b. I look forward to my math class. | (4) | (B) | © | (1) | (E) | vH854030 |
| c. I am interested in the things I learn in math. | (4) | (B) | © | (1) | (E) | VH854034 |
| d. I think making an effort in math is worthwhile. | (4) | (B) | $\bigcirc$ | © | (®) | vH854031 |
| e. I think math will help me even when I am not in school. | (4) | (B) | © | (1) | (1) | vH854036 |
| f. I think it is important to do well in math. | (4) | (B) | © | (1) | (1) | VH854033 |

11. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am a good math student. | (4) | (B) | © | (1) | (E) | vH854117 |
| b. I want to show others that my math schoolwork is easy for me. | (1) | (B) | © | (1) | © | vH854118 |
| c. I want to look smart in comparison to the other students in my math class. | (4) | (B) | © | (1) | (®) | vH854119 |
| d. I want to get better math grades than most other students in my class. | (1) | (B) | $\bigcirc$ | (1) | (E) | vH854134 |

12. This school year, how often did the following things happen in your math class? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. My teacher used computers or other digital devices to go on websites or use apps when teaching math to my class. | (1) | (B) | © | (1) | (1) | vH810476 |
| b. My teacher required us to use computers or other digital devices to go on websites or use apps to complete math assignments. | (1) | (B) | © | (1) | (1) | vH81047 |

13. Thinking about math, do you think that you would be able to do each of the

VH882502 following? Do not actually solve the problems. Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Estimate the weight of 5 apples using pounds (lb) | (4) | (B) | $\bigcirc$ | (1) | (1) | vH858273 |
| b. Share 42 stickers equally among 6 students | (1) | (B) | © | (1) | (1) | VH810864 |
| c. Find the amount of carpet needed to cover a rectangular floor if you know its length and width | (4) | (B) | $\bigcirc$ | (1) | (1) | VH267882 |
| d. Calculate what time the movie ends if it starts at 11:00 AM and lasts for 2 hours and 45 minutes. | (1) | (B) | © | (1) | (c) | vH810865 |

14. How often do you use math in everyday life outside of school?
(A) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day

Appendix K-1ae: Spiral Map Grade 4 Mathematics

| Accnum | Grade | Number of <br> Grade 4 OMB PDF <br> Sequence Number | Grade 4 <br> booklets item <br> appears in | Grade 4 booklets item <br> appears in |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 |  |
| VH350115 | 4,8 | $05 \_00$ | 1 | 3 |
| VH336231 | 4 | $04 \_00$ | $14 \_00$ | 1 |


| Accnum | Grade | Number of <br> Sequence Number | Nomb PDF <br> Grade 4 <br> booklets item <br> appears in | Grade 4 booklets item <br> appears in |
| :---: | :---: | :---: | :---: | :---: |
| VH853732 | 4,8 | $08 \_00$ | 2 |  |
| VH853733 | 4,8 | $08 \_01$ | 2 | 1,2 |
| VH853734 | 4,8 | $08 \_02$ | 2 | 1,2 |
| VH853736 | 4,8 | $08 \_03$ | 2 | 1,2 |
| VH853737 | 4,8 | $08 \_04$ | 2 | 1,2 |
| VH882494 | 4,8 | $12 \_00$ | 2 | 1,2 |
| VH810476 | 4,8 | $12 \_01$ | 2 | 1,2 |
| VH810477 | 4,8 | $12 \_02$ | 2 | 1,2 |
| VH882502 | 4 | $13 \_00$ | 2 | 1,2 |
| VH858273 | 4 | $13 \_01$ | 2 | 1,2 |
| VH810864 | 4 | $13 \_02$ | 2 | 1,2 |
| VH267682 | 4,8 | $13 \_03$ | 2 | 1,2 |
| VH810865 | 4 | $13 \_04$ | 2 | 1,2 |
| VH268945 | 4,8 | $01 \_00$ | $01 \_01$ | 1 |

Appendix K-1af: Summary of Changes Operational Grade 8 Mathematics

2019 Operational Grade 8 Mathematics Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 1. What math class are you taking this year? Select one or more answer choices. <br> (1) Eighth-grade math <br> (1) Ceneral eighth grade math <br> © Algebra I course <br> (1) First year of a two-year algebra course <br> (1) Second year of a two-year algebra course <br> (1) Algebra 1 (one-ycar course) <br> (6) Algebra Il <br> (A) Geometry <br> (1) Other <br> (2017 Grade 8) | 22. What math class are you taking this year? Select one or more answer choices. <br> (4) Eighth-grade math <br> (B) General eighth-grade math <br> - Algebra I course <br> (1) First year of a two-year algebra course <br> (1) Second year of a two-year algebra course <br> (1) Algebra I (one-year course) <br> (6) Algebra II <br> (4) Geometry <br> (1) Other <br> Issue: Organization of Instruction | NC | N/A |
| 2. What math class do you expect to take next year? <br> (1) Geometry <br> (B) Algebra II <br> © Algebra I (one-year course) <br> (1) First year of a two-year Algebra I course <br> (c) Second year of a two-year Algebra I course <br> (1) Introduction to algebra or pre-algebra <br> (c) Basic or general math <br> (1) Business or consumer math <br> (1) Other math class <br> (1) I don't know. <br> (2017 Grade 8) | 23. What math class do you expect to take next year? <br> (4) Geometry <br> (B) Algebra II <br> © Algebra I (one-year course) <br> (1) First year of a two-year Algebra I course <br> (e) Second year of a two-year Algebra I course <br> (1) Introduction to algebra or pre-algebra <br> (a) Basic or general math <br> (1) Business or consumer math <br> (1) Other math class <br> (1) I don't know. <br> Issue: Organization of Instruction | NC | N/A |
| 3. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (1) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (D) More than five times <br> (2017 Grade 8) | 24. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (4) Never <br> (8) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> Issue: Organization of Instruction | NC | N/A |


| 2019 Operational Grade 8 Mathematics Student |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 4. For school this year, how often do you work in pairs or small groups to talk about something that you have done in math? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (c) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped based on the ADC's recommendat ion. |
| 5. How often do you use a computer or other digital device (excluding handheld calculators) for math at school? <br> (D) Never <br> (1) About once or twice a year <br> (ब) About once or twice a month <br> (6) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped based on NCES's review of technologyuse items. |
| 6. How often do you receive help or tutoring with math outside of school or after school? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (b) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | 30. How often do you receive help or tutoring with math outside of school or after school? <br> (A) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (2) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 7. In your math class this year, how often have you used the following types of calculators? Select one answer choice on each row. |  |  |  |  |  |  | 25. In your math class this year, how often have you used the following types of calculators? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
| (2017 Grade 8) |  |  | Alpurt half of the time <br> $\odot$ | More than half of the time $\oplus$ | Alll or <br> altust of <br> the time <br> $\Phi$ <br> $\Phi$ |  | Issue: Resourc | Never or <br> hardly ever <br> $\oplus$ <br> $\oplus$ <br> for Lea | Less than half of the $\qquad$ (1) <br> ning and |  | More than half of the © <br> ction | All or <br> alost of o <br> the time  <br>  $\odot$ <br>  $\odot$ |  |  |  |


| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. This school year, how often did the following things happen in your math class? Select one answer choice on each row. |  |  |  |  |  |  | 26. This school year, how often did the following things happen in your math class? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never or hardly ever | $\begin{aligned} & \text { Lese than the } \\ & \text { hall of the } \\ & \text { time } \end{aligned}$ | About half of the time | More than halfo the the time tim | $\begin{array}{\|c\|} \hline \text { almot of til of } \\ \text { thas time } \end{array}$ |  |  | Never or hardly ever | $\begin{gathered} \text { Less than } \\ \text { halfof the } \\ \text { time } \end{gathered}$ | About half of the time | More than half of the time | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { All or } \\ \text { alosot tall of } \\ \text { the time } \end{array} \\ \hline \end{array}$ |  |  |  |
| a. My reacher uscd <br> computcrs or other <br> dixitatat devicest of show <br> us how to work <br> throukh math <br> problems. <br> . | ¢ | © | $\odot$ | $\bigcirc$ | $\oplus$ | \% | a. My teacher used <br> computers or other <br> digital devictos to show <br> uns how to work <br> through math <br> throlems | © | $\odot$ | $\odot$ | $\odot$ | ¢ | \%6 |  |  |
| $\begin{gathered} \text { b. } \begin{array}{c} \text { used the Intemert for } \\ \text { my math work. } \end{array} \\ \hline \end{gathered}$ | © | $\oplus$ | $\bigcirc$ | © | $\oplus$ | err | b. I used the Internet for | ® | ${ }^{\circ}$ | $\odot$ | ${ }^{\circ}$ | $\odot$ | visalt |  |  |
|  | © | ${ }^{1}$ | $\cdots$ | ${ }^{\circ}$ | $\oplus$ | nsem |  | ${ }^{\circ}$ | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | mom |  |  |
| d. My teacher required us <br> touse computers <br> ocher digital devices to <br> complete math <br> assignments. | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | © | nomat | class. <br> d. My teacher required us <br> to use computers or <br> other idigitl devices to <br> complete math <br> assignments. | © | © | $\odot$ | $\odot$ | $\odot$ | vingent |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |
| 9. In this school year, how often have you used a computer or other digital devic (excluding handheld calculators) to complete your math assignments? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped based on NCES's review of technologyuse items. |
| 10. In this school year, how (excluding handheld c math assignments? <br> (4) Never <br> (1) About once or twic <br> © About once or twic <br> (1) About once or twic <br> (1) Every day or almos <br> (2017 Grade 8) | $v$ often have y lculators) to l <br> e a year <br> e a month <br> e a week <br> every day | ou used a co ook online f | nputer or oth <br> $r$ resources for | digital dev help with y |  |  | 27. In this school year, ho (excluding handheld math assignments? <br> (4) Never <br> (1) About once or twi <br> © About once or twi <br> (1) About once or twi <br> (6) Every day or almo <br> Issue: Resources | w often have alculators) to <br> ce a year <br> ce a month <br> ce a week <br> st every day <br> for Lea | ou used a co ook online for <br> ning and | puter or othe resources for <br> d Instru | digital devi help with yo <br> tion |  |  | NC | N/A |


| 2019 Operational Grade 8 Mathematics Student |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 11. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to take an online practice test? <br> (4) Never <br> (B) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> (2017 Grade 8) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped based on NCES's review of technologyuse items. |
| 12. How often do you use math in everyday life outside of school? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | 28. How often do you use math in everyday life outside of school? <br> (1) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (8) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 13. How often do you participate in each of the following activities vutside of school? Select one answer choice on each row. |  |  |  |  |  |  | 29. How often do you participate in each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never | $\begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { year } \end{gathered}$ | $\begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { month } \end{gathered}$ | $\begin{array}{\|l} \text { Abut once } \\ \text { or wince a } \\ \text { week } \end{array}$ | $\left\lvert\, \begin{gathered} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{gathered}\right.$ |  |  | Never | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or wivee a } \\ \text { year } \end{array} \\ \hline \end{array}$ | $\begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { month } \end{gathered}$ | About once or twice a week | $\begin{gathered} \text { Every day or } \\ \text { almost } \\ \text { every day } \end{gathered}$ |  |  |  |
| $\begin{array}{\|l\|} \hline \text { a. Talk about math } \\ \text { problems with your } \\ \text { friends } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ |  | a. Talk about math <br> problems with your <br> friends | ${ }^{\circ}$ | - | $\bigcirc$ | $\odot$ | $\bigcirc$ | 96 |  |  |
| b. Program computers | $\omega$ | ¢ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | nases | b. Program computers | ® | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | vrisese |  |  |
| c. Play an instrumentand rad music <br> and | $\oplus$ | © | $\odot$ | $\oplus$ | ¢ |  | c. Play an instrument ${ }^{\text {c. }}$ and read music | $\odot$ | $\oplus$ | $\bigcirc$ | ${ }^{\circ}$ | $\odot$ | ${ }^{\text {vunases }}$ |  |  |
|  | © | $\pm$ | © | © | $\Phi$ |  | $\begin{aligned} & \text { d. Go to websites for } \\ & \text { help with your math } \\ & \text { homework } \end{aligned}$ | $\odot$ | $\odot$ | - | $\odot$ | $\odot$ |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |
| 14. Have you ever helped your friends with their math homework? <br> (4) Yes <br> (B) No <br> (2017 Grade 8) |  |  |  |  |  |  | 31. Have you ever helped your friends with their math homework? <br> (4) Yes <br> (B) No <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |

2019 Operational Grade 8 Mathematics Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days. $\square$ <br> (2017 Grade 8) |  |  |  |  |  |  | 32. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days. $\square$ <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 16. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select one answer choice on each row. |  |  |  |  |  |  | 36. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select one answer choice on each row. |  |  |  |  |  |  | R |  |
|  | $\left\lvert\, \begin{gathered} \text { definitely } \\ \text { cantt } \end{gathered}\right.$ | $\begin{array}{\|l\|} \hline \begin{array}{l} 1 \text { probabably } \\ \text { can't } \end{array} \end{array}$ | Maybe | ${ }_{\substack{\text { I probably } \\ \text { can }}}^{\text {che }}$ | $\begin{array}{\|c} \text { I definitely } \\ \text { can } \end{array}$ |  |  | $\begin{array}{\|c} \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{array}{\|c\|} \hline \text { I probably } \\ \text { can } \end{array}$ | $\begin{array}{\|l} \text { I definitely } \\ \text { can } \end{array}$ |  |  | VH617317, |
| $\substack{\text { a. } \\ \text { astimate the weight of } \\ \text { Sapples using pounds } \\ \text { (bs.). }}$ <br> . | $\infty$ | ${ }^{\circ}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ |  | a.List all of the different <br> possibe outcomes <br> when a coun is flipped <br> and | $\oplus$ | ${ }^{\circ}$ | $\odot$ | © | $\odot$ | Lasas |  | VH267681, VH267683, |
| b. Divide 42 stickers among 6 students | $\otimes$ | $\stackrel{\square}{ }$ | $\oplus$ | ${ }^{\circ}$ | $\oplus$ | Wso | three times |  |  |  |  |  |  |  | VH267683, |
|  | $\bullet$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\oplus$ | nown | that represents the average number of miles you run in a week if you run 100 | © | ${ }^{1}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | Hemas |  | VH460348, <br> VH460355, |
|  | © | ${ }^{\circ}$ | $\oplus$ | ${ }^{\circ}$ | ${ }^{\circ}$ | weesm | miles in w weeks <br> c. Determine a 20 <br> percent tip of a <br> 67-dollar restaurant | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\odot$ | 7n6G8 |  | VH460381, VH460386, |
|  | © | © | $\cdots$ | $\oplus$ | $\oplus$ | 5ex | dinner bill <br> d. Find the amount of <br> carpet needed to cover <br> a rectanglar flor if <br> you know its length <br> and width | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\odot$ | venseas |  | VH460389, VH460391, VH460398, |
| f. Kow when to take a <br> turkey out of the oven <br> ifit ges in at 10.00 <br> AM and 1 at aks 3 <br> hours and 45 minutes <br> to cook | $\oplus$ | © | $\odot$ | $\oplus$ | $\oplus$ | \%ow |  | © | $\odot$ | $\odot$ | $\oplus$ | $\odot$ | ${ }^{\text {vutasas }}$ |  | VH460398, VH460900, and |
| 23. Thinking about math. do you think that you would be able to do cach of the following? Do not actually solve the problems. Select one answer choice on each row. |  |  |  |  |  |  |  | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | $\odot$ | numeso |  | VH460912 |
|  | $\begin{array}{\|l\|} \hline 1 \text { definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |  | © | $\odot$ | $\odot$ | $\odot$ | © | nesome |  | based on |
|  | © | ${ }^{\circ}$ | $\oplus$ | $\oplus$ | ${ }^{\circ}$ | 4 |  |  |  |  |  |  |  |  | NCES's review of self- |
|  | (1) | $\oplus$ | $\oplus$ | $\oplus$ | ${ }^{\oplus}$ | ass |  |  |  |  |  |  |  |  | efficacy items for grade 8. |
| $\square$ | ${ }^{\circ}$ | (1) | $\odot$ | $\oplus$ | ${ }^{\circ}$ | ass |  |  |  |  |  |  |  |  |  |
| d. List all of the different <br> possible outcomcs <br> when a cin is flipped <br> threc times | $\cdots$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\oplus$ | m |  |  |  |  |  |  |  |  |  |

2019 Operational Grade 8 Mathematics Student


2019 Operational Grade 8 Mathematics Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 17. How much does each of the following statements describe a person like yout Selectnex answer choicc on cach row. |  |  |  |  |  |  | 37. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The previous matrix was separated into two matrices of achievement goals items (performance and mastery). In order to create indices for both performance and mastery goals based on a total of at least 4 items, VH844882 and VH845114 were added from the 2016 pilot assessment. <br> The stem was revised from "describe a person like you" to "describe you". |
|  | $\begin{aligned} & \text { Not at al. } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{array}{\|c\|} \hline \text { Exactly like } \\ \text { me } \end{array}$ |  |  | Not at all like me like me | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me like me | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\underset{\text { Exactly like }}{\text { me }}$ |  |  |  |
| $\begin{aligned} & \text { a. I want other students } \\ & \text { to think } 1 \text { am good at } \\ & \text { math. } \end{aligned}$ | - | $\oplus$ | - | $\oplus$ | $\oplus$ | nomen | a. I want other students <br> to think I am good at <br> math. | $\oplus$ | $\oplus$ | $\odot$ | $\bigcirc$ | $\odot$ | птих |  |  |
|  | $\oplus$ | $\oplus$ | $\oplus$ | $\Phi$ | Ф | nueso | b. I want to show others | © | ${ }^{\oplus}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | ${ }^{\text {suamz }}$ |  |  |
|  | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | numam | c. I want to look smart in $\begin{aligned} & \text { comparison to the } \\ & \text { other } \\ & \text { math students in my }\end{aligned}$ math class. | $\oplus$ | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\oplus$ | ners |  |  |
| d. 1 want to learn us munh pasposile in my math class. | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | menss | d. I want to get better grades than most other | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | , |  |  |
| c. 1 want to become betrerir in math this vcais. | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | ¢ | noma | $\underbrace{\substack{\text { studens in my math } \\ \text { clat }}}_{\text {ctass. }}$ |  |  |  |  |  |  |  |  |
|  | ¢ | ${ }^{\text {¢ }}$ | $\odot$ | $\oplus$ | © |  | 38. How much does each choice on each row. | of the follow | ing statemen | $s$ describe y | u? Select one | answer | \%ess |  |  |
|  |  |  |  |  |  |  |  | ( $\begin{gathered}\text { Not at all } \\ \text { like me }\end{gathered}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me | Quite a bit like me | $\underset{\text { Exactly like }}{\text { me }}$ |  |  |  |
|  |  |  |  |  |  |  |  | © | © | $\odot$ | $\odot$ | $\odot$ | nessur |  |  |
|  |  |  |  |  |  |  | $\begin{array}{\|c\|c\|} \hline \text { b. . want to master a lot } \\ \text { of new skists an my } \\ \text { math class. } \end{array}$ | © | $\odot$ | $\odot$ | $\oplus$ | $\odot$ | ${ }^{138514}$ |  |  |
|  |  |  |  |  |  |  | $\begin{aligned} & \text { c. I want to become } \\ & \text { betereri in math this } \\ & \text { year. } \end{aligned}$ | $\odot$ | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | нests |  |  |
|  |  |  |  |  |  |  | $\substack{\text { d. I want to understand } \\ \text { as muth as } I \text { I can in my } \\ \text { math class. }}$ | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student fa | tors |  |  |  |  |  |  |  |
| 18. How much does each of the following statements deseribe a person like you? Select one answer choice on each row. |  |  |  |  |  |  | 39. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R |  |
|  | ( Not at all | A little bit like me | $\begin{aligned} & \text { Somewhat } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{gathered} \text { Exactly like } \\ \text { me } \end{gathered}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like |  |  |  |
| a. Ienioy doing math. | $\cdots$ | ${ }^{\circ}$ | $\bigcirc$ | ${ }_{\square}$ | ¢ | (1ack | a. Ienioy doing math. | $\odot$ | © | $\bigcirc$ | ¢ | ${ }^{\circ}$ | Visam70 |  |  |
| h. 1 look torward to my | - | $\pm$ | - | $\cdots$ | ${ }^{\circ}$ | мumer | b. Ilook forward to my | © | $\oplus$ | - | $\odot$ | © | твити |  |  |
| c.c. <br> cimi intercted in the <br> things learn in math. | $\oplus$ | ${ }^{\oplus}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | "unea | c. I am interested in the things I learn in math. | © | $\odot$ | $\odot$ | $\oplus$ | $\oplus$ | пвеит |  |  |
| $\begin{array}{\|l\|} \hline \text { d. I think making an } \\ \text { cfor in math is } \\ \text { worthwhile. } \end{array}$ | $\infty$ | © | $\cdots$ | $\oplus$ | ¢ |  | d. I think making an <br> effort in math is <br> worthwhile. | © | $\oplus$ | - | $\odot$ | $\odot$ |  |  |  |
| $\substack{\text { e. Ithink math will help } \\ \text { moctran whhn } \\ \text { not tin school }}$ | $\oplus$ | $\oplus$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | ${ }^{\text {ncomem }}$ | e. I think math will help <br> mee even when Iam <br> not in school. | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ |  |  |  |
| f. I think it is importan todo well in math. | - | © | - | - | - | masm | $\begin{array}{\|l\|} \hline \text { f. I think it is important } \\ \text { to do well in math. } \end{array}$ | ${ }^{\circ}$ | ${ }^{( }$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | 574 |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

2019 Operational Grade 8 Mathematics Student


| 2019 Operational Grade 8 Mathematics Student |  |  |  |
| :---: | :---: | :---: | :---: |
| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 20. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math? <br> (4) Never <br> (b) About once or twice a year <br> - About once or twice a month <br> (1) About once or twice a week <br> (b) Every day or almost every day <br> (2017 Grade 8) | 35. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math? <br> (4) Never <br> (3) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction | NC | N/A |
| 21. How often do you use a computer, tablet, smartphone, or gaming console outside <br> of school to play educational games that involve math? <br> (1) Never <br> (B) About once or twice a year <br> (a) About once or twice a month <br> (1) About once or twice a week <br> (c) Every day or almost every day <br> (2017 Grade 8) | N/A | D | This item was dropped based on NCES's review of technologyuse items. |
| 22. How often do you use a computer, tablet, smartphone, or gaming console outside <br> of school to play popular games that involve math? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) | N/A | D | This item was dropped based on NCES's review of technologyuse items. |
| 26. Have you ever participated in a math study group outside of school? <br> (4) Yes <br> (B) No <br> (2017 Grade 8) | 33. Have you ever participated in a math study group outside of school? <br> (4) Yes <br> (B) No <br> Issue: Student factors | NC | N/A |
| 27. Over the past seven days, how many days have you participated in a math study group outside of school? Enter the number of days. $\square$ <br> (2017 Grade 8) | 34. Over the past seven days, how many days have you participated in a math study group outside of school? Enter the number of days. $\square$ <br> Issue: Student factors | NC | N/A |


| 2019 Operational Grade 8 Mathematics Student |  |  |  |
| :---: | :---: | :---: | :---: |
| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC }+ \end{aligned}$ | Rationale |
| 28. Have you ever participated in a math study group at school? <br> (4) Yes <br> (B) No <br> (2017 Grade 8) | N/A | D | This item was dropped based on the ADC's recommendat ion. |
| 29. Over the past seven days, how many days have you participated in a math study group at school? Enter the number of days. $\square$ <br> (2017 Grade 8) | N/A | D | This item was dropped based on the ADC's recommendat ion. |

## Appendix K-1ag: Operational Grade 8 Mathematics

22. What math class are you taking this year? Select one or more answer choices.
(4) Eighth-grade math
(B) General eighth-grade math
© Algebra I course
(D) First year of a two-year algebra course
(E) Second year of a two-year algebra course
© Algebra I (one-year course)
(c) Algebra II
$\oplus$ Geometry
(1) Other
23. What math class do you expect to take next year?
(A) Geometry
© Algebra II
© Algebra I (one-year course)
(D) First year of a two-year Algebra I course
© Second year of a two-year Algebra I course
© Introduction to algebra or pre-algebra
(a) Basic or general math
$\oplus$ Business or consumer math
(1) Other math class
(1) I don't know.
24. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math?
(A) Never
(B) Once
© Two or three times
(1) Four or five times
(E) More than five times
25. In your math class this year, how often have you used the following types of calculators? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Basic calculator | (4) | (8) | $\bigcirc$ | (1) | (®) | VH266809 |
| b. Graphing calculator | (4) | (B) | © | (1) | © | vH268810 |

26. This school year, how often did the following things happen in your math class? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. My teacher used computers or other digital devices to show us how to work through math problems. | (4) | (B) | © | (1) | (1) | vH267416 |
| b. I used the Internet for my math work. | (4) | (B) | © | (1) | (1) | vH267417 |
| c. My teacher used computers or other digital devices when teaching math to my class. | (4) | (B) | © | (1) | (1) | vH588077 |
| d. My teacher required us to use computers or other digital devices to complete math assignments. | (4) | (B) | © | (1) | (1) | vH267419 |

27. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to look online for resources for help with your math assignments?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(B) Every day or almost every day
28. How often do you use math in everyday life outside of school?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(B) Every day or almost every day
29. How often do you participate in each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Talk about math problems with your friends | (4) | (B) | © | (1) | (1) | vH268946 |
| b. Program computers | (4) | (B) | © | (1) | (1) | vH268949 |
| c. Play an instrument and read music | (4) | (B) | © | (1) | (1) | vH268961 |
| d. Go to websites for help with your math homework | (4) | (B) | © | (1) | (1) | vH268962 |

30. How often do you receive help or tutoring with math outside of school or after school?
(A) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
31. Have you ever helped your friends with their math homework?
(A) Yes
(B) No
32. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days.
$\square$
33. Have you ever participated in a math study group outside of school?
(A) Yes
(B) No
34. Over the past seven days, how many days have you participated in a math study group outside of school? Enter the number of days.

35. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math?
(A) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(®) Every day or almost every day
36. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can’t } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. List all of the different possible outcomes when a coin is flipped three times | (4) | (B) | © | (1) | (®) | vH460382 |
| b. Create an expression that represents the average number of miles you run in a week if you run 100 miles in $w$ weeks | (4) | (B) | © | (1) | (®) | vH460383 |
| c. Determine a 20 percent tip of a 67-dollar restaurant dinner bill | (1) | (B) | © | (1) | (1) | vH267679 |
| d. Find the amount of carpet needed to cover a rectangular floor if you know its length and width | (1) | (B) | © | (1) | (1) | vH267682 |
| e. Give an example to show that a math statement is false | (1) | (B) | © | (1) | (1) | vH460399 |
| f. Explain to your classmate how you solved a math problem | (4) | (B) | © | (1) | (1) | VH460910 |
| g. Use correct mathematical words and symbols when showing your work | (4) | (B) | © | (1) | (E) | VH460902 |

37. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at math. | (4) | (B) | © | (1) | (1) | vH848871 |
| b. I want to show others that my math schoolwork is easy for me. | (4) | (B) | © | (1) | (1) | vH844872 |
| c. I want to look smart in comparison to the other students in my math class. | (4) | (B) | © | (1) | (c) | vH844873 |
| d. I want to get better grades than most other students in my math class. | (4) | (B) | © | (1) | (1) | VH844882 |

38. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my math class. | (4) | (B) | $\bigcirc$ | (1) | (E) | VH84517 |
| b. I want to master a lot of new skills in my math class. | (4) | (B) | $\bigcirc$ | (1) | © | VH84514 |
| c. I want to become better in math this year. | (4) | (B) | © | (1) | © | VH845115 |
| d. I want to understand as much as I can in my math class. | (4) | (B) | © | (1) | (E) | VH845118 |

39. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I enjoy doing math. | (4) | (8) | © | (1) | (1) | vH84470 |
| b. I look forward to my math class. | (4) | (B) | © | (1) | (E) | vH844771 |
| c. I am interested in the things I learn in math. | (4) | (B) | © | (1) | (E) | vH844775 |
| d. I think making an effort in math is worthwhile. | (4) | (B) | $\bigcirc$ | © | (®) | vH844772 |
| e. I think math will help me even when I am not in school. | (4) | (B) | © | (1) | (1) | vH84477 |
| f. I think it is important to do well in math. | (4) | (B) | © | (1) | (1) | vH844774 |

40. How much do you enjoy each of the following types of math activities? Select one answer choice on each row.

|  | Enjoy not at all | Enjoy a little bit | $\begin{gathered} \text { Enjoy } \\ \text { somewhat } \end{gathered}$ | Enjoy quite a bit | Enjoy a lot |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Addition, subtraction, multiplication, and division | (4) | (B) | © | (1) | (1) | VH84774 |
| b. Finding areas of shapes and figures | (4) | (B) | © | (1) | (e) | vH84774 |
| c. Solving for probabilities and events (for example, card, coin, marble, and spinner problems) | (4) | (B) | © | (1) | © | vH844746 |
| d. Solving equations or simplifying expressions | (4) | (B) | © | (1) | © | vH844750 |
| e. Constructing and building different types of graphs (for example, bar graph, line graph, or box and whisker plots) | (4) | (B) | © | (1) | © | vH847748 |
| f. Working with geometric figures like rectangles and squares | (4) | (B) | © | (1) | (c) | vH84774 |

Appendix K-1ah: Summary of Changes Pilot Grade 8 Mathematics

2019 Pilot Grade 8 Mathematics Student

| Previous item | 2019 item | D/A/ <br> R/NC+ | Rationale |
| :---: | :---: | :---: | :---: |
| 25. What math class are you taking this year? Select one or more answer choices. <br> (4) Eighth-grade math <br> (1) General eighth-grade math <br> © Algebra I course <br> (1) First year of a two-year algebra course <br> (D) Second year of a two-year algebra course <br> (c) Algebra I (one-year course) <br> © Algebra II <br> (4) Geometry <br> (1) Other <br> (2017 Grade 8) | 8. What math class are you taking this year? Select one or more answer choices. <br> (2) Eighth-grade math <br> (1) Introduction to algebra or pre-algebra <br> © Algebra I <br> (1) Geometry <br> (c) Algebra II <br> (1) Other math class. Please specify: $\qquad$ <br> Issue: Organization of Instruction | R | This item's response options were revised based on cognitive interviews and as recommende d by NCES. |
| 26. What math class do you expect to take next year? <br> (4) Geometry <br> (1) Algebra II <br> Q Algebra I (one-year course) <br> (1) First year of a two-year Algebra I course <br> (1) Second year of a two-year Algebra I course <br> (1) Introduction to algebra or pre-algebra <br> (4) Basic or general math <br> (1) Business or consumer math <br> (1) Other math elass <br> (1) I don't know. <br> (2017 Grade 8) | 9. What math class do you expect to take next year? <br> (1) Basic or general math <br> (1) Introduction to algebra or pre-algebra <br> © Algebra I <br> (1) Geometry <br> (D) Algebra II <br> (5) Other math class. Please specify: $\qquad$ <br> (6) 1 don't know. <br> Issue: Organization of Instruction | R | This item's response options were revised based on cognitive interviews and as recommende d by NCES. |
| 27. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (4) Never <br> (1) Once <br> (0) Two or three times <br> (1) Four or five times <br> (D) More than five times <br> (2017 Grade 8) | 4. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (4) Never <br> (1) Once Two or three times Four or five times More than five times <br> Issue: Organization of Instruction | NC | N/A |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Pilot Grade 8 Mathematics Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 28. For school this year. how often do you work in pairs or small groups to talk about something that you have done in math? <br> (2) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) | N/A | D | This item was dropped based on the ADC's recommendat ion. |
| 29. How often do you use a computer or other digital device (excluding handheld calculators) for math at school? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) | N/A | D | This item was dropped based on NCES's review of technologyuse items. |
| 30. How often do you receive help or tutoring with math outside of school or after school? <br> (2) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (a) About once or twice a week <br> (D) Every day or almost every day <br> (2017 Grade 8) | N/A | D | This item was dropped in place of keeping VH853724, as per similar recommendat ions made for Reading based on pretesting and to ensure consistency across subjects. |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Pilot Grade 8 Mathematics Student


[^14]2019 Pilot Grade 8 Mathematics Student

| Previous item |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 34. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to look online for resources for help with your math assignments? <br> (1) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | 10. In this school year, how often have you looked online for resources for help with your math assignments? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for learning and instruction |  |  |  |  |  |  | R | The item stem was revised. |
| 35. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to take an online practice test? <br> (1) Never <br> (B) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> (2017 Grade 8) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped based on NCES's review of technologyuse items. |
| 36. How often do you use math in everyday life outside of school? <br> (8) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (D) Every day or almost every day <br> (2017 Grade 8) |  |  |  |  |  |  | 1. How often do you use math in everyday life outside of school? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 37. How often do you participate in each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | 18. How often do you participate in each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | R | Sub-item "b" |
|  | Never | $\begin{array}{\|c\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { year } \end{array}$ | About once or twice a month | About once or twice week | $\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array}$ |  |  | Never | About once or twice a year | About once or twice a month | About once or twice a week | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Every day or } \\ \text { almos } \\ \text { every day } \end{array} \\ \hline \end{array}$ |  |  |  |
| a. Talk about math problems with your triends | © | © | - | © | © |  | $\begin{aligned} & \text { a. Talk about math } \\ & \text { problems with your } \\ & \text { priends } \end{aligned}$ | © | $\oplus$ | $\odot$ | © | $\oplus$ | nuasm |  |  |
| b. Program computers | © | ${ }^{\circ}$ | - | $\oplus$ | © | $\cdots$ | b. Write a computer | © | © | $\bigcirc$ | $\oplus$ | $\oplus$ | reser |  |  |
| C. Paxd an mistumicht | © | © | $\odot$ | © | ${ }^{\circ}$ |  | c. Play an instrument | $\pm$ | $\oplus$ | - | © | © |  |  |  |
| $\begin{aligned} & \text { d. Co to websites for } \\ & \text { hclp with your math } \\ & \text { homework } \end{aligned}$ | $\oplus$ | ${ }^{(1)}$ | - | $\oplus$ | ${ }^{\circ}$ | $\cdots$ | $\begin{aligned} & \text { and read music } \\ & \text { d. ho to websect for } \\ & \text { help with your math } \\ & \text { homework } \end{aligned}$ | © | ¢ | $\bigcirc$ | © | © | , wrames |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

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| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 38. Have you ever helped your friends with their math homework? <br> (4) Yes <br> (1) No <br> (2017 Grade 8) | 3. Have you ever helped your friends with their math homework? Yes No <br> Issue: Resources for Learning and Instruction | NC | N/A |
| 39. Over the past scven days, how many days have you helped your friends with their math homework? Enter the number of days. $\square$ <br> (2017 Grade 8) | 2. Over the past seven days. how many days have you helped your friends with their math homework? Enter the number of days. $\square$ <br> Issue: Resources for Learning and Instruction | NC | N/A |



+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).


[^15]

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 43. How much do you enioy solving each of the following types of math problems? Select one answer choiec on each row. |  |  |  |  |  |  | 11. How much do you enioy each of the following types of math activities! Select one answer choice on cach row. |  |  |  |  |  |  | R | The stem wording was revised to remove the word "solving" as per ADC feedback that the stem did not match rows $E$ and $F$ in the previous phrasing. Additionally, "problems" was replaced with "activities". Sub-items "d", "e" and " f " were revised. <br> N/A |
|  | $\begin{gathered} \text { Enjoy not at } \\ \text { all } \end{gathered}$ | $\begin{aligned} & \text { Enioy a } \\ & \text { little bit } \end{aligned}$ | $\begin{gathered} \text { Enioy } \\ \text { somewhat } \end{gathered}$ | $\begin{array}{\|c} \hline \begin{array}{c} \text { Enioy guite } \\ \text { abit } \end{array} \\ \hline \hline \end{array}$ | Enioy a lot |  |  | $\begin{array}{\|c\|} \hline \text { Enjoy not at } \\ \text { all } \end{array}$ | Enioy a little bi | Enioy somewhat | $\begin{aligned} & \text { Enjoy quite } \\ & \text { a bit } \end{aligned}$ | Enioy a lot |  |  |  |
| $\begin{array}{\|l\|} \hline \text { a. Addition, subtraction, } \\ \text { multiplication, and } \\ \text { division } \end{array}$ | © | ${ }^{(1)}$ | $\odot$ | $\pm$ | $\oplus$ | \% | a. Adding, subtracting, <br> multiplying, and <br> dividing fractions | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | Ф | nsomes |  |  |
| b. Finding arcas of shapes and figures | © | $\oplus$ | $\odot$ | $\cdots$ | $\odot$ | nowen | $\begin{array}{\|l\|} \hline \text { c. Finding Hacteas of shapes } \\ \text { and figures } \end{array}$ | ${ }^{\circ}$ | ${ }^{(1)}$ | - | $\oplus$ | Ф | nessast |  |  |
| c. Solving for <br> probabilities and <br> pevents (for example, <br> card coint marble. and <br> spinner problems) <br> s. | © | $\pm$ | $\odot$ | $\oplus$ | © | - | $\begin{array}{\|l\|} \hline \text { c. Solving for } \\ \text { probabilities and } \\ \text { center (or eample, } \\ \text { card, coin martle, and } \\ \text { spinner problems) } \end{array}$ | © | $\pm$ | $\cdots$ | © | © | mas |  |  |
| d. Solving equations or simplitying expressions | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | neasen | spinner problems) <br> d. Solving problems <br> about ratios and rates |  |  |  |  |  |  |  |  |
| c. Constructing and building different types of graphs ror example, har graph. | © | ${ }^{\oplus}$ | $\cdots$ | ${ }^{\circ}$ | ${ }^{\circ}$ | - |  | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | $\oplus$ | , |  |  |
| line graph. or box and whisker plots) |  |  |  |  |  |  | c. Constructing and |  |  |  |  |  |  |  |  |
| f. Working with <br> goomcruic figures like <br> rectangles and squarcs | $\Phi$ | ${ }^{(1)}$ | $\odot$ | $\oplus$ | © | mas | types of graphs for example. a bar grapl of line graph) | © | (1) | $\bigcirc$ | $\Phi$ | $\oplus$ |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | f. Moving geometric figures from one set of points to another (for rectangle 90 ding a rectangle 90 degrees <br> Issue: Student Fa | \% | $\pm$ | $\odot$ | © | $\oplus$ | 5, |  |  |
| 20. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math? <br> (4) Never <br> (1) About once or twice a year <br> (6) About once or twice a month <br> (2) About once or twice a week <br> (D) Every day or almost every day |  |  |  |  |  |  |  | 5. How often do you play digital games (for example, apps, video games, or computer |  |  |  |  |  | NC |  |
|  |  |  |  |  |  |  | 5. How often do you play games) outside of school <br> (4) Never <br> (1) About once or twice <br> © About once or twice <br> (1) About once or twice <br> (1) Every day or almost | that involve <br> a year <br> a month <br> a week <br> every day | nath? |  |  |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

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| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale <br> the same decision was made for math. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25. Thinking about math, do you think that you would be able to do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | 21. Thinking about math. do you think that you would be able to do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | R | Previous subitems "a", " $d$ ", and " f " were dropped. |
|  |  | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{array}{\|c} \text { I definitely } \\ \text { can } \end{array}$ |  |  | $\begin{array}{\|l\|l\|l\|} \hline \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |  |  |
| $\begin{aligned} & \text { a. Decide if your } \\ & \text { classmate's math work } \\ & \text { is correct } \end{aligned}$ | $\oplus$ | © | - | $\oplus$ | $\oplus$ | m | a. Give an example to show that a math statement is false | (1) | (1) | © | $\odot$ | © | amo |  |  |
|  | $\oplus$ | © | $\oplus$ | © | © | mm | b. Explain to your classmate how you solved a math problem | (1) | © | © | $\oplus$ | $\oplus$ | тиusw |  |  |
| c. Explain to your <br> classmate how you <br> solved a math problem | © | $\oplus$ | - | © | $\odot$ | \%on | c. Use correct mathematical words and symbols when | (1) | (1) | $\odot$ | $\odot$ | ${ }^{\bullet}$ | maman |  |  |
| $\begin{array}{\|c} \hline \text { d. Use corcet } \\ \text { mathertical words } \\ \text { and symbotis to to } \\ \text { communicate deas } \\ \text { aloout math } \end{array}$ | © | © | © | $\oplus$ | © | $\cdots$ | showing your work |  |  |  |  |  |  |  |  |
|  | © | © | $\odot$ | © | © | 5 |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { f. Use definitions of } \\ & \text { geometric shapes to } \\ & \text { support an argument } \end{aligned}$ | © | © | $\bigcirc$ | © | © | $4$ |  |  |  |  |  |  |  |  |  |
| (2017 Grade 8) |  |  |  |  |  |  | Issue: Student factors |  |  |  |  |  |  |  |  |

## Appendix K-1ai: Pilot Grade 8 Mathematics

1. How often do you use math in everyday life outside of school?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
2. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days.

