Appendix B

Survey Questionnaires

Science Program Questionnaire

Mathematics Program Questionnaire

Science Questionnaire (Teacher)

Mathematics Questionnaire (Teacher)

List of Course Titles

2000 National Survey of Science and Mathematics Education
School Science Program Questionnaire

Instructions: Please use a #2 pencil or blue or black pen to complete this questionnaire. Darken ovals completely, but do not stray into adjacent ovals. Be sure to erase or white out completely any stray marks.

1. What is your title? (Darken all that apply.)

- Science department chair
- Science lead teacher
- Teacher
- Principal
- Assistant principal
- Other (please specify): _____

2. Indicate whether each of the following programs/practices is currently being implemented in your school. (Darken one oval on each line.)

		Yes	No	Don't Know/ Not Applicable
a.	School-based management			
b.	Common daily planning period for members of the science department			
c.	Common work space for members of the science department			
d.	Teachers *formally* designated and serving as science lead teachers			
e.	Teachers provided with release time to help other teachers in the school/district			
f.	Interdisciplinary teams of teachers who share the same students			
g.	Students assigned to science classes by ability			
h.	Use of vocational/technical applications in science instruction			
i.	Elementary or middle school students pulled out from self-contained classes for remedial instruction in science			
j.	Elementary or middle school students pulled out from self-contained classes for enrichment in science			
k.	Elementary or middle school students receiving instruction from science specialists *in addition to* their regular teacher			
l.	Elementary or middle school students receiving instruction from science specialists *instead of* their regular teacher			
m.	Science courses offered by telecommunications			
n.	Students going to another K-12 school for science courses			
o.	Students going to a college or university for science courses			
p.	Integration of science subjects (e.g., physical science, life science, and earth science all taught together each year)			

3. Please give us your opinion about each of the following statements in regard to the National Research Council's (NRC) work in setting standards for science curriculum, instruction, and assessment. (Darken one oval on each line.)

		Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a.	I am prepared to explain the NRC *National Science Education Standards* to my colleagues.					
b.	The *Standards* have been thoroughly discussed by teachers in this school.					
c.	There is a school-wide effort to make changes inspired by the *Standards.*					
d.	Teachers in this school have implemented the *Standards* in their teaching.					
e.	The principal of this school is well-informed about the *Standards.*					
f.	Parents of students in this school are well-informed about the *Standards.*					
g.	The superintendent of this district is well-informed about the *Standards.*					
h.	The School Board is well-informed about the *Standards.*					
i.	Our district is organizing staff development based on the *Standards.*					
j.	Our district has changed how it evaluates teachers based on the *Standards.*					

4. Does your school include students in grades 6 or higher? (Darken one oval.)

- ⬭ Yes, CONTINUE WITH QUESTION 5
- ⬭ No, SKIP TO QUESTION 8

5. Please give the number of sections of each of the following science courses currently offered in your school. (Additional course titles for these categories are shown on the enclosed "List of Course Titles.")

Current number of sections	Code	Course Category
_____	108	Life Science, 6 - 8
_____	109	Earth Science, 6 - 8
_____	110	Physical Science, 6 - 8
_____	111	General Science, 6 - 8
_____	112	Integrated Science, 6 - 8
		Grades 6-8, Other Science Courses
_____		_____
_____		_____
_____		_____

Current number of sections	Code	Course Category
_____	114	Biology, 1st year
_____	115	Biology, 1st year, Applied
_____	116	Biology, 2nd year, AP
_____	117	Biology, 2nd year, Advanced
_____	118	Biology, 2nd year, Other
_____	119	Chemistry, 1st year
_____	120	Chemistry, 1st year, Applied
_____	121	Chemistry, 2nd year, AP
_____	122	Chemistry, 2nd year, Advanced
_____	123	Physics, 1st year
_____	124	Physics, 1st year, Applied
_____	125	Physics, 2nd year, AP
_____	126	Physics, 2nd year, Advanced
_____	127	Physical Science
_____	128	Astronomy/Space Science*
_____	129	Geology*
_____	130	Meteorology*
_____	131	Oceanography/Marine Science*
_____	132	Earth Science, 1st year
_____	133	Earth Science, 1st year, Applied
_____	134	Earth Science, 2nd year, Advanced/Other
_____	135	General Science
_____	136	Environmental Science
_____	137	Coordinated Science
_____	138	Integrated Science
		Grades 9-12, Other Science Courses
_____		_____
_____		_____
_____		_____

* NOTE: A course that includes substantial content from two or more of the earth sciences should be listed under code 132, 133, 134, or 135.

6. Please give the code number of any science courses offered this year that will **not** be offered next year. If all will be offered next year, darken this oval ⬭ and continue with question 7. Otherwise, list the code number of courses that will not be offered:

_____ _____ _____ _____ _____

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

7. Which of the following best describes the way science classes at your school are scheduled? (Darken one oval.)

a. All or most classes meet five days per week for one year.
b. All or most classes meet five days per week for one semester.
c. All or most classes meet three days one week and two days the next week for one year.

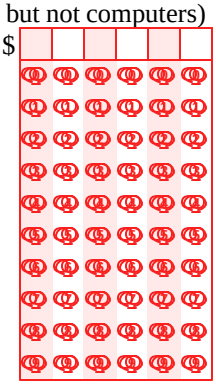
d. Other arrangement; on a separate page, please give a brief written description of how often classes meet and the number of minutes in each class session.

