
Understanding Science Project—Instrument 4

Teacher Background Survey

Force and Motion 2007-08

Dear Colleague,

This survey asks about your beliefs and practices related to teaching force and motion to students. We estimate that it will take 30-40 minutes for you to fill out the survey.

Please work as carefully as you can because the benefits and limitations of each course can only be judged on the basis of your data. Your close attention to the wording of each question is essential.

If you are not sure how to interpret a question, just do the best you can. If you would like clarification of any parts of the survey, please contact me. Thank you!

Sincerely,



Joan I. Heller, Ph.D.
510-873-0808
jheller@edservices.org

Date: _____

First name: _____ Last name: _____

IMPORTANT:

In order to keep your data confidential, this cover sheet with your name will be removed upon receipt by the research staff, leaving only your ID number on the next page of the survey. This cover sheet will be stored in a locked cabinet, separate from the completed survey.

Please enter your Site Number and ID Number here *and on the next page*. Thank you!

Site Number: Your ID Number: T



According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid Office of Management and Budget (OMB) control number. The valid OMB control number for this information collection is xxxx-xxxx. The time required to complete this information collection is estimated to average 30 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: U.S. Department of Education, Washington, D.C. 20202-4651. If you have comments or concerns regarding the status of your individual submission of this form, write directly to: Rafael Valdivieso, U.S. Department of Education, 555 New Jersey Avenue, NW, Room 506E, Washington, D.C. 20208.

Responses to this data collection will be used only for statistical purposes. The reports prepared for this study will summarize

findings across the sample and will not associate responses with a specific district or individual. We will not provide information that identifies you or your district to anyone outside the study team, except as required by law.

Site Number:

Your ID Number: T

GENERAL TEACHING BACKGROUND

For these questions, please tell us about your teaching experience. Include any full-time teaching assignments, part-time teaching assignments, and long-term substitute assignments, but *not student teaching*.

1. Which grade(s) do you teach (2007-08)? (*Circle all that apply.*)

K-2 3 4 5 6 7-8 9-12 Other _____

2. Which grade(s) will you teach in the following year (2008-09)? (*Circle all that apply.*)

K-2 3 4 5 6 7-8 9-12 Other _____

3. Counting the most recent school year, how many years have you taught *science*? _____ years

4. Counting the most recent school year, how many years have you taught *English language learners*? _____ years

5. What science subject(s) at each grade level did you teach in the current or most recent school year? (Check all that apply.)

Subject taught	6th gra de	7th gra de	8th gra de	9th gra de
a. Physical science (e.g., physics, chemistry, astronomy)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
b. Biological science	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
c. General science (includes physical and biological)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
d. Science specifically for English learners	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
e. Other science, course 1 (specify): _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
f. Other science, course 2 (specify): _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄



6. For each of the following subject areas, indicate how many *separate classes* (sections) you taught during the current or most recent semester. (*Please check only one box per subject.*)

Subject taught	0 class es	1 clas s	2 class es	3 class es	4 class es	5 class es	6 class es	more than 6 class es
a. Physical science	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆	<input type="checkbox"/> ₇	<input type="checkbox"/> ₈
b. Biological science	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆	<input type="checkbox"/> ₇	<input type="checkbox"/> ₈
c. General science	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆	<input type="checkbox"/> ₇	<input type="checkbox"/> ₈
d. Science for English language learners	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆	<input type="checkbox"/> ₇	<input type="checkbox"/> ₈
e. Other science course (specify): _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆	<input type="checkbox"/> ₇	<input type="checkbox"/> ₈
f. Other science course (specify): _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆	<input type="checkbox"/> ₇	<input type="checkbox"/> ₈

EDUCATION

7. What was/were your *undergraduate* major field(s) of study? (*Check all that apply.*)

- ₁ Science
- ₂ Science education
- ₃ Other field of education

₄ Other _____

₅ Not applicable

8. What was/were your *graduate* major field(s) of study? (*Check all that apply.*)

- ₁ Science
- ₂ Science education
- ₃ Other field of education

₄ Other _____

₅ Not applicable



9. What type of teaching certification(s) do you hold? (Check all that apply.)

Subject area		Type of certification		Grades of certification
<input type="checkbox"/> 1	Multiple subject credential	<input type="checkbox"/> 1	Permanent or standard	<input type="checkbox"/> 1 Elementary
<input type="checkbox"/> 2	Science	<input type="checkbox"/> 2	Emergency or temporary	<input type="checkbox"/> 2 Middle
<input type="checkbox"/> 3	English/language arts	<input type="checkbox"/> 3	Alternative	<input type="checkbox"/> 3 Secondary
<input type="checkbox"/> 4	Mathematics	<input type="checkbox"/> 4	National Board Certification	<input type="checkbox"/> 4 Other _____
<input type="checkbox"/> 5	Special education	<input type="checkbox"/> 5	Crosscultural, bilingual, and/or language, and academic development	
<input type="checkbox"/> 6	Other _____	<input type="checkbox"/> 6	Other _____	<input type="checkbox"/> 7 Not applicable
<input type="checkbox"/> 7	Not applicable	<input type="checkbox"/> 7	Not applicable	

10. About how many semesters of *undergraduate-* or *graduate-level* classes have you taken in the following areas?

Subject area	None	1-2	3-4	5-6	7-10	More than 10
		semesters	semesters	semesters	semesters	semesters
a. Science	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
b. Science teaching	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
c. Mathematics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
d. Mathematics teaching	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

11. In what year did you last take a college or university course in *science*?

STAFF DEVELOPMENT

□ **Please *do not* include university courses or this project in your answers to the following questions.**

12. Over *the last 3 years*, about how many hours of *staff development* have you had that focused on one of the following areas?