3. Have you ever helped your friends with their math homework?
(A) Yes
(B) No
4. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math?
(4) Never
(B) Once
© Two or three times
(D) Four or five times
© More than five times
5. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
6. Have you ever participated in a math study group outside of school?
(A) Yes
(B) No
7. Over the past seven days, how many days have you participated in a math study group outside of school? Enter the number of days.

8. What math class are you taking this year? Select one or more answer choices.
(4) Eighth-grade math
(B) Introduction to algebra or pre-algebra
© Algebra I
(D) Geometry
(E) Algebra II
© Other math class. Please specify:
9. What math class do you expect to take next year?
(A) Basic or general math
(B) Introduction to algebra or pre-algebra
© Algebra I
(D) Geometry
(E) Algebra II
() Other math class. Please specify: $\qquad$
(6) I don't know.
10. In this school year, how often have you looked online for resources for help with your math assignments?
(A) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(®) Every day or almost every day
11. How much do you enjoy each of the following types of math activities? Select one answer choice on each row.

|  | Enjoy not at all | Enjoy a little bit | Enjoy somewhat | Enjoy quite a bit | Enjoy a lot |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Adding, subtracting, multiplying, and dividing fractions | (4) | (B) | © | (1) | (1) | VH810635 |
| b. Finding areas of shapes and figures | (4) | (B) | © | (1) | (E) | VH853661 |
| c. Solving for probabilities and events (for example, card, coin, marble, and spinner problems) | (4) | (B) | © | (1) | (E) | vH85362 |
| d. Solving problems about ratios and rates (for example, if 4 inches of rain fell in 16 hours, how many inches fell in 1 hour?) | (4) | (B) | © | (1) | (1) | VH853665 |
| e. Constructing and building different types of graphs (for example, a bar graph or line graph) | (4) | (B) | © | (1) | (®) | VH853674 |
| f. Moving geometric figures from one set of points to another (for example, rotating a rectangle 90 degrees) | (4) | (B) | © | (1) | (1) | VH853671 |

12. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\underset{\text { can }}{\text { I definitely }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Find the amount of carpet needed to cover a rectangular floor if you know its length and width | (4) | (B) | © | (1) | (1) | VH267682 |
| b. Determine a $20 \%$ tip of a $\$ 55$ restaurant dinner bill | (1) | (B) | © | (1) | (1) | vH853690 |
| c. List all of the different possible outcomes when a coin is flipped three times | (4) | (B) | © | (1) | (c) | vH853692 |
| d. Determine the likely number of red faces a cube has if the red face lands up 130 out of 400 times the cube is rolled. The 6 faces of the cube are painted red, yellow, or blue. | (4) | (B) | © | (1) | (®) | VH853683 |
| e. Create an expression that represents the average number of miles you run in a week if you run 100 miles in $w$ weeks | (1) | (B) | © | (1) | (1) | VH85693 |
| f. Calculate how many cats a pet store has if the ratio of cats to dogs is 5 to 4 , and the total number of cats and dogs the store has is 27 | (4) | (B) | © | (1) | (1) | vH853685 |
| g. Write an equation with a variable to solve a problem (for example, if pizza costs $\$ 2$ per slice, then $x$ number of slices can be bought for $\$ 16$ ) | (4) | (B) | © | (1) | (1) | VH853713 |
| h. Find the total sum of the interior angles of a pentagon with 5 equal sides | (4) | (B) | © | (1) | (c) | VH853714 |

13. How often do you receive the following types of help with math schoolwork outside
of school or after school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Help from a teacher | (4) | (8) | © | (1) | (1) | VH853725 |
| b. Help from a tutor | (4) | (8) | $\bigcirc$ | (1) | (8) | VH853726 |
| c. Help from a family member or friend | (4) | (8) | © | (1) | © | VH853728 |
| d. Help from online resources (for example, websites or apps) | (4) | (8) | $\bigcirc$ | (1) | © | vH853729 |

14. How useful do you find each of the following types of help to understand your math schoolwork? Select one answer choice on each row.

|  | Not useful at all | Somewhat useful | Very useful | I don't receive that type of help. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Help from a teacher | (4) | (8) | © | (1) | vH853733 |
| b. Help from a tutor | (4) | (8) | $\bigcirc$ | (1) | VH853734 |
| c. Help from a family member or friend | (4) | (B) | $\bigcirc$ | (1) | vH853736 |
| d. Help from online resources (for example, websites or apps) | (4) | (8) | © | (1) | vH853737 |

15. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible about math in my class. | (4) | (B) | © | (1) | (c) | vH853957 |
| b. I want to master a lot of new math skills in my class. | (4) | (B) | © | (1) | (c) | vH853961 |
| c. I want to become a better math student this year. | (4) | (B) | © | (1) | (®) | VH853949 |
| d. I want to understand as much as I can in my math class. | (4) | (B) | © | (1) | (1) | vH85392 |

16. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I enjoy doing math. | (4) | (B) | © | (1) | (®) | VH854029 |
| b. I look forward to my math class. | (4) | (B) | $\bigcirc$ | (1) | (E) | VH854030 |
| c. I am interested in the things I learn in math. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH854034 |
| d. I think making an effort in math is worthwhile. | (4) | (B) | © | (1) | (E) | VH854031 |
| e. I think math will help me even when I am not in school. | (4) | (B) | © | (1) | (E) | VH854036 |
| f. I think it is important to do well in math. | (4) | (B) | $\bigcirc$ | (1) | (1) | vH854033 |

17. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am a good math student. | (4) | (B) | © | (1) | (1) | vH854117 |
| b. I want to show others that my math schoolwork is easy for me. | (1) | (B) | © | (1) | (1) | vH854118 |
| c. I want to look smart in comparison to the other students in my math class. | (4) | (B) | © | (1) | (1) | vH854119 |
| d. I want to get better math grades than most other students in my class. | (4) | (B) | © | (1) | (1) | vH854134 |

18. How often do you participate in each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Talk about math problems with your friends | (1) | (B) | $\bigcirc$ | (1) | (1) | VH268946 |
| b. Write a computer program | (4) | (B) | $\bigcirc$ | (1) | (1) | vH858371 |
| c. Play an instrument and read music | (1) | (B) | $\bigcirc$ | (1) | (1) | vH268961 |
| d. Go to websites for help with your math homework | (4) | (B) | © | (1) | (1) | vH268962 |

19. In your math class this year, how often have you used the following types of calculators? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Basic calculator (for example, four function or scientific) | (4) | (B) | $\bigcirc$ | (1) | (1) | vH853523 |
| b. Graphing calculator | (4) | (B) | © | (1) | (1) | VH266810 |

20. This school year, how often did the following things happen in your math class? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. My teacher used computers or other digital devices to show us how to work through math problems. | (4) | (B) | © | (1) | (E) | vH267416 |
| b. I used the Internet for my math work. | (4) | © | $\bigcirc$ | (1) | (1) | vH267417 |
| c. My teacher used computers or other digital devices to go on websites or use apps when teaching math to my class. | (4) | (B) | © | (1) | (®) | VH810476 |
| d. My teacher required us to use computers or other digital devices to go on websites or use apps to complete math assignments. | (1) | (B) | $\bigcirc$ | (1) | (1) | VH81047 |

21. Thinking about math, do you think that you would be able to do each of the following? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Give an example to show that a math statement is false | (4) | (B) | © | (1) | (1) | vH460399 |
| b. Explain to your classmate how you solved a math problem | (4) | (B) | © | (1) | (1) | VH460910 |
| c. Use correct mathematical words and symbols when showing your work | (4) | (B) | © | (1) | (1) | VH460902 |

Appendix K-1aj: Spiral Map Grade 8 Mathematics

| Accnum | Grade | Grade 8 OMB PDF Sequence Number | Number of Grade 8 booklets item appears in | Grade 8 booklets item appears in |
| :---: | :---: | :---: | :---: | :---: |
| VH350115 | 4, 8 | 04_00 | 1 | 3 |
| VH268936 | 4, 8 | 01_00 | 3 | 1,2,3 |
| VH460329 | 4, 8 | 05_00 | 3 | 1, 2, 3 |
| VH854116 | 4, 8 | 17_00 | 1 | 3 |
| VH854117 | 4,8 | 17_01 | 1 | 3 |
| VH854118 | 4, 8 | 17_02 | 1 | 3 |
| VH854119 | 4, 8 | 17_03 | 1 | 3 |
| VH854134 | 4, 8 | 17_04 | 1 | 3 |
| VH853944 | 4, 8 | 15_00 | 1 | 3 |
| VH853957 | 4, 8 | 15_01 | 1 | 3 |
| VH853961 | 4, 8 | 15_02 | 1 | 3 |
| VH853949 | 4, 8 | 15_03 | 1 | 3 |
| VH853952 | 4, 8 | 15_04 | 1 | 3 |
| VH854028 | 4, 8 | 16_00 | 1 | 3 |
| VH854029 | 4, 8 | 16_01 | 1 | 3 |
| VH854030 | 4,8 | 16_02 | 1 | 3 |
| VH854034 | 4, 8 | 16_03 | 1 | 3 |
| VH854031 | 4, 8 | 16_04 | 1 | 3 |
| VH854036 | 4, 8 | 16_05 | 1 | 3 |
| VH854033 | 4,8 | 16_06 | 1 | 3 |
| VH336085 | 4, 8 | 03_00 | 3 | 1, 2, 3 |
| VH269037 | 4, 8 | 02_00 | 3 | 1, 2, 3 |
| VH853724 | 4, 8 | 13_00 | 2 | 1, 2 |
| VH853725 | 4, 8 | 13_01 | 2 | 1, 2 |
| VH853726 | 4,8 | 13_02 | 2 | 1, 2 |
| VH853728 | 4, 8 | 13_03 | 2 | 1, 2 |
| VH853729 | 4, 8 | 13_04 | 2 | 1, 2 |


| Accnum | Grade | Grade 8 OMB PDF Sequence Number | Number of Grade 8 booklets item appears in | Grade 8 booklets item appears in |
| :---: | :---: | :---: | :---: | :---: |
| VH853732 | 4, 8 | 14_00 | 2 | 1, 2 |
| VH853733 | 4, 8 | 14_01 | 2 | 1, 2 |
| VH853734 | 4,8 | 14_02 | 2 | 1, 2 |
| VH853736 | 4, 8 | 14_03 | 2 | 1, 2 |
| VH853737 | 4, 8 | 14_04 | 2 | 1, 2 |
| VH810501 | 8 | 08_00 | 2 | 1, 2 |
| VH810507 | 8 | 09_00 | 2 | 1, 2 |
| VH882460 | 8 | 19_00 | 1 | 3 |
| VH853523 | 8 | 19_01 | 1 | 3 |
| VH266810 | 8 | 19_02 | 1 | 3 |
| VH882471 | 4, 8 | 20_00 | 1 | 3 |
| VH267416 | 8 | 20_01 | 1 | 3 |
| VH267417 | 8 | 20_02 | 1 | 3 |
| VH810476 | 4, 8 | 20_03 | 1 | 3 |
| VH810477 | 4, 8 | 20_04 | 1 | 3 |
| VH810512 | 8 | 10_00 | 1 | 3 |
| VH810625 | 8 | 11_00 | 2 | 1, 2 |
| VH810635 | 8 | 11_01 | 2 | 1, 2 |
| VH853661 | 8 | 11_02 | 2 | 1, 2 |
| VH853662 | 8 | 11_03 | 2 | 1, 2 |
| VH853665 | 8 | 11_04 | 2 | 1, 2 |
| VH853674 | 8 | 11_05 | 2 | 1, 2 |
| VH853671 | 8 | 11_06 | 2 | 1, 2 |
| VH853682 | 8 | 12_00 | 2 | 1, 2 |
| VH267682 | 4, 8 | 12_01 | 2 | 1, 2 |
| VH853690 | 8 | 12_02 | 2 | 1, 2 |
| VH853692 | 8 | 12_03 | 2 | 1, 2 |
| VH853683 | 8 | 12_04 | 2 | 1, 2 |
| VH853693 | 8 | 12_05 | 2 | 1, 2 |


| VH853685 | 8 | 12_06 | 2 | 1, 2 |
| :---: | :---: | :---: | :---: | :---: |
| Accnum | Grade | Grade 8 OMB PDF <br> Sequence Number | Number of Grade 8 booklets item appears in | Grade 8 booklets item appears in |
| VH853713 | 8 | 12_07 | 2 | 1, 2 |
| VH853714 | 8 | 12_08 | 2 | 1, 2 |
| VH882480 | 8 | 21_00 | 2 | 1, 2 |
| VH460399 | 8 | 21_01 | 2 | 1,2 |
| VH460910 | 8 | 21_02 | 2 | 1,2 |
| VH460902 | 8 | 21_03 | 2 | 1, 2 |
| VH882452 | 4, 8 | 18_00 | 1 | 3 |
| VH268946 | 4,8 | 18_01 | 1 | 3 |
| VH858371 | 8 | 18_02 | 1 | 3 |
| VH268961 | 4,8 | 18_03 | 1 | 3 |
| VH268962 | 4,8 | 18_04 | 1 | 3 |
| VH460923 | 8 | 06_00 | 3 | 1, 2, 3 |
| VH460925 | 8 | 07_00 | 3 | 1, 2, 3 |

Appendix K-1ak: Summary of Changes Operational Grade 12 Mathematics

| Previous item |  |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Which courses have you taken from eighth grade to the present? If you have taken a course more than once, give the most recent year you took it. INCLUDE courses taken in summer school, but DO NOT INCLUDE topics that were only taught as part of a longer course (such as trigonometry taught in drafting class or computer programming taught in Algebra II). Select one answer choice on each row. |  |  |  |  |  |  |  | 24. Which courses have you taken from eighth grade to the present? If you have taken a course more than once, give the most recent year you took it. INCLUDE courses taken in summer school, but DO NOT INCLUDE topics that were only taught as part of a longer course (such as trigonometry taught in drafting class or computer programming taught in Algebra II). Select one answer choice on each row. |  |  |  |  |  |  |  | R | Sub-item "p" was dropped since "Other" is not an option preferred to be included for student operational administratio n. |
|  | I have <br> never <br> takn <br> course. |  | $\begin{array}{\|l\|l} \begin{array}{c} \text { t took this } \\ \text { cours in in } \\ \text { Grade ? } \end{array} \end{array}$ | $\begin{aligned} & \begin{array}{l} \text { t took this } \\ \text { course in } \\ \text { Grade 10. } 10 . \end{array} \end{aligned}$ | $\left\|\begin{array}{c} \text { Itook this } \\ \text { course in } \\ \text { Grade in. } \end{array}\right\|$ | $\begin{array}{\|l\|l} \begin{array}{l} \text { t ook this } \\ \text { cours is in } \\ \text { Grade 12. } \end{array} \\ \hline \end{array}$ |  |  | $\begin{gathered} \text { I have } \\ \text { never } \\ \text { taken this } \\ \text { course. } \end{gathered}$ | $\begin{array}{\|l\|l} \hline \text { I took this } \\ \text { coursis in } \\ \text { or before } \\ \text { Grade 8. } \end{array}$ | $\left\lvert\, \begin{gathered} \begin{array}{c} \text { t took this } \\ \text { course in in } \\ \text { Grade } 9 . \end{array} \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{c} \text { Itook this } \\ \text { course in } \\ \text { Grade i0. } \end{array}\right\|$ | $\left\|\begin{array}{c} \text { Itook this } \\ \text { course in in } \\ \text { Grade 11. } \end{array}\right\|$ | $\left\|\begin{array}{c} 1 \text { took this } \\ \text { course in } \\ \text { Grade 12. } \end{array}\right\|$ |  |  |  |
| $\begin{array}{\|l} \hline \text { a. } \begin{array}{l} \text { Basic or general } \\ \text { mathematics } \\ \text { course } \end{array} \\ \hline \end{array}$ | © | $\oplus$ | $\odot$ | $\odot$ | $\oplus$ | $\odot$ | m | a. Basic or general mathematics course | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | $\odot$ | ses |  |  |
|  | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | $\odot$ | asa | b. Tech-prep mathematics, butinest mathematics, consumer matherics, or otherapplied omathematics course | © | ${ }^{\circ}$ | $\bigcirc$ | © | $\odot$ | $\odot$ | ases |  |  |
| c. Introduction to <br> algebra or <br> pre-algebra course | © | $\odot$ | $\bigcirc$ | $\oplus$ | $\odot$ | $\odot$ | - | c. Introduction to <br> algebra or <br> pre-algebra course | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | ${ }^{( }$ | manem |  |  |
| d. Algebra I course <br> e. Geometry course | ${ }_{\square}^{\circ}$ | ${ }_{\square}^{\bullet}$ | $\bigcirc$ | $\stackrel{\square}{\odot}$ | $\odot$ | $\odot$ | $\pm$ | d. Algebra I course | © | $\odot$ | $\bigcirc$ | $\bullet$ | $\odot$ | $\odot$ | vinems |  |  |
| e. Geometry course | © | ${ }^{\circ}$ | $\bigcirc$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | ${ }^{\text {vinama }}$ | e. Geometry course | © | ${ }^{\circ}$ | - | ${ }^{1}$ | ${ }^{\circ}$ |  | vinues |  |  |
| f. Alegra II course, $\begin{gathered}\text { with owithout } \\ \text { trigonometry }\end{gathered}$ | © | ${ }^{\circ}$ | $\bigcirc$ | $\odot$ | $\odot$ | $\odot$ | woss | $\begin{array}{\|l} \hline \text { f. Algebra II course, } \\ \text { with or without } \\ \text { trigonometry } \end{array}$ | © | $\oplus$ | $\bigcirc$ | $\odot$ | $\odot$ | $\odot$ | unens |  |  |
| g. Trigonometry (as a <br> separate course) | © | $\oplus$ | $\odot$ | $\oplus$ | © | - | mes | $\begin{array}{\|l\|} \hline \text { g. Trigonometry (as a } \\ \text { separate course) } \\ \hline \end{array}$ | ${ }^{\circ}$ | ${ }^{\oplus}$ | $\bigcirc$ | ${ }^{\circ}$ | ${ }^{\circ}$ | © | nuanes |  |  |
| $\substack{\text { h. Pre-calculus course } \\ \text { ansoctalled } \\ \text { antrounctory } \\ \text { analysis }}$ <br> and | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | $\odot$ | ness | h. Pre-calculus course | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | $\odot$ | mass |  |  |
| i.Integrated <br> mathematics 1 <br> (first year of a <br> multi-year course) <br> . | © | ${ }^{\circ}$ | $\odot$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | ats | analysis) <br> i.Intergated <br> mathematics 1 <br> (firtse year of a <br> multi-year course) <br> mater | © | $\oplus$ | $\odot$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | nown |  |  |
| j. <br> Integrated <br> mathematics 2 <br> (second year of a <br> multi-year course) | ${ }^{\circ}$ | $\oplus$ | $\bigcirc$ | $\odot$ | $\odot$ | © | ma | multi-year course) <br> j. Interated <br> mathematics 2 <br> (second year of a <br> multi-year course) <br> mer | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | $\odot$ | $20 \times 2$ |  |  |
|  | © | © | $\odot$ | $\oplus$ | $\oplus$ | © | 5 |  | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | $\odot$ | 20ns |  |  |
|  | $\begin{array}{c\|c} \text { I have } \\ \text { never } \\ \text { taken this } \\ \text { course. } \end{array}$ | $\left\|\begin{array}{c} \text { Itook this } \\ \text { cours in } \\ \text { or bof ore } \\ \text { Grade } \\ \text { Grat } \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \begin{array}{c} \text { t took this } \\ \text { courss in } \\ \text { Grade } 9 . \end{array} \\ \hline \end{gathered}\right.$ | $\begin{aligned} & \text { I took this } \\ & \text { course in } \\ & \text { Grade 10. } \end{aligned}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Itook this } \\ \text { course in } \\ \text { Grade 11. } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { t took this } \\ \text { course in } \\ \text { Grade 12. } \end{array}$ |  |  | $\begin{array}{\|c\|} \hline \text { Thave } \\ \text { never } \\ \text { taken hais } \\ \text { course. } \end{array}$ | $\begin{array}{\|l\|l} \hline \text { I took this } \\ \text { course is } \\ \text { of before } \\ \text { Grade e } \end{array}$ |  | $\begin{gathered} \text { I took this } \\ \text { course in } \\ \text { Grade 10. } \end{gathered}$ | $\begin{aligned} & \text { I took this } \\ & \text { course in } \\ & \text { Grade } 11 . \end{aligned}$ | $\begin{array}{\|l\|l} \text { I took this } \\ \text { coorse in } \\ \text { Grade 12. } \end{array}$ |  |  |  |
| 1. Integrated <br> mathematics 4 <br> (fourth year of a <br> multi-year course) <br> m. Probability or | ${ }^{\circ}$ | ${ }^{\bullet}$ | ${ }^{\circ}$ | ${ }^{\circ}$ | ${ }^{\circ}$ | $\odot$ | visume | 1. Integrated <br> mathematics 4 <br> (fourth year of <br> multi. <br> mear course) | course. | Grade 8. <br>  | ¢ | © | $\bigcirc$ | $\odot$ | mex |  |  |
| 年. Probability or | © | $\oplus$ | $\bigcirc$ | $\oplus$ | $\oplus$ | $\odot$ |  |  |  |  |  |  |  |  |  |  |  |
| n. Calculus course | ${ }^{\circ}$ | ${ }^{\circ}$ | $\bigcirc$ | $\odot$ | $\oplus$ | - | mes | ${ }^{\text {m. }}$ mababistics ourse | ${ }^{\text {® }}$ | ${ }^{\circ}$ | $\bigcirc$ | $\odot$ | $\oplus$ | $\bigcirc$ | ${ }^{\text {vizames }}$ |  |  |
| o. Computer programming $\mathrm{C}++$, Visual Basic etc.) | © | © | $\odot$ | $\oplus$ | $\oplus$ | $\odot$ | 2 ness |  | $\stackrel{\text { ® }}{ }$ - | ${ }^{\text {® }}$ | $\bigcirc$ | $\stackrel{\square}{\odot}$ | © | - | vinems |  |  |
| $\begin{array}{l\|} \text { p. Other mathematics } \\ \text { course (specify): } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | $\odot$ |  | $\underset{\text { cte., }}{\substack{\text { C+, Visual Basic, }}}$ |  |  |  |  |  |  |  |  |  |
| (2018 Grade 12) |  |  |  |  |  |  |  | Issue: Student factors |  |  |  |  |  |  |  |  |  |

## 2019 Operational Grade 12 Mathematics Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 2. Are you currently enrolled in or have you taken any of the following Advanced Placement $\left(\mathrm{AP}^{\oplus}\right)$ courses? Select all that apply. <br> (A) Yes, $I$ am enrolled in or have taken Advanced Placement (AP) Calculus $A B$. <br> (D) Yes, I am enrolled in or have taken Advanced Placement (AP) Calculus BC. <br> © Yes, I am enrolled in or have taken Advanced Placement (AP) Statistics. <br> (1) No, I have not taken any of the courses listed above. <br> (2018 Grade 12) | 25. Are you currently enrolled in or have you taken any of the following Advanced Placement ( $\mathrm{AP}^{(i)}$ ) courses? Select all that apply. <br> (4) Yes, 1 am enrolled in or have taken Advanced Placement (AP) Calculus AB. <br> (1) Yes, I am enrolled in or have taken Advanced Placement (AP) Calculus BC. <br> © Yes, I am enrolled in or have taken Advanced Placement (AP) Statistics. <br> (1) No, I have not taken any of the courses listed above. <br> Issue: Organization of Instruction | NC | N/A |
| 3. Are you currently enrolled in or have you taken an International Baccalaureate ${ }^{\text {(6) }}$ <br> (IB) mathematics course? <br> (1) Yes <br> (1) No <br> (2018 Grade 12) | 26. Are you currently enrolled in or have you taken an International Baccalaureate ${ }^{\text {© }}$ <br> (IB) mathematics course? Yes No <br> Issue: Organization of Instruction | NC | N/A |
| 4. Are you currently enrolled in or have you taken any online mathematics courses for high school or college credit? <br> (4) Yes <br> (1) No <br> (2018 Grade 12) | 27. Are you currently enrolled in or have you taken any online mathematics courses for high school or college credit? Yes No <br> Issue: Organization of Instruction | NC | N/A |
| 5. Was there a mathematics course that you would have liked to have taken this school year but did not take? <br> (4) Yes, but my school does not offer the course. <br> (B) Yes, but the course was full. <br> © Yes, but I did not have the necessary prerequisites. <br> (1) Yes, but my schedule was full. <br> (ब) No, there was no other course that I wanted to take. <br> (2018 Grade 12) | 28. Was there a mathematics course that you would have liked to have taken this school year but did not take? <br> (4) Yes, but my school does not offer the course. <br> (B) Yes, but the course was full. <br> © Yes, but I did not have the necessary prerequisites. <br> (1) Yes, but my schedule was full. <br> (1) No, there was no other course that I wanted to take. <br> Issue: Organization of Instruction | NC | N/A |

2019 Operational Grade 12 Mathematics Student


| 2019 Operational Grade 12 Mathematics Student |  |  |  |
| :---: | :---: | :---: | :---: |
| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 9. Are you currently taking a mathematics course? <br> (4) Yes <br> (B) No <br> (2018 Grade 12) | 29. Are you currently taking a mathematics course? <br> (B) No <br> Issue: Organization of Instruction | NC | N/A |
| 10. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (4) Never <br> (1) Once <br> - Two or three times <br> (1) Four or five times <br> (1) More than five times <br> (2018 Grade 12) | 30. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math? <br> (4) Never <br> (B) Once <br> © Two or three times <br> (D) Four or five times <br> (1) More than five times <br> Issue: Organization of Instruction | NC | N/A |
| 11. For school this year, how often do you work in pairs or small groups to talk about something that you have done in math? <br> (4) Never <br> (8) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2018 Grade 12) | N/A | D | This item was dropped to keep in line with the ADC's recommendat ion for grades 4 and 8. |
| 12. How often do you use a computer or other digital device (excluding handheld calculators) for math at school? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2018 Grade 12) | N/A | D | This item was dropped to keep in line with NCES's review of technologyuse items for grades 4 and 8. |


| 2019 Operational Grade 12 Mathematics Student |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 13. How often do you school? <br> (4) Never <br> (8) About once or <br> © About once or <br> (1) About once or <br> (1) Every day or al <br> (2018 Grade | eive help or <br> ice a year <br> ice a month <br> ice a week <br> st every day | toring with | nath outside o | school or a |  | vness | 42. How often do you re school? <br> (4) Never <br> (B) About once or tw <br> © About once or tw <br> (1) About once or tw <br> (c) Every day or alm <br> Issue: Resource | ve help or tut <br> ea year <br> a month <br> e a week <br> every day <br> for Lear | ring with ma <br> ning and | th outside of <br> I Instruc | chool or aft <br> tion |  | ${ }^{\text {nine23 }}$ | NC | N/A |
| 14. In your math class calculators? Select | s year, how of | en have you on each ro | used the follow | ing types of |  | vnesam | 31. In your math class calculators? Select | s year, how of answer choi | en have you on each row | used the follo | ing types of |  | vngasx | NC | N/A |
|  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | $\begin{aligned} & \text { Less than } \\ & \text { half of the } \\ & \text { time } \end{aligned}$ | About half of the time | More than half of the time tim | $\begin{array}{\|c\|} \hline \text { Allol or } \\ \hline \begin{array}{c} \text { al mos till of } \\ \text { the time } \end{array} \\ \hline \end{array}$ |  |  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | $\begin{gathered} \text { Less than } \\ \text { halfof the } \\ \text { time } \end{gathered}$ | About half of the time | More than half of the time | $\left\lvert\, \begin{gathered} \text { All or } \\ \text { almost oll of } \\ \text { the time } \end{gathered}\right.$ |  |  |  |
| $\begin{aligned} & \text { \|a. Basic calculator } \\ & \hline \text { b. Graphing calculator } \\ & \hline \end{aligned}$ | $\stackrel{\odot}{\circ}$ | $\stackrel{\otimes}{\Phi}$ | $\begin{aligned} & \hline-\infty \\ & \hline- \\ & \hline \end{aligned}$ | $$ | $\frac{\otimes}{\infty}$ | vinceater | a. Basic calculator <br> b. Graphing calculator | $\begin{gathered} \hline \hline \infty \\ \hline \end{gathered}$ | $$ | $\begin{aligned} & \hline \hline 6 \\ & \hline 6 \\ & \hline \end{aligned}$ | $\odot$ <br> © |  | $\begin{array}{\|l\|l\|} \hline \text { vinusese } \\ \hline \text { vinheseso } \end{array}$ |  |  |
| (2018 Grade |  | $\oplus_{\bullet}$ | $\odot$ | $\bullet_{-}^{\circ}$ | $\oplus$ | vmesaio | Issue: Resource |  |  |  | tion | $\odot$ | VH266810 |  |  |

2019 Operational Grade 12 Mathematics Student


| 2019 Operational Grade 12 Mathematics Student |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 18. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to take an online practice test? <br> (4) Never <br> (1) Once <br> © Two or three times <br> (1) Four or five times <br> (1) More than five times <br> (2018 Grade 12) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped to keep in line with NCES's review of technologyuse items for grades 4 and 8. |
| 19. How often do you use math in everyday life outside of school? <br> (4) Never <br> (8) About once or twice a year <br> © About once or twice a month <br> (D) About once or twice a week <br> (1) Every day or almost every day <br> (2018 Grade 12) |  |  |  |  |  |  | 39. How often do you use math in everyday life outside of school? <br> (4) Never <br> (1) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |
| 20. How often do you participate in each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | 41. How often do you participate in each of the following activities outside of school? Select one answer choice on each row |  |  |  |  |  |  | NC | N/A |
|  | Never | $\begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { year } \\ \hline \end{gathered}$ | $\begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { month } \end{gathered}$ |  | $\begin{gathered} \text { Every day or } \\ \text { almost } \\ \text { every day } \\ \hline \end{gathered}$ |  |  | Never | $\begin{gathered} \text { About once } \\ \text { or twice a } \\ \text { year } \end{gathered}$ | $\begin{aligned} & \text { or twice a } \\ & \text { month } \end{aligned}$ |  | $\begin{array}{\|c} \text { Every day or } \\ \text { almorys day } \\ \text { ever day } \end{array}$ |  |  |  |
|  | ${ }^{\circ}$ | $\odot$ | $\bigcirc$ | $\bigcirc$ | $\odot$ |  |  | ${ }^{\circ}$ | $\odot$ | - | $\odot$ | $\bigcirc$ |  |  |  |
| b. Progam computers | $\bigcirc$ | ${ }_{\square}$ | $\bigcirc$ | - | ${ }^{\circ}$ |  | b. Program computers | ${ }^{\circ}$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | = |  |  |
| ${ }_{\text {c. }}^{\text {c. Pay an in intument }}$ and reat muic | - | - | - | ¢ | - |  | (c.e. Play ani istrument | ¢ | $\odot$ | - | - | $\odot$ | * |  |  |
| $\begin{gathered} \text { d. Got we websites for } \\ \text { help with our math } \\ \text { homework } \end{gathered}$ | ${ }^{\circ}$ | ${ }^{\circ}$ | - | - | - |  | d. Go to websites for $\begin{gathered}\text { hel } \\ \text { hom with hour math }\end{gathered}$ homewre | - | $\odot$ | - | $\odot$ | $\odot$ |  |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Resources for Learning and Instruction |  |  |  |  |  |  |  |  |
| 21. Have you ever helped your friends with their math homework? <br> (4) Yes <br> (b) No <br> (2018 Grade 12) |  |  |  |  |  |  | 43. Have you ever helped your friends with their math homework? <br> (4) Yes <br> (1) No <br> Issue: Resources for Learning and Instruction |  |  |  |  |  |  | NC | N/A |



2019 Operational Grade 12 Mathematics Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | D/A/ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 24. How much doss each of the following statements describe a person like yout Select |  |  |  |  |  |  | 34. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | The version of the item that uses <br> "describe you" in the stem was retained for operational. The single matrix was separated into two matrices of achievement goals items (performance and mastery). In order to create indices for both performance and mastery goals based on a total of at least 4 items, VH844882 and VH845114 were added from the 2016 pilot assessment. |
|  | (Not at all <br> like me | $\begin{gathered} \text { A little bit } \\ \text { like me } \end{gathered}$ | $\begin{aligned} & \text { Somewhat } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{array}{\|c} \hline \begin{array}{c} \text { Exactly like } \\ \text { me } \end{array} \\ \hline \end{array}$ |  |  | $\begin{array}{\|c} \hline \text { Not at all } \\ \text { like me } \end{array}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Somewhat } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Exactly like } \\ \text { me } \end{array} \\ \hline \hline \end{array}$ |  |  |  |
| $\begin{aligned} & \text { a. I want othcr studdents } \\ & \text { to think } 1 \text { am good at } \\ & \text { math. } \end{aligned}$ | $\infty$ | © | - | $\oplus$ | $\odot$ | numam | a. I want other students to think I am good at math. | $\oplus$ | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | нвеня |  |  |
|  | © | $\oplus$ | ${ }^{\circ}$ | (1) | ${ }^{\circ}$ | mamos | b. I want to show others <br> that my math <br> schoolwork is easy for <br> me. | © | $\oplus$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | ${ }^{104}$ |  |  |
|  | $\omega$ | ${ }^{\circ}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | x | c. I want to look smart in <br> comparison to the <br> other studentes in my <br> math class. | $\odot$ | ${ }^{\oplus}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | ${ }^{\text {news }}$ |  |  |
| $\begin{array}{c}\text { d. I want to tear as } \\ \text { mant as poassible in } \\ \text { my math chlass. }\end{array}$ | $\oplus$ | © | ¢ | © | © | nemess | d. I want to get better grades than most other students in my math | ® | ${ }^{\circ}$ | - | ${ }^{\circ}$ | ${ }^{\odot}$ | Heasez |  |  |
| e. I want to become | * | ${ }^{\circ}$ | $\odot$ | $\oplus$ | ¢ | venes | $\underbrace{\substack{\text { sluadents in my math } \\ \text { class. }}}_{\text {chen }}$ |  |  |  |  |  | $\xrightarrow[\text { ипезıи }]{ }$ |  |  |
| f. I want to undcrstand math class. | $\infty$ | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\omega$ | veume | 35. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | Not at all like me | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me like m | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{array}{\|c} \hline \text { Exactly like } \\ \text { me } \end{array}$ |  |  |  |
| 25. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  |  | © | © | $\odot$ | © | $\odot$ | нsstr |  |  |
|  | (Not at all <br> like me | A little bit like me | Somewhat like me |  | $\begin{aligned} & \text { Exactly Iike } \\ & \text { me } \end{aligned}$ |  |  | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | ${ }^{\text {Hessic }}$ |  |  |
| a. I want other students <br> to think 1 aum good at <br> math. | © | $\oplus$ | - | © | $\oplus$ | -0e | c. I want to become <br> better in math this <br> year. | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\oplus$ | нesus |  |  |
| b.Want to show others <br> that my yath <br> showolwork is casy for <br> mes. <br> che | © | ${ }^{\circ}$ | © | $\oplus$ | ${ }^{\text {a }}$ | " |  | © | ${ }^{(1)}$ | $\odot$ | $\odot$ | $\oplus$ |  |  |  |
|  | $\infty$ | © | $\odot$ | $\oplus$ | ${ }^{\circ}$ | , |  |  |  |  |  |  |  |  |  |
| d. 1 want to learn as muth passille in my math class | $\pm$ | $\oplus$ | $\cdots$ | © | ¢ | 414 |  |  |  |  |  |  |  |  |  |
| c. I want to become <br> bectro in math this <br> cear. | © | ${ }^{\circ}$ | © | ${ }^{\circ}$ | ${ }^{\circ}$ |  |  |  |  |  |  |  |  |  |  |
| c. I want to understand <br> asmuth <br> masth class. <br> man in my | ${ }^{\circ}$ | © | $\odot$ | © | © | wz |  |  |  |  |  |  |  |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Student fa | ctors |  |  |  |  |  |  |  |

2019 Operational Grade 12 Mathematics Student


2019 Operational Grade 12 Mathematics Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 29. How often do you use a computer, tablet, smartphone, or gaming console outside of school to play popular games that involve math? <br> (4) Never <br> (B) About once or twice a year <br> © About once or twice a month <br> (1) About once or twice a week <br> (1) Every day or almost every day <br> (2018 Grade 12) | N/A | D | This item was dropped to keep in line with NCES's review of technologyuse items for grades 4 and 8. |

2019 Operational Grade 12 Mathematics Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 31. Thinking about math, do you think that you would be able to do each of the followingi Select one answer choice on each row. |  |  |  |  |  |  | 37. Thinking about math, do you think that you would be able to do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | R | Previous subitem "d" was dropped. |
|  | $\begin{array}{\|c\|} \hline \text { I definitely } \\ \operatorname{can}^{\prime} t \end{array}$ | $\underbrace{\text { I probably }}$ cant | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{array}{\|c} \hline \text { I definitely } \\ \text { can } \end{array}$ |  |  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\underset{\text { can }}{\text { I probably }}$ | $\begin{aligned} & \text { I definitely } \\ & \text { can } \end{aligned}$ |  |  |  |
|  | © | $\oplus$ | - | $\oplus$ | $\oplus$ |  | a. Decide if your <br> classmate's math work <br> is correct | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | Hesm |  |  |
|  | ¢ | ${ }^{\circ}$ | - | $\oplus$ | ¢ |  | b.Cive an example to <br> show that a math <br> statement is false | © | © | $\odot$ | $\odot$ | $\odot$ |  |  |  |
|  | ¢ | ${ }^{\circ}$ | - | $\oplus$ | © |  | statement is false <br> c.Explain to your <br> clasmate how you <br> solved a math problem | $\odot$ | $\oplus$ | $\odot$ | $\odot$ | $\odot$ |  |  |  |
| d. Use correct <br> mathematical words <br> and symbols tw <br> commumiatate ideas <br> about math | ${ }^{\circ}$ | $\oplus$ | © | © | ${ }^{\oplus}$ |  | solved a math problem <br> d. Use correct <br> mathematical words <br> and symbols when <br> showing your work <br> c | ${ }^{\circ}$ | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\odot$ | ${ }^{\text {rutesem }}$ |  |  |
| e. Use correctmathematical words <br> and symbols when <br> showimb your work | $\omega$ | $\oplus$ | © | ${ }^{\circ}$ | ${ }^{\circ}$ |  | $\begin{gathered} \text { e. Use definitions of } \\ \text { geocmertic shapes to } \\ \text { support an argument } \end{gathered}$ | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | ${ }^{\circ}$ | $n_{01}$ |  |  |
| $\begin{gathered} \text { f. Uso definitions of } \\ \text { geometric shapes to } \\ \text { support an argument } \end{gathered}$ | $\bullet$ | $\oplus$ | - | © | Ф |  |  |  |  |  |  |  |  |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Student factors |  |  |  |  |  |  |  |  |
| 32. Have you ever participated in a math study group outside of school? <br> (4) Yes <br> (B) No <br> (2018 Grade 12) |  |  |  |  |  |  | 45. Have you ever participated in a math study group outside of school? <br> (4) Yes <br> (B) No <br> Issue: Student factors |  |  |  |  |  |  | NC | N/A |
| 33. Over the past seven days, how many days have you participated in a math study group outside of school? Enter the number of days. $\square$ <br> (2018 Grade 12) |  |  |  |  |  |  | 46. Over the past seven days, how many days have you participated in a math study group outside of school? Enter the number of days. $\square$ <br> Issue: Student factors |  |  |  |  |  |  | NC | N/A |
| 34. Have you ever participated in a math study group at school? <br> (4) Yes <br> (B) No <br> (2018 Grade 12) |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped based on the ADC's recommendat ion for grades 4 and 8. |
| 35. Over the past seven days, how many days have you participated in a math study group at school? Enter the number of days.$\square$ |  |  |  |  |  |  | N/A |  |  |  |  |  |  | D | This item was dropped based on the ADC's |