Please enter the number of minutes each class meets per session in the spaces provided to the right, then darken the corresponding oval in each column: (Please enter your answer as a 3-digit number; e.g., if 30 minutes, enter 030.)

8. How much money was spent on science equipment and consumable supplies in this school during the most recently completed budget year? Provide your answer as a ***whole dollar amount***. (If you don't know the exact amounts, please provide your best estimates.) Please enter your answers in the spaces provided, then darken the corresponding oval in each column. Please right justify your answers; e.g., enter $125 as | | | | 1 | 2 | 5 |

a. Science Equipment (non-consumable, non-perishable items such as microscopes, scales, etc., but not computers)

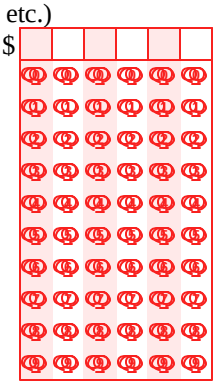
$



If this is an estimate, please darken this oval:

b. Consumable Science Supplies (materials that must continually be replenished such as chemicals, glassware, batteries, etc.)

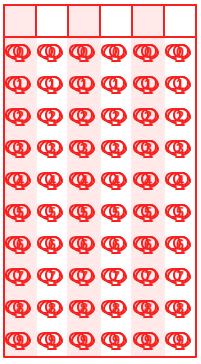
$



If this is an estimate, please darken this oval:

c. Science Software

$



If this is an estimate, please darken this oval:

9. In your opinion, how great a problem is each of the following for science instruction **in your school as a whole**? (Darken one oval on each line.)

		Not a Significant Problem	Somewhat of a Problem	Serious Problem
a.	Facilities	①	②	③
b.	Funds for purchasing equipment and supplies	①	②	③
c.	Materials for individualizing instruction	①	②	③
d.	Access to computers	①	②	③
e.	Appropriate computer software	①	②	③
f.	Student interest in science	①	②	③
g.	Student reading abilities	①	②	③
h.	Student absences	①	②	③
i.	Teacher interest in science	①	②	③
j.	Teacher preparation to teach science	①	②	③
k.	Time to teach science	①	②	③
l.	Opportunities for teachers to share ideas	①	②	③

Question 9 continues on next page...

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

9. *continued*

		Not a Significant Problem	Somewhat of a Problem	Serious Problem
m.	In-service education opportunities	①	②	③
n.	Interruptions for announcements, assemblies, other school activities	①	②	③
o.	Large classes	①	②	③
p.	Maintaining discipline	①	②	③
q.	Parental support for education	①	②	③

10. In your opinion, how great a problem is each of the following for science instruction **in your school as a whole**? (Darken one oval on each line.)

		Not a Significant Problem	Somewhat of a Problem	Serious Problem
a.	State and/or district curriculum frameworks	①	②	③
b.	State and/or district testing policies and practices	①	②	③
c.	Importance that the school places on science	①	②	③
d.	Public attitudes toward science reform at this school	①	②	③
e.	Conflict between science reform efforts at this school and other school/district reform efforts	①	②	③
f.	Time available for teachers to plan and prepare lessons	①	②	③
g.	Time available for teachers to work with other teachers during the school year	①	②	③
h.	Time available for teacher professional development	①	②	③
i.	System of managing instructional resources at the district or school level (e.g., distributing science materials, refurbishing materials)	①	②	③

Question 11 is being asked of all science teachers in the sample. If you received a Science Teacher Questionnaire in addition to this School Science Program Questionnaire, please darken this oval ① and SKIP TO QUESTION 12.

11a. How familiar are you with the *National Science Education Standards*, published by the National Research Council? (Darken one oval.)

① Not at all familiar, SKIP TO QUESTION 12
② Somewhat familiar
③ Fairly familiar
④ Very familiar

11b. Please indicate the extent of your agreement with the overall vision of science education described in the *National Science Education Standards.* (Darken one oval.)

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
①	②	③	④	⑤

12. If you have an email address, please write it here: _____

13. When did you complete this questionnaire? _____ / _____ / _____
Month Day Year

Please make a photocopy of this questionnaire and keep it in case the original is lost in the mail. Please return the original to:

2000 National Survey of Science and Mathematics Education
Westat
1650 Research Blvd.
TB120F
Rockville, MD 20850

THANK YOU!

FOR OFFICE USE ONLY
Please do not write in this area.

2000 National Survey of Science and Mathematics Education
School Mathematics Program Questionnaire

Instructions: Please use a #2 pencil or blue or black pen to complete this questionnaire. Darken ovals completely, but do not stray into adjacent ovals. Be sure to erase or white out completely any stray marks.

1. What is your title? (Darken all that apply.)

- Mathematics department chair
- Mathematics lead teacher
- Teacher
- Principal
- Assistant principal
- Other (please specify): _____

2. Indicate whether each of the following programs/practices is currently being implemented in your school. (Darken one oval on each line.)

