

Surveys of Enacted Curriculum

SURVEY OF CLASSROOM PRACTICES IN ELEMENTARY SCHOOL SCIENCE

Thank you for agreeing to participate in this survey on science and mathematics instruction. The enclosed survey is part of a collaborative effort to provide education policymakers, administrators, and most importantly, teachers like yourself with comparative information about mathematics and science instruction in your district and state, and across the several states participating. To learn more about this project please visit the project website; <http://www.ccsso.org/sec.html>

Your participation in this survey is voluntary. If you choose to participate, all of your responses will be kept confidential. No one outside of our research team will ever have access to your responses, nor will any individual responses be shared with the staff in your district or state. All data from this survey will remain the sole possession of the Surveys of Enacted Curriculum-Wisconsin research team, and no individuals will be identified in any of the reports. The questionnaires will be stored in a locked file cabinet in the Surveys of Enacted Curriculum offices. The questionnaire poses no risk to you. There is no penalty for refusal to participate. You may withdraw from the study simply by returning the questionnaire without completing it, without penalty or loss of services or benefits to which you would be otherwise entitled.

If you have any questions regarding your rights as a research participant, please contact the University of Wisconsin-Madison School of Education's Human Subjects Committee office at (608) 262-2463.

Surveys of Enacted Curriculum

SURVEY OF CLASSROOM PRACTICES IN MIDDLE SCHOOL SCIENCE

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Surveys of Enacted Curriculum

SURVEY OF CLASSROOM PRACTICES IN HIGH SCHOOL SCIENCE

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Instructions for Selecting the Target Class -- *Science*

Instruction -- For all questions about classroom practices please refer only to activities related to science instruction. If you teach more than one science class, select the first science class that you teach each week. If you teach a split class (i.e., the class is split into more than one group for science instruction) select only one group to describe as the target class.

Please read each question and the possible responses carefully, and then mark your response by filling in the appropriate circle in the response section.

Section I

SCHOOL DESCRIPTION

- 1 Which of these categories best describes the way your classes at this school are organized?
- ① Departmentalized Instruction
 - ② Subject Area Specialist (non-departmental)
 - ③ Self-contained
 - ④ Team taught
- 2 *If you are departmentalized, or a subject area specialist*, how many different science courses do you currently teach?
- ① ② ③ ④ ⑤ ⑥ ⑦
- Number of courses taught

CLASS DESCRIPTION

- 3 Which term best describes the target class, or course, you are teaching?
- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
 0 = Other 5 = Earth Science
 1 = Elem./Middle. Sch. sci. 6 = Biology
 2 = General Science 7 = Chemistry
 3 = Life science 8 = Physics
 4 = Physical Science 9 = Coordinated / Integrated
- 4 Indicate the grade level of the majority of students in the target class.
- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
 K 1 2 3 4 5 6 7 8 9 10 11 12
- 5 How many students are in the target class?
- ① 10 or less ③ 21 to 25
 ① 11 to 15 ④ 26 to 30
 ② 16 to 20 ⑤ 31 or more
- 6 What percentage of the students in the target class are **female**?
 (Estimate to the nearest ten percent.)
- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
 Less than 10 10 20 30 40 50 60 70 80 90+ %
- 7 What percentage of the students in the target class are **not** Caucasian?
 (Estimate to the nearest ten percent.)
- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
 Less than 10 10 20 30 40 50 60 70 80 90+ %
- 8 *During a typical week*, approximately how many hours will the target class spend in science instruction?
- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
 (Number of instructional hours)
- 9 What is the average length of each class period for this target science class?
- ① Not applicable ③ 51 to 60 minutes
 ① 30 to 40 minutes ④ 61 to 90 minutes
 ② 41 to 50 minutes ⑤ 91 to 120 minutes
 ⑥ Varies due to block scheduling or integrated instruction
- 10 How many weeks total will the target science class/course meet for this school year?
- ① ② ③
Total # weeks = 1 to 12 13 to 24 25 to 36
- 11 Estimate the achievement level of the majority of students in the target class based on national standards.
- ① High Achievement Levels
 ② Average Achievement Levels
 ③ Low Achievement Levels
 ④ Mixed Levels of Achievement
- 12 What percentage of students in the target class are Limited English Proficient (LEP)?
- ① None ③ 26% to 50%
 ① Less than 10% ④ More than 50%
 ② 10% to 25%
- 13 What is considered most in scheduling students into this class?
- ① Ability or Achievement ③ Parent Request
 ① Limited English Proficiency ④ No one factor more than another
 ② Teacher Recommendation ⑤ Student selects

MOST RECENT UNIT OF SCIENCE INSTRUCTION

For items 14-23, please respond with respect to the most recent science instructional unit with the target class.