2019 Operational Grade 12 Mathematics Student

| Previous item | 2019 item | D/A/ <br> R/NC + | Rationale |
| :--- | :--- | :--- | :--- |
| (2018 Grade 12) |  | recommendat <br> ion for grades <br> 4 |  |

## Appendix K-1al: Operational Grade 12 Mathematics

24. Which courses have you taken from eighth grade to the present? If you have taken a course more than once, give the most recent year you took it. INCLUDE courses taken in summer school, but DO NOT INCLUDE topics that were only taught as part of a longer course (such as trigonometry taught in drafting class or computer programming taught in Algebra II). Select one answer choice on each row.

|  | I have never taken this course. | I took this course in or before Grade 8. | I took this course in Grade 9. | I took this course in Grade 10. | I took this course in Grade 11. | I took this course in Grade 12. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Basic or general mathematics course | (4) | (8) | © | (1) | (e) | © | vH240820 |
| b. Tech-prep mathematics, business mathematics, consumer mathematics, or other applied mathematics course | (4) | (B) | © | (1) | (e) | © | vH240844 |
| $\begin{array}{\|ll\|} \hline \text { c. Introduction to } \\ \text { algebra or } \\ \text { pre-algebra course } \\ \hline \end{array}$ | (4) | (B) | © | (1) | © | © | vH240822 |
| d. Algebra I course | (1) | (8) | © | (1) | (1) | © | VH240823 |
| e. Geometry course | (4) | (8) | © | (1) | © | (1) | VH240824 |
| f. Algebra II course, with or without trigonometry | (1) | (B) | © | (1) | (1) | © | VH240825 |
| g. Trigonometry (as a separate course) | (4) | (B) | © | (1) | (1) | (1) | VH240826 |
| h. Pre-calculus course (also called introductory analysis) | (1) | (B) | © | (1) | (1) | (1) | vH240833 |
| i. Integrated mathematics 1 (first year of a multi-year course) | (4) | (B) | © | (1) | (c) | © | vH240841 |
| j. Integrated mathematics 2 (second year of a multi-year course) | (4) | (8) | © | (1) | (e) | © | vH240842 |
| k. Integrated mathematics 3 (third year of a multi-year course) | (4) | (8) | © | (1) | © | © | vH240843 |


|  | I have never taken this course. | I took this course in or before Grade 8. | I took this course in Grade 9. | I took this course in Grade 10. | I took this course in Grade 11. | I took this course in Grade 12. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Integrated mathematics 4 (fourth year of a multi-year course) | (4) | (8) | © | (1) | (®) | (1) | vH240821 |
| m . Probability or statistics course | (4) | (B) | © | (1) | © | (1) | vH240836 |
| n. Calculus course | (4) | (B) | $\bigcirc$ | (1) | © | © | vH240829 |
| o. Computer programming course (such as C++, Visual Basic, etc.) | (4) | (8) | © | (1) | © | (1) | vH240835 |

VH250444

25. Are you currently enrolled in or have you taken any of the following Advanced Placement (AP ${ }^{\circledR}$ ) courses? Select all that apply.
(A) Yes, I am enrolled in or have taken Advanced Placement (AP) Calculus AB.
(B) Yes, I am enrolled in or have taken Advanced Placement (AP) Calculus BC.
© Yes, I am enrolled in or have taken Advanced Placement (AP) Statistics.
(D) No, I have not taken any of the courses listed above.
26. Are you currently enrolled in or have you taken an International Baccalaureate ${ }^{\circledR}$
(IB) mathematics course?
(4) Yes
(B) No
27. Are you currently enrolled in or have you taken any online mathematics courses for high school or college credit?
(A) Yes
(B) No
28. Was there a mathematics course that you would have liked to have taken this school year but did not take?
(A) Yes, but my school does not offer the course.
(B) Yes, but the course was full.
© Yes, but I did not have the necessary prerequisites.
(D) Yes, but my schedule was full.
© No, there was no other course that I wanted to take.
29. Are you currently taking a mathematics course?
(4) Yes
(B) No
30. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math?
(4) Never
(B) Once
© Two or three times
(D) Four or five times
(E) More than five times
31. In your math class this year, how often have you used the following types of calculators? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Basic calculator | (4) | (8) | © | (1) | (®) | vH266809 |
| b. Graphing calculator | (4) | (B) | © | (1) | (1) | vH266810 |

32. This school year, how often did the following things happen in your math class? Select one answer choice on each row.

|  | Never or hardly ever | Less than half of the time | About half of the time | More than half of the time | All or almost all of the time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. My teacher used computers or other digital devices to show us how to work through math problems. | (4) | (B) | © | (1) | (E) | VH267416 |
| b. I used the Internet for my math work. | (4) | (B) | © | (1) | (c) | VH267417 |
| c. My teacher used computers or other digital devices when teaching math to my class. | (4) | (B) | © | (1) | (c) | VH588077 |
| d. My teacher required us to use computers or other digital devices to complete math assignments. | (4) | (B) | © | (1) | (®) | VH267419 |

33. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to look online for resources for help with your math assignments?
(4) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(E) Every day or almost every day
34. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at math. | (1) | (B) | © | (1) | (1) | VH844871 |
| b. I want to show others that my math schoolwork is easy for me. | (4) | (B) | © | (1) | (E) | VH844872 |
| c. I want to look smart in comparison to the other students in my math class. | (4) | (B) | $\bigcirc$ | (1) | (®) | VH844873 |
| d. I want to get better grades than most other students in my math class. | (4) | (B) | © | (1) | (c) | VH844882 |

35. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my math class. | (4) | (B) | © | (1) | (1) | VH845117 |
| b. I want to master a lot of new skills in my math class. | (4) | (B) | © | (1) | (c) | VH845114 |
| c. I want to become better in math this year. | (4) | ® | $\bigcirc$ | (1) | © | VH845115 |
| d. I want to understand as much as I can in my math class. | (4) | (B) | © | (1) | © | VH845118 |

36. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Create an expression that represents the average number of miles you run in a week if you run 100 miles in $w$ weeks | (4) | (B) | © | (1) | (c) | vH460383 |
| b. Determine a 20 percent tip of a 67-dollar restaurant dinner bill | (4) | © | © | (1) | (E) | vH267679 |
| c. Describe the properties shared by every isosceles right triangle | (4) | (B) | $\bigcirc$ | (1) | (1) | vH267681 |

37. Thinking about math, do you think that you would be able to do each of the following? Select one answer choice on each row.

|  | $\begin{aligned} & \text { I definitely } \\ & \text { can't } \end{aligned}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\underset{\text { can }}{\substack{\text { probably }}}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Decide if your classmate's math work is correct | (1) | (8) | © | (1) | (c) | vH460398 |
| b. Give an example to show that a math statement is false | (1) | (B) | © | (1) | (1) | vH460399 |
| c. Explain to your classmate how you solved a math problem | (4) | (B) | © | (1) | (e) | vH460910 |
| d. Use correct mathematical words and symbols when showing your work | (4) | (B) | © | (1) | (c) | vH460902 |
| e. Use definitions of geometric shapes to support an argument | (4) | (8) | © | (1) | © | vH460912 |

38. How much do you enjoy each of the following types of math activities? Select one answer choice on each row.

|  | Enjoy not at all | Enjoy a little bit | Enjoy somewhat | Enjoy quite a bit | Enjoy a lot |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Solving equations or simplifying expressions | (4) | (B) | $\bigcirc$ | (1) | (1) | VH860653 |
| b. Constructing and building different types of graphs (for example, bar graph, line graph, or box and whisker plots) | (4) | (B) | $\bigcirc$ | (1) | ( ${ }^{\text {c }}$ | VH860651 |
| c. Working with geometric figures like rectangles and squares | (4) | (B) | $\bigcirc$ | (1) | (1) | vH860652 |

39. How often do you use math in everyday life outside of school?
(A) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(®) Every day or almost every day
40. How often do you play digital games (for example, apps, video games, or computer games) outside of school that involve math?
(4) Never
(B) About once or twice a year
© About once or twice a month
(1) About once or twice a week
(E) Every day or almost every day
41. How often do you participate in each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Talk about math problems with your friends | (4) | (B) | © | (1) | (1) | VH268946 |
| b. Program computers | (4) | (B) | © | (1) | (®) | vH268949 |
| c. Play an instrument and read music | (4) | (B) | © | (1) | (c) | vH268961 |
| d. Go to websites for help with your math homework | (4) | (B) | © | (1) | (1) | VH268962 |

42. How often do you receive help or tutoring with math outside of school or after school?
(A) Never
(B) About once or twice a year
© About once or twice a month
(D) About once or twice a week
(®) Every day or almost every day
43. Have you ever helped your friends with their math homework?
(A) Yes
(B) No
44. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days.

45. Have you ever participated in a math study group outside of school?
(A) Yes
(B) No
46. Over the past seven days, how many days have you participated in a math study group outside of school? Enter the number of days.

47. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I enjoy doing math. | (4) | (B) | © | (1) | (1) | vH731853 |
| b. I look forward to my math class. | (4) | (B) | © | (1) | (E) | vH731854 |
| c. I am interested in the things I learn in math. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH731858 |
| d. I think making an effort in math is worthwhile. | (4) | (B) | © | (1) | (E) | vH731855 |
| e. I think math will help me even when I am not in school. | (4) | (B) | © | (1) | (E) | vH731860 |
| f. I think it is important to do well in math. | (4) | (B) | © | (1) | (E) | vH731857 |
| g. I take mathematics because it will help me in the future. | (4) | (B) | © | (1) | © | VH731859 |
| h. I take mathematics to meet my high school graduation requirements. | (4) | (B) | © | (1) | (®) | vH731856 |

Appendix K-1am: Summary of Changes Operational Grade 4 Science

## 2019 Operational Grade 4 Science Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 1. In your science class this year, how often have you learned about living things (for example, plants, animals, or bacteria)? <br> (4) Never or hardly ever <br> (1) Once in a while <br> (6) Sometimes <br> (1) Often <br> (D) Very otten <br> (2018 Grade 4) | 17. In your science class this year, how often have you learned about living things for example, plants, animals, or bacteria)? <br> (4) Never or hardly ever <br> (1) Once in a while <br> - Sometimes <br> (1) Often <br> (1) Very often <br> Issue: Organization of Instruction | NC | N/A |
| 2. In your science class this year, how often have you learned about electricity (for example. circuits batteries, or light bulbs)? <br> (1) Never or hardly ever <br> (1) Once in a while <br> Q Sometimes <br> (1) Often <br> (1) Very often <br> (2018 Grade 4) | 18. In your science class this year, how often have you learned about electricity (for example, circuits, batterics, or light bulbs)? <br> (1) Never or hardly ever <br> (D) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Very often <br> Issue: Organization of Instruction | NC | N/A |
| 3. In your science class this year, how often have you learned about chemicals (for example, vinegar, baking soda, or hydrogen peroxide)? <br> (4) Never or hardly ever <br> (b) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Very often <br> (2018 Grade 4) | 19. In your science class this year, how often have you learned about chemicals (for example, vinegar, baking soda, or hydrogen peroxide)? <br> (2) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Very often <br> Issue: Organization of Instruction | NC | N/A |
| 4. In your science class this year, how often have you learned about rocks or minerals (for example, diamond, iron, or lava rock)? <br> (2) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Very often <br> (2018 Grade 4) | 20. In your science class this year. how often have you learned about rocks or minerals (for example, diamond, iron, or lava rock)? <br> (1) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (D) Very often <br> Issue: Organization of Instruction | NC | N/A |

[^17]2019 Operational Grade 4 Science Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 5. In your science class this year, how often have you done science activities using scientific tools (for example, microscopes, thermometers, beakers, or weighing scales)? <br> (A) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Always or almost always <br> (2018 Grade 4) | 21. In your science class this year, how often have you done science activities using scientific tools (for example, microscopes, thermometers, beakers, or weighing scales)? <br> (4) Never or hardly ever <br> (1) Once in a while <br> (c) Sometimes <br> (2) Often <br> (1) Always or almost always <br> Issue: Organization of Instruction | NC | N/A |
| 6. In your science class this year, how often have you read from a science textbook (print or digital)? <br> (D) Never or hardly ever <br> © Once in a while <br> © Sometimes <br> (1) Often <br> (1) Always or almost always <br> (2018 Grade 4) | 22. In your science class this year. how often have you read from a science textbook (print or digital)? <br> (4) Never or hardly ever <br> (1) Once in a while <br> (Q) Sometimes <br> (1) Often <br> (1) Always or almost always <br> Issue: Organization of Instruction | NC | N/A |
| 7. In your science class this year, how often have you learned about science topics on the Internet? <br> (4) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Otten <br> (1) Always or almost always <br> (2018 Grade 4) | 23. In your science class this year, how often have you learned about science topics on the Internet? <br> (1) Never or hardly ever <br> (1) Once in a while <br> (a) Sometimes <br> (1) Often <br> (1) Always or almost always <br> Issue: Organization of Instruction | NC | N/A |
| 8. In your science class this year, how often have you watched a short video clip. movie. or video about science topics? <br> (2) Never or hardly ever <br> © Once in a while <br> © Sometimes <br> (2) Often <br> (๖) Always or almost always <br> (2018 Grade 4) | 24. In your science class this year, how often have you watched a short video clip. movie, or video about science topics? <br> (b) Never or hardly ever <br> (D) Once in a while <br> - Sometimes <br> (1) Often <br> (1) Always or almost always <br> Issue: Organization of Instruction | NC | N/A |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 4 Science Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 9. In your science class this year, how often have you been asked to write about science topics (for example, a science journal, lab report, or essay)? <br> (8) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Always or almost always <br> (2018 Grade 4) | 25. In your science class this year, how often have you been asked to write about science topics (for example, a science journal. lab report, or essay)? <br> (6) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (D) Always or almost always <br> Issue: Organization of Instruction | NC | N/A |
| 10. In this school year, how often have you understood what the teacher talks about in science class? <br> (4) Never or hardly ever <br> (1) Once in a while <br> (0) Sometimes <br> (1) Often <br> (1) Always or almost always <br> (2018 Grade 4) | N/A | D | Due to overlap with new content and to keep student burden low, this item was dropped. |
| 11. In this school year, how often have you done well on your science tests? <br> (4) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Always or almost always <br> (2018 Grade 4) | N/A | D | Due to overlap with new content and to keep student burden low, this item was dropped. |
| 12. In this school year, how often have you done well on your science assignments (for example, projects, homework, or worksheets)? <br> (D) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Always or almost always <br> (2018 Grade 4) | N/A | D | Due to overlap with new content and to keep student burden low, this item was dropped. |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 4 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13. Thinking about science, do you think that you would be able to do each of the following activities? Select one answer choice on each row. |  |  |  |  |  |  | 27. Thinking about science, do you think that you would be able to do each of the following activities? Select one answer choice on each row. |  |  |  |  |  |  | R | Due to a lack of response variability and to keep student burden low, sub-item g was dropped. |
|  | $\begin{array}{\|l} \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} 1 \text { probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{aligned} & \text { I probably } \\ & \text { can } \end{aligned}$ | $\begin{array}{\|c} \hline \text { I definitely } \\ \text { can } \end{array}$ |  |  | $\begin{array}{\|c} 1 \text { definitely } \\ \text { can't } \end{array}$ | I probably can' | Maybe | $\underset{\text { can }}{\text { I probably }}$ |  |  |  |  |
| $\begin{array}{\|l\|} \hline \text { 2. Describe dificrent } \\ \text { ways st heat or cool } \\ \text { water } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | $\cdots$ | $\begin{aligned} & \text { a. Describe different } \\ & \text { ways to heat or cool } \\ & \text { water } \end{aligned}$ | $\oplus$ | (1) | $\odot$ | © | © | nsames |  |  |
| $\begin{aligned} & \text { b. Describe how the } \\ & \begin{array}{l} \text { legnt of vevirating } \\ \text { string aftect the } \\ \text { sound it makes } \end{array} \\ & \hline \end{aligned}$ | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | © | nex | b. Describe how the length of wibrating string affects the sound it makes | © | $\oplus$ | © | $\oplus$ | Ф | namo |  |  |
|  | (1) | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | \% | c. Design an expcriment to show how sunlight affects the growth of a plant | © | $\oplus$ | $\odot$ | © | $\oplus$ | wam |  |  |
| $\begin{aligned} & \text { d. Use xamples to show } \\ & \text { how one living thing } \\ & \text { has helped another to } \\ & \text { survive } \\ & \hline \text { c. Describe what would } \end{aligned}$ | ${ }^{\circ}$ | ¢ | $\odot$ | © | ${ }^{\circ}$ | ws | $\begin{aligned} & \text { d. Use examples to show } \\ & \text { how one civing thing } \\ & \text { has helped another to } \\ & \text { survive } \end{aligned}$ | © | ${ }^{(1)}$ | $\bigcirc$ | $\omega$ | $\oplus$ | mams |  |  |
| c. Describe what would <br> happen to the number <br> of trogs ata pond if all <br> the insect were <br> removed from the <br> pond | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | \% | e. Describe what would happen to the number of frogs at a pond if all the insects were removed from the | (1) | (1) | $\odot$ | $\odot$ | $\oplus$ | mon |  |  |
|  | © | © | $\cdots$ | © | $\oplus$ | $\pm$ | pond <br> f. Decide which tool to <br> usc if you wane to <br> measure wind speed | © | $\oplus$ | $\odot$ | $\bullet$ | ¢ |  |  |  |
| 8. Describe why the weather in the summer is diferent than in the winter | © | © | $\odot$ | $\oplus$ | $\oplus$ | nums |  |  |  |  |  |  |  |  |  |
| (2018 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

2019 Operational Grade 4 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | 28. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | This item was divided into two items to reduce scrolling and align presentation with similar items in other subjects. Additionally, the wording of sub-items $d$ and $h$ (now sub-item din the second matrix) have been revised, with the word "science" moved to before the word "class". |
|  | $\begin{gathered} \text { Not at all } \\ \text { like me } \end{gathered}$ | A little bit | Somewhat like me like me | Quite a bit | Exactly |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |  |  |
| a. I want other students to think 1 lam good at science. | * | © | $\odot$ | © | $\oplus$ | - | $\begin{aligned} & \text { a. I want othcr students } \\ & \text { tothink I am good } \\ & \text { at science. } \end{aligned}$ | (6) | © | $\bigcirc$ | © | $\bigcirc$ | $\infty$ |  |  |
| b. I want to show othhers that science shoolwork is casy for me. | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | aseas | b. I want to show others that science schoolwork is easy for | ${ }^{\circ}$ | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\oplus}$ | mom |  |  |
| c. I want to look smart <br> in comparison to the <br> other students in my <br> science class. | ${ }^{\circ}$ | ${ }^{(1)}$ | - | © | ${ }^{\circ}$ | wsem | c. I want to look smart in comparison to the other students in my science class. | © | ¢ | $\odot$ | ¢ | © | mos |  |  |
| science grades than most other students in my class. $\qquad$ | ${ }^{\circ}$ | ${ }^{\circ}$ | $\odot$ | © | ${ }^{\oplus}$ | $\cdots$ | d. I want to get better grades than most other sudents in my science class. | © | ${ }^{1}$ | $\odot$ | $\cdots$ | $\oplus$ |  |  |  |
| c. I want to lcarn as <br> much as possible in my science class. | © | $\oplus$ | $\odot$ | $\pm$ | $\oplus$ |  | 29. How much does each | he follo | statem | describe | Select one |  | neeses |  |  |
| f. I want to become betere in science this year. | © | © | $\odot$ | $\oplus$ | © | vomem |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { g. I want to understand } \\ & \text { as much as t can in } \\ & \text { my science class. } \\ & \hline \end{aligned}$ | © | $\oplus$ | $\odot$ | © | $\oplus$ |  | 2. I want to learn as much as possiblc in | like me | like me | like me | like me |  |  |  |  |
| $\begin{aligned} & \text { h. I want to master a fot } \\ & \text { of new science skills } \\ & \text { in myy class. } \end{aligned}$ | © | Ф | - | $\oplus$ | © |  | my science class. <br> b. I watt to become <br> better in seience <br> this year. <br> I | © | © | $\odot$ | $\oplus$ | ¢ | \% |  |  |
| (2018 Grade 4) |  |  |  |  |  |  | c.I want to undcrstand <br> as much as can in <br> my science class. <br> . | © | © | $\bigcirc$ | $\oplus$ | $\Phi$ | som |  |  |
|  |  |  |  |  |  |  | $\begin{array}{\|l} \text { d. I want to master a lot } \\ \text { of new skils in an } \\ \text { science class. } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ |  |  |  |
|  |  |  |  |  |  |  | Issue: Student Fa | tors |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 4 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15. In this school year, how often have you done each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | 30. In this school year. how often have you done each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | R | Due to a lack of response variability and to keep student burden low, sub-item b was dropped. Additionally, the verbs at the beginning of the original sub-items a and $c$ have been changed to past tense for consistency with the item stem. |
|  | Never | $\begin{array}{\|c\|c\|} \hline \text { About once } \\ \text { or twice a } \\ \text { year } \end{array}$ | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \hline \text { or wive a } \\ \text { month } \end{array}$ | About once or twice a week | $\begin{array}{\|c} \text { Every day or } \\ \text { allonost } \\ \text { every day } \end{array}$ |  |  | Never | $\begin{array}{\|c} \text { About once } \\ \text { or rwice a } \\ \text { year } \end{array}$ | About once or twice a month | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { or rwice a } \\ \text { week } \end{array}$ | $\left.\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { almost } \\ \text { every day } \end{array} \right\rvert\,$ |  |  |  |
|  | © | $\oplus$ | © | $\oplus$ | $\oplus$ | mano | a. Worked on sience-related proiects (for example, growing plants from seeds, or building simple rockets) | © | ${ }^{(1)}$ | $\bigcirc$ | $\oplus$ | ¢ | sun |  |  |
| b. Write or blog about | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | \% | b. Used scientificictools |  |  |  |  |  |  |  |  |
| c. Use scientific tools (for example, microscopes, thermometers. beakeres, or weighing scales) dice | © | $\oplus$ | © | $\oplus$ | © | $\cdots$ |  | © | © | $\odot$ | $\oplus$ | $\oplus$ | 102 |  |  |
| d. Read about science magazines (print or digital) | © | $\oplus$ | $\bigcirc$ | $\odot$ | ${ }^{\circ}$ | nuemm | topics in books or <br> magazines (print or <br> digital) <br> d. Attended clubs or | © | $\oplus$ | $\odot$ | $\oplus$ | ¢ | sev |  |  |
| e. Attend clubs or <br> programs that include <br> science or nginecring <br> activitics (for cexample. <br> chemistry club. <br> robotics club. or <br> coding programs) | © | $\oplus$ | $\bigcirc$ | ${ }^{\circ}$ | © | wn | programs that include <br> science on cnginecring <br> atctivities ffor cxample <br> chemist club. <br> robotites club, or <br> coding programs) | (1) | ${ }^{(1)}$ | $\odot$ | $\oplus$ | $\Phi$ | ns |  |  |
| (2018 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 16. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | 31. How much does each of the following starements describe you! Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{gathered} \text { Not at all } \\ \text { like me } \end{gathered}$ | $\begin{array}{\|l\|} \hline \text { A little bit } \\ \text { like me } \end{array}$ | $\begin{gathered} \text { Somewhat } \\ \text { like me } \end{gathered}$ | Quite a bit like me | $\begin{array}{\|c} \text { Exactly like } \\ \text { me } \end{array}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like <br> me |  |  |  |
| a. Ienoy science | $\bullet$ | ${ }^{\circ}$ | - | ${ }^{\circ}$ | © | nuen, | a. I enjoy science activities. | ๑ | © | $\odot$ | $\oplus$ | © | Пwesw |  |  |
| b. I look forward to my science class. | - | $\oplus$ | © | © | $\oplus$ | whate | b. I look forward to my science class. | © | © | - | © | $\oplus$ | पnesis |  |  |
| c. I am interested in the things learn in science class. | © | © | $\bigcirc$ | © | © | \%2 | c. Tam interested in the thing 1 leam in science class. | (1) | © | $\bullet$ | $\pm$ | © |  |  |  |
| $\begin{aligned} & \text { d. It think making an } \\ & \text { effort in science class } \\ & \text { is worthwhile. } \end{aligned}$ | © | $\oplus$ | © | $\oplus$ | $\oplus$ | mame | d. I think making an <br> effort in science class effort in sciencis worthwhile. | © | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | nsers |  |  |
| $\begin{aligned} & \text { c. Ithink science will } \\ & \text { help mee even when } 1 \\ & \text { am not in school. } \\ & \hline \end{aligned}$ | (1) | $\cdots$ | ¢ | $\oplus$ | $\oplus$ | wheme | e. I think science will help me even when I am not in school. | © | ${ }^{(1)}$ | $\odot$ | $\odot$ | $\oplus$ | now |  |  |
| $\begin{array}{\|l} \hline \text { f. } \begin{array}{l} \text { I think it is important } \\ \text { to do well on science } \\ \text { assignments. } \end{array} \\ \hline \end{array}$ | © | © | $\bigcirc$ | $\Phi$ | ${ }^{\circ}$ | Ss | $\begin{array}{\|l\|} \hline \text { f. I think it is important } \\ \text { to do well on science } \\ \text { assignments. } \end{array}$ | (1) | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | Hsens |  |  |
| (2018 Grade 4) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 17. In this school year. h class? Select one an | w often have ver choice on | yu done the ach row. | ollowing activ | ss in your | cience | memm | 26. In this school year. h | woften have y | you donc the ch row. | ollowing activi | es in your | cience | numm | NC | N/A |
|  | Never or hardly ever | Once in a while | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \text { allosot } \\ \text { always } \end{gathered}$ |  |  | $\begin{gathered} \text { Neyer or } \\ \text { hardly ever } \end{gathered}$ | Once in a while | Sometimes | Often | $\begin{aligned} & \text { Always or } \\ & \text { almost } \\ & \text { always } \end{aligned}$ |  |  |  |
| $\begin{aligned} & \text { a. Made a drawing that } \\ & \text { explains why or how } \\ & \text { something happens } \\ & \hline \end{aligned}$ | © | © | $\odot$ | © | © | munne | a. Made a drawing thatexplains wwy or how <br> something happenss. | © | ${ }^{(1)}$ | $\odot$ | $\oplus$ | $\oplus$ | \%mos |  |  |
| $\begin{array}{\|l\|} \hline \text { b. Used a science } \\ \text { experimenter to answer } \\ \text { a question } \end{array}$ | © | © | $\odot$ | $\oplus$ | $\oplus$ | mer | b. Used a science experiment to answer a question | © | $\Phi$ | © | $\oplus$ | $\oplus$ | nusora |  |  |
| $\begin{aligned} & \text { c. Put information you } \\ & \text { collected into a table } \\ & \text { or graph } \end{aligned}$ | © | $\oplus$ | $\cdots$ | © | $\oplus$ | menne | c. Put information you collected into a table or graph | © | $\oplus$ | $\odot$ | © | ${ }^{\text {® }}$ | щ𠃊ง |  |  |
| $\begin{array}{\|l\|} \hline \text { d. Used evidence to } \\ \text { explain why } \\ \text { somecthing happens } \\ \hline \end{array}$ | $\oplus$ | ${ }^{(1)}$ | $\odot$ | $\oplus$ | © | numue | d. Used evidence to explain why something happens | © | $\oplus$ | $\odot$ | $\cdots$ | $\Phi$ |  |  |  |
| $\begin{array}{\|l} \hline \text { e. Foumd news articles } \\ \text { aboutscience on the } \\ \text { Internet } \end{array}$ | (1) | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | nomom | $\begin{aligned} & \text { s. Found news articles } \\ & \text { about science on the } \\ & \text { anternet } \end{aligned}$ | © | ${ }^{(1)}$ | $\bigcirc$ | $\oplus$ | $\oplus$ |  |  |  |
| (2018 Grade 4) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 18. How often do you talk about things you have learned in science class with someone in your family? <br> (4) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Very often <br> (2018 Grade 4) |  |  |  |  |  |  | 32. How often do you talk about things you have learned in science class with someonc in your family? |  |  |  |  |  |  | NC | N/A |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | (1) Never or hardly ev |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | (1) Once in a while |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | - Sometimes |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | (1) Often |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | (1) Very often |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | Issue: Student Fa | ctors |  |  |  |  |  |  |  |

[^18]
## Appendix K-1an: Operational Grade 4 Science

17. In your science class this year, how often have you learned about living things (for example, plants, animals, or bacteria)?
(4) Never or hardly ever
(B) Once in a while
© Sometimes
(D) Often
(E) Very often
18. In your science class this year, how often have you learned about electricity (for example, circuits, batteries, or light bulbs)?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(D) Often
(E) Very often
19. In your science class this year, how often have you learned about chemicals (for example, vinegar, baking soda, or hydrogen peroxide)?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(D) Often
(E) Very often
20. In your science class this year, how often have you learned about rocks or minerals (for example, diamond, iron, or lava rock)?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(1) Often
(E) Very often
21. In your science class this year, how often have you done science activities using scientific tools (for example, microscopes, thermometers, beakers, or weighing scales)?
(A) Never or hardly ever
(B) Once in a while
(c) Sometimes
(1) Often
© Always or almost always
22. In your science class this year, how often have you read from a science textbook (print or digital)?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(1) Often
(E) Always or almost always
23. In your science class this year, how often have you learned about science topics on the Internet?
(A) Never or hardly ever
(B) Once in a while
(c) Sometimes
(1) Often
(E) Always or almost always
24. In your science class this year, how often have you watched a short video clip, movie, or video about science topics?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(1) Often
(E) Always or almost always
25. In your science class this year, how often have you been asked to write about science topics (for example, a science journal, lab report, or essay)?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(D) Often
(E) Always or almost always
26. In this school year, how often have you done the following activities in your science class? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Made a drawing that explains why or how something happens | (4) | (B) | $\bigcirc$ | (1) | (1) | vH639156 |
| b. Used a science experiment to answer a question | (4) | (8) | $\bigcirc$ | (1) | © | vH639162 |
| c. Put information you collected into a table or graph | (4) | (B) | © | (1) | © | VH639164 |
| d. Used evidence to explain why something happens | (4) | (B) | © | (1) | © | VH639166 |
| e. Found news articles about science on the Internet | (4) | (B) | © | (1) | © | vH639169 |

27. Thinking about science, do you think that you would be able to do each of the following activities? Select one answer choice on each row.

|  | $\begin{aligned} & \text { I definitely } \\ & \text { can't } \end{aligned}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{aligned} & \text { I probably } \\ & \text { can } \end{aligned}$ | $\underset{\text { can }}{\text { I definitely }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Describe different ways to heat or cool water | (1) | (B) | © | (1) | (E) | VH638868 |
| b. Describe how the length of a vibrating string affects the sound it makes | (4) | (B) | © | (1) | (1) | VH638870 |
| c. Design an experiment to show how sunlight affects the growth of a plant | (4) | (B) | © | (1) | (1) | VH638872 |
| d. Use examples to show how one living thing has helped another to survive | (4) | (B) | $\bigcirc$ | (1) | (1) | vH688875 |
| e. Describe what would happen to the number of frogs at a pond if all the insects were removed from the pond | (4) | (B) | $\bigcirc$ | (1) | (1) | vH638876 |
| f. Decide which tool to use if you want to measure wind speed | (4) | (B) | © | (1) | © | VH638883 |

28. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at science. | (1) | (B) | © | (1) | (1) | VH63980 |
| b. I want to show others that science schoolwork is easy for me. | (4) | (B) | © | (1) | (1) | vH63082 |
| c. I want to look smart in comparison to the other students in my science class. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH639084 |
| d. I want to get better grades than most other students in my science class. | (4) | (B) | © | (1) | (1) | vH860366 |

29. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my science class. | (4) | (B) | © | (1) | (1) | vH639896 |
| b. I want to become better in science this year. | (4) | (B) | © | (1) | (c) | vH639087 |
| c. I want to understand as much as I can in my science class. | (1) | (B) | © | (1) | (1) | vH63989 |
| d. I want to master a lot of new skills in my science class. | (1) | (B) | © | (1) | (1) | VH860369 |

30. In this school year, how often have you done each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Worked on science-related projects (for example, making a volcano, growing plants from seeds, or building simple rockets) | (4) | (B) | © | (1) | (1) | VH859162 |
| b. Used scientific tools (for example, microscopes, thermometers, beakers, or weighing scales) | (4) | (B) | $\bigcirc$ | (1) | (1) | VH891927 |
| c. Read about science topics in books or magazines (print or digital) | (4) | (B) | © | (1) | (1) | VH638987 |
| d. Attended clubs or programs that include science or engineering activities (for example chemistry club, robotics club, or coding programs) | (4) | (B) | © | (1) | (1) | vH893268 |

31. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I enjoy science activities. | (4) | (B) | © | (1) | ( ${ }^{\text {c }}$ | vH639117 |
| b. I look forward to my science class. | (1) | (B) | © | (1) | (®) | vH639120 |
| c. I am interested in the things I learn in science class. | (4) | (B) | © | (1) | (c) | vH639122 |
| d. I think making an effort in science class is worthwhile. | (4) | (B) | © | (1) | (®) | vH639125 |
| e. I think science will help me even when I am not in school. | (1) | (B) | © | (1) | (E) | vH639127 |
| f. I think it is important to do well on science assignments. | (1) | (B) | © | (1) | (1) | vH639128 |

32. How often do you talk about things you have learned in science class with someone in your family?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(1) Often
(E) Very often

Appendix K-1ao: Summary of Changes Operational Grade 8 Science

2019 Operational Grade 8 Science Student


[^19]2019 Operational Grade 8 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4. In your science class this year. how often have you done hands-on activities or projects on any of the following topics? Select one answer choice on each row. |  |  |  |  |  |  | 22. In your science class this year, how often have you done hands-on activities or projects on any of the following topics? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{array}{\|c\|c} \text { Never or } \\ \text { hardly ever } \end{array}$ | $\begin{aligned} & \text { Once in a } \\ & \text { while } \end{aligned}$ | Sometimes | Offen | Very often |  |  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | Once in a while | Sometimes | Often | Very often |  |  |  |
| $\begin{aligned} & \text { a. Living things for } \\ & \text { example, plants. } \\ & \text { animals, or bacteria) } \\ & \hline \end{aligned}$ | ${ }^{\circ}$ | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | 5 m | a. Living things (for <br> example.plants. <br> animals, or bacteria) | © | $\oplus$ | $\bigcirc$ | $\oplus$ | $\Phi$ | ver |  |  |
|  | ${ }^{(1)}$ | $\Phi$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | vamos. | b. Electricity ffor examplec, cricuits, batterenies, or light buibs c. | © | © | $\odot$ | $\oplus$ | ¢ | momes |  |  |
| c. Chemicals (for <br> example, vinegar, <br> baking ood. or <br> hydrogen peroxide) | © | ${ }^{(1)}$ | $\odot$ | © | ${ }^{\circ}$ | 5 | c. Chemicals (for example. vinegar, baking soda. or hydrokcn proxide) | © | (1) | $\bigcirc$ | $\odot$ | $\oplus$ | namen |  |  |
| $\begin{array}{\|l\|} \hline \text { d. Rock or or minerals (for } \\ \text { example, diamond. } \\ \text { iron. or lava rock) } \\ \hline \end{array}$ | © | © | $\bigcirc$ | $\Phi$ | $\oplus$ | nıemo | d. Rocks or minerals (for example. diamond, iron, or lava rock | © | $\oplus$ | $\odot$ | ${ }^{\circ}$ | ¢ | masor |  |  |
|  | $\oplus$ | © | $\bigcirc$ | ${ }^{\circ}$ | $\odot$ | wn | iron, or havarock) <br> e. Technolog and <br> enginecring for <br> example, robots, <br> pulley systems, or <br> ramps) | © | (1) | $\odot$ | ¢ | $\oplus$ | mano |  |  |
| (2018 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 5. In your science class this year. how often have you done each of the following activities! Select one answer choice on each row. |  |  |  |  |  |  | 23. In your science class this year, how often have you done each of the following activities? Select one answer choice on each row. |  |  |  |  |  |  | R | To simplify wording based on stakeholder feedback, sub-item e was revised. |
|  | $\begin{aligned} & \text { Never or } \\ & \text { hardly ever } \end{aligned}$ | Once in a while | Sometimes | Often | $\begin{array}{\|c\|} \hline \text { Always or } \\ \text { almost } \\ \text { always } \end{array}$ |  |  | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Never or } \\ \text { hardly ever } \end{array} \\ \hline \end{array}$ | Once in a while | Sometimes | Often | $\begin{aligned} & \text { Always or } \\ & \text { almost } \\ & \text { always } \end{aligned}$ |  |  |  |
| $\begin{aligned} & \text { a. Read from a science } \\ & \text { textbook (print or } \\ & \text { digital) } \\ & \hline \end{aligned}$ | (1) | © | $\odot$ | $\oplus$ | ¢ | \% | 3. Read from a science | © | ${ }^{(1)}$ | $\odot$ | © | Ф | nuam |  |  |
| b. Real a book or <br> magzaninc crinit or <br> digital about science <br> topics | © | © | $\odot$ | $\oplus$ | $\oplus$ | บ1\% | b. Read a book or <br> magazine (print or <br> digital) about science <br> tonics topics | - | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\oplus$ | \%mas |  |  |
| c. Used the Intemet to Iarm alout science topics | © | $\oplus$ | © | $\oplus$ | $\odot$ | vuasu | c. Used the Internet to Iearn about science topics | © | ${ }^{(1)}$ | $\odot$ | © | © | mox |  |  |
| d. Watched a short vided clip, movie, or videc about science topics | (1) | ${ }^{(1)}$ | $\odot$ | Ф | $\odot$ | vasan | d. Watched a shor video clip. movie. or video about science topics | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | 2asin |  |  |
| c. Used a magnifying plass or microscope for looking at small thing. | $\oplus$ | © | $\cdots$ | $\oplus$ | ${ }^{\circ}$ | now | $\begin{array}{\|l} \text { e. Used a magnifying } \\ \text { glass or microscope } \end{array}$ | © | © | © | $\oplus$ | © | nustay |  |  |
| f. Used a thermometer <br> or wecighing scale for <br> making measurements | © | $\oplus$ | © | $\oplus$ | $\odot$ | max | $\begin{array}{\|l\|} \hline \text { f. Used a thermometer } \\ \text { or weighing scale for } \\ \text { making measurements } \end{array}$ | © | $\Phi$ | $\odot$ | $\oplus$ | $\oplus$ | Hames |  |  |
| (2018 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |

