
Understanding Science Project—Instrument 5 Teacher Post-Instruction 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 about 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.

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 40 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

CURRENT TEACHING ACTIVITIES

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

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

2. What science subject(s) at each grade level did you teach this year? (Check all that apply.)

Subject	6 th grade	7 th grade	8 th grade	9 th grade
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

3. 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	0 classes	1 class	2 classes	3 classes	4 classes	5 classes	6 classes	more than 6 classes
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 specifically for English 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



Subject	0 class es	1 cla ss	2 class es	3 class es	4 class es	5 class es	6 class es	more than 6 class es
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

- How would you describe the overall ability levels of students in your science classes?
- In how many of your classes did you teach a force and motion unit this year?

- About how many weeks did you spend on the force and motion unit? _____
- During the force and motion unit, on average, how much time did you spend *each week* teaching force and motion? _____ hours, _____ minutes per week
- To what extent did the *Understanding Science* course influence what you included in the force and motion unit?
 - 1 Not at all
 - 2 A little
 - 3 A lot
 - 4 Not applicables
- In what ways, if any, did your taking the *Understanding Force and Motion* course influence your teaching of the force and motion unit? For example, what impact did the course have on your *teaching goals* for the unit, *topics or activities*, or in *student talk and interactions* in the classroom during the unit?

STAFF DEVELOPMENT

10. **Not including the *Understanding Science Project***, about how many hours of *staff development* have you had this year that focused on one of the following areas?

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
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

11. **Not including the Understanding Science Project**, about how many hours of staff development have you had this year 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

12. **Not including the Understanding Science Project**, about how many hours of staff development have you had this year in which you analyzed examples of student work from your own or from colleagues' classrooms?

Analyzed student work...	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
d. 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.*)

13. In your science lessons this year, about how often did 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



14. In your science lessons this year, about how often did 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



15. In order for you to find out about your students' science understanding this year, to what extent did 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

16. Please indicate how confident you are 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
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



Concept	Not at all confident	Not very confident	Somewhat confident	Very confident
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 its direction.	<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 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

17. 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
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



Activity	Not at all confident	Not very confident	Somewhat confident	Very confident
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

18. 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. Talking 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
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



Statement	Strongly disagree	Disagree	Agree	Strongly agree	NA
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. This year I had/have 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

19. 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



Classroom practice	Somewhat					
	Not effective	Rarely effective	at effective	Mostly effective	Very effective	Not applicable at this grade
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

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

Classroom practice	Frequency				N/A
	In no science lessons	In some science lessons	In most science lessons	In all/almost all science lessons	
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



	In no science lessons	In some science lessons	In most science lessons	In all/ almost all science lessons	NA
Classroom practice					
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

21.a. Are there regularly scheduled, structured activities or meeting times at your school designed to encourage collaboration among teachers (e.g., group lesson planning, professional learning communities)?

- ₁ Yes
- ₂ No **[Skip to question 22.]**

b. How frequently do you participate in any of these regularly scheduled activities or meetings?

- ₁ One or more times per week
- ₂ Two or more times per month
- ₃ About once per month
- ₄ Less than once per month
- ₅ Never

c. How frequently do these meetings/activities focus on the following topics?

	Frequentl y	Occasionall y	Rarel y
i. What students are taught (curricula, lesson plans)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
ii. How students are taught (pedagogy)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
iii. Student behavior/disciplinary issues	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
iv. Student assessment/achievement	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
v. Any aspect of the <i>WestEd Understanding Science course on force and motion</i>	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

22. How frequently do you have a less formal conversation *lasting at least 10 minutes* with at least one other teacher in your school *who is also participating in the WestEd Understanding Science course on force and motion*, focused on the following topics?

One or 2 or About Less Neve



	more times per week	more times per month	once per month	than once per month	r
a. What students are taught (curricula, lesson plans)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
b. How students are taught (pedagogy)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
c. Student behavior/disciplinary issues	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
d. Student assessment/achievement	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
e. Other topics related to education/teaching	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
f. Topics NOT related to education/ teaching (for example, personal life)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
g. Any aspect of the WestEd <i>Understanding Science</i> course on force and motion	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

23. How frequently do you have a less formal conversation *lasting at least 10 minutes* with at least one teacher in your school *who is NOT participating in the WestEd Understanding Science course on force and motion*, focused on the following topics?

	One or more times per week	2 or more times per month	About once per month	Less than once per month	Never
a. What students are taught (curricula, lesson plans)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
b. How students are taught (pedagogy)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
c. Student behavior/disciplinary issues	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
d. Student assessment/achievement	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
e. Other topics related to education/teaching	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
f. Topics NOT related to education/teaching (for example, personal life)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
g. Any aspect of the WestEd <i>Understanding Science</i> course on force and motion	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅



24.a. Over the course of the last year, have you voluntarily implemented any new approaches or ideas in your classroom that were suggested by another teacher in your school? *Please do not include any changes that you were required to implement.*

₁ Yes

₂ No **[Skip to question 25.]**

b. Please *check all that apply* regarding the new idea/approach you implemented.