		Yes	No	Don't Know/ Not Applicable
a.	School-based management			
b.	Common daily planning period for members of the mathematics department			
c.	Common work space for members of the mathematics department			
d.	Teachers *formally* designated and serving as mathematics lead teachers			
e.	Teachers provided with release time to help other teachers in the school/district			
f.	Interdisciplinary teams of teachers who share the same students			
g.	Students assigned to mathematics classes by ability			
h.	Use of vocational/technical applications in mathematics instruction			
i.	Elementary or middle school students pulled out from self-contained classes for remedial instruction in mathematics			
j.	Elementary or middle school students pulled out from self-contained classes for enrichment in mathematics			
k.	Elementary or middle school students receiving instruction from mathematics specialists *in addition to* their regular teacher			
l.	Elementary or middle school students receiving instruction from mathematics specialists *instead of* their regular teacher			
m.	Mathematics courses offered by telecommunications			
n.	Students going to another K-12 school for mathematics courses			
o.	Students going to a college or university for mathematics courses			
p.	Integration of mathematics subjects (e.g., algebra, probability, geometry, etc. all taught together each year)			

3. Please give us your opinion about each of the following statements in regard to the National Council of Teachers of Mathematics' (NCTM) work in setting standards for mathematics curriculum, instruction, and assessment. (Darken one oval on each line.)

		Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a.	I am prepared to explain the NCTM *Standards* to my colleagues.					
b.	The *Standards* have been thoroughly discussed by teachers in this school.					
c.	There is a school-wide effort to make changes inspired by the *Standards.*					
d.	Teachers in this school have implemented the *Standards* in their teaching.					
e.	The principal of this school is well-informed about the *Standards.*					
f.	Parents of students in this school are well-informed about the *Standards.*					
g.	The superintendent of this district is well-informed about the *Standards.*					
h.	The School Board is well-informed about the *Standards.*					
i.	Our district is organizing staff development based on the *Standards.*					
j.	Our district has changed how it evaluates teachers based on the *Standards.*					

4. Does your school include students in grades 6 or higher? (Darken one oval.)

- Yes, CONTINUE WITH QUESTION 5
- No, SKIP TO QUESTION 8

5. Please give the number of sections of each of the following mathematics courses currently offered in your school. (Additional course titles for these categories are shown on the enclosed "List of Course Titles.")

GRADES 6-8

Current number of sections	Code	Course Category
_____	208	Remedial Mathematics 6
_____	209	Regular Mathematics 6
_____	210	Accelerated/Pre-Algebra Mathematics 6
_____	211	Remedial Mathematics 7
_____	212	Regular Mathematics 7
_____	213	Accelerated Mathematics 7

Current number of sections	Code	Course Category
_____	214	Remedial Mathematics 8
_____	215	Regular Mathematics 8
_____	216	Enriched Mathematics 8
_____	217	Algebra 1, Grade 7 or 8
_____	218	Integrated Middle Grade Mathematics, 7 or 8

GRADES 6-8, OTHER MATHEMATICS COURSES

_____ _____
_____ _____
_____ _____

GRADES 9-12

Current number of sections	Code	Course Category
		GRADES 9-12, REVIEW MATHEMATICS
_____	219	Review Mathematics Level 1 (e.g., Remedial Mathematics)
_____	220	Review Mathematics Level 2 (e.g., Consumer Mathematics)
_____	221	Review Mathematics Level 3 (e.g., General Mathematics 3)
_____	222	Review Mathematics Level 4 (e.g., General Mathematics 4)
		GRADES 9-12, INFORMAL MATHEMATICS
_____	223	Informal Mathematics Level 1 (e.g., Pre-Algebra)
_____	224	Informal Mathematics Level 2 (e.g., Basic Geometry)
_____	225	Informal Mathematics Level 3 (e.g., after Pre-Algebra, but not Algebra 1)

Current number of sections	Code	Course Category
		GRADES 9-12, FORMAL MATHEMATICS
_____	226	Formal Mathematics Level 1 (e.g., Algebra 1, or Integrated Math 1)
_____	227	Formal Mathematics Level 2 (e.g., Geometry, or Integrated Math 2)
_____	228	Formal Mathematics Level 3 (e.g., Algebra 2, or Integrated Math 3)
_____	229	Formal Mathematics Level 4 (e.g., Algebra 3, or Pre-Calculus)
_____	230	Formal Mathematics Level 5 (e.g., Calculus)
_____	231	Formal Mathematics Level 5, AP
		GRADES 9-12, OTHER MATHEMATICS COURSES
_____	232	Probability and Statistics
_____	233	Mathematics integrated with other subjects
_____		_____
_____		_____

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

6. Please give the code number of any mathematics courses offered this year that will **not** be offered next year. If all will be offered next year, darken this oval ⬭ and continue with question 7. Otherwise, list the code number of courses that will not be offered:

_____ _____ _____ _____ _____

7. Which of the following best describes the way mathematics classes at your school are scheduled? (Darken one oval.)

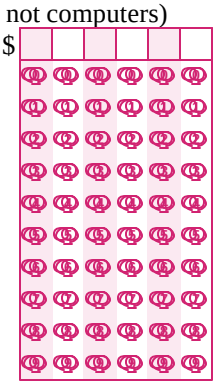
- a. All or most classes meet five days per week for one year.
- b. All or most classes meet five days per week for one semester.
- c. All or most classes meet three days one week and two days the next week for one year.
- d. Other arrangement; on a separate page, please give a brief written description of how often classes meet and the number of minutes in each class session.