[^20]2019 Operational Grade 8 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | D/A/ R/NC+ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6. Thinking about science, do you think that you would be able to do each of the following activities? Select one answer choice on each row. |  |  |  |  |  |  | 24. Thinking about science, do you think that you would be able to do each of the following activities? Select one answer choice on each row. |  |  |  |  |  |  | R | Due to a lack of response variability and to keep student burden low, sub-items a, d, and g were dropped. |
|  | $\begin{array}{\|l\|l\|} \hline \begin{array}{l} \text { I definitely } \\ \text { cannt } \end{array} \\ \hline \end{array}$ | I probably can't | Maybe | $\underset{\text { I probably }}{\text { can }}$ | $\begin{array}{\|l\|l\|l\|l\|l\|l\|l\|l\|} \hline \text { can } \end{array}$ |  |  | I definitely | I probably | Maybe | I probably | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |  |  |
| $\begin{aligned} & \hline \text { a. Describe different } \\ & \text { ways to heat or cool } \\ & \text { water } \end{aligned}$ | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | © | nnemem | $\begin{aligned} & \text { D. Describe how the } \\ & \text { lenth of a vibrating } \\ & \text { string affectrs the } \\ & \text { sound it makes } \end{aligned}$ | © | © | $\odot$ | $\omega$ | (1) | numo |  |  |
| b. Describe how the lengh of vibrating string affects the sound it makes | * | ¢ | $\odot$ | © | Ф | - | h. Design an experiment to show how sullight affects the growth of a plant | © | © | $\odot$ | $\cdots$ | ${ }^{\circ}$ | nnews |  |  |
| c. Design an experiment <br> to show how sumplight <br> affects the growth <br> of a plant <br> ct | © | ${ }^{\oplus}$ | $\odot$ | $\oplus$ | $\oplus$ | man | c. Describe what would <br> happen to the number <br> of frogs at a pond if all <br> the insects were <br> removed from the <br> rond |  |  |  | $\odot$ | ¢ |  |  |  |
| d. Use examples to show how one livingt hing has helped another to has hel survive | © | © | $\odot$ | $\oplus$ | © | nows |  | © | ${ }^{1}$ | $\odot$ | © | © | sames |  |  |
| e. Describe what would happen to the number of rogs at a pond if all removed from the pond | (1) | (1) | - | © | ¢ | mexs | $\begin{array}{c}\text { d. Decide which tool to } \\ \text { uscia you want to } \\ \text { measure wind speed }\end{array}$ | © | ${ }^{\circ}$ | $\odot$ | © | Ф |  |  |  |
| f. Dcide which tool to usce if you want to measure wind speed | © | Ф | $\odot$ | $\oplus$ | $\oplus$ | $\cdots$ |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { g. Describe why the } \\ & \text { weather in the } \\ & \text { summer is siffent } \\ & \text { than in the winter } \end{aligned}$ | © | © | $\bigcirc$ | $\oplus$ | ¢ | masem |  |  |  |  |  |  |  |  |  |
| (2018 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

2019 Operational Grade 8 Science Student


+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 8 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. In this school year, how often have you done each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | 27. In this school year, how often have you done each of the following activities outside of school? Select one answer choice on cach row. |  |  |  |  |  |  | R | Due to a lack of response variability and to keep student burden low, sub-item b was dropped. Additionally, the verbs at the beginning of the original sub-items a and $c$ have been changed to past tense for consistency with the item stem. |
|  | Never | About once or twice a year | About once month | $\left\lvert\, \begin{gathered} \text { About once } \\ \text { or twice a } \end{gathered}\right.$ week | $\begin{gathered} \text { Every day or } \\ \text { almoost } \\ \text { every day } \end{gathered}$ |  |  | Never | $\begin{gathered} \text { About once } \\ \text { or twice a } \end{gathered}$ year | About once or twice a month | About once or twice a or twice week | $\left\|\begin{array}{c} \text { Every day or } \\ \text { almos } \\ \text { every day } \end{array}\right\|$ |  |  |  |
|  | Ф | ${ }^{(1)}$ | $\odot$ | $\oplus$ | $\oplus$ | $\cdots$ |  | © | $\oplus$ | $\odot$ | © | © | mon |  |  |
| b. Write or blog about science topics | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | 5 | b. Used scientific tools |  |  |  |  |  |  |  |  |
| c. Use scientific tools <br> (for example, <br> microscopes. <br> thermometers, <br> bheakers, or weighing <br> scales) scales) | © | $\oplus$ | $\omega$ | © | © | bases |  | © | (1) | $\odot$ | © | $\odot$ | "mun |  |  |
| d. Read about science topics in books or makazzines (print or digital) | $\oplus$ | ${ }^{(1)}$ | $\odot$ | $\oplus$ | Ф | Whament | topics in books or <br> magazines (print or <br> digital) <br> d. Attended clubs or | © | $\oplus$ | $\odot$ | © | © | "mm |  |  |
| C. Attend clubs or <br> programs that include <br> sciecce or enginecring <br> activities for example. <br> chemistry club. <br> robotics club, <br> coding programs) | (2) | © | $\odot$ | © | $\oplus$ | sex |  | © | $\oplus$ | © | ${ }^{\circ}$ | $\cdots$ | mas |  |  |
| (2018 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 9. How much docs each of the following statements describe you? Select one answer choicc on each row. |  |  |  |  |  |  | 28. How much does each of the following statements describe you? Select one answer choice on cach row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{aligned} & \text { Not at all } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me like me | $\begin{array}{\|l} \hline \begin{array}{l} \text { Quite a bit } \\ \text { like me } \end{array} \\ \hline \end{array}$ | $\underset{\substack{\text { Exactly like } \\ \text { me }}}{ }$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bir like me | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Exactly like } \\ \text { me } \end{array} \\ \hline \end{array}$ |  |  |  |
| a. Ienioy scicnce | $\odot$ | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | ตkem | 3. I enjoy science activities. | $\oplus$ | $\pm$ | $\bullet$ | ¢ | ¢ |  |  |  |
| b. I look forward to my science class. | © | $\oplus$ | ¢ | $\oplus$ | ${ }^{\circ}$ | vimand | b. I look forward to my science class. | © | © | $\odot$ | $\oplus$ | © | nomes |  |  |
| $\begin{array}{\|l\|l\|} \hline \text { c. I am interested in the } \\ \text { thins I leatrs in the } \\ \text { science class. } \end{array}$ | © | $\oplus$ | $\bigcirc$ | $\oplus$ | $\oplus$ | ynewz | c. I am interested in the things I leann in science class. | (1) | (1) | $\bigcirc$ | © | $\odot$ | "12 |  |  |
| $\begin{aligned} & \text { d. think making an } \\ & \text { effort in science class } \\ & \text { is worthwhile. } \end{aligned}$ | © | ${ }^{\text {® }}$ | $\cdots$ | $\oplus$ | © | nnews | d. Ithink making an effort ins science class is worthwhile. is worthwhile. | $\oplus$ | © | $\odot$ | $\oplus$ | $\oplus$ | 7unns |  |  |
| c. I think science will help me eccn when I amn not in school. | © | $\oplus$ | © | $\oplus$ | $\oplus$ | wham | c. I think science will help meeven when I am not in school. | © | $\pm$ | $\bigcirc$ | $\oplus$ | ¢ |  |  |  |
| $\begin{array}{\|l} \hline \text { f. I think it is important } \\ \text { to do well on science } \\ \text { assignments. } \\ \hline \end{array}$ | $\odot$ | © | - | ${ }^{\circ}$ | $\oplus$ | ymans | am hot in school.I think it is important <br> to o well on science <br> assignments. | $\oplus$ | Ф | $\odot$ | © | © |  |  |  |
| (2018 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 8 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10. In this school year, how often have you done the following activities in your science class? Select one answer choice on each row. |  |  |  |  |  |  | 29. In this school year, how often have you done the following activities in your science class? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never or hardly ever | Once in a while | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \text { allost } \\ \text { always } \end{gathered}$ |  |  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | $\begin{gathered} \text { Once in a } \\ \text { while } \end{gathered}$ | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \text { almost } \\ \text { always } \end{gathered}$ |  |  |  |
| a. Came up with <br> research <br> expestions to <br> somethou <br> something works | © | © | $\odot$ | $\oplus$ | $\oplus$ | vixava | a. Came up with research questions to explore how something works | $\odot$ | © | $\odot$ | $\odot$ | $\odot$ | visarua |  |  |
| b. Made drawings that explain why or how something happens | © | ${ }^{(1)}$ | $\odot$ | $\odot$ | $\odot$ | 2079 | b. Made drawings that explain why or how something happens | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | ${ }^{3379}$ |  |  |
|  | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | Hisams | c. Came up with experiments that you could use to answer a ener research question | $\triangle$ | © | $\odot$ | $\odot$ | $\odot$ | (20)75 |  |  |
| $\begin{array}{\|l\|} \hline \text { d. Used tables or graphs } \\ \text { toidentify } \\ \text { relations between } \\ \text { variables } \end{array}$ | © | ${ }^{\circ}$ | $\odot$ | $\oplus$ | $\odot$ | 760 | d. Used tables or graphs <br> to identify <br> relationships between | $\odot$ | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | 3076 |  |  |
| $\begin{array}{\|l\|} \hline \text { e. Used math equations } \\ \text { to explain or support } \\ \text { scientific conclusions } \end{array}$ | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | visave | variables <br> e. Used math equations <br> to explain or support <br> scientific conclusions | $\triangle$ | $\odot$ | $\odot$ | $\oplus$ | $\odot$ | \%129\% |  |  |
| experiments to explain <br> why something <br> happens <br> g. Used information to | © | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | ${ }^{\text {V120976 }}$ | f. Used evidence from <br> experiments to explain <br> why something <br> happens | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | 3976 |  |  |
|  | © | $\odot$ | $\odot$ | $\oplus$ | $\odot$ | 3970 | g. Used information to $\begin{aligned} & \text { disagree with someone } \\ & \text { about a scientific idea }\end{aligned}$ | $\odot$ | © | $\odot$ | $\odot$ | $\odot$ | 90 |  |  |
|  | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | 뇦 | h. Combined information about science from multiple sources (for example, books websites, or articles) for an assignment | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | 3s97\% |  |  |
| (2018 Grade 8) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 11. How often do you talk about things you have learned in science class with someone in your family? |  |  |  |  |  |  | 30. How often do you talk about things you have learned in science class with |  |  |  |  |  |  | N/C | N/A |
| (8) Never or hardly ever <br> (8) Once in a while <br> © Sometimes <br> (1) Often <br> (1) Very often |  |  |  |  |  |  | (4) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (D) Very often | $=r$ |  |  |  |  |  |  |  |
| (2018 Grade 8) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

[^21]
## Appendix K-1ap: Operational Grade 8 Science

22. In your science class this year, how often have you done hands-on activities or projects on any of the following topics? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Very often |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Living things (for example, plants, animals, or bacteria) | (4) | (B) | © | (1) | (1) | VH639072 |
| b. Electricity (for example, circuits, batteries, or light bulbs) | (4) | (B) | © | (1) | (c) | VH639074 |
| c. Chemicals (for example, vinegar, baking soda, or hydrogen peroxide) | (4) | (B) | © | (1) | (1) | VH639073 |
| d. Rocks or minerals (for example, diamond, iron, or lava rock) | (4) | (B) | © | (1) | (c) | VH639077 |
| e. Technology and engineering (for example, robots, pulley systems, or ramps) | (4) | (B) | © | (1) | (1) | vH63076 |

23. In your science class this year, how often have you done each of the following activities? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Read from a science textbook (print or digital) | (4) | (8) | © | (1) | (1) | VH639313 |
| b. Read a book or magazine (print or digital) about science topics | (4) | (B) | $\bigcirc$ | (1) | (1) | vH639315 |
| c. Used the Internet to learn about science topics | (4) | (B) | © | (1) | (c) | VH639314 |
| d. Watched a short video clip, movie, or video about science topics | (4) | (B) | © | © | (1) | VH639312 |
| e. Used a magnifying glass or microscope | (4) | (B) | $\bigcirc$ | (1) | (1) | VH887984 |
| f. Used a thermometer or weighing scale for making measurements | (4) | (8) | $\bigcirc$ | © | (1) | VH639078 |

24. Thinking about science, do you think that you would be able to do each of the following activities? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\underset{\text { can }}{\substack{\text { probably }}}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Describe how the length of a vibrating string affects the sound it makes | (4) | (B) | © | © | (e) | vH638870 |
| b. Design an experiment to show how sunlight affects the growth of a plant | (4) | (B) | © | © | (1) | VH638872 |
| c. Describe what would happen to the number of frogs at a pond if all the insects were removed from the pond | (4) | (B) | © | (1) | (1) | VH638876 |
| d. Decide which tool to use if you want to measure wind speed | (4) | © | © | (1) | (1) | VH638883 |

25. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at science. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH639080 |
| b. I want to show others that science schoolwork is easy for me. | (4) | © | $\bigcirc$ | (1) | (1) | vH639082 |
| c. I want to look smart in comparison to the other students in my science class. | (4) | (B) | $\bigcirc$ | © | (1) | vH639084 |
| d. I want to get better grades than most other students in my science class. | (4) | (B) | © | (1) | (1) | vH860366 |

26. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my science class. | (4) | (8) | © | (1) | (1) | VH63086 |
| b. I want to become better in science this year. | (1) | (B) | © | (1) | ( | VH63087 |
| c. I want to understand as much as I can in my science class. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH63989 |
| d. I want to master a lot of new skills in my science class. | (4) | (B) | $\bigcirc$ | (1) | (1) | vH860369 |

27. In this school year, how often have you done each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Worked on science-related projects (for example, making a volcano, growing plants from seeds, or building simple rockets) | (1) | (B) | © | (1) | (1) | vH859162 |
| b. Used scientific tools (for example, microscopes, thermometers, beakers, or weighing scales) | (4) | (B) | © | (1) | (®) | vH891927 |
| c. Read about science topics in books or magazines (print or digital) | (4) | (B) | $\bigcirc$ | (1) | (1) | vH638987 |
| d. Attended clubs or programs that include science or engineering activities (for example chemistry club, robotics club, or coding programs) | (4) | (B) | © | (1) | (1) | vH893268 |

28. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I enjoy science activities. | (4) | (B) | © | (1) | (8) | vH639117 |
| b. I look forward to my science class. | (4) | (B) | $\bigcirc$ | (1) | (8) | vH639120 |
| c. I am interested in the things I learn in science class. | (4) | (B) | $\bigcirc$ | (1) | © | vH639122 |
| d. I think making an effort in science class is worthwhile. | (4) | (B) | © | (1) | (®) | vH639125 |
| e. I think science will help me even when I am not in school. | (4) | (B) | $\bigcirc$ | (1) | © | vH639127 |
| f. I think it is important to do well on science assignments. | (4) | (B) | © | (1) | © | vH639128 |

29. In this school year, how often have you done the following activities in your science class? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Came up with research questions to explore how something works | (4) | (B) | © | (1) | (E) | vH639744 |
| b. Made drawings that explain why or how something happens | (1) | (B) | © | (1) | (®) | vH639749 |
| c. Came up with experiments that you could use to answer a research question | (4) | (B) | $\bigcirc$ | (1) | (®) | vH639753 |
| d. Used tables or graphs to identify relationships between variables | (4) | (B) | © | © | (E) | vH639760 |
| e. Used math equations to explain or support scientific conclusions | (4) | (B) | $\bigcirc$ | (1) | ( ${ }^{\text {c }}$ | vH639763 |
| f. Used evidence from experiments to explain why something happens | (4) | (B) | $\bigcirc$ | (1) | © | vH639765 |
| g. Used information to disagree with someone about a scientific idea | (4) | (B) | © | (1) | (1) | vH639770 |
| h. Combined information about science from multiple sources (for example, books, websites, or articles) for an assignment | (4) | (B) | © | (1) | © | vH639777 |

30. How often do you talk about things you have learned in science class with someone in your family?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(1) Often
(E) Very often

Appendix K-1aq: Summary of Changes Operational Grade 12 Science

2019 Operational Grade 12 Science Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 1. In this school year. how often have you understood what the teacher talks about in science class? <br> (ब) Never or hardly ever <br> (1) Once in a while <br> © Sometimes <br> (1) Often <br> (D) Always or almost always <br> (2018 Grade 12) | N/A | D | Due to overlap with new content and to keep student burden low, this item was dropped. |
| 2. In this school year, how often have you done well on your science tests? <br> (D) Never or hardly ever <br> (1) Once in a while <br> (0) Sometimes <br> (1) Often <br> (1) Always or almost always. <br> (2018 Grade 12) | N/A | D | Due to overlap with new content and to keep student burden low, this item was dropped. |
| 3. In this school year, how often have you done well on your science assignments (for example. projects, homework, or worksheets)? <br> (1) Never or hardly ever <br> (1) Once in a while <br> (0) Sometimes <br> (1) Often <br> (1) Always or almost always <br> (2018 Grade 12) | N/A | D | Due to overlap with new content and to keep student burden low, this item was dropped. |

[^22]2019 Operational Grade 12 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4. In your science class this year. how often have you done hands-on activities or projects on any of the following topics? Select one answer choice on each row. |  |  |  |  |  |  | 28. In your science class this year. how often have you done hands-on activities or projects on any of the following topies? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{array}{\|c\|} \hline \text { Never or } \\ \text { hardly ever } \end{array}$ | $\begin{gathered} \text { Once in a } \\ \text { while } \end{gathered}$ | Sometimes | Often | Very often |  |  | $\begin{array}{\|c\|} \hline \text { Neyer or } \\ \text { hardly ever } \end{array}$ | Once in a while | Sometimes | Often | Very often |  |  |  |
| $\begin{array}{\|l\|l} \hline \text { a. Living things (forr } \\ \text { example. plants. } \\ \text { animals. or bacteria) } \\ \hline \end{array}$ | © | $\pm$ | $\odot$ | $\oplus$ | $\oplus$ | 0 moz | a. Living things (for example. plants. animals, or bacteria) | © | (1) | ¢ | $\oplus$ | ¢ | m |  |  |
| b. Electricity (for <br> eexample. .ircuits. <br> batteries. or light <br> bulbs) <br> c. | © | ${ }^{\circ}$ | - | ${ }^{\circ}$ | $\oplus$ | * | b. Electricity (for examplecircuits, batteres, or light bulbs) c. | © | $\oplus$ | $\odot$ | $\oplus$ | Ф | mates |  |  |
| c. Chemicals (for <br> example, vinegar. <br> baking ood, or <br> hydro <br> hysen peroxide) | © | ${ }^{\circ}$ | - | © | $\oplus$ | ases | c. Chemicals for <br> chample vingar. <br> ehaking sodac, gor <br> hydrogen peroxide) | © | $\oplus$ | $\odot$ | $\oplus$ | ¢ | mox |  |  |
| d. Rocks or minerals for for <br> exanple. diamond, <br> iron. or liva rock) | (1) | ${ }^{(1)}$ | $\cdots$ | $\odot$ | © | mer | $\begin{array}{\|l\|} \hline \text { d. Rocks or minerals (for } \\ \text { example, diamond. } \\ \text { iron. or hava rock) } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | Ф | m" |  |  |
|  | © | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\oplus}$ | amm | c. Technology and <br> engineering for <br> example. robors, <br> pulley <br> rastems, or <br> ramps) | © | (1) | $\odot$ | $\oplus$ | Ф | 500\% |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 5. In your science class this year, how often have you done each of the following activities? Select one answer choice on cach row. |  |  |  |  |  |  | 29. In your science class this year, how often have you done each of the following activities! Select one answer choice on each row. |  |  |  |  |  |  | R | To simplify wording based on stakeholder feedback, sub-item e was revised. |
|  | $\begin{aligned} & \text { Never or } \\ & \text { hardly ever } \end{aligned}$ | Once in a while | Sometimes | Often | $\begin{array}{\|c} \hline \begin{array}{c} \text { Always or } \\ \text { almost } \\ \text { always } \end{array} \\ \hline \end{array}$ |  |  | Never or hardly ever | Once in a while | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \text { almost } \\ \text { always } \end{gathered}$ |  |  |  |
| $\begin{aligned} & \text { a. Read from a science } \\ & \text { textbook (print or } \\ & \text { digital) } \\ & \hline \end{aligned}$ | $\oplus$ | © | $\odot$ | $\oplus$ | ${ }^{\circ}$ | пимas | a. Read from a science textbook (print or digital) | © | (1) | $\bigcirc$ | © | Ф | nusa |  |  |
| b. Read a book or <br> magazine eprint or <br> digital about science <br> topics | © | ${ }^{1}$ | $\bigcirc$ | $\oplus$ | ¢ | nusuns | $\begin{array}{\|l\|} \hline \text { b. Read a book or } \\ \text { magazine (print or } \\ \text { digital) about science } \\ \text { topics } \end{array}$ | © | ${ }^{(1)}$ | $\odot$ | © | ${ }^{(1)}$ | asns |  |  |
| $\begin{aligned} & \hline \text { c. Used the Intermet to } \\ & \text { leam about science } \\ & \text { topics } \\ & \hline \end{aligned}$ | © | ${ }^{\oplus}$ | $\odot$ | $\oplus$ | Ф | numm | c. Used the Internet to Icarn about science topics | © | © | $\cdots$ | © | © | 14usin |  |  |
| d. Watched a short video clip. .movie, or video athout science topics | © | ${ }^{\oplus}$ | $\bigcirc$ | ${ }^{\circ}$ | $\oplus$ | wusma | d. Watched a short video clip. movi, or video about science topics | $\star$ | $\oplus$ | $\odot$ | $\oplus$ | © | 12 |  |  |
|  | © | © | $\odot$ | $\oplus$ | $\oplus$ | nuess | c. Used a magnifying <br> glass or microscope | (1) | © | $\bullet$ | $\oplus$ | $\oplus$ | nuestor |  |  |
| $\begin{array}{\|l\|} \hline \text { f. Used a themometer } \\ \text { or weighing scale for } \\ \text { making measurements } \end{array}$ | © | © | $\odot$ | © | $\oplus$ | noews | $\begin{array}{\|c\|} \hline \text { f. Used a thermometer } \\ \text { or wcighing scalc for } \\ \text { making measurements } \end{array}$ | © | $\pm$ | $\bigcirc$ | $\oplus$ | © |  |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |

[^23]

[^24]
## 2019 Operational Grade 12 Science Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 8. Are you currently enrolled in or have you taken an Advanced Placement ${ }^{\infty}$ course in science! Select all that apply. <br> (4) Yes, I am enrolled in or have taken Advanced Placement Biology. <br> (1) Yes, I am enrolled in or have taken Advanced Placement Environmental Science. <br> - Yes, 1 am enrolled in or have taken Advanced Placement Chemistry. <br> (1) Yes, 1 am enrolled in or have taken Advanced Placement Physics C. <br> (1) Yes, I am enrolled in or have taken Advanced Placement Physics 1. <br> (1) Yes, I am enrolled in or have taken Advanced Placement Physics 2. <br> (6) Yes, 1 am enrolled in or have taken Advanced Placement Computer Science A. <br> (1) Yes, 1 am enrolled in or have taken Advanced Placement Computer Science Principles. <br> (1) No, I have never taken an Advanced Placement science course. <br> (2018 Grade 12) | 26. Are you currently enrolled in or have you taken an Advanced Placement ${ }^{\oplus}$ course in science? Select all that apply. <br> (2) Yes. I am enrolled in or have taken Advanced Placement Biology. <br> (1) Yes, 1 am enrolled in or have taken Advanced Placement Environmental Science. <br> © Yes, I am enrolled in or have taken Advanced Placement Chemistry. <br> (1) Yes, I am enrolled in or have taken Advanced Placement Physics C. <br> (1) Yes, I am enrolled in or have taken Advanced Placement Physics 1. <br> (1) Yes. 1 am enrolled in or have taken Advanced Placement Physics 2. <br> (1) Yes, 1 am enrolled in or have taken Advanced Placement Computer Science A. <br> (1) Yes, I am enrolled in or have taken Advanced Placement Computer Science Principles. <br> (1) No, I have never taken an Advanced Placement science course. <br> Issue: Organization of Instruction | NC | N/A |
| 9. Are you currently taking a science course? <br> (D) Yes <br> (1) No <br> (2018 Grade 12) | 27. Are you currently taking a science course? Yes No <br> Issue: Organization of Instruction | NC | N/A |

[^25]2019 Operational Grade 12 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | D/A/ <br> R/NC+ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10. Thinking about science, do you think that you would be able to do each of the following activities? Select one answer choice on each row. |  |  |  |  |  |  | 35. Thinking about science, do you think that you would be able to do cach of the following activities? Select one answer choice on each row |  |  |  |  |  |  | R | Due to a lack of response variability and to keep student burden low, sub-items a, $d, e, f$, and $g$ were dropped. |
|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |  | $\begin{array}{\|l\|} \hline \text { I definitely } \\ \text { can't } \end{array}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{array}{\|l} \text { I definitely } \\ \text { can } \end{array}$ |  |  |  |
| $\begin{aligned} & \text { a. Describe different } \\ & \text { ways to heat or cool } \\ & \text { water } \end{aligned}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | sass | a. Describe how the length of a vibrating string affects the | © | $\oplus$ | ¢ | ¢ | ¢ | moasm |  |  |
| $\begin{array}{\|l} \hline \text { b. Describe how the } \\ \text { length of a vibrating } \\ \text { string affects the } \\ \text { sound it makes } \end{array}$ | © | $\oplus$ | $\odot$ | $\odot$ | $\oplus$ | ${ }^{\text {saso }}$ | sound it makes <br> b. Design an experiment <br> to show how sunlight <br> affects the growth | (1) | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | manom |  |  |
| c. Design an experiment to show how sunlight affects the growth of a plant | © | © | $\odot$ | $\oplus$ | $\odot$ | masn | $\begin{array}{\|l\|} \text { aofert the growth } \\ \text { of a plant } \end{array}$ | ¢ | $\odot$ | - | $\odot$ | © | $\pm$ |  |  |
| d. Use examples to show how one living thing has helped another to has help survive | ${ }^{\circ}$ | ${ }^{\circ}$ | $\bigcirc$ | $\oplus$ | $\odot$ | ws | measure wind speed <br> d. Design an experiment <br> to test how the growth <br> of a plant is affecred by <br> . | (1) | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | \% |  |  |
| e. Describe what would happen to the number of frogs at a pond if all the insects were removed from the pond | © | ( | $\odot$ | $\odot$ | $\odot$ | Sase |  | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ | um |  |  |
| $\begin{aligned} & \text { f. Decide which tool to } \\ & \text { use if you want to } \\ & \text { measure wind speed } \end{aligned}$ | © | © | $\bigcirc$ | $\odot$ | $\odot$ | ws | $\begin{array}{\|l\|} \hline \text { f. Describe how the } \\ \text { combination of } \\ \text { parental gencs can } \end{array}$ |  |  |  |  |  |  |  |  |
| g. Describe why the weather in the summer is different summer in the winter | © | $\oplus$ | $\odot$ | $\odot$ | $\oplus$ | wss | result in different raits in their offspring hair color) | © | © | $\odot$ | © | © |  |  |  |
| $\begin{aligned} & \text { h. Design an experiment } \\ & \text { to tosestow the erowth } \\ & \text { of a plant is affected by } \\ & \text { light, water, and soil } \\ & \text { quality } \\ & \hline \end{aligned}$ | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | wor |  |  |  |  |  |  |  |  |  |
| i. Create a diagram that shows how bees and plants need each other for survival | (1) | © | $\odot$ | $\odot$ | $\odot$ | N5 |  |  |  |  |  |  |  |  |  |
| j. Describe how the <br> combination of <br> parental enes can <br> result in ifferent <br> traits in theiro offspring <br> (for example eye or <br> hair color) | © | ${ }^{\oplus}$ | $\odot$ | $\oplus$ | $\oplus$ | cos |  |  |  |  |  |  |  |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11. How much does each of the following statements describe you! Select one answer choice on each row. |  |  |  |  |  |  | 31. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | R | This item was divided into two items to reduce scrolling and align presentation with similar items in other subjects. <br> Additionally, the wording of sub-items $d$ and $h$ (now sub-item d in the second matrix) have been revised, with the word "science" moved to before the word "class". |
|  | $\begin{aligned} & \text { Not at all } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me | $\begin{aligned} & \text { Quite a bit } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { Exactly } \\ & \text { like me } \end{aligned}$ |  |  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |  |  |
| $\begin{aligned} & \text { a. } \begin{array}{l} \text { T want other studunts } \\ \text { to hink lam } \\ \text { at science. } \end{array} \text { good } \end{aligned}$ | © | $\pm$ | $\odot$ | $\odot$ | $\oplus$ | +os | $\begin{array}{\|l\|} \hline \text { a. I want other students } \\ \text { to think } \text { Iam good } \\ \text { at science. } \\ \hline \end{array}$ | © | $\oplus$ | $\odot$ | © | $\oplus$ |  |  |  |
| $\begin{array}{\|l} \hline \text { b. I want to show } \\ \text { others sthat science } \\ \text { schoolwork is casy } \\ \text { for me. } \end{array}$ | © | $\oplus$ | $\odot$ | $\oplus$ | © |  | b. I want to show others that science schoolwork is easy for me. | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | ¢ | wame |  |  |
|  | © | © | $\odot$ | $\Phi$ | ${ }^{\circ}$ | "mes | c. 1 want to look smart | $\oplus$ | ${ }^{(1)}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | wsper |  |  |
| $\begin{array}{\|c\|} \hline \text { d. I want to get better } \\ \text { seinece gradesthan } \\ \text { most ofter students in } \\ \text { my class. } \end{array}$ | © | © | $\oplus$ | $\oplus$ | $\oplus$ | 120 | d. I want to get better students in my science class. | © | © | $\odot$ | $\oplus$ | $\oplus$ | am |  |  |
| c. I wamt to learn as much as possiblc in my science class. | © | © | $\omega$ | $\oplus$ | $\oplus$ | mex | 32. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { f. I want to bcome } \\ & \text { better in science } \\ & \text { this year. } \\ & \hline \end{aligned}$ | © | ${ }^{(1)}$ | $\odot$ | ¢ | © | " |  |  |  |  |  |  |  |  |  |
| 8. I want to understand $\begin{gathered}\text { and much as can in } \\ \text { any } \\ \text { my scienccaclass }\end{gathered}$ | © | © | $\odot$ | $\odot$ | $\odot$ | $0 \times$ |  | $\begin{aligned} & \text { Not at all } \\ & \text { like me } \end{aligned}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \\ & \hline \hline \end{aligned}$ | Somewhat like me | Quite a bit like me | $\begin{gathered} \text { Exactly like } \\ \text { me } \end{gathered}$ |  |  |  |
| $\begin{aligned} & \text { h. I want to master a lot } \\ & \text { of ncw science skills } \\ & \text { in my class. } \end{aligned}$ | $\oplus$ | © | $\odot$ | $\oplus$ | $\pm$ | пои\% | $\begin{aligned} & \text { 3. I want to leasm as } \\ & \text { muth nas possible in } \\ & \text { my science class. } \end{aligned}$ | © | (1) | ¢ | © | © |  |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | b. I want to become beter in science this year. | © | $\oplus$ | $\odot$ | $\pm$ | $\oplus$ | asm |  |  |
|  |  |  |  |  |  |  | c. I want to understand as much as 1 can in my science class. | © | $\oplus$ | $\odot$ | $\oplus$ | $\oplus$ |  |  |  |
|  |  |  |  |  |  |  | $\begin{array}{\|l\|} \hline \text { d. I want to mastet a lot } \\ \text { of new skills in my } \\ \text { science class. } \end{array}$ | (1) | $\oplus$ | $\odot$ | $\pm$ | © |  |  |  |
|  |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |

[^26]2019 Operational Grade 12 Science Student

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12. In this school year, how often have you done each of the following activities outside of school? Select one answer choice on each row. |  |  |  |  |  |  | 34. In this school year. how often have you done each of the following aetivities outside of school? Select one answer choice on each row |  |  |  |  |  |  | R | Due to a lack of response variability and to keep student burden low, sub-item b was dropped. Additionally, the verbs at the beginning of the original sub-items a and $c$ have been changed to past tense for consistency with the item stem. |
|  | Never | $\begin{array}{\|c\|c\|} \hline \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { year } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|c\|} \hline \text { About once } \\ \text { or twine a } \\ \text { month } \end{array}$ | About once or twice a week | $\left.\begin{array}{\|c\|} \hline \text { Every day or } \\ \text { slmost } \\ \text { sery day } \end{array} \right\rvert\,$ |  |  | Never | $\begin{gathered} \begin{array}{c} \text { About once } \\ \text { or twice a } \\ \text { year } \end{array} \\ \hline \end{gathered}$ | About once or twice a month | $\begin{array}{\|c} \text { About once } \\ \text { or twice a } \\ \text { week } \end{array}$ | $\left\|\begin{array}{c} \text { Every day or } \\ \text { almors } \\ \text { every day } \end{array}\right\|$ |  |  |  |
|  | © | © | - | $\oplus$ | ¢ | $\cdots$ |  | © | (1) | $\odot$ | $\oplus$ | - | amow |  |  |
| b. Write or blog about | $\stackrel{ }{\circ}$ | © | - | $\oplus$ | ${ }^{\circ}$ | nuena | b. Used scicentific tools |  |  |  |  |  |  |  |  |
| c. Use scientific tools for example. thermometers, beakers, or weighing scales) | © | $\oplus$ | - | $\oplus$ | ${ }^{\circ}$ | \% |  | ${ }^{(1)}$ | ${ }^{(1)}$ | $\sigma$ | ${ }^{\circ}$ | ${ }^{1}$ | "moms |  |  |
| d. Read about science topics in books or mazazines (print or magazin disital) | $\oplus$ | ${ }^{\circ}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | um | topics <br> man books or <br> diganines (print or <br> digat) | © | (1) | © | $\pm$ | $\oplus$ | sem |  |  |
| c. Attend clubs or programs that include science or engmeening chemistry club, robotics club, or coding programs) | © | (1) | $\bigcirc$ | $\oplus$ | ${ }^{\circ}$ | - | programs that include science or engineering chemistry club. robotics club, or coding programs) | © | $\oplus$ | $\odot$ | $\oplus$ | © | nsam |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |  |
| 13. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | 33. How much does each of the following statements describe you? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | $\begin{gathered} \text { Not at all } \\ \text { like me } \end{gathered}$ | $\begin{array}{\|c\|} \hline \text { A little bit } \\ \text { like me } \end{array}$ | Somewhat like me | $\begin{array}{\|l} \hline \text { Quite a bit } \\ \text { like me } \end{array}$ | $\begin{array}{\|c\|} \hline \text { Exactly like } \\ \text { me } \end{array}$ |  |  | $\begin{gathered} \text { Not at all } \\ \text { like me } \end{gathered}$ | $\begin{aligned} & \text { A little bit } \\ & \text { like me } \end{aligned}$ | Somewhat like me | Quite a bit like me | $\begin{array}{\|c} \text { Exactly like } \\ \text { me } \end{array}$ |  |  |  |
| $\begin{aligned} & \text { a. I enioy science } \\ & \text { activities. } \end{aligned}$ | © | © | $\bigcirc$ | © | © | numer | a. I enjoy science activities. | $\bullet$ | $\oplus$ | $\odot$ | ¢ | ¢ | nuen |  |  |
| b. I look forward to my science class. | © | (1) | $\odot$ | $\bullet$ | © | mance | b. I look forward to my | © | $\oplus$ | - | $\oplus$ | $\oplus$ | nuesse |  |  |
| $\begin{aligned} & \text { c. } \text { Iam interested in the } \\ & \text { things I learm in } \\ & \text { science class. } \\ & \hline \end{aligned}$ | © | © | $\odot$ | $\oplus$ | $\oplus$ | ${ }^{102}$ | c. Iam interested in the thins I leam in science class. | Ф | ${ }^{(1)}$ | $\odot$ | $\oplus$ | $\oplus$ | 4an 21 |  |  |
| $\begin{aligned} & \text { d. I think making an } \\ & \text { ctfort in scicnce class } \\ & \text { is worthwhilc. } \end{aligned}$ | © | © | $\bigcirc$ | © | $\oplus$ | ms | d. I think making an effort in sciencec class is worthwhile. | © | © | $\bigcirc$ | $\oplus$ | ${ }^{\circ}$ | wobls |  |  |
| $\begin{aligned} & \text { e. think science will } \\ & \text { help mee even when } 1 \\ & \text { am not in school. } \\ & \hline \end{aligned}$ | (1) | ${ }^{\circ}$ | $\cdots$ | $\oplus$ | © | wn | c. I think science will help me even when I am not in school. | © | ${ }^{(1)}$ | $\bigcirc$ | $\cdots$ | $\oplus$ | nuent |  |  |
| $\begin{array}{\|l} \text { f. } \begin{array}{l} \text { t think it is important } \\ \text { to do well on science } \\ \text { assignments. } \end{array} \\ \hline \end{array}$ | (1) | © | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | 13 | $\begin{array}{\|l\|} \hline \text { f. I think it is important } \\ \text { to o well on science } \\ \text { asssignments. } \end{array}$ | © | $\oplus$ | $\odot$ | © | © | \%39 |  |  |
| (2018 Grade 12) |  |  |  |  |  |  |  | Issue: Student Factors |  |  |  |  |  |  |  |

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14. In this school year, how often have you done the following activities in your science class? Select one answer choice on each row. |  |  |  |  |  |  | 30. In this school year, how often have you done the following activities in your science class? Select one answer choice on each row. |  |  |  |  |  |  | NC | N/A |
|  | Never or hardly ever | Once in a while | Sometimes | Often | $\begin{gathered} \text { Always or } \\ \text { almost } \\ \text { always } \end{gathered}$ |  |  | $\begin{gathered} \text { Never or } \\ \text { hardly ever } \end{gathered}$ | Once in a while | Sometimes | Often | Always or <br> almost alway |  |  |  |
|  | © | © | $\odot$ | $\odot$ | $\stackrel{\square}{ }$ | viserw | a. Came up with research questions to explore how something works | © | © | $\odot$ | $\odot$ | $\odot$ | нияэи |  |  |
| b. Made drawings that explain why or how something happens something happe | © | $\oplus$ | $\odot$ | $\oplus$ | $\odot$ | 298 | b. Made drawings that explain why or how something happens | © | © | $\odot$ | $\oplus$ | $\odot$ | visery |  |  |
| $\begin{array}{\|l\|} \hline \text { c. Came up with } \\ \text { experiments that you } \\ \text { could use to answer a } \\ \text { research question } \\ \hline \end{array}$ | © | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | 973 | c. Came up with experiments that you could use to answer a research question | © | © | $\odot$ | © | $\odot$ | 973 |  |  |
| $\begin{array}{\|c\|} \hline \text { d. Used tables or graphs } \\ \text { toidentify } \\ \text { raftionsips between } \\ \text { varibles } \end{array}$ | © | $\bullet$ | $\odot$ | $\odot$ | $\odot$ | W920 | d. Used tables or graphs to identify relationships between variables | © | $\odot$ | $\odot$ | $\oplus$ | $\stackrel{\square}{\circ}$ | Hasyee |  |  |
| $\substack{\text {. Used math equations } \\ \text { to explain or support } \\ \text { scientific conclusions }}$ <br> f Used evidence from | © | $\oplus$ | $\odot$ | $\odot$ | $\odot$ | 78 | e. Used math equations <br> to explain or support <br> scientific conclusions | $\odot$ | $\odot$ | $\odot$ | $\odot$ | $\odot$ | vianve |  |  |
| $\begin{array}{\|l\|} \text { f. Used evidence from } \\ \text { experiments to explain } \\ \text { why something } \\ \text { happens } \end{array}$ | ${ }^{\circ}$ | ${ }^{\circ}$ | $\odot$ | $\odot$ | $\odot$ | 75 | f. Used evidence fromexperiments to explain <br> why something <br> happens | © | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | $\odot$ | \%976 |  |  |
| $\begin{array}{\|l\|} \text { g. } \begin{array}{c} \text { Used information to } \\ \text { disagree with someone } \\ \text { about a scientificicidea } \end{array} \\ \hline \text { h. Combined information } \end{array}$ | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | \%1a970 | g. Used information to disagree with someone about a scientific idea | © | $\odot$ | $\odot$ | $\odot$ | $\odot$ | 970 |  |  |
| for an assignmen | $\odot$ | © | $\odot$ | $\odot$ | $\odot$ | sm | $\begin{array}{\|l\|} \hline \text { h. Combined information } \\ \text { about science from } \\ \text { multiple esources (for } \\ \text { mample, books } \\ \text { websites, or articles) } \\ \text { for an assignment } \\ \hline \end{array}$ | © | © | $\odot$ | $\odot$ | $\odot$ | 源 |  |  |
| (2018 Grade 12) |  |  |  |  |  |  | Issue: Organization of Instruction |  |  |  |  |  |  |  |  |
| 15. How likely are you to <br> (D) Not at all likely <br> (1) Not likely <br> (a) Somewhat Hikely <br> (1) Quite likely <br> (D) Extremely likely <br> (2018 Grade 12) | pursue a caree | in science? |  |  |  |  | 37. How likely are you to $p$ <br> (4) Not at all likely <br> (B) Not likely <br> © Somewhat likely <br> (2) Quite likely <br> (1) Extremely likely <br> Issue: Student Fa | pursue a career <br> ctors | in science? |  |  |  | numat | N/C | N/A |