- 14 How many class periods did the unit cover?
- | | |
|----------------|-----------------|
| ① 1-2 periods | ③ 11-15 periods |
| ② 3-5 periods | ④ 16-20 periods |
| ⑤ 6-10 periods | ⑥ 21 or more |

What percent of science instructional time was spent on the following activities?

Enter the percentage of time for each item in the box provided, so that items 15 - 23 total 100%. Then use the scale to code your response (rounded to the nearest 10%) for each item on the answer sheet.

	%	None	10	20	30	40	50	60	70	80	90+
15 Management or administrative routines, interruptions, other non-instructional activities, and handling absences or transfers		①	②	③	④	⑤	⑥	⑦	⑧	⑨	
16 Whole class lecture or class discussion		①	②	③	④	⑤	⑥	⑦	⑧	⑨	
17 Individual student work (e.g., completing exercises, reading textbook)		①	②	③	④	⑤	⑥	⑦	⑧	⑨	
18 Non-laboratory small group work		①	②	③	④	⑤	⑥	⑦	⑧	⑨	
19 Hands-on activities, manipulatives, or investigations or experiments in class		①	②	③	④	⑤	⑥	⑦	⑧	⑨	
20 Student demonstrations or presentations		①	②	③	④	⑤	⑥	⑦	⑧	⑨	
21 Field study or out-of-class investigation		①	②	③	④	⑤	⑥	⑦	⑧	⑨	
22 Review or work on homework during class		①	②	③	④	⑤	⑥	⑦	⑧	⑨	
23 Test or quiz		①	②	③	④	⑤	⑥	⑦	⑧	⑨	

100%

(Note: Total should sum to 100)

HOMEWORK

- 24 How many minutes does the typical student in the target class spend on a typical homework assignment?
- ① I do not assign homework ③ 31-60 minutes
 ① Less than 15 minutes ④ 61-90 minutes
 ② 15-30 minutes ⑤ More than 90 minutes
- 25 How often do you usually assign science homework in the target class?
- ① Never (Skip to # 34) ③ 3-4 times per week
 ① Less than once per week ④ Every day
 ② Once or twice per week
- 26 Does homework count towards student grades in the target class?
- ① Never ② Usually Does
 ① Usually Does not ③ Always Does

What percentage of the time that students in the target class spend on science homework do they:

- | | None | Less than 25% | 25% to 33% | More than 33% |
|--|------|---------------|------------|---------------|
| 27 Read about science in books, magazines, or articles | ① | ① | ② | ③ |
| 28 Answer questions from a science book or worksheet | ① | ① | ② | ③ |
| 29 Solve science problems that require computation | ① | ① | ② | ③ |
| 30 Revise and improve students' own work | ① | ① | ② | ③ |
| 31 Collect data or information about science | ① | ① | ② | ③ |
| 32 Write about science | ① | ① | ② | ③ |
| 33 Other: _____ | ① | ① | ② | ③ |

INSTRUCTIONAL ACTIVITIES IN SCIENCE

Listed below are some questions about what students in the target class do in science. For each activity, pick one of the choices (0,1,2,3) to indicate the percentage of instructional time that students are engaged in the activity identified. In responding, please think of an average student in the target class.

What percentage of science instructional time in the target class do students:

NOTE: No more than two '3's , or four '2's should be recorded for this set of items.

	None	Less than 25%	25% to 33%	More than 33%
34 Collect information about science	①	②	③	④
35 Maintain and reflect on a science portfolio of their own work	①	②	③	④
36 Write about science	①	②	③	④
37 Do a laboratory activity, investigation, or experiment in class	①	②	③	④
38 Work in pairs or small groups (non-laboratory)	①	②	③	④
39 Do a science activity with the class outside the classroom or science laboratory	①	②	③	④
40 Use computers, calculators or other educational technology to learn science	①	②	③	④

When students in the target class are engaged in *laboratory activities, investigations, or experiments* as part of science instruction, what percentage of that lab time do students:

NOTE: No more than two '3's , or four '2's should be recorded for this set of items.