Focus of staff development	None	Less than 6	6-15	16-35	36-48	More than 6
		hours	hours	hours (2-4 days)	hrs (4-6 days)	days
a. Science	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
b. Science teaching	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6



Focus of staff development	None	Less than 6 hours	6-15 hours	16-35 hours (2-4 days)	36-48 hrs (4-6 days)	More than 6 days
c. Force and motion	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
d. An existing force and motion curriculum (e.g., FOSS, STC, Harcourt)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
e. Other (specify) _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

13. Over the last 3 years, about how many hours of staff development have you had in which you discussed cases of classroom teaching and *learning* (i.e., examples of someone else's teaching)?

Discussed cases...	None	Less than 6 hours	6-15 hours	16-35 hours (2-4 days)	36-48 hrs (4-6 days)	More than 6 days
a. In science	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
b. In mathematics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
c. Other (specify) _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

14. Over the last 3 years, about how many hours of staff development have you had in which you *analyzed examples of student work* from your own or from colleagues' classrooms?

Discussed cases...	None	Less than 6 hours	6-15 hours	16-35 hours (2-4 days)	36-48 hrs (4-6 days)	More than 6 days
a. In science	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
b. In mathematics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
c. Other (specify) _____	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6



TEACHING PRACTICES

□ **For all questions in this section, please check only one box per item.**

15. In your science lessons, about how often do students participate *in the following types of activities?*

Student activity	In no science lessons	In some science lessons	In most science lessons	In all/almost all science lessons
a. Listen to a presentation by the teacher.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
b. Perform a science demonstration for the class.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
c. Do hands-on science activities or investigations <i>following a step-by-step procedure.</i>	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
d. Do hands-on science activities or investigations <i>without a step-by-step procedure.</i>	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
e. Answer teacher's verbal questions.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
f. Participate in whole-class discussions.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
g. Talk in pairs or groups to make sense of science observations.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
h. Provide an explanation for something that has been observed.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
i. Talk with other students to make sense of observations.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
j. Make formal presentations to the rest of the class.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
k. Make informal presentations to the rest of the class (e.g., share or report from a small group discussion).	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
l. Talk about the scientific meaning of words.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
m. Discuss scientific ways of communicating (e.g., cause-and-effect statements, supporting claims with evidence).	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
n. Ask questions about what they have read.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄



16. In your science lessons, about how often do students participate *in the following types of activities?*

Student activity	In no science lessons	In some science lessons	In most science lessons	In all/almost all science lessons
a. Work on extended science investigations or projects (a week or more in duration).	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
b. Make predictions and/or hypotheses before collecting data.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
c. Identify evidence or data that support an explanation.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
d. Compare how well alternative explanations fit with evidence or data.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
e. Design their own investigation to answer questions.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
f. Write in a science notebook.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
g. Answer textbook or worksheet questions.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
h. Read from a science textbook or other science-related materials <i>in class</i> .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
i. Read from a science textbook or other science-related materials <i>outside of class</i> .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
j. Collect and record data.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
k. Make choices about how to represent data.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
l. Analyze and interpret data.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
m. Do drill-and-practice exercises.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
n. Analyze a piece of work completed by another student or group of students.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
o. Develop oral or written summaries about materials they have read.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
p. Make notes about what they have read.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
q. Interpret diagrams, illustrations, and charts.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄



17. In order for you to find out about your students' science understanding, to what extent do you rely on the following methods?

Method	Very little or not at all	Sometimes	Often	Very often
a. Give students written tests to find out what they have learned.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
b. Ask students questions as they work individually or in small groups.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
c. Ask students to explain their answers in writing.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
d. Give students a task or test prior to a unit to find out what they already know.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
e. Observe students as they work individually or in small groups.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
f. Review student homework.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
g. Review student notebooks/journals.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
h. Engage students in discussions and listen for their understanding of the science ideas.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
i. Ask students to explain by drawing pictures or graphics.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
j. Have students answer textbook or worksheet questions.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
k. Have students write a short response to a question (e.g., do a quickwrite).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

18. Please indicate how confident you are about teaching the following concepts, whether or not they are currently included in your curriculum.