[^27]2019 Operational Grade 12 Science Student

| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 16. In this school year, have you done any of the career in science? Select one answer choice | ng act |  | vamp | 38. In this school year. have you done any career in science? Select one answer ch | ing act |  | numer | R | To keep |
|  | Yes | No |  |  | Yes | No |  |  | burden low, |
| 3. Attended a carcer fair | © | © | shamen | a. Spoken with a guidance counselor or teacher about science-related careers | © | © | vmuers |  | sub-items a, |
| b. Answered questions on a career interest survey for example, the Vocational-Interest Inventory, the Career Interest Test, or the Strong Interest Inventory ${ }^{\text {* }}$ ) | © | © | \% | teacher about science-related carreers b. Spoken with a a guidance counsclor teacher about science-related college programs | - | © | nuest |  | sub-items a, $b, c, d, e, h,$ |
| c. Taken a science course in aldition to what <br> you nced to graduate | © | $\square$ | nneow | c. Shadowed a person who does science-related work at his or her iob | © | © | nimatr |  | and $k$ were |
| d. Collected information about science-related carcers on your own | © | © | muewe | d. Worked as an intern or employee doing science-related work | * | © | whaors |  | dropped. |
| $\qquad$ seience-related college programs on your own | $\bullet$ | © | whense |  |  |  |  |  |  |
| f. Spoken with a guidance counselor or teacher about science-rclated carcers | © | $\oplus$ | мпй" |  |  |  |  |  |  |
| g. Spoken with a guidance counselor or teacher about science-related college programs | © | $\oplus$ | wnemo |  |  |  |  |  |  |
| h. Spoken with a family member or family his or her ioh | © | © | amese |  |  |  |  |  |  |
| Shadowed a person who does i. science-related work ar his or her iob | © | © | vesern |  |  |  |  |  |  |
| i. Worked as an intern or employee doing science-related work | © | © | mans |  |  |  |  |  |  |
| k. Other (Please specify): | © | © | ment |  |  |  |  |  |  |
| (2018 Grade 12) |  |  |  | Issue: Student Factors |  |  |  |  |  |
| 17. How often do you talk about things you have learned in science class with someone in your family? |  |  |  | 36. How often do you talk about things you have learned in science class with someone in your family? |  |  |  | NC | N/A |
|  |  |  |  |  |  |
| (1) Never or hardly ever |  |  |  |  |  |  |  | (4) Never or hardly ever |  |  |  |  |  |
| (1) Once in a while |  |  |  | (1) Oncc in a whilc |  |  |  |  |  |
| Q Sometimes |  |  |  | © Sometimes |  |  |  |  |  |
| (1) Often |  |  |  |  |  |  |  |  |  |
| (1) Very often |  |  |  | © Very often |  |  |  |  |  |
| (2018 Grade 12) |  |  |  | Issue: Student Factors |  |  |  |  |  |

[^28]
## Appendix K-1ar: Operational Grade 12 Science

24. Which courses have you taken from eighth grade to the present? If you have taken a course more than once, give the most recent year you took it. Select one answer choice on each row. INCLUDE courses taken in summer school, but DO NOT INCLUDE topics that were only taught as part of a longer course.

|  | I did not take this course. | I took this course in Grade 8. | I took this course in Grade 9. | I took this course in Grade 10. | I took this course in Grade 11. | I am taking or have taken this course in Grade 12. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. General science | (4) | (8) | $\bigcirc$ | (1) | (1) | (1) | vH241150 |
| b. First-year biology | (4) | (B) | $\bigcirc$ | (1) | (®) | (1) | vH24151 |
| c. Second-year biology | (4) | (B) | © | (1) | (1) | (1) | vH241159 |
| d. Life science (other than biology) | (4) | (B) | © | (1) | © | (1) | VH241148 |
| e. First-year chemistry | (4) | (B) | © | (1) | (®) | $\oplus$ | VH24154 |
| f. Second-year chemistry | (4) | (B) | © | (1) | (E) | (1) | VH241155 |
| g. First-year physics | (4) | (8) | © | (1) | (1) | (1) | VH241156 |
| h. Second-year physics | (4) | (B) | © | (1) | (1) | (1) | VH241157 |
| i. Physical science (other than chemistry or physics) | (4) | (B) | © | (1) | © | © | VH241149 |
| j. Earth and space science | (4) | (B) | © | (1) | (®) | (1) | VH24147 |
| k. Engineering and technology | (4) | (8) | © | (1) | (E) | © | VH24158 |

25. Are you currently enrolled in or have you taken any online science courses for high school or college credit?
(4) Yes
(B) No
26. Are you currently enrolled in or have you taken an Advanced Placement ${ }^{\circledR}$ course in science? Select all that apply.
(A) Yes, I am enrolled in or have taken Advanced Placement Biology.
(B) Yes, I am enrolled in or have taken Advanced Placement Environmental Science.
© Yes, I am enrolled in or have taken Advanced Placement Chemistry.
(D) Yes, I am enrolled in or have taken Advanced Placement Physics C.
(©) Yes, I am enrolled in or have taken Advanced Placement Physics 1.
© Yes, I am enrolled in or have taken Advanced Placement Physics 2.
(a) Yes, I am enrolled in or have taken Advanced Placement Computer Science A.
$\oplus$ Yes, I am enrolled in or have taken Advanced Placement Computer Science Principles.
(1) No, I have never taken an Advanced Placement science course.
27. Are you currently taking a science course?
(4) Yes
(B) No
28. In your science class this year, how often have you done hands-on activities or projects on any of the following topics? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Very often |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Living things (for example, plants, animals, or bacteria) | (4) | (B) | © | (1) | (1) | VH639072 |
| b. Electricity (for example, circuits, batteries, or light bulbs) | (4) | (B) | © | (1) | (c) | VH639074 |
| c. Chemicals (for example, vinegar, baking soda, or hydrogen peroxide) | (4) | (B) | © | (1) | (1) | VH639073 |
| d. Rocks or minerals (for example, diamond, iron, or lava rock) | (4) | (B) | © | (1) | (c) | VH639077 |
| e. Technology and engineering (for example, robots, pulley systems, or ramps) | (4) | (B) | © | (1) | (1) | vH63076 |

29. In your science class this year, how often have you done each of the following activities? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Read from a science textbook (print or digital) | (4) | (B) | $\bigcirc$ | (1) | © | vH633313 |
| b. Read a book or magazine (print or digital) about science topics | (4) | (B) | $\bigcirc$ | (1) | © | vH633315 |
| c. Used the Internet to learn about science topics | (4) | (B) | © | (1) | (1) | vH633314 |
| d. Watched a short video clip, movie, or video about science topics | (4) | (B) | © | (1) | (®) | VH633312 |
| e. Used a magnifying glass or microscope | (4) | (B) | © | (1) | © | VH887984 |
| f. Used a thermometer or weighing scale for making measurements | (4) | (B) | $\bigcirc$ | (1) | © | VH639078 |

30. In this school year, how often have you done the following activities in your science class? Select one answer choice on each row.

|  | Never or hardly ever | Once in a while | Sometimes | Often | Always or almost always |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Came up with research questions to explore how something works | (4) | (B) | $\bigcirc$ | (1) | (1) | vH639744 |
| b. Made drawings that explain why or how something happens | (1) | (B) | © | (1) | (1) | vH639749 |
| c. Came up with experiments that you could use to answer a research question | (4) | (B) | $\bigcirc$ | (1) | (E) | vH639753 |
| d. Used tables or graphs to identify relationships between variables | (4) | (B) | $\bigcirc$ | © | (®) | vH639760 |
| e. Used math equations to explain or support scientific conclusions | (1) | (B) | $\bigcirc$ | (1) | (1) | vH639763 |
| f. Used evidence from experiments to explain why something happens | (4) | (B) | $\bigcirc$ | (1) | (®) | vH639765 |
| g. Used information to disagree with someone about a scientific idea | (4) | (B) | © | (1) | (1) | vH639770 |
| h. Combined information about science from multiple sources (for example, books, websites, or articles) for an assignment | (4) | (B) | © | (1) | (1) | vH63977 |

31. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want other students to think I am good at science. | (1) | (B) | © | (1) | (1) | VH63980 |
| b. I want to show others that science schoolwork is easy for me. | (4) | (B) | © | (1) | (1) | vH63082 |
| c. I want to look smart in comparison to the other students in my science class. | (4) | (B) | $\bigcirc$ | (1) | (1) | VH639084 |
| d. I want to get better grades than most other students in my science class. | (4) | (B) | © | (1) | (1) | vH860366 |

32. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I want to learn as much as possible in my science class. | (4) | (B) | © | (1) | (1) | vH639896 |
| b. I want to become better in science this year. | (4) | (B) | © | (1) | (c) | vH639087 |
| c. I want to understand as much as I can in my science class. | (1) | (B) | © | (1) | (1) | vH63989 |
| d. I want to master a lot of new skills in my science class. | (1) | (B) | © | (1) | (1) | VH860369 |

33. How much does each of the following statements describe you? Select one answer choice on each row.

|  | Not at all like me | A little bit like me | Somewhat like me | Quite a bit like me | Exactly like me |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. I enjoy science activities. | (4) | (B) | © | (1) | (1) | vH639117 |
| b. I look forward to my science class. | (4) | (B) | © | (1) | (1) | VH639120 |
| c. I am interested in the things I learn in science class. | (4) | (B) | © | (1) | (1) | vH639122 |
| d. I think making an effort in science class is worthwhile. | (4) | (B) | © | © | (1) | VH639125 |
| e. I think science will help me even when I am not in school. | (4) | (B) | © | (1) | (1) | VH639127 |
| f. I think it is important to do well on science assignments. | (4) | (B) | © | (1) | (1) | vH639128 |

34. In this school year, how often have you done each of the following activities outside of school? Select one answer choice on each row.

|  | Never | About once or twice a year | About once or twice a month | About once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Worked on science-related projects (for example, making a volcano, growing plants from seeds, or building simple rockets) | (4) | (B) | © | (1) | (®) | vH859162 |
| b. Used scientific tools (for example, microscopes, thermometers, beakers, or weighing scales) | (4) | (B) | © | (1) | (1) | vH891927 |
| c. Read about science topics in books or magazines (print or digital) | (4) | (B) | © | (1) | (E) | vH638887 |
| d. Attended clubs or programs that include science or engineering activities (for example chemistry club, robotics club, or coding programs) | (4) | (B) | © | (1) | (c) | vH893268 |

35. Thinking about science, do you think that you would be able to do each of the following activities? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't } \end{gathered}$ | $\begin{gathered} \text { I probably } \\ \text { can't } \end{gathered}$ | Maybe | $\begin{gathered} \text { I probably } \\ \text { can } \end{gathered}$ | $\begin{gathered} \text { I definitely } \\ \text { can } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Describe how the length of a vibrating string affects the sound it makes | (4) | (B) | © | (1) | (E) | vH638870 |
| b. Design an experiment to show how sunlight affects the growth of a plant | (4) | (B) | © | (1) | (E) | vH638872 |
| c. Decide which tool to use if you want to measure wind speed | (4) | (B) | © | (1) | (1) | vH638883 |
| d. Design an experiment to test how the growth of a plant is affected by light, water, and soil quality | (4) | (B) | © | (1) | (e) | vH638877 |
| e. Create a diagram that shows how bees and plants need each other for survival | (4) | (B) | © | (1) | (e) | vH638878 |
| f. Describe how the combination of parental genes can result in different traits in their offspring (for example, eye or hair color) | (4) | (B) | © | (1) | (1) | vH638879 |

36. How often do you talk about things you have learned in science class with someone in your family?
(A) Never or hardly ever
(B) Once in a while
© Sometimes
(D) Often
(B) Very often
37. How likely are you to pursue a career in science?
(A) Not at all likely
(B) Not likely
© Somewhat likely
(D) Quite likely
(©) Extremely likely
38. In this school year, have you done any of the following activities to prepare for a career in science? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Spoken with a guidance counselor or teacher about science-related careers | (1) | (B) | vH640754 |
| b. Spoken with a guidance counselor or teacher about science-related college programs | (1) | (B) | vH640757 |
| c. Shadowed a person who does science-related work at his or her job | (1) | (8) | vH640771 |
| d. Worked as an intern or employee doing science-related work | (1) | (8) | vH640773 |

## Appendix K-1as: Summary of Changes Operational Grade 4 NIES

## 2019 Operational Grade 4 National Indian Education Study (NIES) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 1. How much do you know about your American Indian tribe or Alaska Native group? For example, you may know about the history, traditions, or arts and crafts of your tribe or group. <br> (A) Nothing <br> (B) A little <br> (c) Some <br> (D) A lot <br> (2015 Grade 4) | 1. How much do you know about your American Indian tribe or Alaska Native group? For example, you may know about the history, traditions, or arts and crafts of your tribe or group. <br> (4) Nothing <br> (1) A little <br> Q Some <br> (1) A lot | NC | N/A |
| 2. Who taught you most of what you know about American Indian or Alaska Native history? <br> (4) No one has taught me about American Indian or Alaska Native history. Family members Friends Teachers Tribal representatives or elders Some else (please specify): $\qquad$ <br> (2015 Grade 4) | 2. Who taught you most of what you know about American Indian or Alaska Native history? <br> (4) No one has taught me about American Indian or Alaska Native history. <br> (1) Family members <br> © Friends <br> (1) Teachers <br> (1) Tribal representatives or elders <br> (1) Someone else (please specify): $\qquad$ | NC | N/A |
| 3. Who taught you most of what you know about American Indian or Alaska Native traditions (ways of life, customs)? <br> (4) No one has taught me about American Indian or Alaska Native traditions. <br> (1) Family members Friends Teachers Tribal representatives or elders <br> (D) Some else (please specify): $\qquad$ <br> (2015 Grade 4) | 3. Who taught you most of what you know about American Indian or Alaska Native traditions (ways of life, customs)? <br> (4) No one has taught me about American Indian or Alaska Native traditions. <br> (1) Family members <br> © Friends <br> (1) Teachers <br> (1) Tribal representatives or elders <br> (D) Someone else (please specify): $\qquad$ | NC | N/A |


| 2019 Operational Grade 4 National Indian Education Study (NIES) Student |  |  |  |
| :---: | :---: | :---: | :---: |
| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| 4. Who taught you most of what you know about American Indian or Alaska Native arts and crafts? <br> (4) No one has taught me about American Indian or Alaska Native arts and crafts. Family members Friends Teachers Tribal representatives or elders Some else (please specify): $\qquad$ <br> (2015 Grade 4) | 4. Who taught you most of what you know about American Indian or Alaska Native arts and crafts? <br> Q No one has taught me about American Indian or Alaska Native arts and crafts. <br> (D) Family members <br> © Friends <br> (1) Teachers <br> (1) Tribal representatives or elders <br> (D) Someone else (please specify): $\qquad$ | NC | N/A |
| 5. How often do you go to American Indian or Alaska Native ceremonies and gatherings? <br> (A) Never <br> (1) Every few years <br> (6) At least once a year <br> (1) Several times a year <br> (2015 Grade 4) | 5. How often do you go to American Indian or Alaska Native ceremonies and gatherings? <br> (4) Never <br> (1) Every few years <br> (6) At least once a year <br> © Several times a year | NC | N/A |
| 6. How often do members of your family talk to each other in your American Indian or Alaska Native language? <br> (A) Never or hardly ever <br> (8) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day <br> (2015 Grade 4) | 6. How often do members of your family talk to each other in your American Indian or Alaska Native language? <br> (4) Never or hardly ever <br> (1) Once or twice a month <br> Q Once or twice a week <br> (1) Every day or almost every day | NC | N/A |

## 2019 Operational Grade 4 National Indian Education Study (NIES) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 7. How often do people in your school talk to each other in your American Indian or Alaska Native language? <br> (4) Never or hardly ever <br> (8) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day <br> (2015 Grade 4) | 7. How often do people in your school talk to each other in your American Indian or Alaska Native language? <br> (1) Never or hardly ever <br> (1) Once or twice a month <br> - Once or twice a week <br> (1) Every day or almost every day | NC | N/A |
| 8. How often do you attend classes in school that are taught in an American Indian or Alaska Native language? My school does not offer classes that are taught in an American Indian or Alaska Native language. <br> (B) Never or hardly ever <br> © Once or twice a month <br> (1) Once or twice a week <br> (E) Every day or almost every day <br> (2015 Grade 4) | 8. How often do you attend classes in school that are taught in an American Indian or Alaska Native language? My school does not offer classes that are taught in an American Indian or Alaska Native language. <br> (1) Never or hardly ever <br> © Once or twice a month <br> (1) Once or twice a week <br> (1) Every day or almost every day | NC | N/A |
| 9. How do you rate yourself in speaking an American Indian or Alaska Native language? <br> (4) I cannot speak an American Indian or Alaska Native language. <br> (8) I can speak a few words or phrases. <br> © I can speak well. <br> (2015 Grade 4) | 9. How do you rate yourself in speaking an American Indian or Alaska Native language? <br> (2) I cannot speak an American Indian or Alaska Native language. <br> (1) I can speak a few words or phrases. <br> Q I can speak well. | NC | N/A |
| 10. How do you rate yourself in reading an American Indian or Alaska Native language? <br> (4) I cannot read in an American Indian or Alaska Native language. <br> (B) I can read a few words or phrases. <br> © I can read well. | 10. How do you rate yourself in reading an American Indian or Alaska Native language? <br> (2) I cannot read in an American Indian or Alaska Native language. <br> (1) I can read a few words or phrases. <br> © I can read well. | NC | N/A |

## 2019 Operational Grade 4 National Indian Education Study (NIES) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| (2015 Grade 4) |  |  |  |
| 11. Who taught you most of what you know about an American Indian or Alaska Native language? <br> (4) No one has taught me about an American Indian or Alaska Native language. <br> (1) Family members <br> (6) Friends <br> (2) Teachers <br> (D) Tribal representatives or elders <br> (D) Some else (please specify): $\qquad$ <br> (2015 Grade 4) | 11. Who taught you most of what you know about an American Indian or Alaska Native language? <br> (4) No one has taught me about an American Indian or Alaska Native language. <br> (1) Family members <br> © Friends <br> (1) Teachers <br> (1) Tribal representatives or elders <br> (1) Someone else (please specify): $\qquad$ | NC | N/A |
| 12. During 4th grade, have you attended school field trips to museums, traditional villages, or other places to learn about American Indian or Alaska Native people? Yes No <br> (2015 Grade 4) | 12. During 4th grade, have you attended school field trips to museums, traditional villages, or other places to learn about American Indian or Alaska Native people: <br> (4) Yes <br> (1) No | NC | N/A |
| 13. During 4th grade, have you used books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people in school? Yes, once or twice Yes, three or more times No <br> (2015 Grade 4) | 13. During 4th grade. have you used books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people in school? <br> (2) Yes, once or twice <br> (1) Yes, three or more times <br> © No | NC | N/A |

## 2019 Operational Grade 4 National Indian Education Study (NIES) Student

\begin{tabular}{|c|c|c|c|}
\hline Previous item \& 2019 item \& \[
\begin{aligned}
\& \text { D/A/ } \\
\& \text { R/NC+ }
\end{aligned}
\] \& Rationale \\
\hline \begin{tabular}{l}
14. During 4th grade, have you used books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people outside of school? \\
(A) Yes, once or twice \\
(B) Yes, three or more times \\
(c) No \\
(2015 Grade 4)
\end{tabular} \& \begin{tabular}{l}
14. During 4th grade, have you used books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people outside of school? \\
(2) Yes, once or twice \\
(1) Yes, three or more times

\end{tabular} \& NC \& N/A <br>

\hline | 15. In school, do you have access to a library, media center, or resource center with books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people? |
| :--- |
| (A) Yes |
| (B) No |
| (2015 Grade 4) | \& | 15. In school, do you have access to a library, media center, or resource center with books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people? |
| :--- |
| (1) Yes |
| (1) No | \& NC \& N/A <br>


\hline | 16. When my teacher talks about American Indian or Alaska Native history or culture, I try to read more about it. This is not like me. This is a little like me. This is a lot like me. |
| :--- |
| (2015 Grade 4) | \& | 16. When my teacher talks about American Indian or Alaska Native history or culture, I try to read more about it. |
| :--- |
| (4) This is not like me. |
| (1) This is a little like me. |
| © This is a lot like me. | \& NC \& N/A <br>


\hline | 17. I enjoy reading about American Indian or Alaska Native people. |
| :--- |
| (A) This is not like me. |
| (B) This is a little like me. |
| (c) This is a lot like me. |
| (2015 Grade 4) | \& | 17. I enjoy reading about American Indian or Alaska Native people. |
| :--- |
| (4) This is not like me. |
| (1) This is a little like me. |
| © This is a lot like me. | \& NC \& N/A <br>

\hline
\end{tabular}

## 2019 Operational Grade 4 National Indian Education Study (NIES) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 18. I enjoy reading about people who have different traditions and cultures (ways of life, customs) than I have. This is not like me. This is a little like me. This is a lot like me. <br> (2015 Grade 4) | 18. I enjoy reading about people who have different traditions and cultures (ways of life, customs) than I have. <br> (ब) This is not like me. <br> (1) This is a little like me. <br> © This is a lot like me. | NC | N/A |
| 19. I put a lot of effort into my schoolwork. This is not like me. This is a little like me. This is a lot like me. <br> (2015 Grade 4) | 19. I put a lot of effort into my schoolwork. <br> (4) This is not like me. <br> (D) This is a little like me. <br> © This is a lot like me. | NC | N/A |
| 20. I want to be one of the best students in my class. This is not like me. This is a little like me. This is a lot like me. <br> (2015 Grade 4) | 20. I want to be one of the best students in my class. <br> (ब) This is not like me. <br> (1) This is a little like me. <br> - This is a lot like me. | NC | N/A |
| 21. I enjoy being challenged in my classes. This is not like me. This is a little like me. This is a lot like me. <br> (2015 Grade 4) | 21. I enjoy being challenged in my classes. <br> (d) This is not like me. <br> (1) This is a little like me. <br> Q This is a lot like me. | NC | N/A |
| 22. I feel that I belong at school. <br> (4) This is not like me. <br> (B) This is a little like me. <br> © This is a lot like me. | 22. I feel that I belong at school. <br> (4) This is not like me. <br> (1) This is a little like me. <br> © This is a lot like me. | NC | N/A |

2019 Operational Grade 4 National Indian Education Study (NIES) Student

| Previous item | 2019 item | D/A/ <br> R/NC+ | Rationale |
| :---: | :---: | :---: | :---: |
| (2015 Grade 4) |  |  |  |
| 23. If I put in enough effort, I will succeed in school. <br> (A) Strongly disagree <br> (B) Disagree <br> © Agree <br> (D) Strongly agree <br> (2015 Grade 8) | 23. If I put in enough effort. I will succeed in school. <br> (4) Strongly disagree <br> (1) Disagree <br> © Agree <br> (1) Strongly agree | NC | N/A |
| 24. Trying hard in school will help me live a good life when I grow up. Strongly disagree Disagree Agree Strongly agree <br> (2015 Grade 4) | 24. Trying hard in school will help me live a good life when I grow up. <br> (4) Strongly disagree <br> (1) Disagree <br> © Agree <br> (1) Strongly agree | NC | N/A |
| 25. How often does a parent or someone else from your family help you with your schoolwork? For example, they might help you to study for a test, help you with a school project, or go over your homework with you. <br> (A) Never or hardly ever <br> (B) Once or twice a month <br> (c) Once or twice a week <br> (D) Every day or almost every day <br> (2015 Grade 4) | 25. How often does a parent or someone else from your family help you with your schoolwork? For example, they might help you to study for a test. help you with a school project, or go over your homework with you. <br> (4) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day | NC | N/A |

## 2019 Operational Grade 4 National Indian Education Study (NIES) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 26. How often does a teacher or another adult from your school help you with your schoolwork? For example, they might help you to study for a test, help you with a school project, or go over your homework with you. <br> (A) Never or hardly ever <br> (B) Once or twice a month <br> (c) Once or twice a week <br> (D) Every day or almost every day <br> (2015 Grade 4) | 26. How often does a teacher or another adult from your school help you with your schoolwork? For example, they might help you to study for a test, help you with a school project, or go over your homework with you. <br> (4) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day | NC | N/A |
| 27. How often does another student from your school help you with your schoolwork? For example, they might help you to study for a test, help you with a school project, or go over your homework with you. <br> (A) Never or hardly ever <br> (8) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day <br> (2015 Grade 4) | 27. How often does another student from your school help you with your schoolwork? For example, they might help you to study for a test. help you with a school project, or go over your homework with you. <br> (1) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day | NC | N/A |
| 28. How often do you help other students from your school with their schoolwork? For example, you might help other students to study for a test, help them with a school project, or go over their homework with them. <br> (4) Never or hardly ever <br> (B) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day <br> (2015 Grade 4) | 28. How often do you help other students from your school with their schoolwork? For example, you might help other students to study for a test, help them with a school project, or go over their homework with them. <br> (1) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day | NC | N/A |

## 2019 Operational Grade 4 National Indian Education Study (NIES) Student

| Previous item | 2019 item |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: |
| 29. How much do you like school? Not at all A little Somewhat Very much <br> (2015 Grade 4) | 29. How much do you like school? <br> (2) Not at all <br> (1) A little <br> © Somewhat <br> (6) Very much | vemis | NC | N/A |
| 30. Do you know the name of the American Indian tribe or Alaska Native group you belong to or are enrolled in? Yes No <br> (c) I'm not sure. <br> (2015 Grade 4) | 30. Do you know the name of the American Indian tribe or Alaska Native group you belong to or are enrolled in? <br> (2) Yes <br> (1) No <br> © I'm not sure. | veems | NC | N/A |
| 31. If you know the name of the American Indian tribe or Alaska Native group that you belong to or are enrolled in, or if you think you know it, please print it on the line below. Do not worry about spelling. If you belong to more than one American Indian tribe or Alaska Native group, write the names of as many as you know. $\qquad$ $\qquad$ <br> (2015 Grade 4) | 31. If you know the name of the American Indian tribe or Alaska Native group that you belong to or are enrolled in, or if you think you know it, please print it on the line below. Do not worry about spelling. If you belong to more than one American Indian tribe or Alaska Native group, write the names of as many as you know. $\qquad$ $\qquad$ | nesam | NC | N/A |
| 32. What else would you like to say about yourself, your school, or about American Indian or Alaska Native people? Use these lines to write your ideas. $\qquad$ $\qquad$ $\qquad$ <br> (2015 Grade 4) | 32. What else would you like to say about yourself, your school, or about American Indian or Alaska Native people? Use these lines to write your ideas. $\qquad$ $\qquad$ $\qquad$ | nueger | NC | N/A |

## Appendix K-1at: Operational Grade 4 NIES

1. How much do you know about your American Indian tribe or Alaska Native group? For example, you may know about the history, traditions, or arts and crafts of your tribe or group.
(4) Nothing
(B) A little
© Some
(D) A lot
2. Who taught you most of what you know about American Indian or Alaska Native history?
(A) No one has taught me about American Indian or Alaska Native history.
(B) Family members
© Friends
(D) Teachers
(e) Tribal representatives or elders
(®) Someone else (please specify): $\qquad$
3. Who taught you most of what you know about American Indian or Alaska Native traditions (ways of life, customs)?
(A) No one has taught me about American Indian or Alaska Native traditions.
(B) Family members
© Friends
(D) Teachers
(E) Tribal representatives or elders
() Someone else (please specify):
4. Who taught you most of what you know about American Indian or Alaska Native arts and crafts?
(A) No one has taught me about American Indian or Alaska Native arts and crafts.
(B) Family members
© Friends
(D) Teachers
(E) Tribal representatives or elders
© Someone else (please specify): $\qquad$

VH240132
5. How often do you go to American Indian or Alaska Native ceremonies and gatherings?
(4) Never
(B) Every few years
© At least once a year
(D) Several times a year
6. How often do members of your family talk to each other in your American Indian or Alaska Native language?
(4) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
7. How often do people in your school talk to each other in your American Indian or Alaska Native language?
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
8. How often do you attend classes in school that are taught in an American Indian or Alaska Native language?
(A) My school does not offer classes that are taught in an American Indian or Alaska Native language.
(B) Never or hardly ever
© Once or twice a month
(D) Once or twice a week
(E) Every day or almost every day
9. How do you rate yourself in speaking an American Indian or Alaska Native language?
(A) I cannot speak an American Indian or Alaska Native language.
(B) I can speak a few words or phrases.
© I can speak well.
10. How do you rate yourself in reading an American Indian or Alaska Native language?
(A) I cannot read in an American Indian or Alaska Native language.
(B) I can read a few words or phrases.
© I can read well.
11. Who taught you most of what you know about an American Indian or Alaska Native language?
(A) No one has taught me about an American Indian or Alaska Native language.
(B) Family members
© Friends
(D) Teachers
(®) Tribal representatives or elders
(®) Someone else (please specify): $\qquad$
12. During 4th grade, have you attended school field trips to museums, traditional villages, or other places to learn about American Indian or Alaska Native people?
(4) Yes
(B) No
13. During 4th grade, have you used books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people in school?
(A) Yes, once or twice
(B) Yes, three or more times
(c) No
14. During 4th grade, have you used books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people outside of school?
(A) Yes, once or twice
(B) Yes, three or more times
(c) No
15. In school, do you have access to a library, media center, or resource center with books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people?
(4) Yes
(B) No
16. When my teacher talks about American Indian or Alaska Native history or culture, I try to read more about it.
(A) This is not like me.
(B) This is a little like me.
© This is a lot like me.
17. I enjoy reading about American Indian or Alaska Native people.
(A) This is not like me.
(B) This is a little like me.
© This is a lot like me.
18. I enjoy reading about people who have different traditions and cultures (ways of life, customs) than I have.
(A) This is not like me.
(B) This is a little like me.
© This is a lot like me.
19. I put a lot of effort into my schoolwork. (4) This is not like me.
(B) This is a little like me.
© This is a lot like me.
20. I want to be one of the best students in my class.
(A) This is not like me.
(B) This is a little like me.
(c) This is a lot like me.
21. I enjoy being challenged in my classes.
(A) This is not like me.
(B) This is a little like me.
© This is a lot like me.
22. I feel that I belong at school.
(A) This is not like me.
(B) This is a little like me.
© This is a lot like me.
23. If I put in enough effort, I will succeed in school.
(A) Strongly disagree
(B) Disagree
© Agree
(D) Strongly agree
24. Trying hard in school will help me live a good life when I grow up.
(A) Strongly disagree
(B) Disagree
© Agree
(D) Strongly agree
25. How often does a parent or someone else from your family help you with your schoolwork? For example, they might help you to study for a test, help you with a school project, or go over your homework with you.
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
26. How often does a teacher or another adult from your school help you with your schoolwork? For example, they might help you to study for a test, help you with a school project, or go over your homework with you.
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
27. How often does another student from your school help you with your schoolwork? For example, they might help you to study for a test, help you with a school project, or go over your homework with you.
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
28. How often do you help other students from your school with their schoolwork? For example, you might help other students to study for a test, help them with a school project, or go over their homework with them.
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
29. How much do you like school?
(A) Not at all
(B) A little
(c) Somewhat
(D) Very much
30. Do you know the name of the American Indian tribe or Alaska Native group you belong to or are enrolled in?
(4) Yes
(B) No
© I'm not sure.
31. If you know the name of the American Indian tribe or Alaska Native group that you belong to or are enrolled in, or if you think you know it, please print it on the line below. Do not worry about spelling. If you belong to more than one American Indian tribe or Alaska Native group, write the names of as many as you know.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
32. What else would you like to say about yourself, your school, or about American Indian or Alaska Native people? Use these lines to write your ideas.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Appendix K-1au: Summary of Changes Operational Grade 8 NIES

2019 Operational Grade 8 National Indian Education Study (NIES) Student


+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).


## 2019 Operational Grade 8 National Indian Education Study (NIES) Student

| Previous item | 2019 item |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4. Who taught you most of what you know about issues today that are important to American Indian or Alaska Native people? <br> (4) No one has taught me about issues today that are important to American Indian or Alaska Native people. <br> (1) Family members <br> (c) Friends <br> (1) Teachers <br> (c) Tribal representatives or elders <br> © Someone else (please specify): $\qquad$ <br> (2015 Grade 8) | 4. Who taught you most of what you know about issues today that are important to American Indian or Alaska Native people? <br> (4) No one has taught me about issues today that are important to American Indian or Alaska Native people. <br> (1) Family members <br> (c) Friends <br> (D) Teachers <br> (D) Tribal representatives or elders <br> (อ) Someone else (please specify) $\qquad$ |  |  |  |  | NC | N/A |
| 5. How often have you participated in each of the following? Fill in one oval on each line. | 5. How often have you partici each row. | din each <br> Never <br> $\otimes$ | (efollowing? | select one answer <br> At least once a <br> year <br> 0 <br> 0 <br> $\infty$ | choice on | NC | The in-line direction was adapted from PBA to DBA: "Fill in one oval on each line." was adapted to "Select one answer choice on each row." |
| 6. How often do members of your family talk to each other in your American Indian or Alaska Native language? <br> (4) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day <br> (2015 Grade 8) | 6. How often do members of yo or Alaska Native language? <br> (8) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost ever | amily t | each other | your American |  | NC | N/A |

[^29]2019 Operational Grade 8 National Indian Education Study (NIES) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 7. How often do people in your school talk to each other in your American Indian or Alaska Native language? <br> (A) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day <br> (2015 Grade 8) | 7. How often do people in your school talk to cach other in your American Indian or Alaska Native language? <br> (8) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day | NC | N/A |
| 8. How often do you attend classes in school that are taught in an American Indian or Alaska Native language? <br> (A) My school does not offer classes that are taught in an American Indian or Alaska Native language. <br> (1) Never or hardly ever <br> © Once or twice a month <br> (1) Once or twice a week <br> (1) Every day or almost every day <br> (2015 Grade 8) | 8. How often do you attend classes in school that are taught in an American Indian or Alaska Native language? <br> (4) My school does not offer classes that are taught in an American Indian or Alaska Native language. <br> (1) Never or hardly ever <br> © Once or twice a month <br> (1) Once or twice a week <br> (1) Every day or almost every day | NC | N/A |
| 9. How do you rate yourself in speaking an American Indian or Alaska Native language? I cannot speak an American Indian or Alaska Native language. I can speak a few words or phrases. I can speak well. <br> (2015 Grade 8) | 9. How do you rate yourself in speaking an American Indian or Alaska Native language? <br> (1) I cannot speak an American Indian or Alaska Native language. <br> (1) I can speak a few words or phrases. <br> © 1 can speak well. | NC | N/A |
| 10. How do you rate yourself in reading an American Indian or Alaska Native language? <br> (4) I cannot read in an American Indian or Alaska Native language. <br> (1) I can read a few words or phrases. <br> - I can read well. <br> (2015 Grade 8) | 10. How do you rate yourself in reading an American Indian or Alaska Native language? <br> (4) I cannot read in an American Indian or Alaska Native language. <br> (1) I can read a few words or phrases. <br> Q I can read well. | NC | N/A |

[^30]
## 2019 Operational Grade 8 National Indian Education Study (NIES) Student

| Previous item |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11. Who taught you most of what you know about an American Indian or Alaska Native language? <br> (D) No one has taught me about an American Indian or Alaska Native language. <br> (2) Family members <br> © Friends <br> (1) Teachers <br> (1) Tribal representatives or elders <br> (1) Someone else (please specity): $\qquad$ <br> (2015 Grade 8) |  |  | 11. Who taught you most of what you know about an American Indian or Alaska Native language? <br> (2) No one has taught me about an American Indian or Alaska Native language. <br> (1) Family members <br> © Friends <br> (1) Teachers <br> (1) Tribal representatives or elders <br> (c) Someone else (please specify): $\qquad$ |  |  | ncous | NC | N/A |
| 12. During 8th grade, how often have any of your teachers talked to your class about the history, traditions, and cultures (ways of life, customs) of American Indian or Alaska Native people? <br> (1) Never or hardly ever <br> (1) Once or twice a month <br> © Once or twice a week <br> (1) Every day or almost every day <br> (2015 Grade 8) |  |  | 12. During 8th grade, how often have any of your teachers talked to your class about the history, traditions, and cultures (ways of life, customs) of American Indian or Alaska Native people? <br> (2) Never or hardly ever <br> (1) Once or twice a month <br> (1) Once or twice a week <br> (1) Every day or almost every day |  |  |  | NC | N/A |
| 13. During 8th grade, have you attended any of the following activities organized by your school? Fill in one oval on each line. |  |  | 13. During 8th grade, have you attended any of your school? Select one answer choice on $\qquad$ <br> a. Presentations by American Indian or | wing: |  | 12 | NC | The in-line |
|  |  |  | Yes | No |  |  |  |
| a. Presentations by American Indian or Alaska Native people about their traditions and cultures (ways of life, customs) <br> b. American Indian or Alaska Native art and craft |  | (1) vissen |  | a. Presentations by American Indian or Alaska Native people about their traditions and cultures (ways of life, customs) | © | © | wnuse |  | PBA to DBA: |
|  |  | (1) vissen | b. American Indian or Alaska Native art and | © | (1) | nıusse |  | "Fill in one |
|  |  |  | c. Traditional American Indian or Alaska Native music and/or dance performances | © | (1) | 108 |  | oval on each line." was |
| c. Traditional American Indian or Alaska Native music and/or dance performances |  | (1) nneses | d. Field trips to museums, traditional villages. or other places to leamn about American Indian or Alaska Native people | © | $\oplus$ | manes |  | adapted to |
| d. Field trips to museums, traditional villages, or other places to learn about American Indian or Alaska Native people <br> (2015 Grade 8) |  | (1) nuses |  |  |  |  |  | "Select one answer choice on each row." |

[^31]
## 2019 Operational Grade 8 National Indian Education Study (NIES) Student



[^32]2019 Operational Grade 8 National Indian Education Study (NIES) Student


+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 8 National Indian Education Study (NIES) Student