	None	Less than 25%	25% to 33%	More than 33%
41 Follow step-by-step directions	①	②	③	④
42 Use science equipment or measuring tools to collect data	①	②	③	④
43 Change something in a experiment to see what will happen	①	②	③	④
44 Design ways to solve a problem	①	②	③	④
45 Make guesses, predictions, or hypotheses	①	②	③	④
46 Draw conclusions from science data	①	②	③	④
47 Formulate questions to be tested	①	②	③	④
48 Review the work of others	①	②	③	④

When students in the target class work in *pairs or small groups* as part of science instruction, what percentage of that time do students:

NOTE: No more than two '3's , or four '2's should be recorded for this set of items.

	None	Less than 25%	25% to 33%	More than 33%
49 Talk about ways to solve science problems	①	①	②	③
50 Complete written assignments from the textbook or workbook	①	①	②	③
51 Write results or conclusions of a laboratory activity	①	①	②	③
52 Work on an assignment, report or project that takes longer than one week to complete	①	①	②	③
53 Work on a writing project or portfolio where group members help to improve each others' (or the group's) work	①	①	②	③
54 Review assignments or prepare for a quiz or test	①	①	②	③

When students in the target class *collect information* about science from books, magazines, computers, or other sources, what percentage of that time do students:

NOTE: No more than two '3's , or four '2's should be recorded for this set of items.

	None	Less than 25%	25% to 33%	More than 33%
55 Ask questions to improve understanding	①	①	②	③
56 Organize and display the information in tables or graphs	①	①	②	③
57 Make a prediction based on the information or data	①	①	②	③
58 Discuss different conclusions from the information or data	①	①	②	③
59 List positive (pro) and negative (con) reactions to the information	①	①	②	③
60 Reach conclusions or decisions based upon the information or data	①	①	②	③

USE OF CALCULATORS, COMPUTERS AND OTHER EQUIPMENT

When students in the target class are engaged in activities that involve the *use of calculators, computers, or other educational technology* as part of science instruction, what percentage of that time do students:

NOTE: No more than two '3's , or four '2's should be recorded for this set of items.

	None	Less than 25%	25% to 33%	More than 33%
61 Learn facts or practice procedures	①	②	③	④
62 Use sensors and probes (e.g., CBL's)	①	②	③	④
63 Retrieve or exchange data or information (e.g. using the Internet)	①	②	③	④
64 Display and analyze data	①	②	③	④
65 Solve problems using simulations	①	②	③	④
66 Take a test or quiz	①	②	③	④
67 Use individualized instruction or tutorial software	①	②	③	④

For Items 68-71, indicate how often the average student uses each of the following types of equipment in this science class:

	Not Available	Available, but rarely used	Used less than 7 times per year	Used 7 to 36 times per year	Used Weekly
68 Computer/lab interfacing devices	①	②	③	④	⑤
69 Running water in laboratories	①	②	③	④	⑤
70 Electrical outlets in laboratories	①	②	③	④	⑤
71 Other lab equipment (e.g., scales, balances)	①	②	③	④	⑤

ASSESSMENTS

For items 72-79, indicate how often you use each of the following strategies when assessing students in the target science class.

	None	1 - 4 times per year	1 - 3 times per month	1 - 3 times per week	4 - 5 times per week
72 Objective items (e.g., multiple choice, true/false)	①	②	③	④	⑤
73 Short answer (e.g. fill-in-the-blank)	①	②	③	④	⑤
74 Extended response item for which student must explain or justify answer	①	②	③	④	⑤
75 Performance tasks or events (e.g. hands-on activities)	①	②	③	④	⑤
76 Individual or group demonstration, presentation	①	②	③	④	⑤
77 Science projects	①	②	③	④	⑤
78 Portfolios	①	②	③	④	⑤
79 Systematic observation of students	①	②	③	④	⑤

INSTRUCTIONAL INFLUENCES

For Items 80-89, indicate the degree to which each of the following influences what you teach in the target science class.