₁ What students are taught (curricula, lesson plans)

₂ How students are taught (pedagogy)

₃ Student behavior/disciplinary issues

₄ Student assessment/achievement

₅ Any aspect of the WestEd *Understanding Science* course on force and motion

25. Over the course of the last year, have you changed your approach to using aspects of the WestEd *Understanding Science* course on force and motion due to a conversation (or other form of interaction) with a teacher in your school? (*Check all that apply.*)

₁ Yes

₂ No

26. Over the course of the last year, have you shared (either given or received) classroom materials (excluding items unrelated to teaching, such as cleaning supplies) with another teacher in your school? (*Check all that apply.*)

₁ Handouts

₂ Manipulatives or hands-on materials

₃ Lesson plans

₄ Assessments (tests)

₅ Other (please describe: _____)

27.a. To the best of your knowledge, have any teachers who are *not* participating in the WestEd *Understanding Science* course on force and motion begun to implement any aspects of that course?

₁ Yes

₂ No

b. If so, how many teachers? _____

TEACHER COLLABORATION

We would like to learn about teachers' experiences collaborating with other teachers in their schools. Please think about both formal activities at your school intended to encourage collaboration and informal conversations you have with other teachers.



28. Not including the current school year and not including student teaching, how many years have you been a teacher? *If this is your first year teaching, answer "zero."*

_____ years

29. Not including the current school year and not including student teaching, how many years have you taught in **your current school**? *If this is your first year in this school, answer "zero."*

_____ years

30. Some teachers work independently while other teachers prefer to get input from other teachers. Would you say you get...

- No input
- Minimal input
- Moderate input
- A great deal of input

31. How comfortable are you receiving advice from other teachers?

- Not at all comfortable
- Slightly comfortable
- Moderately comfortable
- Completely comfortable

32. How comfortable are you offering advice to other teachers?

- Not at all comfortable
- Slightly comfortable
- Moderately comfortable
- Completely comfortable

33. How supportive are other teachers at your school when you need help or advice with teaching?

- Virtually no teachers are supportive
- Some teachers are supportive, but a majority are not
- A majority of teachers are supportive, but some are not
- Nearly every teacher is supportive

34. How receptive are other teachers at your school when you offer help or advice with teaching?

- Virtually no teachers are receptive
- Some teachers are receptive, but a majority are not
- A majority of teachers are receptive, but some are not
- Nearly every teacher is receptive



35. In general, how often do you participate in any organized group activities or meetings involving other teachers at your school...

...that primarily focus on administrative issues, such as schedules, upcoming events, and teachers work assignments?

- Number of times: _____ per week
 per month
 per year

...that primarily focus on issues pertaining to student instruction/behavior?

- Number of times: _____ per week
 per month
 per year

36. Think of changes that you have made **over the past year** that were due to a suggestion from another teacher in your school OR due to your having observed another teacher in your school.

Do NOT include changes that were due to a principal, or to someone outside of your school, that you were required to make, or that occurred as a regular part of the school calendar (for example, changes that always occur when switching from fall to spring semesters).

Changes in...	<i>Mark all that apply</i>
...classroom materials that you use	
Handouts.....	<input type="checkbox"/>
Books.....	<input type="checkbox"/>
Hands-on learning materials.....	<input type="checkbox"/>
Computer software.....	<input type="checkbox"/>
Assessments (tests).....	<input type="checkbox"/>
Behavior charts.....	<input type="checkbox"/>
Parent communication product (for example, daily reports).....	<input type="checkbox"/>
Other (please describe) _____	<input type="checkbox"/>
_____	<input type="checkbox"/>
... how you teach lessons that you've taught in the past.....	<input type="checkbox"/>
... curriculum that involve teaching new lessons.....	<input type="checkbox"/>
... the homework you assign to students.....	<input type="checkbox"/>
... how you handle behavior problems involving an individual student.....	<input type="checkbox"/>
... your overall approach to managing student behavior in your class.....	<input type="checkbox"/>
... classroom management unrelated to discipline.....	<input type="checkbox"/>
... strategies for communicating with parents.....	<input type="checkbox"/>
... the classroom setting (physical environment).....	<input type="checkbox"/>
...your own understanding of materials/procedures that you currently use.....	<input type="checkbox"/>
... your own understanding of the <i>content</i> of what you teach.....	<input type="checkbox"/>



... your approach to teaching specific groups of students (for example, students who are less proficient in English than they are in another language)..... □

... your approach to any aspect of extra-curricular activities that you might be involved with (for example, coaching, tutoring or helping in an after school program)..... □

END OF SURVEY
Thank you!