+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

+ This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

2019 Operational Grade 8 National Indian Education Study (NIES) Student


[^33]2019 Operational Grade 8 National Indian Education Study (NIES) Student

| Previous item | 2019 item |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: |
| (2015 Grade 8) |  |  |  | "Select one answer choice on each row." |
| 29. Do you know the name of the American Indian tribe or Alaska Native group you belong to or are enrolled in? <br> (A) Yes <br> (1) No <br> © Im not sure. <br> (2015 Grade 8) | 29. Do you know the name of the American Indian tribe or Alaska Native group you belong to or are enrolled in? <br> (4) Yes <br> (b) No <br> (Q) I'm not sure. | wams | NC | N/A |
| 30. If you know the name of the American Indian tribe or Alaska Native group that you belong to or are enrolled in, or if you think you know it, please print it on the line below. Do not worry about spelling. If you belong to more than one American Indian tribe or Alaska Native group, write the names of as many as you know. $\qquad$ $\qquad$ | 30. If you know the name of the American Indian tribe or Alaska Native group that you belong to or are enrolled in, or if you think you know it, please print it on the line below. Do not worry about spelling. If you belong to more than one American Indian tribe or Alaska Native group, write the names of as many as you know. $\qquad$ $\qquad$ | nuame | NC | N/A |
| 31. What else would you like to say about yourself, your school, or about American Indian or Alaska Native people? Use these lines to write your ideas. $\qquad$ $\qquad$ $\qquad$ <br> (2015 Grade 8) | 31. What else would you like to say about yourself, your school, or about American Indian or Alaska Native people? Use these lines to write your ideas. $\qquad$ $\qquad$ $\qquad$ | nemes | NC | N/A |

## Appendix K-1av: Operational Grade 8 NIES

1. How much do you know about each of the following? Select one answer choice on each row.

|  | Nothing | A little | Some | A lot |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Your American Indian or Alaska Native history | (4) | (B) | © | (1) | vH241515 |
| b. Your American Indian or Alaska Native traditions and culture (way of life, customs) | (4) | (B) | © | (1) | vH241517 |
| c. Issues today that are important to American Indian or Alaska Native people | (4) | (B) | © | (1) | vH241516 |

2. Who taught you most of what you know about American Indian or Alaska Native history?
(A) No one has taught me about American Indian or Alaska Native history.
(B) Family members
© Friends
(D) Teachers
(E) Tribal representatives or elders
(®) Someone else (please specify): $\qquad$
3. Who taught you most of what you know about American Indian or Alaska Native traditions (ways of life, customs)?
(A) No one has taught me about American Indian or Alaska Native traditions.
(B) Family members
© Friends
(D) Teachers
(E) Tribal representatives or elders
() Someone else (please specify): $\qquad$
4. Who taught you most of what you know about issues today that are important to American Indian or Alaska Native people?
(4) No one has taught me about issues today that are important to American Indian or Alaska Native people.
(B) Family members
© Friends
(D) Teachers
(E) Tribal representatives or elders
(®) Someone else (please specify): $\qquad$
5. How often have you participated in each of the following? Select one answer choice on each row.

|  | Never | Every few years | At least once a year | Several times a year |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Ceremonies and gatherings for people from your American Indian tribe or Alaska Native group | (4) | (B) | $\bigcirc$ | (1) | vH241519 |
| b. Ceremonies and gatherings that bring people together from many different American Indian tribes or Alaska Native groups | (4) | (B) | $\bigcirc$ | (1) | vH241521 |
| c. Other American Indian or Alaska Native activities | (4) | (B) | © | (1) | vH241520 |

6. How often do members of your family talk to each other in your American Indian or Alaska Native language?
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
7. How often do people in your school talk to each other in your American Indian or Alaska Native language?
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
8. How often do you attend classes in school that are taught in an American Indian or Alaska Native language?
(A) My school does not offer classes that are taught in an American Indian or Alaska Native language.
(B) Never or hardly ever
© Once or twice a month
(D) Once or twice a week
(E) Every day or almost every day
9. How do you rate yourself in speaking an American Indian or Alaska Native language?
(A) I cannot speak an American Indian or Alaska Native language.
(B) I can speak a few words or phrases.
© I can speak well.
10. How do you rate yourself in reading an American Indian or Alaska Native language?
(A) I cannot read in an American Indian or Alaska Native language.
(B) I can read a few words or phrases.
© I can read well.
11. Who taught you most of what you know about an American Indian or Alaska Native language?
(A) No one has taught me about an American Indian or Alaska Native language.
(B) Family members
© Friends
(D) Teachers
(e) Tribal representatives or elders
() Someone else (please specify): $\qquad$
12. During 8th grade, how often have any of your teachers talked to your class about the history, traditions, and cultures (ways of life, customs) of American Indian or Alaska Native people?
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
13. During 8 th grade, have you attended any of the following activities organized by your school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Presentations by American Indian or Alaska Native people about their traditions and cultures (ways of life, customs) | (1) | (B) | vH241523 |
| b. American Indian or Alaska Native art and craft demonstrations | (1) | (8) | vH241526 |
| c. Traditional American Indian or Alaska Native music and/or dance performances | (1) | (8) | vH241525 |
| d. Field trips to museums, traditional villages, or other places to learn about American Indian or Alaska Native people | (1) | (8) | VH241524 |

14. During 8th grade, have you participated in any of the following activities organized by your school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Sports team | (4) | (8) | vH241528 |
| b. Music club, orchestra, or band | (4) | (8) | vH241532 |
| c. Cultural dances or other American Indian or Alaska Native activities (for example, drum groups) | (1) | (B) | vH241531 |
| d. Academic club (for example, math club) | (4) | (B) | vH241530 |

15. During 8th grade, have you used books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people in school?
(4) Yes, once or twice
(B) Yes, three or more times
© No
16. During 8th grade, have you used books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people outside of school?
(4) Yes, once or twice
(B) Yes, three or more times
© No
17. In school, do you have access to a library, media center, or resource center with books, videos, or other materials (including Internet resources) about American Indian or Alaska Native people?
(4) Yes
(B) No
18. Here are some sentences about reading. Fill in one oval on each line to show whether the sentence describes a person like you.

|  | This is not like me. | This is a little like me. | This is a lot like me. |  |
| :---: | :---: | :---: | :---: | :---: |
| a. When my teacher talks about American Indian or Alaska Native history or culture, I try to read more about it. | (4) | (B) | $\bigcirc$ | vH241536 |
| b. I enjoy reading about American Indian or Alaska Native people. | (4) | (B) | © | vH241538 |
| c. I enjoy reading about people who have different traditions and cultures (ways of life, customs) than I have. | (1) | (B) | © | vH241537 |

19. Here are some sentences about your school. Fill in one oval on each line to show whether the sentence describes a person like you.

|  | This is not like me. | This is a little like me. | This is a lot like me. |  |
| :---: | :---: | :---: | :---: | :---: |
| a. I put a lot of effort into my schoolwork. | (4) | (B) | © | vH241540 |
| b. I want to be one of the best students in my class. | (4) | (B) | © | vH241543 |
| c. I enjoy being challenged in my classes. | (4) | (B) | © | vH241542 |
| d. I feel that I belong at school. | (4) | (B) | © | VH241541 |

20. How much do you agree with each of the following statements? Select one answer choice on each row.

|  | Strongly disagree | Disagree | Agree | Strongly agree |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. If I put in enough effort, I will succeed in school. | (1) | (B) | © | (1) | vH241545 |
| b. If I put in enough effort in school, I will get into college. | (4) | (B) | © | (1) | vH241547 |
| c. If I put in enough effort in school, I will get a good job. | (4) | (B) | $\bigcirc$ | (1) | vH241546 |

21. How much do you like school?
(A) Not at all
(B) A little
(c) Somewhat
(D) Very much
22. How much are the things you are learning in school preparing you for the life you want to lead?
(A) Not at all
(B) A little
© A fair amount
(D) Very much
23. During 8th grade, how often have you talked with any of your teachers outside of regular class periods? For example, to get extra help with your assignments, to talk about issues that matter to you, or just to visit.
(A) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
24. How often do you help other students from your school with their schoolwork? For example, you might help other students to study for a test, help them with a school project, or go over their homework with them.
(4) Never or hardly ever
(B) Once or twice a month
© Once or twice a week
(D) Every day or almost every day
25. How often do any of the following people help you with your schoolwork? For example, they might help you to study for a test, help you with a school project, or go over your homework with you. Select one answer choice on each row.

|  | Never or hardly ever | Once or twice a month | Once or twice a week | Every day or almost every day |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. A parent or someone else from my family | (4) | (B) | © | (1) | vH241549 |
| b. A teacher or another adult from my school | (4) | (B) | © | (1) | vH241550 |
| c. Another student | (4) | (B) | © | (1) | vH241553 |
| d. A tribal representative or elder | (4) | (B) | © | (1) | vH241551 |

26. During 8th grade, how many times have you talked to each of the following people about the classes you should take in high school or about what you want to do after high school? Select one answer choice on each row.

|  | Never | One time | Two or three times | Four or more times |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. A family member | (4) | (8) | © | (1) | VH241555 |
| b. A teacher | (4) | (8) | © | (1) | VH241556 |
| c. A school counselor | (4) | (8) | © | (1) | VH241557 |
| d. Another student | (4) | (8) | © | (1) | vH241561 |
| e. A tribal representative or elder | (4) | (B) | © | (1) | vH241560 |
| f. Someone else who lives in my community or is a friend of my family | (4) | (B) | $\bigcirc$ | (1) | VH241558 |

27. Do you plan to do any of the following in your first year after high school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. Go to college full time | (4) | (8) | VH241563 |
| b. Go to college part time | (1) | (B) | VH241564 |
| c. Go to another school (for example, career training, technical, or trade/vocational) full time | (1) | © | vH241565 |
| d. Go to another school (for example, career training, technical, or trade/vocational) part time | (4) | (B) | vH241566 |
| e. Join the military | (4) | (B) | vH241572 |
| f. Work full time | (4) | (B) | VH241568 |
| g. Work part time | (4) | (B) | vH241569 |
| h. Travel | (4) | (8) | vH241570 |
| i. Care for family | (4) | (B) | vH241571 |
| j. I don't know. | (1) | (B) | vH241567 |

28. To what extent is each of the following a problem in your school? Select one answer choice on each row.

|  | Not at all | Small extent | Moderate extent | Large extent |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Student tardiness | (4) | (8) | $\bigcirc$ | (1) | vH241574 |
| b. Student health problems | (4) | (8) | $\bigcirc$ | (1) | vH241575 |
| c. Student misbehavior in class | (4) | (B) | © | (1) | vH241576 |
| d. Physical conflicts among students | (4) | (B) | © | (1) | vH241580 |
| e. Bullying | (4) | (B) | © | (1) | VH241578 |
| f. Low student motivation | (4) | (B) | $\bigcirc$ | (1) | vH241579 |

29. Do you know the name of the American Indian tribe or Alaska Native group you belong to or are enrolled in?
(4) Yes
(B) No
(c) I'm not sure.
30. If you know the name of the American Indian tribe or Alaska Native group that you belong to or are enrolled in, or if you think you know it, please print it on the line below. Do not worry about spelling. If you belong to more than one American Indian tribe or Alaska Native group, write the names of as many as you know.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
31. What else would you like to say about yourself, your school, or about American Indian or Alaska Native people? Use these lines to write your ideas.
$\qquad$
$\qquad$
$\qquad$

Appendix K-1aw: Summary of Changes Operational Grade 4 CAFS

## 2019 Operational Grade 4 Computer and Familiarity Study (CAFS) Student

| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. At home. do you have any of the following! Select one answer choice on each row. |  |  |  | 1. At home, do you have any of the following? Select one answer choice on each row, |  |  |  | NC | N/A |
|  | Yes | No |  |  | Yes | No |  |  |  |
| a. A laptop or desktop computer that is only for your use | © | © | wemen | a. A laptop or desktop computer that is only for your use | (1) | © | nevin |  |  |
| b. A laptop or desktop computer that is shared between you and others | ${ }^{\circ}$ | © | metme | b. A laptop or desktop computer that is shared between you and others | © | ${ }^{\circ}$ | (1eous |  |  |
| c. A tablet that is only for your use | $\stackrel{\square}{\square}$ | ${ }^{\circ}$ | nveme | c. A tablet that is only for your use | (1) | $\square$ | 5018 |  |  |
| d. A tablet that is shared between you and others | $\oplus$ | © | mume | d. A tablet that is shared between you and others | $\pm$ | ${ }^{\oplus}$ | newne |  |  |
| c. Wi-Fi or some other Internet connection you can use | $\oplus$ | $\pm$ | ${ }^{90}$ | e. Wi-Fi or some other Internet connection you can usc | © | $\oplus$ | verow |  |  |
| f. A smartphone that is only for your use | ${ }^{\circ}$ | ${ }^{\circ}$ | , mmme | E. A smartphone that is only for your use | - | (1) | титง. |  |  |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |
| 2. When did you first use a laptop or desktop co <br> (1) I have never used one. <br> (1) Before 1 was in kindergarten <br> © When I was in kindergarten <br> (1) When I was in first. second, or third grade <br> (1) When I was in fourth grade |  |  |  | 2. When did you first use a laptop or desktop computer? <br> (4) I have never used one. <br> (1) Before I was in kindergarten <br> © When I was in kindergarten <br> (1) When I was in first. second, or third grade <br> (d) When I was in fourth grade |  |  |  | NC | N/A |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |
| 3. When did you first use a tablet? <br> (4) Never until this assessment <br> (1) Before 1 was in kindergarten <br> - When I was in kindergarten <br> (1) When I was in first, second, or third grade <br> (1) When I was in fourth grade |  |  | nutwes | 3. When did you first use a tablet? <br> (1) Never until this assessment <br> (1) Before 1 was in kindergarten <br> © When I was in kindergarten <br> (1) When I was in first, second, or third grac <br> (1) When I was in fourth grade |  |  | nevon | NC | N/A |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |
| 4. When did you first use a smartphone? <br> (ब) I have never used one. <br> (1) Before I was in kindergarten <br> © When I was in kindergarten <br> (1) When I was in first, second, or third grade <br> (1) When I was in fourth grade |  |  | neviea | 4. When did you first use a smartphone? <br> (4) Thave never used one. <br> (1) Before I was in kindergarten <br> © When I was in kindergarten <br> (1) When I was in first. second. or third grad <br> (1) When I was in fourth grade |  |  | veman | NC | N/A |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |

## 2019 Operational Grade 4 Computer and Familiarity Study (CAFS) Student

| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5. On a weekday, about how many hours do your doing schoolwork, including homework? None Less than an hour 1 to 2 hours 2 to 3 hours 3 to 4 hours More than 4 hours <br> (2017 Grade 4) | uptop | ter for | vถm" | 5. On a weekday, about how many hours do you use a laptop or desktop computer for doing schoolwork, including homework? <br> (1) None <br> (1) Less than an hour 1 to 2 hours 2 to 3 hours 3 to 4 hours More than 4 hours |  |  |  | NC | N/A |
| 6. On a weekday, about how many hours do you including homework? None Less than an hour 1 to 2 hours 2 to 3 hours 3 to 4 hours More than 4 hours <br> (2017 Grade 4) |  |  | meme | 6. On a weekday, about how many hours do you use a tablet for doing schoolwork. including homework? <br> (4) None <br> (1) Less than an hour <br> (C) 1 to 2 hours <br> (1) 2 to 3 hours <br> (1) 3 to 4 hours <br> (1) More than 4 hours |  |  |  | NC | N/A |
| 7. Were yout taught any of the following at school \$ Select one answer choice on each r |  |  |  | 7. Were you taught any of the following at school: Select one answer choice on each row. nenest |  |  |  | NC | N/A |
|  | Yes | No |  |  | Yes | No |  |  |  |
| a. How to type on a computer keyboard using the correct fingers | $\bullet$ | (1) | nemes | a. How to type on a computer keyboard using the correct fingers | © | © | 16 |  |  |
| b. How to write sentences and paragraphs using a computer | $\pm$ | ${ }^{1}$ | nemsis | b. How to write sentences and paragraphs using a computer | © | $\pm$ | nemses |  |  |
| c. How to edit text using a computer | © | © | , wama | c. How to edit text using a computer | $\triangle$ | ${ }^{(1)}$ | $\underline{\square}$ |  |  |
| d. How to search for information on the Internet | * | $\oplus$ | menas | d. How to search for information on the Internet | © | © | mevis |  |  |
| e. How to use a tallet | ${ }^{\circ}$ | ${ }^{(1)}$ | ${ }^{1020063}$ | e. How to use a tablet | © | (1) | manves |  |  |
| f. How to look up the meaning of a word <br> using a computer | © | © | nnems | f. How to look up the meaning of a word using a computer | © |  | newos |  |  |

## 2019 Operational Grade 4 Computer and Familiarity Study (CAFS) Student

| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. Which of the following are true about the ways in which you and your teachers use computers at nemus school? Select one answer choice on each row. |  |  |  | 8. Which of the following are true about the ways in which you and your teachers use computers at school? Select one answer choice on each row. |  |  |  | NC | N/A |
|  | Yes | No |  |  | Yes | No |  |  |  |
| 3. In most of my classes there are laptop or <br> deskopp computers that I can use for <br> schoolwork. | © | © |  | a. In most of my classes there are laptop or deskitop computers that I can use for schoolwork. | (1) | (1) |  |  |  |
| b. In most of my classes there are tablets that 1 can use for schoolwork. | © | © | varue | b. In most of my classes there are tablets that I can usc for schoolwork. | © | ¢ |  |  |  |
| c. There is Wi-Fi or some other Internet connection that I can use for schoolwork. | © | $\oplus$ | nvoum | c. There is Wi-Fi or some other Internet conection that Ican usc for schoolwork | © | © | nevomo |  |  |
| d. Most of my teachers use computers when teaching my clases. | - | © |  | d. Most of my teachers use computers when taching my classes. | © | $\oplus$ |  |  |  |
| c. Most of my teachers require us to use computers in the classroom. | * | © | \%ema | e. Most of my teachers require us to use <br> computers in the classroom. | © | © | \%omas |  |  |
| (2017 Grade 4 ) |  |  |  |  |  |  |  |  |  |
| 9. Has your school assigned you a laptop or desktop computer that only you can use? <br> (2) N <br> (1) Yes, but I cannot take it home with me. <br> (0) Yes, and I can take it home with me (laptop only). <br> (2017 Grade 4) |  |  |  | 9. Has your school assigned you a laptop or desktop computer that only you can use? <br> (2) No <br> (D) Yes, but I cannot take it home with me. <br> © Yes, and I can take it home with me (laptop only). |  |  |  | NC | N/A |
| 10. Has your school assigned you a tablet that only you can use? <br> (2) No <br> (D) Yes, but I cannot take it home with me. <br> (0) Yes, and I can take it home with me. <br> (2017 Grade 4) |  |  |  | 10. Has your school assigned you a tablet that only you can use? <br> (1) No <br> (1) Yes, but I cannot take it home with me. <br> © Yes, and I can take it home with me. |  |  |  | NC | N/A |

2019 Operational Grade 4 Computer and Familiarity Study (CAFS) Student


| Previous item |  |  |  |  |  | 2019 item |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14. Would you rather take a test at school using paper and pencil or using a computer? <br> (4) Paper and pencil <br> (b) Computer <br> (2017 Grade 4) |  |  |  |  |  | 14. Would you rather take a test at school using paper and pencil or using a computer? <br> (4) Paper and pencil <br> (1) Computer |  |  |  |  |  | NC | N/A |
| 15. Do you think you would be able to do each of the following? Select one answer choice on each row. |  |  |  |  |  | 15. Do you think you would row. | cable to do each | of the followin | ? Select one ans | wer choice on | achemmo | NC | N/A |
|  | I definitely | I probably can't. | I probably can. | $\begin{array}{c\|} \hline \text { I definitely } \\ \text { can. } \\ \hline \hline \end{array}$ |  |  | $\begin{aligned} & \text { I definitely } \\ & \text { can't. } \end{aligned}$ | I probably can't. | I probably can. | $\begin{gathered} \text { I definitely } \\ \text { can. } \end{gathered}$ |  |  |  |
| a. Write sentences and <br> praztaphts using $\alpha$ <br> computer | $\pm$ | © | ¢ | © | vevess | a. Write sentences and <br> parazraphs using a <br> computer <br> . | (1) | © | $\bigcirc$ | $\oplus$ | nnmes |  |  |
| b. Edit text using a computer | © | ${ }^{\circ}$ | $\bigcirc$ | ${ }_{\square}$ | पוrzat | b. Edit text using a computer | © | © | - | ${ }^{\circ}$ |  |  |  |
| c. Use a touchscrect on a <br> computer, tablet. or <br> smartphone | - | © | $\odot$ | © | \%20 | c. Use a touchscreen on a computer, tablet, or smattphone | © | © | $\odot$ | $\oplus$ | nnme |  |  |
| d. Look up the meaning of a <br> word using a computer <br> . | © | © | $\odot$ | ${ }^{\circ}$ | nenes | d. Look up the meaning of a word using a computer | $\oplus$ | $\pm$ | $\odot$ | $\oplus$ | nament |  |  |
| c. Draw a picure using a compuct | © | ${ }^{\circ}$ | $\odot$ | $\pm$ | venomas | e. Draw a picture using a computer | $\odot$ | $\oplus$ | $\odot$ | $\oplus$ | nerowa |  |  |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16. How familiar are you with each of the following? Select one answer choicce on each row: verma |  |  |  |  |  | 16. How familiar are you with cach of the following! Select one answer choice on each row. vemens |  |  |  |  |  | NC | N/A |
|  | ${ }_{\text {Never heard of }}^{\text {it }}$ | Heard of it once or twice | Heard of it often | $\begin{gathered} \text { Know it well, } \\ \text { understand } \\ \text { the concept } \end{gathered}$ |  |  | $\left\lvert\, \begin{gathered} \text { Never heard of } \\ \text { it } \end{gathered}\right.$ | Heard of it once or twise | Heard of it often | Know it well. understand the concept |  |  |  |
| a. $\mathrm{Wi}-\mathrm{Fi}$ <br> b. Firewall | © | ¢ | $\odot$ | ${ }_{\square}$ | $\stackrel{\text { veval }}{ }$ | a. Wi-Fi | © | © | $\bigcirc$ | \% | ज1uxum |  |  |
| b. Firewall | ${ }_{\square}$ | ${ }^{\circ}$ | $\bigcirc$ | ${ }_{\square}^{\circ}$ | \%emam | b. Firewall | $\propto$ | $\pm$ | $\odot$ | $\stackrel{\square}{1}$ | venvo |  |  |
| c. Neuro.digital computing | $\stackrel{\oplus}{\oplus}$ | ${ }_{\square}^{\text {© }}$ | $\stackrel{\square}{\circ}$ | $\stackrel{\square}{\oplus}$ |  | c. Neuro-digital computing | $\stackrel{\square}{\circ}$ | ${ }_{\square}^{\text {® }}$ | $\bigcirc$ | $\stackrel{\square}{9}$ | yexwa |  |  |
| e. Cut and paste | $\stackrel{\square}{\circ}$ | ${ }_{\square}$ ¢ | $\stackrel{\square}{\circ}$ | $\stackrel{\square}{\square}$ | meromis | d. Instant messaging | © | (1) | $\bigcirc$ | © | nemem |  |  |
| f. Pytamidal browser | ¢ | ${ }_{\square}$ | $\odot$ | $\stackrel{\square}{\oplus}$ | nureat | e. Cut and paste | $\stackrel{\square}{\oplus}$ | $\stackrel{\square}{1}$ | $\stackrel{\circ}{\circ}$ | ${ }_{\square}^{\text {© }}$ | ynmma |  |  |
| g. Spreastheet | $\stackrel{\square}{\square}$ | © | $\bigcirc$ | © | menea | 8. Spreadshect | - | ¢ | $\bigcirc$ | ${ }^{\circ}$ | verwat |  |  |
| h. Limbic wire | © | ¢ | $\odot$ | ${ }^{\circ}$ | пптй: | h. Limbie wire | © | ${ }^{\circ}$ | - | ${ }_{\square}$ | verom |  |  |
| i. Spinalbyte <br> i. Server | © | ${ }_{\square}{ }^{\circ}$ | $\bigcirc$ | ${ }_{\square}{ }^{\circ}$ | yovas: | i. Spinallyte | © | © | - | ब | yevat |  |  |
| 1. Callosum board | $\stackrel{\odot}{\odot}$ | ${ }_{\square}^{\circ}$ | $\bigcirc$ | $\stackrel{\square}{6}$ | , | i. Server | ¢ | ¢ | - | ¢ | +1emern |  |  |
|  |  |  |  |  |  | k. Callosum board | (1) | (1) | $\bigcirc$ | © | vemin |  |  |
| (2017 Grade 4) |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Appendix K-1ax: Operational Grade 4 CAFS

1. At home, do you have any of the following? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. A laptop or desktop computer that is only for your use | (1) | (B) | vH270141 |
| b. A laptop or desktop computer that is shared between you and others | (4) | (B) | vH270142 |
| c. A tablet that is only for your use | (4) | (8) | vH270139 |
| d. A tablet that is shared between you and others | (1) | (B) | vH270140 |
| e. Wi-Fi or some other Internet connection you can use | (1) | (B) | vH270143 |
| f. A smartphone that is only for your use | (4) | (B) | vH270144 |

2. When did you first use a laptop or desktop computer?
(A) I have never used one.
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
(E) When I was in fourth grade
3. When did you first use a tablet?
(A) Never until this assessment
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
(c) When I was in fourth grade
4. When did you first use a smartphone?
(A) I have never used one.
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
(E) When I was in fourth grade
5. On a weekday, about how many hours do you use a laptop or desktop computer for doing schoolwork, including homework?
(A) None
(B) Less than an hour
(c) 1 to 2 hours
(D) 2 to 3 hours
() 3 to 4 hours
(1) More than 4 hours
6. On a weekday, about how many hours do you use a tablet for doing schoolwork, including homework?
(A) None
(B) Less than an hour
(C) 1 to 2 hours
(D) 2 to 3 hours
() 3 to 4 hours
© More than 4 hours
7. Were you taught any of the following at school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. How to type on a computer keyboard using the correct fingers | (A) | (B) | VH270150 |
| b. How to write sentences and paragraphs using a computer | (A) | (B) | VH270151 |
| c. How to edit text using a computer | (A) | (B) | VH270164 |
| d. How to search for information on the Internet | (A) | (B) | VH270152 |
| e. How to use a tablet | (A) | (B) | VH270156 |
| f. How to look up the meaning of a word using a computer | (A) | (B) | VH270157 |

8. Which of the following are true about the ways in which you and your teachers use computers at school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. In most of my classes there are laptop or desktop computers that I can use for schoolwork. | (4) | (B) | VH270166 |
| b. In most of my classes there are tablets that I can use for schoolwork. | (1) | (B) | VH270167 |
| c. There is Wi-Fi or some other Internet connection that I can use for schoolwork. | (1) | (B) | VH270170 |
| d. Most of my teachers use computers when teaching my classes. | (4) | (B) | VH270169 |
| e. Most of my teachers require us to use computers in the classroom. | (4) | (B) | VH270168 |

9. Has your school assigned you a laptop or desktop computer that only you can use?
(A) No
(B) Yes, but I cannot take it home with me.
© Yes, and I can take it home with me (laptop only).
10. Has your school assigned you a tablet that only you can use?
(A) No
(B) Yes, but I cannot take it home with me.
© Yes, and I can take it home with me.
11. This school year, how often have you used a laptop or desktop computer to do each of the following? Select one answer choice on each row.

|  | Never | A few times | Once every few weeks | About once a week | More than once a week |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write a short paper (less than a page) for school | (4) | (B) | © | (1) | (1) | VH270172 |
| b. Write a paper for school that was longer than a page | (1) | (B) | $\bigcirc$ | (1) | (1) | VH270173 |
| c. Search the Internet for a school project | (4) | (B) | © | (1) | (1) | VH270174 |
| d. Practice things in mathematics that you were having trouble learning | (4) | (B) | © | (1) | (1) | VH270181 |
| e. Practice things in reading that you were having trouble learning | (4) | (B) | © | (1) | (®) | VH270177 |
| f. Take a test | (4) | (8) | $\bigcirc$ | (1) | (B) | VH270175 |

12. This school year, how often have you used a tablet to do each of the following? Select one answer choice on each row.

|  | Never | A few times | Once every few weeks | About once a week | More than once a week |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write a short paper (less than a page) for school | (4) | (8) | $\bigcirc$ | (1) | (E) | vH270183 |
| b. Write a paper for school that was longer than a page | (4) | (B) | $\bigcirc$ | (1) | (®) | VH270188 |
| c. Search the Internet for a school project | (4) | (B) | $\bigcirc$ | (1) | (E) | VH270184 |
| d. Practice things in mathematics that you were having trouble learning | (4) | (B) | $\bigcirc$ | (1) | (E) | vH270185 |
| e. Practice things in reading that you were having trouble learning | (4) | (B) | $\bigcirc$ | (1) | (1) | VH270186 |
| f. Take a test | (4) | (B) | © | (1) | (E) | VH270192 |

13. Which best describes the way you type on a computer keyboard?
(A) I don't know how to type using a computer keyboard.
(B) I can type with one or two fingers, but I have to search for where the letter keys are.
© I can type with one or two fingers, and I know where most of the letter keys are.
(D) I can type with all ten fingers when I look at the keyboard.
(e) I can type with all ten fingers without looking at the keyboard.
14. Would you rather take a test at school using paper and pencil or using a computer?
(A) Paper and pencil
(B) Computer
15. Do you think you would be able to do each of the following? Select one answer choice on each row.

|  | $\begin{aligned} & \text { I definitely } \\ & \text { can't. } \end{aligned}$ | $\begin{aligned} & \text { I probably } \\ & \text { can't. } \end{aligned}$ | I probably can. | $\begin{aligned} & \text { I definitely } \\ & \text { can. } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write sentences and paragraphs using a computer | (4) | (B) | © | (1) | vH270229 |
| b. Edit text using a computer | (1) | (B) | © | (1) | vH270218 |
| c. Use a touchscreen on a computer, tablet, or smartphone | (4) | (B) | © | (1) | vH270230 |
| d. Look up the meaning of a word using a computer | (4) | (B) | © | (1) | vH270225 |
| e. Draw a picture using a computer | (4) | (B) | © | (1) | vH270226 |

16. How familiar are you with each of the following? Select one answer choice on each row.

|  | Never heard of it | Heard of it once or twice | Heard of it often | Know it well, understand the concept |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Wi-Fi | (4) | (8) | $\bigcirc$ | (1) | VH270196 |
| b. Firewall | (1) | (B) | © | (1) | VH270197 |
| c. Neuro-digital computing | (4) | (8) | $\bigcirc$ | (1) | VH270199 |
| d. Instant messaging | (4) | (8) | © | (1) | VH270200 |
| e. Cut and paste | (4) | (8) | © | (1) | vH270203 |
| f. Pyramidal browser | (4) | (8) | $\bigcirc$ | (1) | VH270204 |
| g. Spreadsheet | (4) | (B) | $\bigcirc$ | (1) | VH270206 |
| h. Limbic wire | (4) | (8) | $\bigcirc$ | (1) | VH270207 |
| i. Spinalbyte | (4) | (8) | © | (1) | vH270208 |
| j. Server | (4) | (B) | $\bigcirc$ | © | VH270210 |
| k. Callosum board | (4) | © | © | (1) | vH270214 |

## Appendix K-1ay: Summary of Changes Operational Grade 8 CAFS



| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5. On a weekday. about how many hours do you use a laptop or desktop computer for doing schoolwork, including homework? <br> (4) None <br> (1) Less than an hour <br> © 1 to 2 hours <br> (1) 2 to 3 hours <br> (a) 3 to 4 hours <br> (1) More than 4 hours <br> (2017 Grade 8) |  |  |  | 5. On a weekday, about how many hours do you use a laptop or desktop computer for doing schoolwork, including homework? <br> (D) None <br> (1) Less than an hour <br> - 1 to 2 hours <br> (1) 2 to 3 hours <br> (b) 3 to 4 hours <br> (1) More than 4 hours |  |  |  | NC | N/A |
| 6. On a weekday, about how many hours do you use a tablet for doing schoolwork. including homework? <br> (D) None <br> (1) Less than an hour <br> (D) 1 to 2 hours <br> (D) 2 to 3 hours <br> (D) 3 to 4 hours <br> (c) More than 4 hours <br> (2017 Grade 8) |  |  |  | 6. On a weekday, about how many hours do you use a tablet for doing schoolwork. including homework? <br> (4) None <br> (D) Less than an hour <br> (Q) 1 to 2 hours <br> (D) 2 to 3 hours <br> (D) 3 to 4 hours <br> (1) More than 4 hours |  |  |  | NC | N/A |
| 7. Were you taught any of the following at school: Select one answer choice on each row. |  |  |  | 7. Were you taught any of the following at scl <br> - ${ }^{\text {a }}$, How to type on a computer keyboard using | ct one | cach | neman | NC | N/A |
|  | Yes | No |  |  | Yes | No |  |  |  |
| a. How to type on a computer keyboard using the correct fingers | © | © | nevow |  | © | (1) | vevise |  |  |
| b. How to write sentences and paragraphs using a computer | $\pm$ | ${ }^{\oplus}$ |  | b. How to write sentences and paragraphs using a computer | (1) | © | nemss |  |  |
| c. How to edit text using a compurer | ${ }^{\circ}$ | ¢ | - | c. How to edit text using a computer | $\oplus$ | ${ }^{(1)}$ | menves |  |  |
| d. How to search for information on the Internet | $\stackrel{\square}{\square}$ | ${ }^{\circ}$ | weors | d. How to search for information on the Internct | D | ${ }^{\circ}$ | 4 |  |  |
| e. How to use a tablet | © | © | vemim | e. How to use a tablet | © | © | venus |  |  |
| f. How to look up the meaning of a word <br> using a computer <br> Hew | $\oplus$ | $\oplus$ |  | f. How to look up the meaning of a word using a computer | © | © | nevic\| |  |  |
| g. How to create a spreadsheet using 3 computer | ${ }^{\circ}$ | ${ }^{\circ}$ | мелй | g. How to create a spreadsheet using a computer | © | © | nemis |  |  |
| h. How to create a presentation using a <br> computer <br> i. How to run simulations usimg a computer | $\stackrel{\otimes}{\square}$ | $\oplus$ |  | h. How to create a presentation using a computer | © | © | ${ }^{\text {menuss }}$ |  |  |
| i. How to write a computer program or app | ${ }_{\square}$ | ${ }_{\square}$ | мnemue | i. How to run simulations using a computer | $\stackrel{\square}{\circ}$ | ${ }^{\circ}$ | nexay |  |  |
| k. How to create a graph or chart using a computer computer | $\oplus$ | $\oplus$ | nevies | i. How to write a computer program or app | © | © | no |  |  |
| How to troubleshoot problems with a computer | - | $\oplus$ | - | computer 1. How troubleshoot problems with a computer | © | © | - |  |  |

## 2019 Operational Grade 8 Computer and Familiarity Study (CAFS) Student

| Previous item |  |  |  | 2019 item |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. Which of the following are true about the ways in which you and your teachers use computers at school? Select one answer choice on each row. |  |  |  | 8. Which of the following are true about the ways in which you and your teachers use computers at school? Select one answer choice on each row. |  |  |  | NC | N/A |
|  | Yes | No |  |  | Yes | No |  |  |  |
| a. In most of imy classes there are laptop or desktop computers that I can use for schoolwork. | © | © | ตштй | a. In most of my classes there are laptop or schoolwork | © | (1) |  |  |  |
| b. In most of my classes there are tablets that | © | © | wove | b. In most of my classes there are tablets that $I$ can use for schoolwork. | $\oplus$ | (1) |  |  |  |
| c. There is Wi-Fi or some other Internet connection that I can use for schoolwork. | * | (1) | mowim | c. Therc is Wi.Fi or some other Internet <br> connection that I can use for schoolwork. | ¢ | © | n20010 |  |  |
| d. Most of my teachers use computers when teaching my classes. | * | (1) | помm | d. Most of my teachers use computers when teaching my classes. | © | © |  |  |  |
| e. Most of my teachers require us to use computers in the classroom. | * | © | numas | e. Most of my teachers require us to use computers in the classroom. | © | $\oplus$ | nvous |  |  |
| (2017 Grade 8) |  |  |  |  |  |  |  |  |  |
| 9. Has your school assigned you a laptop or desktop computer that only you can use? <br> No Yes, but I cannot take it home with me. Yes, and I can take it home with me (laptop only). <br> (2017 Grade 8) |  |  |  | 9. Has your school assigned you a laptop or desktop computer that only you can use? <br> (4) No <br> (1) Yes, but I cannot take it home with me. <br> © Yes, and I can take it home with me (laptop only). |  |  |  | NC | N/A |
| 10. Has your school assigned you a tablet that only you can use? <br> (1) No <br> (1) Yes, but 1 cannot take it home with me- <br> © Yes, and 1 can take it home with me. <br> (2017 Grade 8) |  |  |  | 10. Has your school assigned you a tablet that only you can use? <br> (4) No <br> (1) Yes, but I cannot take it home with me. <br> - Yes, and I can take it home with me. |  |  |  | NC | N/A |