	N/A	Strong Negative Influence	Somewhat Negative Influence	Little or no Influence	Somewhat Positive Influence	Strong Positive Influence
80 Your state's curriculum framework or content standards	①	②	③	④	⑤	⑥
81 Your district's curriculum framework or guidelines	①	②	③	④	⑤	⑥
82 Textbook/instructional materials	①	②	③	④	⑤	⑥
83 State test	①	②	③	④	⑤	⑥
84 District test	①	②	③	④	⑤	⑥
85 National science education standards	①	②	③	④	⑤	⑥
86 Your experience in pre-service preparation	①	②	③	④	⑤	⑥
87 Students' special needs	①	②	③	④	⑤	⑥
88 Parents/community	①	②	③	④	⑤	⑥
89 Prepare students for next grade or level	①	②	③	④	⑤	⑥

CLASSROOM INSTRUCTIONAL PREPARATION

For items 90-106, please indicate how well prepared you are now to:

	Not Well Prepared	Somewhat Prepared	Well Prepared	Very Well Prepared
90 Teach science at your assigned level	①	②	③	④
91 Use/manage cooperative learning groups in science	①	②	③	④
92 Integrate science with other subjects	①	②	③	④
93 Provide science instruction that meets science standards (district, state, or national)	①	②	③	④
94 Use a variety of assessment strategies (including objective and open-ended formats)	①	②	③	④
95 Use mathematics in science	①	②	③	④
96 Manage a class of students who are using hands-on or laboratory activities	①	②	③	④
97 Take into account students' prior conceptions about natural phenomena when planning curriculum and instruction	①	②	③	④
98 Teach students with physical disabilities	①	②	③	④
99 Help students document and evaluate their own science work.	①	②	③	④
100 Teach classes with students with diverse abilities	①	②	③	④
101 Teach science to students from a variety of cultural backgrounds	①	②	③	④
102 Teach science to students who have limited English proficiency	①	②	③	④
103 Teach students who have a learning disability which impacts science learning	①	②	③	④
104 Encourage participation of females in science	①	②	③	④
105 Encourage participation of minorities in science	①	②	③	④
106 Involve parents in the science education of their children	①	②	③	④

TEACHER OPINIONS

Please indicate your opinion about each of the statements below:

		Strongly Disagree	Disagree	Neutral/ Undecided	Agree	Strongly Agree
107	Activity-based science experiences are not worth the time and expense for what students learn	①	②	③	④	⑤
108	The testing program in my state/district dictates what science I teach	①	②	③	④	⑤
109	Laboratory-based science classes are more effective than non-laboratory classes	①	②	③	④	⑤
110	All students can learn challenging content in science	①	②	③	④	⑤
111	Students learn science better in classes with students of similar abilities	①	②	③	④	⑤
112	It is important for students to learn basic scientific terms and formulas before learning underlying concepts and principles	①	②	③	④	⑤
113	I really enjoy teaching science	①	②	③	④	⑤
114	I am supported by colleagues to try out new ideas in teaching science	①	②	③	④	⑤
115	I receive little support from the school administration for teaching science	①	②	③	④	⑤
116	Science teachers in this school regularly share ideas and materials	①	②	③	④	⑤
117	Science teachers in this school regularly observe each other teaching classes	①	②	③	④	⑤
118	I have many opportunities to learn new things about science or science teaching in my present job	①	②	③	④	⑤
119	I am required to follow rules at this school that conflict with my best professional judgment about teaching and learning science	①	②	③	④	⑤
120	Most science teachers in this school contribute actively to make decisions about the science curriculum	①	②	③	④	⑤
121	I have adequate time during the regular school week to work with my peers on science curriculum instruction	①	②	③	④	⑤
122	I have adequate curriculum materials available for science instruction	①	②	③	④	⑤
123	Absenteeism is a problem in my class	①	②	③	④	⑤
124	Mobility of students in and out of our school is a problem	①	②	③	④	⑤

Professional Development in Science

For items 125 - 136, please indicate the amount of time, in the last 24 months, you participated in each science activity listed below. If you did not participate, indicate so by filling in the appropriate circle and continue on to the next item. If you did participate, please enter the amount of time you participated and then answer the additional questions concerning Time Span, Collegial Participation, Content Knowledge, Active Learning and Coherence for that same activity.

COHERENCE: Were these activities associated, integrated or coordinated with other PD offerings?

ACTIVE LEARNING: Did the professional development activity engage teachers in active forms of learning?

CONTENT KNOWLEDGE: Did the professional development activity have a focus on content knowledge?

COLLEGIAL PARTICIPATION: Did you attend with a group of teachers from your school or district?