Please enter the number of minutes each class meets per session in the spaces provided to the right, then darken the corresponding oval in each column: (Please enter your answer as a 3-digit number; e.g., if 30 minutes, enter 030.)

8. How much money was spent on mathematics equipment and consumable supplies in this school during the most recently completed budget year? Provide your answer as a ***whole dollar amount***. (If you don't know the exact amounts, please provide your best estimates.) Please enter your answers in the spaces provided, then darken the corresponding oval in each column. Please right justify your answers; e.g., enter $125 as | | | | 1 | 2 | 5 |

a. Mathematics Equipment (non-consumable items such as calculators, but not computers)

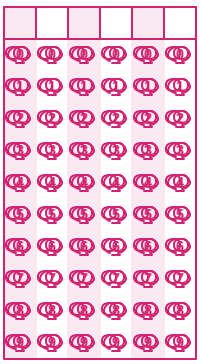
$



If this is an estimate, please darken this oval: ⬭

b. Consumable Mathematics Supplies (manipulatives)

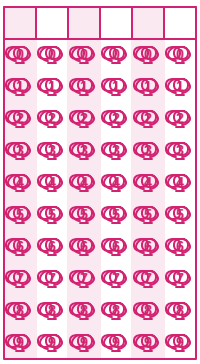
$



If this is an estimate, please darken this oval: ⬭

c. Mathematics Software

$



If this is an estimate, please darken this oval: ⬭

9. In your opinion, how great a problem is each of the following for mathematics instruction **in your school as a whole**? (Darken one oval on each line.)

		Not a Significant Problem	Somewhat of a Problem	Serious Problem
a.	Facilities	⬭	⬭	⬭
b.	Funds for purchasing equipment and supplies	⬭	⬭	⬭
c.	Materials for individualizing instruction	⬭	⬭	⬭
d.	Access to computers	⬭	⬭	⬭
e.	Appropriate computer software	⬭	⬭	⬭
f.	Student interest in mathematics	⬭	⬭	⬭
g.	Student reading abilities	⬭	⬭	⬭
h.	Student absences	⬭	⬭	⬭

Question 9 continues on next page...

9. *continued*

		Not a Significant Problem	Somewhat of a Problem	Serious Problem
i.	Teacher interest in mathematics	①	②	③
j.	Teacher preparation to teach mathematics	①	②	③
k.	Time to teach mathematics	①	②	③
l.	Opportunities for teachers to share ideas	①	②	③
m.	In-service education opportunities	①	②	③
n.	Interruptions for announcements, assemblies, other school activities	①	②	③
o.	Large classes	①	②	③
p.	Maintaining discipline	①	②	③
q.	Parental support for education	①	②	③

10. In your opinion, how great a problem is each of the following for mathematics instruction **in your school as a whole**? (Darken one oval on each line.)

		Not a Significant Problem	Somewhat of a Problem	Serious Problem
a.	State and/or district curriculum frameworks	①	②	③
b.	State and/or district testing policies and practices	①	②	③
c.	Importance that the school places on mathematics	①	②	③
d.	Public attitudes toward mathematics reform at this school	①	②	③
e.	Conflict between mathematics reform efforts at this school and other school/district reform efforts	①	②	③
f.	Time available for teachers to plan and prepare lessons	①	②	③
g.	Time available for teachers to work with other teachers during the school year	①	②	③
h.	Time available for teacher professional development	①	②	③
i.	System of managing instructional resources at the district or school level (e.g., distributing materials for mathematics activities, refurbishing materials)	①	②	③

Question 11 is being asked of all mathematics teachers in the sample. If you received a Mathematics Teacher Questionnaire in addition to this School Mathematics Program Questionnaire, please darken this oval ⬭ and SKIP TO QUESTION 12.

11a. How familiar are you with the NCTM *Standards* for mathematics curriculum, instruction, and evaluation? (Darken one oval.)

① Not at all familiar, SKIP TO QUESTION 12
② Somewhat familiar
③ Fairly familiar
④ Very familiar

11b. Please indicate the extent of your agreement with the overall vision of mathematics education described in the NCTM *Standards.* (Darken one oval.)

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
①	②	③	④	⑤

12. If you have an email address, please write it here: _____

13. When did you complete this questionnaire? _____ / _____ / _____
Month Day Year

FOR OFFICE USE ONLY
Please do not write in this area.

Please make a photocopy of this questionnaire and keep it in case the original is lost in the mail. Please return the original to:

2000 National Survey of Science and Mathematics Education
Westat
1650 Research Blvd.
TB120F
Rockville, MD 20850

THANK YOU!

2000 National Survey of Science and Mathematics Education

Science Questionnaire

You have been selected to answer questions about your science instruction. If you do not currently teach science, please call us toll-free at 1-800-937-8288.

How to Complete the Questionnaire

Most of the questions instruct you to "darken one" answer or "darken all that apply." For a few questions, you are asked to write in your answer on the line provided. Please use a #2 pencil or blue or black pen to complete this questionnaire. Darken ovals completely, but do not stray into adjacent ovals. Be sure to erase or white out completely any stray marks.