Concept	Not at all confident	Not very confident	Somewhat confident	Very confident
a. Speeding up is different from going fast.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
b. Acceleration can be speeding up, slowing down, or changing direction.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
c. A force is a push or pull interaction between two objects. It is NOT a property of a single object (e.g., the ball does not "have force").	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4



Concept	Not at all confident	Not very confident	Somewhat confident	Very confident
d. Some forces only happen when things are touching; others can act at/over a distance.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
e. How to make and interpret force diagrams.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
f. Friction is a force.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
g. An object moving at a constant speed has no overall or net force acting on it.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
h. An unbalanced net force can cause an object to speed up OR slow down, depending on the direction of the force and the object's motion.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
i. The acceleration of an object is directly proportional to its net force.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
j. The acceleration of an object is inversely proportional to its mass.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
k. Gravity is a universal force of attraction between masses, not just something happening near the earth's surface.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
l. The force of gravity pulls harder on objects with more mass than with less, but makes them all free-fall with the same acceleration.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
m. Weight is the same thing as gravitational force, not mass.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄

19. Please indicate how confident you are in your ability to conduct the following activities in class.

Activity	Not at all confident	Not very confident	Somewhat confident	Very confident
a. Foster discussions among students that help them learn science.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
b. Have students do hands-on science activities or investigations <i>following a step-by-step procedure</i> .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
c. Have students do hands-on science activities or investigations <i>without a step-by-step procedure</i> .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄



Activity	Not at all confident	Not very confident	Somewhat confident	Very confident
d. Support students in designing their own investigation to answer questions.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
e. Have students identify evidence or data that support an explanation.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
f. Have students provide an explanation for something that has been observed.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
g. Discuss with students scientific ways of communicating (e.g., cause and effect statements, supporting claims with evidence).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
h. Get students to use scientific terms accurately.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

20. To what extent do you agree or disagree with each of the following statements?

Statement	Strongly disagree	Disagree	Agree	Strongly agree	NA
a. I have a clear understanding of how the instructional activities I use relate to my goals for student learning about force and motion.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. I know how to question students to find out what they really do and do not understand about force and motion.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. I am not sure when to explain ideas related to force and motion to students and when to have them learn by doing.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. I know how to sequence activities to build student understanding of force and motion.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. My students do not learn important ideas about force and motion from doing hands-on activities.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. The opportunity to talk among themselves interferes with students' learning of science.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5



Statement	Strongly disagree	Disagree	Agree	Strongly agree	NA
g. All students can learn challenging content in science.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. I have a clear understanding of what is important for students to know about force and motion.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. I do not know how to use the district force and motion curriculum (e.g., FOSS, Harcourt).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. I am confident in my ability to teach force and motion at my grade level.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. When students talk during science activities, they are more likely to understand the material.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. I am not sure how to address my students' misconceptions about force and motion.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
m. I find it easy to explain to students how an object moves in relation to the forces acting on it.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
n. I have a hard time analyzing my students' work to understand their thinking about force and motion.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
o. When teaching recently, I had my students talk during science activities more than I did in previous years.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
p. I find it hard to help students understand how objects move in the absence of friction, given their everyday experiences.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
q. Teachers cannot ensure that all or most of their students will learn science.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
r. I feel that my ELL students make significant academic progress in science over the course of a school year.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
s. It would be nearly impossible for me to adapt force and motion lessons to all levels of student proficiency (both in language and science).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5



21. Given the grade level of your students, the context in which you teach, and the science content that you cover, how effective are the following instructional practices for promoting science learning?

Classroom practice	Somewhat					
	Not effective	Rarely effective	at effective	Mostly effective	Very effective	Not applicable at this grade
a. Teacher explains science content through oral presentations.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
b. Students conduct hands-on science activities or investigations.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
c. Students discuss science ideas in pairs or small groups.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
d. Teacher engages the whole class in discussions.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
e. Teacher asks students to verbally explain their thinking processes related to science.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
f. Students write to explain their science ideas in journals.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
g. Students read from a science textbook or other science-related materials in class.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6



22. For the following items, indicate the frequency with which you use the practice to support English learners.

Practice	In no science lessons	In some science lessons	In most science lessons	In all/ almost all science lessons	N A
a. Analyze tasks for language demands that require presentation adjustments	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
b. Build instruction on what students already know about a topic.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
c. Use multiple methods to make concepts and tasks clear (e.g., visuals, manipulatives, modeling).	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
d. Use scaffolding techniques at students' level of understanding (e.g., paraphrasing, referencing definitions, modeling) to move students to higher levels of understanding.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
e. Ask class to repeat words or phrases after the teacher says those words or phrases.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
f. Model thinking associated with a task.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
g. Use techniques that support the use of cognitive strategies (e.g., notes, T-charts, semantic maps, think-alouds, etc.).	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

PERSONAL INFORMATION

23. Sex:

- ₁ Male
- ₂ Female
- ₃ Transgender or other

24. Are you of Hispanic or Latino origin? (Please select one.)

- ₁ Yes
- ₂ No



25. Please indicate your race. *(Please select one or more.)*

- ₁ American Indian or Alaska Native
- ₂ Asian
- ₃ Black or African American
- ₄ Native Hawaiian or Other Pacific Islander
- ₅ White

END OF SURVEY
Thank you!