TIME SPAN: Was this a single stand-alone workshop or did it involve multiple meetings that developed ideas and skills over time?

AMOUNT OF TIME: What was the total amount of time (clock hours) in the last 24 months that you spent in professional development activities that focused on:

0 = Did not participate
1 = Less than 6 hours
2 = 6-15 hrs

1 = Single Workshop
2 = Single w/follow-up
3 = Multiple

0 = No
1 = Yes

0 = No
1 = Yes

0 = No
1 = Yes

0 = No
1 = Yes

	Amount of Time				Time Span			Collegial Participation		Content Knowledge		Active Learning		Coherence	
125 How to implement state or national content standards	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
126 How to implement new curriculum or instructional materials	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
127 New methods of teaching	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
128 In-depth study of science content	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
129 Meeting the needs of all students	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
130 Multiple strategies for student assessment	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
131 Educational technology	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
132 Teacher network or study group (electronic or otherwise) on improving teaching	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
133 Portfolio assessment training or scoring activity	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
134 Extended institute or professional development program for teachers (cumulative 40 contact hours or more)	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
135 Mentoring program	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1
136 Committee or task force	0	1	2	3	1	2	3	0	1	0	1	0	1	0	1

TEACHER CHARACTERISTICS

- 137 Please indicate your gender.
- Female Male
 ① ①
- 138 Please indicate your ethnicity/race.
- Indicate all that apply
- ① White
 ① Black or African American
 ② Hispanic or Latino
 ③ American Indian or Alaska Native
 ④ Asian
 ⑤ Native Hawaiian or Other Pacific Islander
- 139 How many years have you taught science prior to this year?
- | | Less than 1 year | 1 - 2 years | 3 - 5 years | 6 - 8 years | 9-11 years | 12 -15 years | More than 15 years |
|-----|------------------|-------------|-------------|-------------|------------|--------------|--------------------|
| 139 | ① | ① | ② | ③ | ④ | ⑤ | ⑥ |
- 140 How long have you been assigned to teach at your current school?
- | | Less than 1 year | 1 - 2 years | 3 - 5 years | 6 - 8 years | 9-11 years | 12 -15 years | More than 15 years |
|-----|------------------|-------------|-------------|-------------|------------|--------------|--------------------|
| 140 | ① | ① | ② | ③ | ④ | ⑤ | ⑥ |
- 141 What is the highest degree that you hold?
- | | BA or BS | MA or MS | Multiple MA or MS | Ph.D. or Ed.D. | Other |
|-----|----------|----------|-------------------|----------------|-------|
| 141 | ① | ① | ② | ③ | ④ |
- 142 What was your major field of study for the bachelors degree?
- ① Elementary Education
 ① Middle School Education
 ② Science Education
 ③ A field of Science (includes Biology, Chemistry, Physics, and Geology)
 ④ Science Education **and** a field of Science
 ⑤ Other Disciplines (includes other Education fields, Mathematics, History, English, etc.)
- 143 **If applicable**, what was your **major field** of study for the **highest degree you hold** beyond a bachelors degree?
- ① Elementary Education
 ① Middle School Education
 ② Science Education
 ③ A field of Science (includes Biology, Chemistry, Physics, and Geology)
 ④ Science Education **and** a field of Science
 ⑤ Other Disciplines (includes other Education fields, Mathematics, History, English, etc.)
- 144 What type(s) of state certification do you currently have?
- Indicate all that apply
- ① Emergency or temporary certification
 ① Elementary grades certification
 ② Middle grades certification
 ③ Secondary certification in a field **other** than science
 ④ Secondary science certification

FORMAL COURSE PREPARATION

Please indicate the number of *quarter or semester courses* that you have taken at the undergraduate or graduate level in each of the following areas:

	(Number of courses)									
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
145 Biology / Life science	①	②	③	④	⑤	⑥	⑦	⑧	⑨	
146 Physics / Chemistry / Physical science	①	②	③	④	⑤	⑥	⑦	⑧	⑨	
147 Geology/ Astronomy/ Earth science	①	②	③	④	⑤	⑥	⑦	⑧	⑨	
148 Science Education	①	②	③	④	⑤	⑥	⑦	⑧	⑨	

This completes Sections I of the survey. Please continue on to the following pages to complete Section II. Thank you.

Please provide the following information:
(Your name will be kept confidential.)

Name: _____

District: _____

School: _____

Date: _____

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