2019 Operational Grade 8 Computer and Familiarity Study (CAFS) Student


| Previous item |  |  |  |  |  |  | 2019 item |  |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \\ & \hline \text { NC } \end{aligned}$ | Rationale $\mathrm{N} / \mathrm{A}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12. This school year. how often have you used a tablet to do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | 12. This school year, how often have you used a tablet to do each of the following? Select one answer choice on each row. |  |  |  |  |  |  | NC | $\mathrm{N} / \mathrm{A}$ |
|  | Never | A few times | $\begin{array}{\|c\|c\|} \hline \begin{array}{c} \text { Once every } \\ \text { few weeks } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c} \text { About once } \\ \text { a week } \end{array}$ | $\begin{array}{\|c\|} \hline \text { More than } \\ \text { once a week } \end{array}$ |  |  | Never | A few times | $\begin{array}{\|l\|} \hline \begin{array}{l} \text { Once every } \\ \text { few weeks } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { About once } \\ \text { a week } \end{array}$ | More than once a week |  |  |  |
| $\begin{aligned} & \text { a. Write a short paper } \\ & \text { (dess than a page) for } \\ & \text { school } \end{aligned}$ | © | © | © | $\pm$ | © |  | a. Write a short paper (less than a page) for school | © | © | © | © | $\oplus$ | naroue |  |  |
| b. Write a paper for school that was longer than a page | © | $\oplus$ | $\bigcirc$ | $\oplus$ | $\stackrel{ }{ }$ - |  | b. Write a paper for school that was longer than a page | © | © | $\bigcirc$ | $\oplus$ | $\oplus$ | manne |  |  |
| c. Search the Internet for a school proiect | © | ${ }^{\circ}$ | $\odot$ | © | © | vavos | c. Search the Internet for s school project | © | (1) | $\bigcirc$ | © | © | ne |  |  |
| $\begin{array}{\|c} \text { d. Practice things in } \\ \text { mathenamtict that you } \\ \text { weer having troble } \\ \text { learning } \end{array}$ | © | © | $\odot$ | $\oplus$ | $\odot$ | vamus | d. Practice things in <br> mathematics that you <br> were having trouble <br> learnime | © | ${ }^{\circ}$ | - | $\oplus$ | © | nes |  |  |
| $\begin{array}{\|l\|} \hline \text { e. Practice things in } \\ \text { rading that sou were } \\ \text { having trouble } \\ \text { leaming } \\ \hline \text { t Tolng } \end{array}$ | ${ }^{\circ}$ | $\oplus$ | $\bigcirc$ | $\oplus$ | ${ }^{\circ}$ |  | e. Practice things in reading that you were having rrouble learning | © | $\oplus$ | $\odot$ | $\oplus$ | ${ }^{\text {© }}$ | verum |  |  |
| \%. Create a map | $\stackrel{\square}{\circ}$ | $\stackrel{\square}{\square}$ | $\stackrel{\odot}{\circ}$ | $\stackrel{\square}{\circ}$ | $\stackrel{\odot}{\odot}$ | numme | f. Take a test | © | ${ }^{\circ}$ | $\bigcirc$ | ${ }_{\square}$ | ¢ | neman |  |  |
| - Work on a website or | - | © | $\oplus$ | © | © | wnome | 最. Create a map | - | ${ }^{\oplus}$ | $\odot$ | ${ }^{\circ}$ | ${ }^{\circ}$ | "nvio |  |  |
| i. Create a multimedia |  |  |  |  |  |  | h. Work on a website or blog that you maintain | © | © | $\bigcirc$ | © | ¢ | 20010 |  |  |
| presentation on your <br> Own <br> O. Work collaboratively | (1) | © | $\odot$ | © | ${ }^{1}$ |  | i. Create a multimedia <br> prescntation on your <br> own | © | © | $\odot$ | $\oplus$ | © | \%os |  |  |
|  | © | ${ }^{\circ}$ | $\odot$ | © | ${ }^{\circ}$ | " | own <br> i. Work collaboratively <br> With a tearn of <br> strudents to create a <br> multimedia <br> presentation | (1) | ${ }^{\circ}$ | $\odot$ | $\oplus$ | ${ }^{\circ}$ | - |  |  |
| (2017 Grade 8) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13. Which best describes the way you type on a computer keyboard? <br> (4) 1 don't know how to type using a computer keyboard. <br> (1) I can type with one or two fingers, but I have to search for where the letter keys are. <br> Q I can type with one or two fingers, and I know where most of the letter keys are. <br> (1) I can type with all ten fingers when I look at the keyboard. <br> (1) I can type with all ten fingers without looking at the keyboard. <br> (2017 Grade 8) |  |  |  |  |  |  | 13. Which best describes the way you type on a computer keyboard? <br> (1) I don't know how to type using a computer keyboard. <br> (1) I can type with one or two fingers, but I have to seareh for where the letter keys are. <br> Q I can type with one or two fingers, and I know where most of the letter keys are. <br> (1) I can type with all ten fingers when I look at the keyboard. <br> (1) I can type with all ten fingers without looking at the keyboard. |  |  |  |  |  |  | NC | N/A |
| 14. Would you rather take a test at school using paper and pencil or using a computer? <br> (1) Paper and pencil <br> (1) Computer <br> (2017 Grade 8) |  |  |  |  |  |  | 14. Would you rather take a test at school using paper and pencil or using a computer? <br> (4) Paper and pencil <br> (B) Computer |  |  |  |  |  |  | NC | N/A |


| Previous item |  |  |  |  |  | 2019 item |  |  |  |  |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15. Do you think you would be able to do each of the following? Select one answer choice on each row. |  |  |  |  |  | 15. Do you think you would be able to do each of the following? Select one answer choice on each row. |  |  |  |  |  | NC | N/A |
|  | $\begin{aligned} & \text { I definitely } \\ & \text { can't. } \end{aligned}$ | $\begin{aligned} & \text { I probably } \\ & \text { can't. } \end{aligned}$ | I probably can. | $\begin{aligned} & \text { I definitely } \\ & \text { can. } \end{aligned}$ |  |  | $\begin{aligned} & \text { I definitely } \\ & \text { can't.t. } \end{aligned}$ | $\begin{gathered} \text { I probably } \\ \text { can't. } \end{gathered}$ | I probably can. | $\begin{aligned} & \text { I definitely } \\ & \text { can. } \end{aligned}$ |  |  |  |
| a. Write sentences and paragraphs using a computer computer | © | $\odot$ | $\odot$ | $\odot$ | ${ }^{\text {weroma }}$ | a. Write sentences and paragraphs using a computer | © | $\odot$ | $\odot$ | © | 29 |  |  |
| b. Edit text using a computer | ${ }^{\circ}$ | © | - | ¢ | viramis | b. Edit text using a computer | © | ${ }^{\circ}$ | - | © | momats |  |  |
| c. Use a touchscreen on a computer, tablet, or smartphone | © | $\odot$ | $\odot$ | $\odot$ | varoze | c. Use a touchscreen on a computer, tablet, or smartphone | © | $\oplus$ | $\odot$ | © | memmo |  |  |
| d. Look up the meaning of a word using a computer | © | © | $\odot$ | $\oplus$ | wavos | d. Look up the meaning of a word using a computer | $\bullet$ | $\oplus$ | $\odot$ | $\odot$ | ms |  |  |
| e. Draw a picture using a computer | ${ }^{\bullet}$ | ${ }^{\circ}$ | ${ }^{\circ}$ | ${ }^{\circ}$ | ms | e. Draw a picture using a computer | © | $\odot$ | $\odot$ | $\odot$ | mes |  |  |
| f. View or download digital media | © | $\oplus$ | $\odot$ | © | wrome | f. View or download digital media | © | $\odot$ | $\odot$ | © | 206 |  |  |
| $\begin{aligned} & \text { g. Create a presentation using } \\ & \text { a computer } \end{aligned}$ | $\odot$ | $\odot$ | $\bigcirc$ | ${ }^{\circ}$ | $\xrightarrow{\text { wriones }}$ | $\begin{array}{\|l\|} \hline \text { g. Create a presentation using } \\ \hline \end{array}$ | © | $\odot$ | $\odot$ | © | mprom |  |  |
| h. Create a spreadsheet using <br> a computer <br> i. Install new software or | © | $\odot$ | $\bigcirc$ | - | mex | h. Create a spreadsheet using a computer | © | © | $\odot$ | $\oplus$ | mprose |  |  |
|  | © | $\oplus$ | $\odot$ | $\odot$ | wromes | $\begin{array}{\|l} \hline \text { i. Install new software or } \\ \text { apps } \end{array}$ | © | $\oplus$ | $\odot$ | © | mprow |  |  |
| $\begin{array}{\|l} \text { 1iscussions, forums, social } \\ \text { networking sites, or virtual } \\ \text { communities } \end{array}$ | ${ }^{\text {® }}$ | ${ }^{\oplus}$ | ${ }^{\circ}$ | ${ }^{\circ}$ | wrome | j. <br> Participate in online <br> discussions, forums, social <br> networking sites, or virtual networking sites, or virtual communities | © | © | $\odot$ | $\oplus$ | nitman |  |  |
| 1. Search for information on the Internet | $\oplus$ | $\oplus$ | $\odot$ | $\oplus$ | varom | k. Maintain a website or blog | © | © | $\odot$ | $\odot$ | nitam |  |  |
| m . Run simulations using a computer | © | © | $\odot$ | $\odot$ | wazmas | 1. Search for information on the Internet | © | $\odot$ | $\odot$ | $\odot$ | nıo |  |  |
| n. Create a graph or chart using a computer | $\triangle$ | $\oplus$ | $\odot$ | $\odot$ | mas | m. Run simulations using a computer | © | ® | - | $\odot$ | virnma |  |  |
| o. Write a computer program or app | © | $\oplus$ | $\odot$ | $\odot$ | wermer | n. Create a graph or chart using a computer | © | $\odot$ | $\odot$ | $\odot$ | mamma |  |  |
| p. Troubleshoot a problem with a computer | - | © | $\odot$ | $\odot$ | verom | o. Write a computer program or app | © | © | $\odot$ | $\odot$ | m27027 |  |  |
| $\begin{aligned} & \text { 9. Figure out how to use new } \\ & \text { functions of didital levice } \\ & \text { that Iam not yet familiar } \\ & \text { with } \end{aligned}$ |  |  |  |  |  | p. Troubleshoot a problem with a computer | © | © | $\odot$ | $\oplus$ | manman |  |  |
|  | © | $\odot$ | $\odot$ | $\odot$ | marman | q. Figure out how to use new that I am not yet familiar with | © | $\odot$ | $\odot$ | $\odot$ | ${ }^{217}$ |  |  |

2019 Operational Grade 8 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 16. On a scale from 0 to 10. where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices are you? <br> (D) 0 <br> (1) 1 <br> - 2 <br> (2) 3 <br> (2) 4 <br> (D) 5 <br> (6) 6 <br> (1) 7 <br> (1) 8 <br> (D) 9 10 <br> (2017 Grade 8) | 16. On a scale from 0 to 10, where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices are you? <br> (2) 0 <br> (1) 1 <br> © 2 <br> (c) 3 <br> (c) 4 <br> (1) 5 <br> (2) 6 <br> (4) 7 <br> © 8 <br> (1) 9 <br> (2) 10 | NC | N/A |
| 17. Please read the descriptions of the following four eighth-grade students. After you read each description. you will be asked to answer a question about each student based on the information provided. <br> Linda often uses apps to talk to her friends or to play games. She does some of her homework on her laptop and knows how to write and create tables using a computer. Linda cannot type with 10 fingers but is pretty fast with two fingers and mostly finds the right keys. <br> On a scale from 0 to 10, where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Linda is? <br> (4) 0 <br> (1) 1 <br> (c) 2 <br> (D) 3 <br> (D) 4 <br> (c) 5 <br> (2) 6 <br> (8) 7 <br> (1) 8 <br> (D) 9 <br> (B) 10 <br> (2017 Grade 8) | 17. Please read the descriptions of the following four eighth-grade students. After you read each description. you will be asked to answer a question about each student based on the information provided. <br> Linda often uses apps to talk to her friends or to play games. She does some of her homework on her laptop and knows how to write and create tables using a computer. Linda cannot type with 10 fingers but is pretty fast with two fingers and mostly finds the right keys. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Linda is? <br> (2) 0 <br> (1) 1 <br> (-2 <br> (1) 3 <br> (1) 4 <br> (D) 5 <br> (6) 6 <br> (1) 7 <br> (1) 8 <br> (1) 9 <br> (a) 10 | NC | N/A |

2019 Operational Grade 8 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 18. Tom often uses apps to talk to his friends or to play games. He does most of his homework on a computer and knows how to write and edit papers on a computer and how to create complex tables or charts. He also created a few presentations using a computer. Tom can type pretty accurately using ten fingers when looking at the computer keyboard. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Tom is? <br> (2) 0 <br> (1) 1 <br> © 2 <br> (1) 3 <br> (b) 4 <br> (a) 5 <br> ब 6 <br> (ㄷ) 7 <br> (1) 8 <br> (1) 9 <br> (8) 10 <br> (2017 Grade 8) | 18. Tom often uses apps to talk to his friends or to play games. He does most of his homework on a computer and knows how to write and edit papers on a computer and how to create complex tables or charts. He also created a few presentations using a computer. Tom can type pretty accurately using ten fingers when looking at the computer keyboard. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Tom is? <br> (4) 0 <br> (1) 1 <br> (c) 2 <br> (1) 3 <br> (c) 4 <br> (c) 5 <br> (1) 6 <br> (1) 7 <br> (1) 8 <br> (D) 9 <br> (B) 10 | NC | N/A |
| 19. Susan often uses apps on a smartphone or tablet and does most of her homework on a laptop. She is good at writing and editing papers on her computer and has experience with creating complex tables and charts. Susan can type fast and accurately with 10 fingers without looking at the computer keyboard. She also knows a couple of programming languages. This school year, she built her first app. <br> On a scale from 0 to 10 . where 0 is not at all familiar and 10 is very familiar. how familiar with using computers and other digital devices do you think Susan is? <br> (D) 0 <br> (B) 1 <br> (c) 2 <br> (D) 3 <br> (c) 4 <br> (D) 5 <br> (1) 6 <br> (ब) 7 <br> (1) 8 <br> (D) 9 <br> (B) 10 <br> (2017 Grade 8) | 19. Susan often uses apps on a smartphone or tablet and does most of her homework on a laptop. She is good at writing and editing papers on her computer and has experience with creating complex tables and charts. Susan can type fast and accurately with 10 fingers without looking at the computer keyboard. She also knows a couple of programming languages. This school year, she built her first app. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Susan is? <br> (4) 0 <br> (D) 1 <br> (c) 2 <br> (1) 3 <br> (1) 4 <br> (c) 5 <br> (1) 6 <br> (8) 7 <br> (1) 8 <br> (D) 9 <br> (D) 10 | NC | N/A |



## Appendix K-1az: Operational Grade 8 CAFS

1. At home, do you have any of the following? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. A laptop or desktop computer that is only for your use | (1) | (B) | vH270141 |
| b. A laptop or desktop computer that is shared between you and others | (4) | (B) | vH270142 |
| c. A tablet that is only for your use | (4) | (8) | vH270139 |
| d. A tablet that is shared between you and others | (1) | (B) | vH270140 |
| e. Wi-Fi or some other Internet connection you can use | (1) | (B) | vH270143 |
| f. A smartphone that is only for your use | (4) | (B) | vH270144 |

2. When did you first use a laptop or desktop computer?
(A) I have never used one.
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
(E) When I was in fourth or fifth grade
© When I was in sixth, seventh, or eighth grade
3. When did you first use a tablet?
(A) Never until this assessment
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
(E) When I was in fourth or fifth grade
(®) When I was in sixth, seventh, or eighth grade
4. When did you first use a smartphone?
(A) I have never used one.
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
(E) When I was in fourth or fifth grade
© When I was in sixth, seventh, or eighth grade
5. On a weekday, about how many hours do you use a laptop or desktop computer for doing schoolwork, including homework?
(A) None
(B) Less than an hour
© 1 to 2 hours
(D) 2 to 3 hours
() 3 to 4 hours
(1) More than 4 hours
6. On a weekday, about how many hours do you use a tablet for doing schoolwork, including homework?
(A) None
(B) Less than an hour
© 1 to 2 hours
(D) 2 to 3 hours
() 3 to 4 hours
(c) More than 4 hours
7. Were you taught any of the following at school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. How to type on a computer keyboard using the correct fingers | (4) | (8) | vH270150 |
| b. How to write sentences and paragraphs using a computer | (4) | (8) | vH270151 |
| c. How to edit text using a computer | (4) | (8) | vH270164 |
| d. How to search for information on the Internet | (4) | (8) | vH270152 |
| e. How to use a tablet | (4) | (B) | vH270156 |
| f. How to look up the meaning of a word using a computer | (4) | (B) | vH270157 |
| g. How to create a spreadsheet using a computer | (4) | (B) | vH270154 |
| h. How to create a presentation using a computer | (4) | (B) | vH270155 |
| i. How to run simulations using a computer | (4) | (8) | vH270159 |
| j. How to write a computer program or app | (4) | (B) | vH270160 |
| k. How to create a graph or chart using a computer | (4) | (8) | vH270161 |
| 1. How to troubleshoot problems with a computer | (4) | (B) | vH270158 |

8. Which of the following are true about the ways in which you and your teachers use computers at school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. In most of my classes there are laptop or desktop computers that I can use for schoolwork. | (1) | (B) | VH270166 |
| b. In most of my classes there are tablets that I can use for schoolwork. | (1) | (8) | VH270167 |
| c. There is Wi-Fi or some other Internet connection that I can use for schoolwork. | (1) | (8) | VH270170 |
| d. Most of my teachers use computers when teaching my classes. | (1) | (8) | vH270169 |
| e. Most of my teachers require us to use computers in the classroom. | (1) | © | VH270168 |

9. Has your school assigned you a laptop or desktop computer that only you can use?
(A) No
(B) Yes, but I cannot take it home with me.
© Yes, and I can take it home with me (laptop only).
10. Has your school assigned you a tablet that only you can use?
(A) No
(B) Yes, but I cannot take it home with me.
© Yes, and I can take it home with me.
11. This school year, how often have you used a laptop or desktop computer to do each of the following? Select one answer choice on each row.

|  | Never | A few times | Once every few weeks | About once a week | More than once a week |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write a short paper (less than a page) for school | (4) | (B) | © | (1) | (E) | vH270172 |
| b. Write a paper for school that was longer than a page | (4) | (B) | © | (1) | (1) | vH270173 |
| c. Search the Internet for a school project | (4) | (B) | $\bigcirc$ | (1) | (®) | vH270174 |
| d. Practice things in mathematics that you were having trouble learning | (4) | (B) | $\bigcirc$ | (1) | (®) | vH270181 |
| e. Practice things in reading that you were having trouble learning | (1) | (8) | © | © | (1) | vH270177 |
| f. Take a test | (4) | (8) | © | (1) | (1) | VH270175 |
| g. Create a map | (4) | (8) | © | (1) | (1) | vH270178 |
| h. Work on a website or blog that you maintain | (4) | (B) | © | (1) | (1) | vH270179 |
| i. Create a multimedia presentation on your own | (1) | (B) | © | (1) | (1) | vH270180 |
| j. Work collaboratively with a team of students to create a multimedia presentation | (4) | (B) | © | (1) | (1) | vH270176 |

12. This school year, how often have you used a tablet to do each of the following? Select one answer choice on each row.

|  | Never | A few times | Once every few weeks | About once a week | More than once a week |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write a short paper (less than a page) for school | (1) | (B) | © | (1) | (1) | VH270183 |
| b. Write a paper for school that was longer than a page | (4) | (B) | © | (1) | (1) | vH270188 |
| c. Search the Internet for a school project | (1) | (8) | © | (1) | (1) | vH270184 |
| d. Practice things in mathematics that you were having trouble learning | (4) | (B) | © | (1) | (1) | VH270185 |
| e. Practice things in reading that you were having trouble learning | (4) | (8) | © | (1) | © | VH270186 |
| f. Take a test | (4) | (8) | © | (1) | (1) | VH270192 |
| g. Create a map | (4) | (B) | $\bigcirc$ | (1) | © | VH270189 |
| h. Work on a website or blog that you maintain | (4) | (B) | © | (1) | (1) | vH270190 |
| i. Create a multimedia presentation on your own | (1) | (B) | © | (1) | (1) | vH270191 |
| j. Work collaboratively with a team of students to create a multimedia presentation | (4) | (B) | © | (1) | (1) | vH270187 |

VH270130
13. Which best describes the way you type on a computer keyboard?
(A) I don't know how to type using a computer keyboard.
(B) I can type with one or two fingers, but I have to search for where the letter keys are.
© I can type with one or two fingers, and I know where most of the letter keys are.
(D) I can type with all ten fingers when I look at the keyboard.
(E) I can type with all ten fingers without looking at the keyboard.
14. Would you rather take a test at school using paper and pencil or using a computer? (A) Paper and pencil
(B) Computer
15. Do you think you would be able to do each of the following? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't. } \end{gathered}$ | $\begin{aligned} & \text { I probably } \\ & \text { can't. } \end{aligned}$ | I probably can. | $\begin{gathered} \text { I definitely } \\ \text { can. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write sentences and paragraphs using a computer | (4) | (B) | © | (1) | vH270229 |
| b. Edit text using a computer | (4) | (B) | © | (1) | vH270218 |
| c. Use a touchscreen on a computer, tablet, or smartphone | (4) | (B) | © | (1) | vH270230 |
| d. Look up the meaning of a word using a computer | (4) | (B) | © | (1) | vH270225 |
| e. Draw a picture using a computer | (4) | (B) | © | (1) | vH270226 |
| f. View or download digital media | (4) | (B) | © | (1) | vH270216 |
| g. Create a presentation using a computer | (4) | (B) | © | (1) | vH270228 |
| h. Create a spreadsheet using a computer | (4) | (B) | © | (1) | vH270231 |
| i. Install new software or apps | (4) | (B) | © | (1) | vH270219 |
| j. Participate in online discussions, forums, social networking sites, or virtual communities | (4) | (B) | © | (1) | vH270220 |
| k. Maintain a website or blog | (4) | (B) | © | (1) | vH270221 |
| 1. Search for information on the Internet | (4) | (B) | © | (1) | vH270222 |
| m . Run simulations using a computer | (4) | (B) | © | (1) | vH270223 |
| n. Create a graph or chart using a computer | (4) | (B) | $\bigcirc$ | (1) | vH270224 |
| o. Write a computer program or app | (4) | (B) | © | (1) | vH270227 |
| p. Troubleshoot a problem with a computer | (4) | (B) | $\bigcirc$ | (1) | vH270232 |
| q. Figure out how to use new functions of a digital device that I am not yet familiar with | (4) | (B) | © | (1) | vH270217 |

16. On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices are you?
(A) 0
(B) 1
(c) 2
(1) 3
(E) 4
(c) 5
(6) 6
(ब) 7
(1) 8
(1) 9
(B) 10
17. Please read the descriptions of the following four eighth-grade students. After you read each description, you will be asked to answer a question about each student based on the information provided.

Linda often uses apps to talk to her friends or to play games. She does some of her homework on her laptop and knows how to write and create tables using a computer. Linda cannot type with 10 fingers but is pretty fast with two fingers and mostly finds the right keys.

On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Linda is?
(4) 0
(B) 1
© 2
(D) 3
(E) 4
(1) 5
(๑) 6
(4) 7
(1) 8
(1) 9
(1) 10
18. Tom often uses apps to talk to his friends or to play games. He does most of his homework on a computer and knows how to write and edit papers on a computer and how to create complex tables or charts. He also created a few presentations using a computer. Tom can type pretty accurately using ten fingers when looking at the computer keyboard.

On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Tom is?
(A) 0
(B) 1
© 2
(D) 3
(E) 4
(c) 5
(6) 6
(1) 7
(1) 8
(1) 9
(1) 10
19. Susan often uses apps on a smartphone or tablet and does most of her homework on a laptop. She is good at writing and editing papers on her computer and has experience with creating complex tables and charts. Susan can type fast and accurately with 10 fingers without looking at the computer keyboard. She also knows a couple of programming languages. This school year, she built her first app.

On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Susan is?
(4) 0
(B) 1
© 2
(D) 3
(E) 4
(®) 5
(c) 6
(4) 7
(1) 8
(1) 9
(1) 10
20. Kevin sometimes plays games on his smartphone or a computer, but he usually does not use a computer for his homework. He used a computer a couple of times to write a paper but never used a computer to create tables, charts, or presentations. Kevin can type with one or two fingers but has to search to find the correct keys on the computer keyboard.

On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Kevin is?
(4) 0
(B) 1
(c) 2
(D) 3
(E) 4
() 5
(c) 6
(®) 7
(1) 8
(1) 9
(1) 10
21. How familiar are you with each of the following? Select one answer choice on each row.

|  | Never heard of it | Heard of it once or twice | Heard of it often | Know it well, understand the concept |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. E-reader | (4) | (8) | © | (1) | VH270195 |
| b. Wi-Fi | (4) | (B) | $\bigcirc$ | (1) | VH270196 |
| c. Firewall | (4) | (B) | $\bigcirc$ | (1) | VH270197 |
| d. Hyperlink | (4) | (8) | $\bigcirc$ | (1) | VH270198 |
| e. Neuro-digital computing | (4) | (8) | $\bigcirc$ | (1) | VH270199 |
| f. Instant messaging | (4) | © | $\bigcirc$ | (1) | VH270200 |
| g. CPU | (4) | (B) | $\bigcirc$ | (1) | VH270201 |
| h. Cut and paste | (4) | (8) | $\bigcirc$ | (1) | VH270203 |
| i. Pyramidal browser | (4) | (B) | © | (1) | VH270204 |
| j. Spreadsheet | (4) | (B) | $\bigcirc$ | (1) | VH270206 |
| k. Limbic wire | (4) | (8) | © | (1) | VH270207 |
| 1. Spinalbyte | (4) | (B) | © | (1) | VH270208 |
| m. Cloud computing | (4) | (8) | © | (1) | VH270209 |
| n. Server | (4) | (B) | $\bigcirc$ | (1) | VH270210 |
| o. Compiler | (4) | (B) | $\bigcirc$ | (1) | VH270212 |
| p. Callosum board | (4) | (B) | $\bigcirc$ | (1) | VH270214 |

## Appendix K-1ba: Summary of Changes Operational Grade 12 CAFS

## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item |  |  |  | 2019 item |  |  |  | D/A/ <br> R/NC+ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. How much do you know about using computers and other digital devices? <br> (4) I hardly know anything at all. <br> (B) I know something. <br> © I know quite a bit. <br> (1) I know a lot. <br> (2015 Grade 12) |  |  |  | N/A |  |  |  | D | This item was dropped because it was not correlated with achievement, and was not conceptually central to the study. |
| 2. At home, do you have any of the following Fill in one oval on each line. |  |  | ${ }^{\text {vils22] }}$ | 1. At home. do you have any of the following? Select one answer choice on each row. |  |  |  | NC | The in-line direction was adapted from PBA to DBA: "Fill in one oval on each line." was adapted to "Select one answer choice on each row." |
|  | Yes | No |  |  | Yes | No |  |  |  |
| a. A laptop or desktop computer that is | (1) | (1) | vilsses | a. A laptop or desktop computer that is only for your use | © | (1) |  |  |  |
| only for your use ${ }^{\text {b. A laptop or desktop computer that is }}$ | (1) | (1) | vilissen | b. A laptop or desktop computer that is shared between you and others | , | ${ }^{(1)}$ | nemose |  |  |
| shared between you and others |  |  |  | c. A tablet that is only for your use | © | (1) | amme |  |  |
| c. A tablet that is only for your use | (1) | (1) | vilsses | d. A tablet that is shared between you and others | © | (1) | $\square 12016$ |  |  |
| d. A tablet that is shared between you | (1) | (1) | vnsess | c. Wi-Fi or some other Internet connection you can use | © | (1) | numaten |  |  |
| and others |  |  |  | f. A smartphone that is only for your use | ¢ | © | nıvoit |  |  |
| e. Wi-Fi or some other Internet connection you can use | (1) | (1) | vinsers |  |  |  |  |  |  |
| f. A smartphone that is only for your use |  | (1) | vinss |  |  |  |  |  |  |
| (2015 Grade 12) |  |  |  |  |  |  |  |  |  |

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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item |  | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: | :---: |
| 3. When did you first use a laptop or desktop computer? <br> (A) I have never used one. <br> (B) Before I was in kindergarten <br> © When I was in kindergarten <br> (D) When I was in first, second, or third grade <br> (8) When I was in fourth or fifth grade <br> (1) When I was in sixth, seventh, or eighth grade <br> (๑) When I was in high school | 2. When did you first use a laptop or desktop computer? <br> (4) I have never used one. <br> (1) Before I was in kindergarten <br> - When I was in kindergarten <br> (1) When I was in first, second, or third grade <br> (1) When I was in fourth or fifth grade <br> (1) When I was in sixth. seventh, or eighth grade <br> © When I was in high school | nexen | NC | N/A |
| 4. When did you first use a tablet? <br> (4) I have never used one. <br> (B) Before I was in kindergarten <br> © When I was in kindergarten <br> (1) When I was in first, second, or third grade <br> (8) When I was in fourth or fifth grade <br> (®) When I was in sixth, seventh, or eighth grade <br> (c) When I was in high school | 3. When did you first use a tablet? <br> (4) Never until this assessment <br> (1) Before I was in kindergarten <br> © When I was in kindergarten <br> (1) When I was in first, second. or third grade <br> (1) When I was in fourth or fifth grade <br> (1) When I was in sixth, seventh, or eighth grade <br> © When I was in high school |  | R | For DBA response option " $A$ " is adapted to <br> "Never until this assessment" to account for the fact that students are taking the eNAEP assessment on the tablet. |

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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 5. When did you first use a smartphone? <br> (4) I have never used one. <br> (B) Before I was in kindergarten <br> © When I was in kindergarten <br> (D) When I was in first, second, or third grade <br> (b) When I was in fourth or fifth grade <br> (c) When I was in sixth, seventh, or eighth grade <br> (c) When I was in high school | 4. When did you first use a smartphone? <br> (4) I have never used one. <br> (1) Before I was in kindergarten <br> © When I was in kindergarten <br> (1) When I was in first. second. or third grade <br> (1) When I was in fourth or fifth grade <br> (1) When I was in sixth, seventh, or eighth grade <br> (6) When I was in high school | NC | N/A |
| 6. On a weekday, about how many hours do you use a laptop or desktop computer for doing schoolwork, including homework? <br> (A) None <br> (B) Less than an hour <br> (c) 1 to 2 hours <br> (D) 2 to 3 hours <br> (ㄷ) 3 to 4 hours <br> (®) More than 4 hours <br> (2015 Grade 12) | 5. On a weekday, about how many hours do you use a laptop or desktop computer for doing schoolwork, including homework? <br> (1) None Less than an hour 1 to 2 hours 2 to 3 hours 3 to 4 hours More than 4 hours | NC | N/A |

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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 7. On a weekday, about how many hours do you use a tablet for doing schoolwork, including homework? <br> (4) None <br> (B) Less than an hour <br> (c) 1 to 2 hours <br> (D) 2 to 3 hours <br> (E) 3 to 4 hours <br> (c) More than 4 hours <br> (2015 Grade 12) | 6. On a weekday, about how many hours do you use a tablet for doing schoolwork. including homework? None Less than an hour 1 to 2 hours 2 to 3 hours 3 to 4 hours More than 4 hours | NC | N/A |

## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student



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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student



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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student



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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student



## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 15. Compared to other students in your English/language arts class, how fast do you type on a computer keyboard? <br> (4) I am slower than most students. <br> (B) I type about the same speed as others. <br> (c) I am faster than most students. <br> (D) I don't know. <br> (2015 Grade 12) | N/A | D | This item was dropped because it was not correlated with achievement, and was not conceptually central to the study. |
| 16. Would you rather take a test at school using paper and pencil or using a computer? <br> (®) Paper and pencil <br> (8) Computer <br> (2015 Grade 12) | 14. Would you rather take a test at school using paper and pencil or using a computer? <br> (4) Paper and pencil <br> (1) Computer | NC | N/A |

## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student



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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 18. On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices are you? 0 1 2 3 4 5 6 7 8 9 <br> 10 <br> (2015 Grade 12) | 16. On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar. how familiar with using computers and other digital devices are you? <br> (2) 0 <br> (1) 1 <br> - 2 <br> . 3 <br> . 4 <br> - 5 <br> (2) 6 <br> (1) 7 <br> D 8 <br> - 9 <br> (B) 10 | NC | N/A |
| Please read the descriptions of the following four twelfth-grade students. After you read each description, you will be asked to answer a question about each student based on the information provided. <br> 19. Linda often uses apps to talk to her friends or to play games. She does some of her homework on her laptop and knows how to write and create tables using a computer Linda cannot type with 10 fingers but is pretty fast with two fingers and mostly finds the right keys. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Linda is? <br> (2) 0 <br> (1) 1 <br> (c) 2 <br> (1) 3 <br> (1) 4 <br> (1) 5 <br> (ब) 6 <br> (1) 7 <br> (1) 8 <br> (1) 9 <br> (8) 10 <br> (2015 Grade 12) | 17. Please read the descriptions of the following four twelfth-grade students. After you read each description, you will be asked to answer a question about each student based on the information provided. <br> Linda often uses apps to talk to her friends or to play games. She does some of her homework on her laptop and knows how to write and create tables using a computer. Linda cannot type with 10 fingers but is pretty fast with two fingers and mostly finds the right keys. <br> On a scale from 0 to 10 . where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Linda is? <br> (2) 0 <br> (1) 1 <br> (c) 2 <br> (1) 3 <br> (D) 4 <br> (1) 5 <br> (6) 6 <br> (1) 7 <br> (1) 8 <br> (1) 9 <br> (1) 10 | NC | N/A |

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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 20. Tom often uses apps to talk to his friends or to play games. He does most of his homework on a computer and knows how to write and edit papers on a computer and how to create complex tables or charts. He also created a few presentations using a computer. Tom can type pretty accurately using ten fingers when looking at the computer keyboard. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Tom is? <br> (4) 0 <br> (1) 1 <br> (C) 2 <br> (1) 3 <br> (1) 4 <br> (1) 5 <br> (ब) 6 <br> (A) 7 <br> (1) 8 <br> (D) 9 <br> (8) 10 <br> (2015 Grade 12) | 18. Tom often uses apps to talk to his friends or to play games. He does most of his homework on a computer and knows how to write and edit papers on a computer and how to create complex tables or charts. He also created a few presentations using a computer. Tom can type pretty accurately using ten fingers when looking at the computer keyboard. <br> On a seale from 0 to 10 , where 0 is not at all familiar and 10 is yery familiar, how familiar with using computers and other digital devices do you think Tom is? <br> (4) 0 <br> (1) 1 <br> © 2 <br> (1) 3 <br> (1) 4 <br> (c) 5 <br> (ब) 6 <br> (B) 7 <br> (1) B <br> (1) 9 <br> (1) 10 | NC | N/A |

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## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| 21. Susan often uses apps on a smartphone or tablet and does most of her homework on a laptop. She is good at writing and editing papers on her computer and has experience with creating complex tables and charts. Susan can type fast and accurately with 10 fingers without looking at the computer keyboard. She also knows a couple of programming languages. This school year, she built her first app. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Susan is? <br> (d) 0 <br> (1) 1 <br> © 2 <br> (D) 3 <br> (1) 4 <br> (1) 5 <br> (ब) 6 <br> (11) 7 <br> (1) 8 <br> (1) 9 <br> (1) 10 <br> (2015 Grade 12) | 19. Susan often uses apps on a smartphone or tablet and does most of her homework on a laptop. She is good at writing and editing papers on her computer and has experience with creating complex tables and charts. Susan can type fast and accurately with 10 fingers without looking at the computer keyboard. She also knows a couple of programming languages. This school year, she built her first app. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar. how familiar with using computers and other digital devices do you think Susan is? <br> (2) 0 <br> (1) 1 <br> © 2 <br> (D) 3 <br> (D) 4 <br> (1) 5 <br> (c) 6 <br> (4) 7 <br> (1) 8 <br> (D) 9 <br> (1) 10 | NC | N/A |
| 22. Kevin sometimes plays games on his smartphone or a computer, but he usually does not use a computer for his homework. He used a computer a couple of times to write a paper but never used a computer to create tables, charts, or presentations. Kevin can type with one or two fingers but has to search to find the correct keys on the computer keyboard. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Kevin is? <br> (4) 0 <br> (1) 1 <br> © 2 <br> (1) 3 <br> (c) 4 <br> (D) 5 <br> (ब) 6 <br> (ㅈ) 7 <br> (1) 8 <br> (1) 9 <br> (1) 10 <br> (2015 Grade 12) | 20. Kevin sometimes plays games on his smartphone or a computer, but he usually does not use a computer for his homework. He used a computer a couple of times to write a paper but never used a computer to create tables, charts, or presentations. Kevin can type with one or two fingers but has to search to find the correct keys on the computer keyboard. <br> On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Kevin is? <br> (4) 0 <br> (1) 1 <br> © 2 <br> (1) 3 <br> (c) 4 <br> (b) 5 <br> (2) 6 <br> (1) 7 <br> (1) 8 <br> (1) 9 <br> (1) 10 | NC | N/A |

## 2019 Operational Grade 12 Computer and Familiarity Study (CAFS) Student

| Previous item |  |  |  |  |  | 2019 item |  |  |  |  |  | D/A/ <br> R/NC+ | Rationale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 23. How familiar are you with each of the following? Fill in one oval on each line. |  |  |  |  | vilisso | 21. How familiar are you with each of the following! Select one answer choice on each row. newnd |  |  |  |  |  | R | Previous subitems " $h$ ", " $k$ ", " $q$ ", " $s$ " <br> were dropped. <br> The in-line direction was adapted from PBA to DBA: "Fill in one oval on each line." was adapted to "Select one answer choice on each row." |
|  | $\begin{gathered} \text { Never } \\ \text { heard of it } \end{gathered}$ | $\begin{gathered} \text { Heard of } \\ \text { it once or } \\ \text { twice } \end{gathered}$ | $\underset{\substack{\text { Heard of } \\ \text { it often }}}{\text {. }}$ | $\begin{gathered} \text { Know } \\ \text { it well, } \\ \text { understand } \\ \text { the concept } \end{gathered}$ |  |  | ${ }_{\text {it }}^{\text {Never heard of }}$ | Heard of it once or twice | Heard of it often | $\begin{array}{\|c} \begin{array}{c} \text { now in well. } \\ \text { nuderstall } \\ \text { hud concepp } \end{array} \end{array}$ |  |  |  |
| a. E-reader | (1) | (1) | $\bigcirc$ | © | vH15571 | a. E-teader | ¢ | © | ¢ | $\square$ | vemum |  |  |
| b. Wi-Fi | © | (®) |  | - | vH15572 | c. Firewall | $\stackrel{\square}{\square}$ | ${ }_{\square}{ }^{\circ}$ | $\stackrel{\circ}{\circ}$ | $\stackrel{\square}{\oplus}$ | "ixvom |  |  |
| b. Wi-fi |  |  |  |  |  | d. Hyperlink | © | © | $\bigcirc$ | $\stackrel{\square}{\square}$ | visum |  |  |
| c. Firewall | (1) | (1) | $\bigcirc$ | © | vent5r3 | c. Neuro-digital computing | © | © | $\odot$ | ${ }^{\circ}$ | vixmm |  |  |
| d. Hyperlink | (1) | (1) | $\bigcirc$ | © | vils ${ }^{\text {r }}$ 6 | 1. Instant messaging | © | ${ }^{(1)}$ | $\odot$ | ${ }^{\circ}$ | vamam |  |  |
| e. Neuro-digital computing | (1) | (1) | $\bigcirc$ | © | 15575 | \%. CPU | $\stackrel{\square}{\circ}$ | ${ }_{\square}^{1}$ | $\stackrel{\circ}{\circ}$ | $\stackrel{\square}{\oplus}$ | vervea |  |  |
|  |  |  |  |  | vinssis | i. Pyramidal browser | (1) | ${ }^{\circ}$ | $\odot$ | $\stackrel{\square}{\circ}$ | vinam |  |  |
| f. Instant messaging | (1) | (1) | $\odot$ | $\odot$ |  | i. Spreadsheet | © | © | $\stackrel{\circ}{\circ}$ | ${ }^{\circ}$ |  |  |  |
| g. CPU | (1) | (1) | $\odot$ | © | 15359 | k. Limbic wire | © | © | $\bigcirc$ | © | yrimer |  |  |
| h. Track changes | (1) | (1) | $\bigcirc$ | © | valisseo | 1. Spinalayte | $\stackrel{\square}{\circ}$ | ${ }_{\square}{ }^{\circ}$ | $\stackrel{\circ}{\circ}$ | ${ }_{\square}$ |  |  |  |
|  | (1) |  |  |  | vins571 | n. Server | (1) | ${ }^{1}$ | $\bigcirc$ | ${ }^{1}$ | wamuio |  |  |
| 1. Cut and paste | (1) |  |  |  |  | o. Compiler | © | © | $\odot$ | © | verna |  |  |
| j. Pyramidal browser | (1) | (1) | $\bigcirc$ | © | 115572 | p. Callosum board | ${ }^{\circ}$ | © | $\odot$ | $\oplus$ | varais |  |  |
| k. Pivot table | (1) | (1) | $\bigcirc$ | © | vilstres |  |  |  |  |  |  |  |  |
| 1. Spreadsheet | (1) | (1) | $\bigcirc$ | $\odot$ | vils7es |  |  |  |  |  |  |  |  |
| m. Limbic wire | (1) | (1) | $\bigcirc$ | $\odot$ | valistice |  |  |  |  |  |  |  |  |
| n. Spinalbyte | (1) | (1) | $\bigcirc$ | © | vilsry |  |  |  |  |  |  |  |  |
| o. Cloud computing | (1) | (1) | $\bigcirc$ | $\odot$ |  |  |  |  |  |  |  |  |  |
| p. Server | (1) | (1) | $\bigcirc$ | © | vilsze |  |  |  |  |  |  |  |  |
| q. Root directory | (1) | © | $\odot$ | © | vils ${ }^{\text {\% }}$ |  |  |  |  |  |  |  |  |
| r. Compiler | (1) | © | $\bigcirc$ | $\odot$ | vistri |  |  |  |  |  |  |  |  |
| s. ASCII | (1) | (1) | $\odot$ | $\odot$ | vilss ${ }^{\text {a }}$ |  |  |  |  |  |  |  |  |
| t. Callosum board | (1) | (1) | $\odot$ | $\bigcirc$ | vis579 |  |  |  |  |  |  |  |  |
| (2015 Grade 12) |  |  |  |  |  |  |  |  |  |  |  |  |  |