Class Selection

Part of the questionnaire (sections C and D) asks you to provide information about instruction in a particular class. If you teach science to more than one class, use the label at the right to determine the science class that has been randomly selected for you to answer about. (If your teaching schedule varies by day, use today's schedule, or if today is not a school day, use the most recent school day.)

If You Have Questions

If you have questions about the study or any items in the questionnaire, call us toll-free at 1-800-937-8288.

Each participating school will receive a voucher for $50 worth of science and mathematics materials. The voucher will be augmented by $15 for each responding teacher. In addition, each participating school will receive a copy of the study's results in the spring of 2001.

Thank you very much. Your participation is greatly appreciated. Please return the completed questionnaire to us in the postage-paid envelope:

2000 National Survey of Science and Mathematics Education
Westat
1650 Research Blvd.
TB120F
Rockville, MD 20850

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[SERIAL]

A. Teacher Opinions

1. Please provide your opinion about each of the following statements. (Darken one oval on each line.)

		Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a.	Students learn science best in classes with students of similar abilities.	①	②	③	④	⑤
b.	The testing program in my state/district dictates what science content I teach.	①	②	③	④	⑤
c.	I enjoy teaching science.	①	②	③	④	⑤
d.	I consider myself a "master" science teacher.	①	②	③	④	⑤
e.	I have time during the regular school week to work with my colleagues on science curriculum and teaching.	①	②	③	④	⑤
f.	My colleagues and I regularly share ideas and materials related to science teaching.	①	②	③	④	⑤
g.	Science teachers in this school regularly observe each other teaching classes as part of sharing and improving instructional strategies.	①	②	③	④	⑤
h.	Most science teachers in this school contribute actively to making decisions about the science curriculum.	①	②	③	④	⑤

2a. How familiar are you with the *National Science Education Standards*, published by the National Research Council? (Darken one oval.)

- ① Not at all familiar, SKIP TO QUESTION 3
- ② Somewhat familiar
- ③ Fairly familiar
- ④ Very familiar

2b. Please indicate the extent of your agreement with the overall vision of science education described in the *National Science Education Standards.* (Darken one oval.)

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
①	②	③	④	⑤

2c. To what extent have you implemented recommendations from the *National Science Education Standards* in your science teaching? (Darken one oval.)

Not at all	To a minimal extent	To a moderate extent	To a great extent
①	②	③	④

B. Teacher Background

3. Please indicate how well prepared you currently feel to do each of the following in your science instruction. (Darken one oval on each line.)

		Not Adequately Prepared	Somewhat Prepared	Fairly Well Prepared	Very Well Prepared
a.	Take students' prior understanding into account when planning curriculum and instruction	①	②	③	④
b.	Develop students' conceptual understanding of science	①	②	③	④
c.	Provide deeper coverage of fewer science concepts	①	②	③	④
d.	Make connections between science and other disciplines	①	②	③	④
e.	Lead a class of students using investigative strategies	①	②	③	④

Question 3 continues on next page...

3. *continued...*

		Not Adequately Prepared	Somewhat Prepared	Fairly Well Prepared	Very Well Prepared
f.	Manage a class of students engaged in hands-on/project-based work	○	○	○	○
g.	Have students work in cooperative learning groups	○	○	○	○
h.	Listen/ask questions as students work in order to gauge their understanding	○	○	○	○
i.	Use the textbook as a resource rather than the primary instructional tool	○	○	○	○
j.	Teach groups that are heterogeneous in ability	○	○	○	○
k.	Teach students who have limited English proficiency	○	○	○	○
l.	Recognize and respond to student cultural diversity	○	○	○	○
m.	Encourage students' interest in science	○	○	○	○
n.	Encourage participation of females in science	○	○	○	○
o.	Encourage participation of minorities in science	○	○	○	○
p.	Involve parents in the science education of their children	○	○	○	○
q.	Use calculators/computers for drill and practice	○	○	○	○
r.	Use calculators/computers for science learning games	○	○	○	○
s.	Use calculators/computers to collect and/or analyze data	○	○	○	○
t.	Use computers to demonstrate scientific principles	○	○	○	○
u.	Use computers for laboratory simulations	○	○	○	○
v.	Use the Internet in your science teaching for general reference	○	○	○	○
w.	Use the Internet in your science teaching for data acquisition	○	○	○	○
x.	Use the Internet in your science teaching for collaborative projects with classes/individuals in other schools	○	○	○	○

4a. Do you have each of the following degrees?

Bachelors	○ Yes	○ No
Masters	○ Yes	○ No
Doctorate	○ Yes	○ No

4b. Please indicate the subject(s) for each of your degrees.
(Darken all that apply.)

	Bachelors	Masters	Doctorate
Biology/Life Science	○	○	○
Chemistry	○	○	○
Earth/Space Science	○	○	○
Physics	○	○	○
Other science, please specify: _____	○	○	○
Science Education (any science discipline)	○	○	○
Mathematics/Mathematics Education	○	○	○
Elementary Education	○	○	○
Other Education (e.g., History Education, Special Education)	○	○	○
Other, please specify: _____	○	○	○

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

5. Which of the following college courses have you completed? Include both semester hour and quarter hour courses, whether graduate or undergraduate level. Include courses for which you received college credit, even if you took the course in high school. (Darken all that apply.)

