NIST Summer Institute: Post-survey for Participants **[insert school year]**

Please take the time to complete this survey on your experience as a teacher during the current school year. Your feedback is truly valuable to the administrators of the NIST Summer Institute program and the data will be kept strictly confidential. Data will be used solely for the overall evaluation of the program and program improvement purposes.

The survey should take 40 minutes to complete.

If you have any questions, please contact **Kara Robinson** at NIST. She can be reached by phone at (301) 975­2471 or by email at kara.robinson@nist.gov.

OMB Control No. #0693­0033

Expiration Date: 07/31/2022

NOTE: This collection of information contains Paperwork Reduction Act (PRA) requirements approved by the Office of Management and Budget (OMB). A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995 unless the information collection has a currently valid OMB Control Number. The approved OMB Control Number for this information collection is 0693-0033. Without this approval, we could not conduct this survey/information collection. Public reporting for this information collection is estimated to be approximately 40 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. All responses to this information collection are voluntary. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the National Institute of Standards and Technology at 100 Bureau Dr Gaithersburg, MD 20899 Attn: Kara Robinson, kara.robinson@nist.gov, 301-975-2471.

NIST Summer Institute: Post-survey for Participants

As part of the evaluation of the NIST Summer Institute, NIST is conducting this survey to document the teaching practices and beliefs of program applicants.

Participation in this activity is voluntary, but the information gained from the survey will be of great value to NIST as it refines its program to best meet the needs of middle school science teachers. Information collected through the survey will be strictly confidential and used solely for research purposes. Only aggregate findings will be included in the final report. No findings will be connected to individual teachers. The information collected will not be shared with other school personnel or used as part of a performance evaluation.

**1. If you agree to participate in the survey, please check the following box and complete the survey.**

fec

I have read the information on this screen and understand what my participation involves. I consent to participating in the survey as part

of the NIST evaluation.

NIST Summer Institute: Post-survey for Participants

2. Please enter your ID number in the space below (your ID number can be found in the email with the link to this survey).

ID Number:

NIST Summer Institute: Post-survey for Participants

**3. In what grade did you spend the majority of your time teaching science during the current school year? *(Select one.)***

mlj

6th grade

mlj

7th grade

mlj

8th grade

**4. If you taught science to more than one grade during the current school year, select all**

**additional grades that apply.**

fec

6th grade

fec

7th grade

fec

8th grade

fec

I did not teach science to any additional grades

NIST Summer Institute: Post-survey for Participants

**5. What were the three most valuable things you took away from the NIST Summer**

**Institute program?**

5

6

**6. Are there any particular aspects of the NIST experience that you feel should have been**

**handled differently or could be improved?**

5

6

NIST Summer Institute: Post-survey for Participants

**7. Which subject areas did you cover in your science classes during the current school**

**year. *(Mark one response on each line.)***

|  |  |  |
| --- | --- | --- |
|  | Subject covered | Subject not covered |
| a. Biology |  |  |
| b. Earth Science |  |  |
| c. Space Science |  |  |
| d. Physics |  |  |
| e. Chemistry |  |  |
| f. Weather |  |  |
| g. Metrology**\*** |  |  |

**\*Metrology**: is the science of measurement, embracing both experimental and theoretical determinations at any level of uncertainty in any field of science and technology. Scientific or fundamental metrology concerns the establishment of quantity systems, unit systems, units of measurement, the development of new measurement methods, realization of measurement standards and the transfer of traceability from these standards to users in society. Applied or industrial metrology concerns the application of measurement science to manufacturing and other processes and their use in society, ensuring the suitability of measurement instruments, their calibration and quality control of measurements. Legal metrology concerns regulatory requirements of measurements and measuring instruments for the protection of health, public safety, the environment, enabling

taxation, protection of consumers and fair trade.

NIST Summer Institute: Post-survey for Participants

**8. How prepared are you to link scientific concepts to real­world applications for each of**

**the subject areas listed below? *(Mark one response on each line.)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Not prepared | Somewhat prepared | Moderately prepared | Very well prepared |
| a. Biology |  |  |  |  |
| b. Earth Science |  |  |  |  |
| c. Space Science |  |  |  |  |
| d. Physics |  |  |  |  |
| e. Chemistry |  |  |  |  |
| f. Weather |  |  |  |  |
| g. Metrology**\*** |  |  |  |  |

**\*Metrology**: is the science of measurement, embracing both experimental and theoretical determinations at any level of uncertainty in any field of science and technology. Scientific or fundamental metrology concerns the establishment of quantity systems, unit systems, units of measurement, the development of new measurement methods, realization of measurement standards and the transfer of traceability from these standards to users in society. Applied or industrial metrology concerns the application of measurement science to manufacturing and other processes and their use in society, ensuring the suitability of measurement instruments, their calibration and quality control of measurements. Legal metrology concerns regulatory requirements of measurements and measuring instruments for the protection of health, public safety, the environment, enabling

taxation, protection of consumers and fair trade.