[^43]
## Appendix K-1bb: Operational Grade 12 CAFS

1. At home, do you have any of the following? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. A laptop or desktop computer that is only for your use | (1) | (B) | vH270141 |
| b. A laptop or desktop computer that is shared between you and others | (1) | (B) | vH270142 |
| c. A tablet that is only for your use | (1) | © | vH270139 |
| d. A tablet that is shared between you and others | (1) | (8) | vH270140 |
| e. Wi-Fi or some other Internet connection you can use | (1) | (8) | vH270143 |
| f. A smartphone that is only for your use | (4) | (8) | vH270144 |

2. When did you first use a laptop or desktop computer?
(A) I have never used one.
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
© When I was in fourth or fifth grade
(®) When I was in sixth, seventh, or eighth grade
(c) When I was in high school
3. When did you first use a tablet?
(A) Never until this assessment
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
(E) When I was in fourth or fifth grade
© When I was in sixth, seventh, or eighth grade
(a) When I was in high school
4. When did you first use a smartphone?
(A) I have never used one.
(B) Before I was in kindergarten
© When I was in kindergarten
(D) When I was in first, second, or third grade
(E) When I was in fourth or fifth grade
© When I was in sixth, seventh, or eighth grade
(6) When I was in high school
5. On a weekday, about how many hours do you use a laptop or desktop computer for doing schoolwork, including homework?
(A) None
(B) Less than an hour
© 1 to 2 hours
(D) 2 to 3 hours
(E) 3 to 4 hours
(©) More than 4 hours
6. On a weekday, about how many hours do you use a tablet for doing schoolwork, including homework?
(A) None
(B) Less than an hour
© 1 to 2 hours
(D) 2 to 3 hours
(e) 3 to 4 hours
(©) More than 4 hours
7. Were you taught any of the following at school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. How to type on a computer keyboard using the correct fingers | (4) | (8) | vH270150 |
| b. How to write sentences and paragraphs using a computer | (4) | (8) | vH270151 |
| c. How to edit text using a computer | (4) | (8) | vH270164 |
| d. How to search for information on the Internet | (4) | (8) | vH270152 |
| e. How to use a tablet | (4) | (B) | vH270156 |
| f. How to look up the meaning of a word using a computer | (4) | (B) | vH270157 |
| g. How to create a spreadsheet using a computer | (4) | (B) | vH270154 |
| h. How to create a presentation using a computer | (4) | (B) | vH270155 |
| i. How to run simulations using a computer | (4) | (8) | vH270159 |
| j. How to write a computer program or app | (4) | (B) | vH270160 |
| k. How to create a graph or chart using a computer | (4) | (8) | vH270161 |
| 1. How to troubleshoot problems with a computer | (4) | (B) | vH270158 |

8. Which of the following are true about the ways in which you and your teachers use computers at school? Select one answer choice on each row.

|  | Yes | No |  |
| :---: | :---: | :---: | :---: |
| a. In most of my classes there are laptop or desktop computers that I can use for schoolwork. | (1) | (B) | vH270166 |
| b. In most of my classes there are tablets that I can use for schoolwork. | (4) | (8) | vH270167 |
| c. There is Wi-Fi or some other Internet connection that I can use for schoolwork. | (4) | (8) | vH270170 |
| d. Most of my teachers use computers when teaching my classes. | (1) | (B) | vH270169 |
| e. Most of my teachers require us to use computers in the classroom. | (4) | (8) | vH270168 |

9. Has your school assigned you a laptop or desktop computer that only you can use?
(A) No
(B) Yes, but I cannot take it home with me.
© Yes, and I can take it home with me (laptop only).
10. Has your school assigned you a tablet that only you can use?
(A) No
(B) Yes, but I cannot take it home with me.
© Yes, and I can take it home with me.
11. This school year, how often have you used a laptop or desktop computer to do each of the following? Select one answer choice on each row.

|  | Never | A few times | Once every few weeks | About once a week | More than once a week |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write a short paper (less than a page) for school | (4) | (B) | © | (1) | (E) | vH270172 |
| b. Write a paper for school that was longer than a page | (4) | (B) | © | (1) | (1) | vH270173 |
| c. Search the Internet for a school project | (4) | (B) | $\bigcirc$ | (1) | (®) | vH270174 |
| d. Practice things in mathematics that you were having trouble learning | (4) | (B) | $\bigcirc$ | (1) | (®) | vH270181 |
| e. Practice things in reading that you were having trouble learning | (1) | (8) | © | © | (1) | vH270177 |
| f. Take a test | (4) | (8) | © | (1) | (1) | VH270175 |
| g. Create a map | (4) | (8) | © | (1) | (1) | vH270178 |
| h. Work on a website or blog that you maintain | (4) | (B) | © | (1) | (1) | vH270179 |
| i. Create a multimedia presentation on your own | (1) | (B) | © | (1) | (1) | vH270180 |
| j. Work collaboratively with a team of students to create a multimedia presentation | (4) | (B) | © | (1) | (1) | vH270176 |

12. This school year, how often have you used a tablet to do each of the following? Select one answer choice on each row.

|  | Never | A few times | Once every few weeks | About once a week | More than once a week |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write a short paper (less than a page) for school | (1) | (B) | © | (1) | (1) | VH270183 |
| b. Write a paper for school that was longer than a page | (4) | (B) | © | (1) | (1) | vH270188 |
| c. Search the Internet for a school project | (1) | (8) | © | (1) | (1) | vH270184 |
| d. Practice things in mathematics that you were having trouble learning | (4) | (B) | © | (1) | (1) | VH270185 |
| e. Practice things in reading that you were having trouble learning | (4) | (8) | © | (1) | © | VH270186 |
| f. Take a test | (1) | (8) | © | (1) | (1) | VH270192 |
| g. Create a map | (4) | (B) | $\bigcirc$ | (1) | © | VH270189 |
| h. Work on a website or blog that you maintain | (4) | (B) | © | (1) | (1) | vH270190 |
| i. Create a multimedia presentation on your own | (1) | (B) | © | (1) | (1) | vH270191 |
| j. Work collaboratively with a team of students to create a multimedia presentation | (4) | (B) | © | (1) | (1) | vH270187 |

13. Which best describes the way you type on a computer keyboard?
(A) I don't know how to type using a computer keyboard.
(B) I can type with one or two fingers, but I have to search for where the letter keys are.
© I can type with one or two fingers, and I know where most of the letter keys are.
(D) I can type with all ten fingers when I look at the keyboard.
(E) I can type with all ten fingers without looking at the keyboard.
14. Would you rather take a test at school using paper and pencil or using a computer?
(A) Paper and pencil
(B) Computer
15. Do you think you would be able to do each of the following? Select one answer choice on each row.

|  | $\begin{gathered} \text { I definitely } \\ \text { can't. } \end{gathered}$ | $\begin{aligned} & \text { I probably } \\ & \text { can't. } \end{aligned}$ | I probably can. | $\begin{gathered} \text { I definitely } \\ \text { can. } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. Write sentences and paragraphs using a computer | (4) | (B) | © | (1) | VH270229 |
| b. Edit text using a computer | (4) | (8) | $\bigcirc$ | (1) | VH270218 |
| c. Use a touchscreen on a computer, tablet, or smartphone | (4) | (B) | © | (1) | vH270230 |
| d. Look up the meaning of a word using a computer | (4) | (B) | $\bigcirc$ | (1) | vH270225 |
| e. Draw a picture using a computer | (4) | (B) | $\bigcirc$ | (1) | vH270226 |
| f. View or download digital media | (4) | (B) | © | (1) | vH270216 |
| g. Create a presentation using a computer | (4) | (B) | © | (1) | vH270228 |
| h. Create a spreadsheet using a computer | (1) | (B) | © | (1) | vH270231 |
| i. Install new software or apps | (4) | (B) | © | (1) | vH270219 |
| j. Participate in online discussions, forums, social networking sites, or virtual communities | (4) | (B) | © | (1) | vH270220 |
| k. Maintain a website or blog | (4) | (8) | © | (1) | VH270221 |
| l. Search for information on the Internet | (4) | (B) | © | (1) | vH270222 |
| m . Run simulations using a computer | (1) | (B) | © | (1) | vH270223 |
| n. Create a graph or chart using a computer | (4) | (B) | $\bigcirc$ | (1) | vH270224 |
| o. Write a computer program or app | (1) | (B) | $\bigcirc$ | (1) | vH270227 |
| p. Troubleshoot a problem with a computer | (4) | (B) | © | (1) | vH270232 |
| q. Figure out how to use new functions of a digital device that I am not yet familiar with | (4) | (B) | © | (1) | VH270217 |

16. On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices are you?
(4) 0
(B) 1
(c) 2
(D) 3
(E) 4
(ㄷ) 5
(6) 6
(1) 7
(1) 8
(1) 9
(1) 10
17. Please read the descriptions of the following four twelfth-grade students. After you read each description, you will be asked to answer a question about each student based on the information provided.

Linda often uses apps to talk to her friends or to play games. She does some of her homework on her laptop and knows how to write and create tables using a computer. Linda cannot type with 10 fingers but is pretty fast with two fingers and mostly finds the right keys.

On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Linda is?
(4) 0
(B) 1
© 2
(D) 3
(E) 4
(c) 5
(อ) 6
(4) 7
(1) 8
(1) 9
(1) 10
18. Tom often uses apps to talk to his friends or to play games. He does most of his homework on a computer and knows how to write and edit papers on a computer and how to create complex tables or charts. He also created a few presentations using a computer. Tom can type pretty accurately using ten fingers when looking at the computer keyboard.

On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Tom is?
(A) 0
(B) 1
© 2
(D) 3
(E) 4
(c) 5
(6) 6
(1) 7
(1) 8
(1) 9
(1) 10
19. Susan often uses apps on a smartphone or tablet and does most of her homework on a laptop. She is good at writing and editing papers on her computer and has experience with creating complex tables and charts. Susan can type fast and accurately with 10 fingers without looking at the computer keyboard. She also knows a couple of programming languages. This school year, she built her first app.

On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Susan is?
(4) 0
(B) 1
© 2
(D) 3
(E) 4
(®) 5
(c) 6
(4) 7
(1) 8
(1) 9
(1) 10
20. Kevin sometimes plays games on his smartphone or a computer, but he usually does not use a computer for his homework. He used a computer a couple of times to write a paper but never used a computer to create tables, charts, or presentations. Kevin can type with one or two fingers but has to search to find the correct keys on the computer keyboard.

On a scale from 0 to 10 , where 0 is not at all familiar and 10 is very familiar, how familiar with using computers and other digital devices do you think Kevin is?
(4) 0
(B) 1
(c) 2
(D) 3
(E) 4
() 5
(c) 6
(®) 7
(1) 8
(1) 9
(1) 10
21. How familiar are you with each of the following? Select one answer choice on each row.

|  | Never heard of it | Heard of it once or twice | Heard of it often | Know it well, understand the concept |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. E-reader | (4) | (8) | © | (1) | VH270195 |
| b. Wi-Fi | (4) | (B) | $\bigcirc$ | (1) | VH270196 |
| c. Firewall | (4) | (B) | $\bigcirc$ | (1) | VH270197 |
| d. Hyperlink | (4) | (8) | $\bigcirc$ | (1) | VH270198 |
| e. Neuro-digital computing | (4) | (8) | © | © | vH270199 |
| f. Instant messaging | (4) | © | $\bigcirc$ | (1) | VH270200 |
| g. CPU | (4) | © | $\bigcirc$ | (1) | VH270201 |
| h. Cut and paste | (4) | (8) | $\bigcirc$ | (1) | VH270203 |
| i. Pyramidal browser | (4) | (B) | © | (1) | VH270204 |
| j. Spreadsheet | (4) | (B) | $\bigcirc$ | (1) | VH270206 |
| k. Limbic wire | (4) | (8) | © | (1) | VH270207 |
| 1. Spinalbyte | (4) | (B) | © | (1) | VH270208 |
| m. Cloud computing | (4) | (8) | © | (1) | VH270209 |
| n. Server | (4) | (B) | $\bigcirc$ | (1) | VH270210 |
| o. Compiler | (4) | (B) | $\bigcirc$ | (1) | VH270212 |
| p. Callosum board | (4) | (B) | $\bigcirc$ | (1) | VH270214 |

Appendix K-1bc: Summary of Changes Operational Grade 4 ESQ

2019 Operational Grade 4 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | In the last month, how many different homes have you been living in? (If you have moved in the last month, do not count the home where you used to live.) <br> (4) Zero homes <br> (B) One home <br> © Two homes <br> (1) Three or more homes <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Think about all the people who live with you in your home. Not including you, how many children 17 years or younger live with you? 0 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | How many adults 18 years and older live with you? 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | You said you live in more than one home. Think about all the people who live with you in one of these homes (you can tell us about up to two homes). We will call it Home \#1. Not including you, how many children 17 years or younger live with you in Home \#1? <br> (A) 0 <br> (B) 1 <br> - 2 <br> More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

2019 Operational Grade 4 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | How many adults 18 years and older live with you in Home \#1? 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | You have told us about the people in one of your homes. Now think about all the people who live with you in your other home. We will call it Home \#2. Not including you, how many children 17 years or younger live with you in Home \#2? <br> (8) 0 <br> (B) 1 <br> - 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | How many adults 18 years and older live with you in Home \#2? <br> (4) 1 <br> 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Now think about all of the adults in all of your homes. How many of the adults that live with you are taking care of you? <br> (A) 1 <br> (B) 2 <br> © 3 <br> (1) 4 <br> (b) More than 4 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 4 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | You said one adult is taking care of you. Who is this adult? <br> (4) Mother <br> (B) Stepmother <br> © Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (1) Father <br> (a) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | You said more than one adult is taking care of you. Think about the first adult (you can tell us about up to four adults). We will call them Adult \#1. Who is Adult \#1? <br> (4) Mother <br> (B) Stepmother <br> © Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (1) Father <br> (2) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

2019 Operational Grade 4 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | Think about the second adult taking care of you. We will call them Adult \#2. Who is Adult \#2? <br> (4) Mother <br> (B) Second mother <br> © Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> © Father <br> (®) Second father <br> (1) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Think about the third adult taking care of you. We will call them Adult \#3. Who is Adult \#3? <br> (4) Mother <br> (B) Second mother <br> © Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (ब) Father <br> (1) Second father <br> (1) Stepfather <br> (1) Foster father <br> (8) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 4 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | Think about the fourth adult taking care of you. We will call them Adult \#4. Who is Adult \#4? <br> (4) Mother <br> (1) Second mother <br> © Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (6) Father <br> (1) Second father <br> (1) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ _) <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 4 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | In the last month, has your mother worked for pay? Yes No I don't know. <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br> Please note that this item includes the caregiver title provided by the respondent in a prior item. Possible answers include: mother, second mother, stepmother, foster mother, grandmother or female relative, the female adult taking care of you, father, second father, stepfather, foster father, grandfather or male relative, the male adult taking care of you |

## 2019 Operational Grade 4 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | In the last month, did your mother work at one job, or did this adult work at two or more jobs? <br> (4) One job <br> (®) Two or more jobs <br> © I don't know. <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br> Please note that this item includes the caregiver title provided by the respondent in a prior item. Possible answers include: your mother, your second mother, your stepmother, your foster mother, your grandmother or female relative, the female adult taking care of you, your father, your second father, your stepfather, your foster father, your grandfather or male relative, the male adult taking care of you |

## Appendix K-1bd: Operational Grade 4 ESQ

1. In the last month, how many different homes have you been living in? (If you have moved in the last month, do not count the home where you used to live.)
(A) Zero homes
(B) One home
© Two homes
(D) Three or more homes
2. Think about all the people who live with you in your home. Not including you, how many children 17 years or younger live with you?
(A) 0
(B) 1
© 2
(D) More than 2
3. How many adults 18 years and older live with you?
(A) 1
(B) 2
© More than 2
4. You said you live in more than one home. Think about all the people who live with you in one of these homes (you can tell us about up to two homes). We will call it Home \#1. Not including you, how many children 17 years or younger live with you in Home \#1?
(4) 0
(B) 1
(c) 2
(D) More than 2
5. How many adults 18 years and older live with you in Home \#1?
(4) 1
(B) 2
© More than 2
6. You have told us about the people in one of your homes. Now think about all the people who live with you in your other home. We will call it Home \#2. Not including you, how many children 17 years or younger live with you in Home \#2?
(4) 0
(B) 1
© 2
(D) More than 2
7. How many adults 18 years and older live with you in Home \#2?
(A) 1
(B) 2
© More than 2
8. Now think about all of the adults in all of your homes. How many of the adults that live with you are taking care of you?
(A) 1
(B) 2
© 3
(D) 4
(E) More than 4
9. You said one adult is taking care of you. Who is this adult?
(A) Mother
(B) Stepmother
(c) Foster mother
(D) Grandmother or female relative
© Other female adult (Please specify: $\qquad$
() Father
(a) Stepfather
$\oplus$ Foster father
(1) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
10. You said more than one adult is taking care of you. Think about the first adult (you can tell us about up to four adults). We will call them Adult \#1. Who is Adult \#1?
(A) Mother
(B) Stepmother
© Foster mother
(D) Grandmother or female relative
(E) Other female adult (Please specify: $\qquad$ _)
() Father
(c) Stepfather
$\oplus$ Foster father
(1) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
11. Think about the second adult taking care of you. We will call them Adult \#2. Who is Adult \#2?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
(®) Other female adult (Please specify: $\qquad$
(a) Father
(1) Second father
(1) Stepfather
(1) Foster father
(B) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
12. Think about the third adult taking care of you. We will call them Adult \#3. Who is Adult \#3?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
(®) Other female adult (Please specify: $\qquad$
(a) Father
$\oplus$ Second father
(1) Stepfather
(1) Foster father
(B) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
13. Think about the fourth adult taking care of you. We will call them Adult \#4. Who is Adult \#4?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
© Other female adult (Please specify: $\qquad$
(a) Father
(1) Second father
(1) Stepfather
(1) Foster father
(B) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
14. In the last month, has your mother worked for pay?
(4) Yes
(B) No
© I don't know.
15. In the last month, has your second mother worked for pay?
(A) Yes
(B) No
© I don't know.
16. In the last month, has your stepmother worked for pay?
(4) Yes
(B) No
© I don't know.
17. In the last month, has your foster mother worked for pay?
(4) Yes
(B) No
© I don't know.
18. In the last month, has your grandmother or female relative worked for pay?
(A) Yes
(B) No
© I don't know.
19. In the last month, has the female adult taking care of you worked for pay?
(A) Yes
(B) No
© I don't know.
20. In the last month, has your father worked for pay?
(4) Yes
(B) No
© I don't know.
21. In the last month, has your second father worked for pay?
(4) Yes
(B) No
© I don't know
22. In the last month, has your stepfather worked for pay?
(4) Yes
(B) No
© I don't know.
23. In the last month, has your foster father worked for pay?
(A) Yes
(B) No
© I don't know.
24. In the last month, has your grandfather or male relative worked for pay?
(4) Yes
(B) No
© I don't know
25. In the last month, has the male adult taking care of you worked for pay?
(4) Yes
(B) No
© I don't know.
26. In the last month, did your mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
27. In the last month, did your second mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
28. In the last month, did your stepmother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
29. In the last month, did your foster mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
30. In the last month, did your grandmother or female relative work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
31. In the last month, did the female adult taking care of you work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
32. In the last month, did your father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
33. In the last month, did your second father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
34. In the last month, did your stepfather work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
35. In the last month, did your foster father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
36. In the last month, did your grandfather or male relative work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
37. In the last month, did the male adult taking care of you work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.

Appendix K-1be: Summary of Changes Operational Grade 8 ESQ

2019 Operational Grade 8 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | In the last month, how many different homes have you been living in? (If you have moved in the last month, do not count the home where you used to live.) <br> (A) Zero homes <br> (B) One home <br> © Two homes <br> (D) Three or more homes <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Think about all the people who live with you in your home. Not including you, how many children 17 years or younger live with you? 0 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | How many adults 18 years and older live with you? 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | You said you live in more than one home. Think about all the people who live with you in one of these homes (you can tell us about up to two homes). We will call it Home \#1. Not including you, how many children 17 years or younger live with you in Home \#1? <br> (A) 0 <br> (B) 1 <br> 2 <br> More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

2019 Operational Grade 8 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | How many adults 18 years and older live with you in Home \#1? 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | You have told us about the people in one of your homes. Now think about all the people who live with you in your other home. We will call it Home \#2. Not including you, how many children 17 years or younger live with you in Home \#2? <br> (8) 0 <br> (B) 1 <br> - 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | How many adults 18 years and older live with you in Home \#2? <br> (4) 1 <br> 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Now think about all of the adults in all of your homes. How many of the adults that live with you are taking care of you? <br> (A) 1 <br> (B) 2 <br> © 3 <br> (1) 4 <br> (b) More than 4 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 8 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | You said one adult is taking care of you. Who is this adult? <br> (4) Mother Stepmother Foster mother Grandmother or female relative Other female adult (Please specify: $\qquad$ Father Stepfather Foster father Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | You said more than one adult is taking care of you. Think about the first adult (you can tell us about up to four adults). We will call them Adult \#1. Who is Adult \#1? <br> (4) Mother <br> (B) Stepmother <br> © Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (1) Father <br> (6) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

2019 Operational Grade 8 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | Think about the second adult taking care of you. We will call them Adult \#2. Who is Adult \#2? <br> (4) Mother <br> (B) Second mother <br> © Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> © Father <br> (®) Second father <br> (1) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Think about the third adult taking care of you. We will call them Adult \#3. Who is Adult \#3? <br> (4) Mother <br> (B) Second mother <br> © Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (ब) Father <br> (1) Second father <br> (1) Stepfather <br> (1) Foster father <br> (8) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 8 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | Think about the fourth adult taking care of you. We will call them Adult \#4. Who is Adult \#4? <br> (1) Mother <br> (1) Second mother <br> © Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (6) Father <br> (4) Second father <br> (1) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 8 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | ```How far in school did your mother go? \\ (4) She did not finish high school. \\ (8) She graduated from high school or has a high school degree. \\ © She had some college but did not graduate. \\ (1) She graduated from college. \\ (1) I don't know.``` <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br> Please note that this item includes the caregiver title provided by the respondent in a prior item. Possible answers include: your mother / your second mother / your stepmother / your foster mother / your grandmother or female relative / the female adult taking care of you / your father / your second father / your stepfather / your foster father / your grandfather or male relative / the male adult taking care of you |

## 2019 Operational Grade 8 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | In the last month, has your mother worked for pay? Yes No I don't know. <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br> Please note that this item includes the caregiver title provided by the respondent in a prior item. Possible answers include: mother, second mother, stepmother, foster mother, grandmother or female relative, the female adult taking care of you, father, second father, stepfather, foster father, grandfather or male relative, the male adult taking care of you |

## 2019 Operational Grade 8 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | In the last month, did your mother work at one job, or did this adult work at two or more jobs? <br> (4) One job <br> (B) Two or more jobs <br> © I don't know. <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br> Please note that this item includes the caregiver title provided by the respondent in a prior item. Possible answers include: your mother, your second mother, your stepmother, your foster mother, your grandmother or female relative, the female adult taking care of you, your father, your second father, your stepfather, your foster father, your grandfather or male relative, the male adult taking care of you |

## Appendix K-1bf: Operational Grade 8 ESQ

1. In the last month, how many different homes have you been living in? (If you have moved in the last month, do not count the home where you used to live.)
(A) Zero homes
(B) One home
© Two homes
(D) Three or more homes
2. Think about all the people who live with you in your home. Not including you, how many children 17 years or younger live with you?
(A) 0
(B) 1
© 2
(D) More than 2
3. How many adults 18 years and older live with you?
(A) 1
(B) 2
© More than 2
4. You said you live in more than one home. Think about all the people who live with you in one of these homes (you can tell us about up to two homes). We will call it Home \#1. Not including you, how many children 17 years or younger live with you in Home \#1?
(4) 0
(B) 1
(c) 2
(D) More than 2
5. How many adults 18 years and older live with you in Home \#1?
(4) 1
(B) 2
© More than 2
6. You have told us about the people in one of your homes. Now think about all the people who live with you in your other home. We will call it Home \#2. Not including you, how many children 17 years or younger live with you in Home \#2?
(4) 0
(B) 1
© 2
(D) More than 2
7. How many adults 18 years and older live with you in Home \#2?
(A) 1
(B) 2
© More than 2
8. Now think about all of the adults in all of your homes. How many of the adults that live with you are taking care of you?
(A) 1
(B) 2
© 3
(D) 4
(E) More than 4
9. You said one adult is taking care of you. Who is this adult?
(A) Mother
(B) Stepmother
(c) Foster mother
(D) Grandmother or female relative
© Other female adult (Please specify: $\qquad$
() Father
(a) Stepfather
$\oplus$ Foster father
(1) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
10. You said more than one adult is taking care of you. Think about the first adult (you can tell us about up to four adults). We will call them Adult \#1. Who is Adult \#1?
(A) Mother
(B) Stepmother
© Foster mother
(D) Grandmother or female relative
(E) Other female adult (Please specify: $\qquad$ _)
() Father
(c) Stepfather
$\oplus$ Foster father
(1) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
11. Think about the second adult taking care of you. We will call them Adult \#2. Who is Adult \#2?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
(®) Other female adult (Please specify: $\qquad$
(a) Father
(1) Second father
(1) Stepfather
(1) Foster father
(B) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
12. Think about the third adult taking care of you. We will call them Adult \#3. Who is Adult \#3?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
(®) Other female adult (Please specify: $\qquad$
(a) Father
$\oplus$ Second father
(1) Stepfather
(1) Foster father
(B) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
13. Think about the fourth adult taking care of you. We will call them Adult \#4. Who is Adult \#4?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
© Other female adult (Please specify: $\qquad$
(a) Father
(1) Second father
(1) Stepfather
(1) Foster father
(1) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
14. How far in school did your mother go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
15. How far in school did your second mother go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
16. How far in school did your stepmother go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
17. How far in school did your foster mother go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
18. How far in school did your grandmother or female relative go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
19. How far in school did the female adult taking care of you go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
20. How far in school did your father go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
21. How far in school did your second father go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.

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22. How far in school did your stepfather go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
23. How far in school did your foster father go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(1) He graduated from college.
(B) I don't know.
24. How far in school did your grandfather or male relative go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
25. How far in school did the male adult taking care of you go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
26. In the last month, has your mother worked for pay?
(A) Yes
(B) No
© I don't know.
27. In the last month, has your second mother worked for pay?
(4) Yes
(B) No
© I don't know.
28. In the last month, has your stepmother worked for pay?
(4) Yes
(B) No
© I don't know.
29. In the last month, has your foster mother worked for pay?
(4) Yes
(B) No
© I don't know.
30. In the last month, has your grandmother or female relative worked for pay?
(A) Yes
(B) No
© I don't know.
31. In the last month, has the female adult taking care of you worked for pay?
(A) Yes
(B) No
© I don't know.
32. In the last month, has your father worked for pay?
(4) Yes
(B) No
© I don't know.
33. In the last month, has your second father worked for pay?
(4) Yes
(B) No
© I don't know
34. In the last month, has your stepfather worked for pay?
(A) Yes
(B) No
© I don't know.
35. In the last month, has your foster father worked for pay?
(A) Yes
(B) No
© I don't know.
36. In the last month, has your grandfather or male relative worked for pay?
(4) Yes
(B) No
© I don't know
37. In the last month, has the male adult taking care of you worked for pay?
(4) Yes
(B) No
© I don't know.
38. In the last month, did your mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
39. In the last month, did your second mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
40. In the last month, did your stepmother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
41. In the last month, did your foster mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
42. In the last month, did your grandmother or female relative work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
43. In the last month, did the female adult taking care of you work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
44. In the last month, did your father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
45. In the last month, did your second father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
46. In the last month, did your stepfather work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
47. In the last month, did your foster father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
48. In the last month, did your grandfather or male relative work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
49. In the last month, did the male adult taking care of you work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.

## Appendix K-1bg: Summary of Changes Operational Grade 12 ESQ

2019 Operational Grade 12 Extended Student Questionnaire (ESQ) Student

\begin{tabular}{|c|c|c|c|}
\hline Previous item \& 2019 item \& \[
\begin{aligned}
\& \text { D/A/ } \\
\& \text { R/NC+ }
\end{aligned}
\] \& Rationale \\
\hline N/A \& \begin{tabular}{l}
In the last month, how many different homes have you been living in? (If you have moved in the last month, do not count the home where you used to live.) \\
(4) Zero homes \\
(B) One home \\
© Two homes \\
(D) Three or more homes \\
Issue: Socioeconomic Status
\end{tabular} \& A \& This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. \\
\hline N/A \& \begin{tabular}{l}
Think about all the people who live with you in your home. Not including you, how many children 17 years or younger live with you?
0
1
2
More than 2 \\
Issue: Socioeconomic Status
\end{tabular} \& A \& This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. \\
\hline N/A \& \begin{tabular}{l}
Not including you, how many adults 18 years and older live with you? \\
1

2
More than 2 <br>
Issue: Socioeconomic Status
\end{tabular} \& A \& This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br>

\hline N/A \& | You said you live in more than one home. Think about all the people who live with you in one of these homes (you can tell us about up to two homes). We will call it Home \#1. Not including you, how many children 17 years or younger live with you in Home \#1? 0 1 2 More than 2 |
| :--- |
| Issue: Socioeconomic Status | \& A \& This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br>

\hline
\end{tabular}

| 2019 Operational Grade 12 Extended Student Questionnaire (ESQ) Student |  |  |  |
| :---: | :---: | :---: | :---: |
| Previous item | 2019 item | D/A/ <br> R/NC+ | Rationale |
| N/A | Not including you, how many adults 18 years and older live with you in Home \#1? 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | You have told us about the people in one of your homes. Now think about all the people who live with you in your other home. We will call it Home \#2. Not including you, how many children 17 years or younger live with you in Home \#2? 0 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Not including you, how many adults 18 years and older live with you in Home \#2? <br> 1 2 More than 2 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Now think about all of the adults in all of your homes. How many of the adults that live with you are taking care of you? <br> (4) 1 2 3 4 More than 4 <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 12 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | You said one adult is taking care of you. Who is this adult? <br> (4) Mother <br> (B) Stepmother <br> © Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (1) Father <br> (6) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | You said more than one adult is taking care of you. Think about the first adult (you can tell us about up to four adults). We will call them Adult \#1. Who is Adult \#1? <br> (4) Mother <br> (B) Stepmother <br> © Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (1) Father <br> (๑) Stepfather <br> (4) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 12 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | Think about the second adult taking care of you. We will call them Adult \#2. Who is Adult \#2? <br> (A) Mother <br> (B) Second mother <br> (c) Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (6) Father <br> (4) Second father <br> (1) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |
| N/A | Think about the third adult taking care of you. We will call them Adult \#3. Who is Adult \#3? <br> (4) Mother <br> (B) Second mother <br> © Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (ब) Father <br> (1) Second father <br> (1) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 12 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | Think about the fourth adult taking care of you. We will call them Adult \#4. Who is Adult \#4? <br> (4) Mother <br> (1) Second mother <br> © Stepmother <br> (1) Foster mother <br> (1) Grandmother or female relative <br> (1) Other female adult (Please specify: $\qquad$ <br> (a) Father <br> (1) Second father <br> (1) Stepfather <br> (1) Foster father <br> (1) Grandfather or male relative <br> (1) Other male adult (Please specify: $\qquad$ <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. |

## 2019 Operational Grade 12 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | How far in school did your mother go? <br> (4) She did not finish high school. <br> (8) She graduated from high school or has a high school degree. <br> © She had some college but did not graduate. <br> (1) She graduated from college. <br> (1) I don't know. <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br> Please note that this item includes the caregiver title provided by the respondent in a prior item. Possible answers include: your mother / your second mother / your stepmother / your foster mother / your grandmother or female relative / the female adult taking care of you / your father / your second father / your stepfather / your foster father / your grandfather or male relative / the male adult taking care of you |

## 2019 Operational Grade 12 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
|  | In the last month, has your mother worked for pay? Yes No I don't know. <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br> Please note that this item includes the caregiver title provided by the respondent in a prior item. Possible answers include: mother, second mother, stepmother, foster mother, grandmother or female relative, the female adult taking care of you, father, second father, stepfather, foster father, grandfather or male relative, the male adult taking care of you |

## 2019 Operational Grade 12 Extended Student Questionnaire (ESQ) Student

| Previous item | 2019 item | $\begin{aligned} & \text { D/A/ } \\ & \text { R/NC+ } \end{aligned}$ | Rationale |
| :---: | :---: | :---: | :---: |
| N/A | In the last month, did your mother work at one job, or did this adult work at two or more jobs? <br> (4) One job <br> (B) Two or more jobs <br> © I don't know. <br> Issue: Socioeconomic Status | A | This item was added as part of the ESQ special study for enhanced measurement of socioeconomic status and household composition. <br> Please note that this item includes the caregiver title provided by the respondent in a prior item. Possible answers include: your mother, your second mother, your stepmother, your foster mother, your grandmother or female relative, the female adult taking care of you, your father, your second father, your stepfather, your foster father, your grandfather or male relative, the male adult taking care of you |

## Appendix K-1bh: Operational Grade 12 ESQ

1. In the last month, how many different homes have you been living in? (If you have moved in the last month, do not count the home where you used to live.)
(A) Zero homes
(B) One home
© Two homes
(D) Three or more homes
2. Think about all the people who live with you in your home. Not including you, how many children 17 years or younger live with you?
(A) 0
(B) 1
© 2
(D) More than 2
3. Not including you, how many adults 18 years and older live with you?
(A) 1
(B) 2
© More than 2
4. You said you live in more than one home. Think about all the people who live with you in one of these homes (you can tell us about up to two homes). We will call it Home \#1. Not including you, how many children 17 years or younger live with you in Home \#1?
(4) 0
(B) 1
(c) 2
(D) More than 2
5. Not including you, how many adults 18 years and older live with you in Home \#1?
(4) 1
(B) 2
© More than 2
6. You have told us about the people in one of your homes. Now think about all the people who live with you in your other home. We will call it Home \#2. Not including you, how many children 17 years or younger live with you in Home \#2?
(4) 0
(B) 1
(c) 2
(D) More than 2
7. Not including you, how many adults 18 years and older live with you in Home \#2?
(4) 1
(B) 2
© More than 2
8. Now think about all of the adults in all of your homes. How many of the adults that live with you are taking care of you?
(4) 1
(B) 2
© 3
(D) 4
(E) More than 4
9. You said one adult is taking care of you. Who is this adult?
(A) Mother
(B) Stepmother
(c) Foster mother
(D) Grandmother or female relative
© Other female adult (Please specify: $\qquad$
() Father
(a) Stepfather
$\oplus$ Foster father
(1) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
10. You said more than one adult is taking care of you. Think about the first adult (you can tell us about up to four adults). We will call them Adult \#1. Who is Adult \#1?
(A) Mother
(B) Stepmother
© Foster mother
(D) Grandmother or female relative
(E) Other female adult (Please specify: $\qquad$ _)
() Father
(c) Stepfather
$\oplus$ Foster father
(1) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
11. Think about the second adult taking care of you. We will call them Adult \#2. Who is Adult \#2?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
(®) Other female adult (Please specify: $\qquad$
(a) Father
(1) Second father
(1) Stepfather
(1) Foster father
(B) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
12. Think about the third adult taking care of you. We will call them Adult \#3. Who is Adult \#3?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
(®) Other female adult (Please specify: $\qquad$
(a) Father
$\oplus$ Second father
(1) Stepfather
(1) Foster father
(B) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
13. Think about the fourth adult taking care of you. We will call them Adult \#4. Who is Adult \#4?
(A) Mother
(B) Second mother
© Stepmother
(D) Foster mother
(E) Grandmother or female relative
© Other female adult (Please specify: $\qquad$
(a) Father
(1) Second father
(1) Stepfather
(1) Foster father
(1) Grandfather or male relative
(1) Other male adult (Please specify: $\qquad$
14. How far in school did your mother go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
15. How far in school did your second mother go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
16. How far in school did your stepmother go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
17. How far in school did your foster mother go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
18. How far in school did your grandmother or female relative go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
19. How far in school did the female adult taking care of you go?
(A) She did not finish high school.
(B) She graduated from high school or has a high school degree.
© She had some college but did not graduate.
(D) She graduated from college.
(E) I don't know.
20. How far in school did your father go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
21. How far in school did your second father go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
22. How far in school did your stepfather go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
23. How far in school did your foster father go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
24. How far in school did your grandfather or male relative go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
25. How far in school did the male adult taking care of you go?
(A) He did not finish high school.
(B) He graduated from high school or has a high school degree.
© He had some college but did not graduate.
(D) He graduated from college.
(E) I don't know.
26. In the last month, has your mother worked for pay?
(A) Yes
(B) No
© I don't know.
27. In the last month, has your second mother worked for pay?
(4) Yes
(B) No
© I don't know.
28. In the last month, has your stepmother worked for pay?
(4) Yes
(B) No
© I don't know.
29. In the last month, has your foster mother worked for pay?
(4) Yes
(B) No
© I don't know.
30. In the last month, has your grandmother or female relative worked for pay?
(A) Yes
(B) No
© I don't know.
31. In the last month, has the female adult taking care of you worked for pay?
(A) Yes
(B) No
© I don't know.
32. In the last month, has your father worked for pay?
(4) Yes
(B) No
© I don't know.
33. In the last month, has your second father worked for pay?
(4) Yes
(B) No
© I don't know
34. In the last month, has your stepfather worked for pay?
(A) Yes
(B) No
© I don't know.
35. In the last month, has your foster father worked for pay?
(A) Yes
(B) No
© I don't know.
36. In the last month, has your grandfather or male relative worked for pay?
(A) Yes
(B) No
© I don't know
37. In the last month, has the male adult taking care of you worked for pay?
(4) Yes
(B) No
© I don't know.
38. In the last month, did your mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
39. In the last month, did your second mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
40. In the last month, did your stepmother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
41. In the last month, did your foster mother work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
42. In the last month, did your grandmother or female relative work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
43. In the last month, did the female adult taking care of you work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
44. In the last month, did your father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
45. In the last month, did your second father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
46. In the last month, did your stepfather work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
47. In the last month, did your foster father work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
48. In the last month, did your grandfather or male relative work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.
49. In the last month, did the male adult taking care of you work at one job, or did this adult work at two or more jobs?
(A) One job
(B) Two or more jobs
© I don't know.

[^0]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^1]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^2]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^3]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^4]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^5]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^6]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^7]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^8]:    ＋This column indicates whether the item was dropped（D），added（A），revised（R），or there was no change（NC）

[^9]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^10]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^11]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC)

[^12]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^13]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^14]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^15]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^16]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^17]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC)

[^18]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC)

[^19]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC)

[^20]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC)

[^21]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^22]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^23]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^24]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

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[^26]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^27]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^28]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^29]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^30]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^31]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^32]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^33]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^34]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC)

[^35]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^36]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^37]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^38]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC)

[^39]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^40]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^41]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^42]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC).

[^43]:    + This column indicates whether the item was dropped (D), added (A), revised (R), or there was no change (NC)