EDUCATION
- General methods of teaching
- Methods of teaching science
- Instructional uses of computers/other technologies
- Supervised student teaching in science

MATHEMATICS
- College algebra/trigonometry/ elementary functions
- Calculus
- Advanced calculus
- Differential equations
- Discrete mathematics
- Probability and statistics

CHEMISTRY
- General/introductory chemistry
- Analytical chemistry
- Organic chemistry
- Physical chemistry
- Quantum chemistry
- Biochemistry
- Other chemistry

EARTH/SPACE SCIENCES
- Introductory earth science
- Astronomy
- Geology
- Meteorology
- Oceanography
- Physical geography
- Environmental science
- Agricultural science

LIFE SCIENCES
- Introductory biology/life science
- Botany, plant physiology
- Cell biology
- Ecology
- Entomology
- Genetics, evolution
- Microbiology
- Anatomy/Physiology
- Zoology, animal behavior
- Other life science

PHYSICS
- Physical science
- General/introductory physics
- Electricity and magnetism
- Heat and thermodynamics
- Mechanics
- Modern or quantum physics
- Nuclear physics
- Optics
- Solid state physics
- Other physics

OTHER
- History of science
- Philosophy of science
- Science and society
- Electronics
- Engineering (Any)
- Integrated science
- Computer programming
- Other computer science

6. For each of the following subject areas, indicate the number of college semester and quarter courses you have completed. Count each course you have taken, regardless of whether it was a graduate or undergraduate course. If your transcripts are not available, provide your best estimates.

	Semester Courses	Quarter Courses
a. Life sciences	0 1 2 3 4 5 6 7 8 9 >9	0 1 2 3 4 5 6 7 8 9 >9
b. Chemistry	0 1 2 3 4 5 6 7 8 9 >9	0 1 2 3 4 5 6 7 8 9 >9
c. Physics/physical science	0 1 2 3 4 5 6 7 8 9 >9	0 1 2 3 4 5 6 7 8 9 >9
d. Earth/space science	0 1 2 3 4 5 6 7 8 9 >9	0 1 2 3 4 5 6 7 8 9 >9
e. Science education	0 1 2 3 4 5 6 7 8 9 >9	0 1 2 3 4 5 6 7 8 9 >9
f. Mathematics	0 1 2 3 4 5 6 7 8 9 >9	0 1 2 3 4 5 6 7 8 9 >9

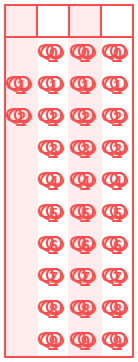
7. Considering all of your undergraduate and graduate **science** courses, approximately what percentage were completed at each of the following types of institutions? (Darken one oval on each line.)

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
a. Two-year college/community college/technical school											
b. Four-year college/university											

8. In what year did you last take a formal course for college credit in:
(Please enter your answers in the spaces provided, then darken the corresponding oval in each column.)

a. Science

b. The Teaching of Science



If you have never taken a course in the teaching of science, darken this oval ◯ and go to question 9.

9. What is the **total** amount of time you have spent on professional development in science or the teaching of science in the last 12 months? in the last 3 years? (Include attendance at professional meetings, workshops, and conferences, but **do not** include formal courses for which you received college credit or time you spent **providing** professional development for other teachers.) (Darken one oval in each column.)

Hours of In-service Education	Last 12 months	Last 3 years
None	◯	◯
Less than 6 hours	◯	◯
6-15 hours	◯	◯
16-35 hours	◯	◯
More than 35 hours	◯	◯

10. In the past **12 months**, have you: (Darken one oval on each line.)

a.	Taught any in-service workshops in science or science teaching?	◯ Yes	◯ No
b.	Mentored another teacher as part of a formal arrangement that is recognized or supported by the school or district, not including supervision of student teachers?	◯ Yes	◯ No
c.	Received any local, state, or national grants or awards for science teaching?	◯ Yes	◯ No
d.	Served on a school or district science curriculum committee?	◯ Yes	◯ No
e.	Served on a school or district science textbook selection committee?	◯ Yes	◯ No

11. In the past **3 years**, have you participated in any of the following activities related to science or the teaching of science? (Darken one oval on each line.)

a.	Taken a formal college/university science course. (Please do not include courses taken as part of your undergraduate degree.)	◯ Yes	◯ No
b.	Taken a formal college/university course in the teaching of science. (Please do not include courses taken as part of your undergraduate degree.)	◯ Yes	◯ No
c.	Observed other teachers teaching science as part of your own professional development (formal or informal).	◯ Yes	◯ No
d.	Met with a local group of teachers on a regular basis to study/discuss science teaching issues.	◯ Yes	◯ No
e.	Collaborated on science teaching issues with a group of teachers at a distance using telecommunications.	◯ Yes	◯ No
f.	Served as a mentor and/or peer coach in science teaching, as part of a formal arrangement that is recognized or supported by the school or district. (Please do not include supervision of student teachers.)	◯ Yes	◯ No
g.	Attended a workshop on science teaching.	◯ Yes	◯ No

Question 11 continues on next page...