NIST Summer Institute: Post-survey for Participants

**9. What is your level of preparedness to use the following teaching practices in your**

**classroom? *(Mark one response on each line.)***

Not prepared

Somewhat

prepared

Moderately

prepared

Very well

prepared

a. Using real­world examples to introduce science concepts

b. Using real­world examples to motivate student interest in science

c. Connecting new science concepts to previous science concepts

d. Creating analogies for scientific concepts

e. Addressing students’ misconceptions

f. Having students collect data

g. Providing direct instruction to help students understand a scientific concept

h. Asking students to compare the results of an experiment to their original predictions

ml

i. Asking students to explain their conclusions and/or reasoning

j. Increasing student interest in science careers

 k. Increasing student interest in the role of science in everyday life

NIST Summer Institute: Post-survey for Participants

**10. Approximately how often did you have students engage in the following learning**

**activities during the current school year? *(Mark one response on each line.)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Weekly | Monthly | Annually | Never |
| a. Conduct investigations (e.g., doing lab activities or using manipulatives) |  |  |  |  |
| b. Consider a real­world problem relevant to the course and develop a plan to address it |  |  |  |  |
| c. Use technical passages (from news or science journals) to investigate current issues or new developments in science or technology |  |  |  |  |
| d. Listen to guest speakers |  |  |  |  |
| e. Go on field trips relevant to the curriculum |  |  |  |  |
| f. Investigate possible career opportunities in mathematics, science, or technology |  |  |  |  |
| g. Design and implement their own scientific investigation |  |  |  |  |
| h. Use “state­of­the­art” equipment or technologies |  |  |  |  |

NIST Summer Institute: Post-survey for Participants

**11. Consider only science teachers within your school: How often did you do the**

**following with them during the current school year? *(Mark one response on each line.)***

1­2 times a week

1­2 times a

month

1­2 times a year Never

a. Discuss general ideas for how to teach specific science concepts

b. Share a specific science lesson that was very effective for teaching a concept

c. Share strategies for making science accessible to all students

d. Have my classroom observed by other science teachers to demonstrate how to teach a specific science lesson, activity, or concept

e. Demonstrate a specific science lesson, activity, or concept for students in another teacher’s classroom

**12. Consider only science teachers outside your school that attended the Institute: How**

**often did you do the following with them during the current school year? *(Mark one response on each line.)***

1­2 times a week

1­2 times a

month

1­2 times a year Never

a. Discuss general ideas for how to teach specific science concepts

b. Share a specific science lesson that was very effective for teaching a concept

c. Share strategies for making science accessible for all students

**13. Consider only science teachers outside your school that did not attend the Institute:**

**How often did you do the following with them during the current school year? *(Mark one response on each line.)***

1­2 times a week

1­2 times a month

1­2 times a year Never

a. Discuss general ideas for how to teach specific science concepts

b. Share a specific science lesson that was very effective for teaching a concept

c. Share strategies for making science accessible for all students

NIST Summer Institute: Post-survey for Participants

**14. When you had a science content question related to your teaching responsibilities**

**during the current school year, how often did you use the following information sources to obtain answers? *(Mark one response on each line.)***

1­2 times a week

1­2 times a

month

1­2 times a year Never

a. A teaching colleague within my middle school

b. A teaching colleague at another middle school

c. A science supervisor from within my school district

d. Someone from a professional science teaching organization (e.g., NSTA)

e. A professional scientist of my acquaintance (e.g., a former professor)

f. My school district’s science website

g. My state’s science website

h. A targeted Google search

i. A federal agency website (e.g., NSF, NASA, NOAA, NIST)

j. Specific science websites (e.g., Why Files, Exploratorium)

k. Other

**15. If you selected "Other" in Question 14, please specify the "Other" information source(s)**

**in the space below:**

5

6

NIST Summer Institute: Post-survey for Participants

**16. Indicate the extent to which you agree or disagree with each of the following**

**statements for the current school year. *(Mark one response on each line.)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Strongly Disagree | Disagree | Agree | Strongly Agree |
| a. The quality of my teaching influences my students’ interest in science |  |  |  |  |
| b. The quality of my teaching influences my students’ achievement in science |  |  |  |  |
| c. I continually find better ways to teach science |  |  |  |  |
| d. I know how to motivate my students to learn science |  |  |  |  |
| e. I influence the quality of science instruction for students outside of my own classroom |  |  |  |  |
| f. I am currently in a position to influence the number of my students that know about science­related careers |  |  |  |  |
| g. I am currently in a position to influence the number of my students that find STEM subjects interesting |  |  |  |  |
| h. I am currently in a position to influence the number of my students that view science as being relevant to their lives |  |  |  |  |