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[SERIAL]

11. continued...

h.	Attended a national or state science teacher association meeting.	Yes	No
i.	Applied (or applying) for certification from the National Board for Professional Teaching Standards (NBPTS).	Yes	No
j.	Received certification from the National Board for Professional Teaching Standards (NBPTS).	Yes	No

Questions 12a-12c ask about your professional development in the last 3 years. If you have been teaching for fewer than 3 years, please answer for the time that you have been teaching.

12a. Think back to **3 years ago**. How would you rate your level of need for professional development in each of these areas *at that time*? (Darken one oval on each line.)

	None Needed	Minor Need	Moderate Need	Substantia Need
Deepening my own science content knowledge				
Understanding student thinking in science				
Learning how to use inquiry/investigation-oriented teaching strategies				
Learning how to use technology in science instruction				
Learning how to assess student learning in science				
Learning how to teach science in a class that includes students with special needs				

12b. Considering all the professional development you have participated in **during the last 3 years**, how much was each of the following emphasized? (Darken one oval on each line.)

	Not at all				To a great extent
Deepening my own science content knowledge					
Understanding student thinking in science					
Learning how to use inquiry/investigation-oriented teaching strategies					
Learning how to use technology in science instruction					
Learning how to assess student learning in science					
Learning how to teach science in a class that includes students with special needs					

12c. Considering all your professional development in the **last 3 years**, how would you rate its impact in each of these areas? (Darken one oval on each line.)

	Little or no impact	Confirmed what I was already doing	Caused me to change my teaching practices
Deepening my own science content knowledge			
Understanding student thinking in science			
Learning how to use inquiry/investigation-oriented teaching strategies			
Learning how to use technology in science instruction			
Learning how to assess student learning in science			
Learning how to teach science in a class that includes students with special needs			

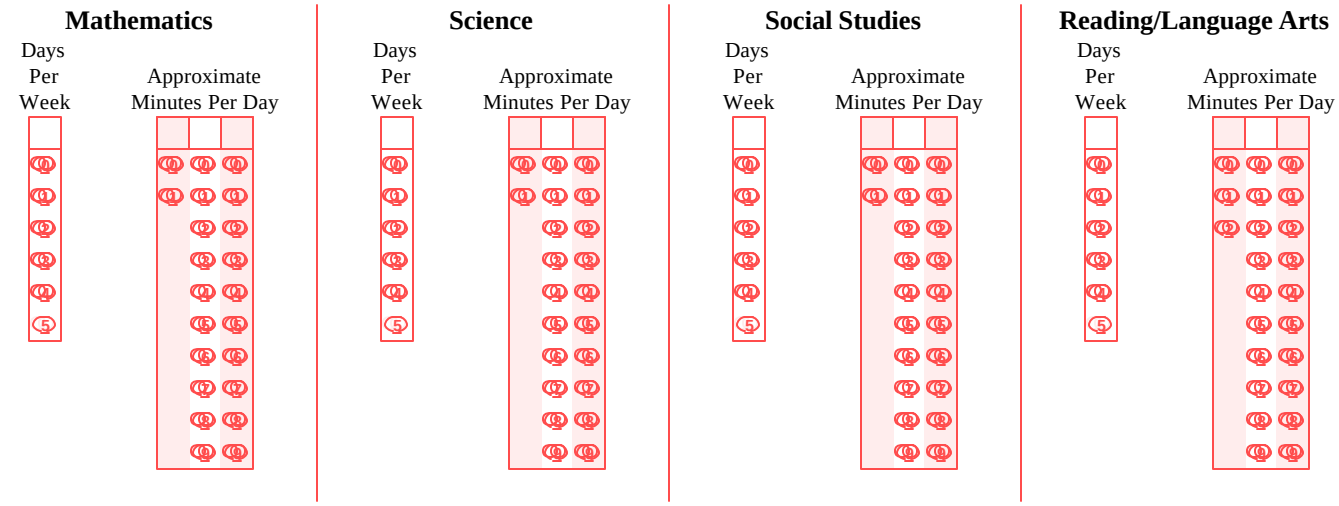
13a. Do you teach in a **self-contained class**? (i.e., you teach multiple subjects to the same class of students all or most of the day.)

- Yes, CONTINUE WITH QUESTIONS 13b AND 13c
- No, SKIP TO QUESTION 14

13b. ***For teachers of self-contained classes*:** Many teachers feel better qualified to teach some subject areas than others. How well qualified do you feel to teach each of the following subjects **at the grade level(s) you teach**, whether or not they are currently included in your curriculum? (Darken one oval on each line.)

		Not Well Qualified	Adequately Qualified	Very Well Qualified
a.	Life science			
b.	Earth science			
c.	Physical science			
d.	Mathematics			
e.	Reading/Language Arts			
f.	Social Studies			

13c. ***For teachers of self-contained classes:*** We are interested in knowing how much time your students spend studying various subjects. In a typical week, how many days do you have lessons on each of the following subjects, and how many minutes long is an average lesson? (*Please indicate "0" if you do not teach a particular subject to this class.* Please enter your answer in the spaces provided, then darken the corresponding oval in each column. Enter the number of minutes as a 3-digit number; e.g., if 30 minutes, enter as 030.)



NOW GO TO SECTION C, PAGE 8.