NIST Summer Institute: Post-survey for Participants

**17. To what extent did you make use of the following components of the NIST Summer**

**Institute program with your students during the current school year? *(Mark one response on each line.)***

I do not remember this

I did not use this

I used this component in I used this component in

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | component | component | one unit | two or more units |
| a. Measurement uncertainty: How big is Pi? |  |  |  |  |
| b. Metrics Estimation Game |  |  |  |  |
| c. Weights and Measures activities |  |  |  |  |
| d. A world of sound (with SPS organization) |  |  |  |  |
| e. Cement activity |  |  |  |  |
| f. Thermometry activities: Ice melting point, Steam point, CO2 sublimation point |  |  |  |  |
| g. Nanoscale activities |  |  |  |  |
| h. Diffraction activity (from NCNR) |  |  |  |  |
| i. Spectroscopy activity |  |  |  |  |
| k. Introduction to coding and social media |  |  |  |  |
| l. Chemical and Physical Separations |  |  |  |  |
| m. Earthquake activities |  |  |  |  |
| n. Chemical reactions: Foam Gnome |  |  |  |  |
| o. DNA activities (Mycomuncher puzzle and genes and your very own puppy) |  |  |  |  |
| p. NASA Resources |  |  |  |  |
| q. NIST SI Superheroes and resources |  |  |  |  |
| r. Nanomagnets  |  |  |  |  |
| q. Measurement of Temperature with wooden and aluminum blocks |  |  |  |  |

NIST Summer Institute: Post-survey for Participants

**18. To what extent were each of the following components of the NIST Summer Institute**

**program aligned with the your middle school curriculum taught by you or by your colleagues in other grades? *(Mark one response on each line.)***

I do not remember

this component

Not at all aligned Slightly aligned Moderately aligned Greatly aligned

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a. Measurement uncertainty: How big is Pi? |  |  |  |  |
| b. Metrics Estimation Game |  |  |  |  |
| c. Weights and Measures activities |  |  |  |  |
| d. A world of sound (with SPS organization) |  |  |  |  |
| e. Cement activity |  |  |  |  |
| f. Thermometry activities: Ice melting point, Steam point, CO2 sublimation point |  |  |  |  |
| g. Nanoscale activities |  |  |  |  |
| h. Diffraction activity (from NCNR) |  |  |  |  |
| i. Spectroscopy activity |  |  |  |  |
| k. Introduction to coding and social media |  |  |  |  |
| l. Chemical and Physical Separations |  |  |  |  |
| m. Earthquake activities |  |  |  |  |
| n. Chemical reactions: Foam Gnome |  |  |  |  |
| o. DNA activities (Mycomuncher puzzle and genes and your very own puppy) |  |  |  |  |
| p. NASA Resources |  |  |  |  |
| q. NIST SI Superheroes and resources |  |  |  |  |
| r. Nanomagnets  |  |  |  |  |
| q. Measurement of Temperature with wooden and aluminum blocks |  |  |  |  |

NIST Summer Institute: Post-survey for Participants

NIST Summer Institute: Post-survey for Participants

**19. To what extent do you feel that you experienced each of the following types of learning**

**as a result of your participation in the NIST Summer Institute program? *(Mark one response on each line.)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Not at all | Slight extent | Moderate extent | Great extent |
| a. I gained a greater understanding of the applications of science and technology in everyday life |  |  |  |  |
| b. I acquired greater understanding of fundamental concepts in science |  |  |  |  |
| c. I became familiar with new materials and equipment that I can use in my teaching |  |  |  |  |
| d. I learned about innovative ways to use standard materials and equipment in my teaching |  |  |  |  |
| e. I increased my knowledge of current issues in scientific research |  |  |  |  |
| f. I gained a greater appreciation of the difficulties some students encounter when learning science |  |  |  |  |
| g. I better understand how collaborative inquiry can be done successfully |  |  |  |  |
| h. I increased my knowledge of careers that utilize science |  |  |  |  |

**20. To what extent was your NIST experience successful in each of the following ways?**

***(Mark one response on each line.)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Not at all | Slight extent | Moderate extent | Great extent |
| a. It was responsive to my professional development needs |  |  |  |  |
| b. It was appropriate to my knowledge and skills |  |  |  |  |
| c. It was appropriate to my interests |  |  |  |  |
| d. It provided opportunities to engage in inquiry/research activities that Ihave been able to adapt for classroom use |  |  |  |  |
| e. The activities were enjoyable |  |  |  |  |
| f. It stretched me intellectually |  |  |  |  |

NIST Summer Institute: Post-survey for Participants

**21. To what extent do you agree or disagree with each of the following statements**

**concerning the impact of the NIST Summer Institute program on you professionally?**

***(Mark one response on each line.)***

Strongly

disagree

Disagree Not sure Agree

Strongly

agree

a. It increased my confidence as a teacher

b. It elevated my enthusiasm for science

c. It increased my interest in research and the ways science and technology can be applied

d. It stimulated me to think about ways I can improve my teaching

e. It increased my effectiveness as a teacher

f. It increased my interest and ability to network with teachers

g. It increased my interest and ability to network with scientists

h. It increased my motivation to seek out other experiential professional development activities

i. It increased my commitment to learning and seeking new ideas and activities for my classroom

j. It increased my capacity to provide engaging activities for my students

NIST Summer Institute: Post-survey for Participants

**22. Indicate whether you shared each of the following components of the NIST Summer**

**Institute program with other teachers at your middle school. *(Mark one response on each line.)***

I did not share this component

I shared this component with teachers from MY grade

I shared this component with teachers from ANOTHER grade

I shared this component with teachers from BOTH my grade and

another grade

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a. Measurement uncertainty: How big is Pi? |  |  |  |  |
| b. Metrics Estimation Game |  |  |  |  |
| c. Weights and Measures activities |  |  |  |  |
| d. A world of sound (with SPS organization) |  |  |  |  |
| e. Cement activity |  |  |  |  |
| f. Thermometry activities: Ice melting point, Steam point, CO2 sublimation point |  |  |  |  |
| g. Nanoscale activities |  |  |  |  |
| h. Diffraction activity (from NCNR) |  |  |  |  |
| i. Spectroscopy activity |  |  |  |  |
| k. Introduction to coding and social media |  |  |  |  |
| l. Chemical and Physical Separations |  |  |  |  |
| m. Earthquake activities |  |  |  |  |
| n. Chemical reactions: Foam Gnome |  |  |  |  |
| o. DNA activities (Mycomuncher puzzle and genes and your very own puppy) |  |  |  |  |
| p. NASA Resources |  |  |  |  |
| q. NIST SI Superheroes and resources |  |  |  |  |
| r. Nanomagnets  |  |  |  |  |
| q. Measurement of Temperature with wooden and aluminum blocks |  |  |  |  |

r Institute: Post-survey for Participants

NIST Summer Institute: Post-survey for Participants

NIST Summer Institute: Post-survey for Participants

**23. Select all forms of interaction that you had with each of the following individuals during**

**the current school year. *(Mark all that apply on each line.)***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Discuss science | Discuss how to teach | Ask for assistance with NIST resources | Other form of interaction |  |
| content | a science subject | provided as part ofthe Institute |  |  |
| a. Kate Rimmer |  |  |  |  |  |
| b. NIST presenter |  |  |  |  |  |
| c. NIST mentor (a scientist you worked with at the Institute) |  |  |  |  |  |
| d. Other teachers you met at the Institute |  |  |  |  |  |

Other (please specify your "other" form of interaction)

5

6

NIST Summer Institute: Post-survey for Participants

**24. Select all forms of interaction that you had with each of the following individuals +during the current school year. *(Mark all that apply on each line.)***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Discuss science | Discuss how to teach | Ask for assistance with NIST resources | Other form of interaction |  |
| content | a science subject | provided as part ofthe Institute |  |  |
| a. Kate Rimmer |  |  |  |  |  |
| b. NIST presenter |  |  |  |  |  |
| c. NIST mentor (a scientist you worked with at the Institute) |  |  |  |  |  |
| d. Other teachers you met at the Institute |  |  |  |  |  |

Other (please specify your "other" form of interaction)

**25. How would you rate the NIST Summer Institute program in light of other professional**

**development programs you have experienced?**

mlj

Poor

mlj

Fair

mlj

Good

mlj

Very good

mlj

Excellent

**26. Have you recommended the NIST Summer Institute program to your teacher**

**colleagues?**

mlj

Yes

mlj No

**27. Would you be willing to assist the Summer Institute program evaluation by answering**

**followup questions to this survey over the phone?**

mlj

Yes

mlj No

NIST Summer Institute: Post-survey for Participants

If you are not finished with the survey, select the "Previous" button to navigate the survey and complete your responses.

If you are ready to submit your survey now, select the "Done" button. After you submit, you will NOT be able to reenter the survey.