14. Which of these categories best describes the way **your** classes at this school are organized? (Darken one oval.)

- a. **Departmentalized Instruction**—you teach subject matter courses (including science, and perhaps other courses) to several different classes of students all or most of the day.
- b. **Elementary Enrichment Class**—you teach only science in an elementary school.
- c. **Team Teaching**—you collaborate with one or more teachers in teaching multiple subjects to the same class of students; your assignment includes science.

15a. ***For teachers of non-self-contained classes*:** Within science, many teachers feel better qualified to teach some topics than others. How well qualified do you feel to teach each of the following topics **at the grade level(s) you teach**, whether or not they are currently included in your curriculum? (Darken one oval on each line.)

	Not Well Qualified	Adequately Qualified	Very Well Qualified
1. Earth science			
a. Earth's features and physical processes			
b. The solar system and the universe			
c. Climate and weather			
2. Biology			
a. Structure and function of human systems			
b. Plant biology			
c. Animal behavior			
d. Interactions of living things/ecology			
e. Genetics and evolution			
3. Chemistry			
a. Structure of matter and chemical bonding			
b. Properties and states of matter			
c. Chemical reactions			
d. Energy and chemical change			

Question 15a continues on next page...

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[SERIAL]

15a. *continued...*

	Not well qualified	Adequately qualified	Very well qualified
4. Physics			
a. Forces and motion	○	○	○
b. Energy	○	○	○
c. Light and sound	○	○	○
d. Electricity and magnetism	○	○	○
e. Modern physics (e.g., special relativity)	○	○	○
5. Environmental and resource issues			
a. Pollution, acid rain, global warming	○	○	○
b. Population, food supply and production	○	○	○
6. Science process/inquiry skills			
a. Formulating hypotheses, drawing conclusions, making generalizations	○	○	○
b. Experimental design	○	○	○
c. Describing, graphing, and interpreting data	○	○	○

15b. ***For teachers of non-self-contained classes*:** For each class period you are currently teaching, regardless of the subject, give *course title*, the *code-number* from the enclosed blue "List of Course Titles" that best describes the content addressed in the class, and the *number of students* in the class. (Please enter your answers in the spaces provided, then darken the corresponding oval in each column. **If you teach more than one section of a course, record each section separately below**.)

- Note that if you have more than 39 students in any class, you will not be able to darken the ovals, but you should still write the number in the boxes.

- If you teach more than 6 classes per day, please provide the requested information for the additional classes on a separate sheet of paper.

Course Title _____ Code # ○○○ # of Students ○○

Course Title _____ Code # ○○○ # of Students ○○

Course Title _____ Code # ○○○ # of Students ○○

Course Title _____ Code # ○○○ # of Students ○○

Course Title _____ Code # ○○○ # of Students ○○

Course Title _____ Code # ○○○ # of Students ○○

C. Your Science Teaching in a Particular Class

The questions in this section are about a particular science class you teach. **If you teach science to more than one class per day, please consult the label on the front of this questionnaire to determine which science class to use to answer these questions**.

16. Using the blue "List of Course Titles," indicate the code number that best describes this course. Please enter your answer in the spaces to the right, then darken the corresponding oval in each column. (If "other" [Code 199], briefly describe content of course:

_____

_____

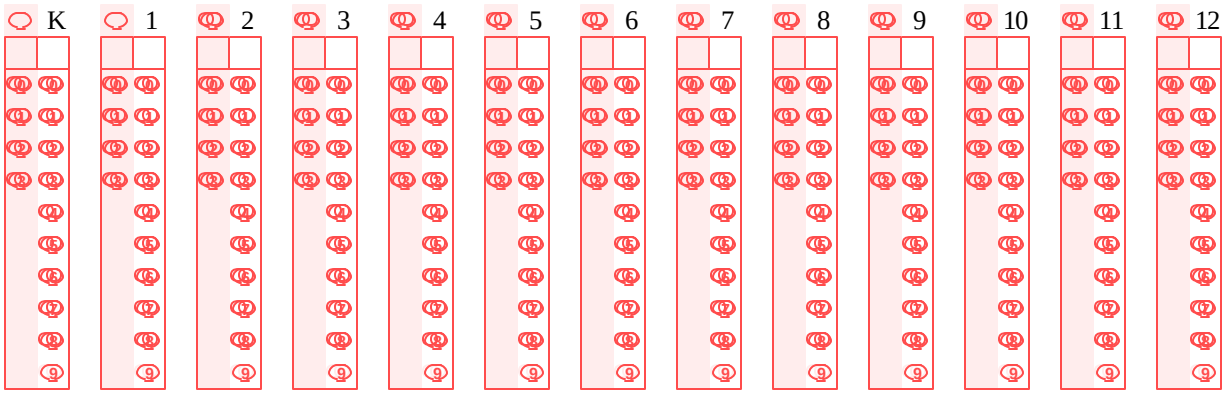
_____)

Code #

17a. Are all students in this class in the same grade?

- Yes, specify grade:
  THEN SKIP TO QUESTION 18a
- No, CONTINUE WITH QUESTION 17b

17b. What grades are represented in this class? (Darken all that apply.) For each grade noted, indicate the number of students in this class in that grade. Write your answer in the space provided, then darken the corresponding oval in each column. **Note that if more than 39 students in this class are in a single grade, you will not be able to darken the ovals, but you should still write the number in the boxes.**



18a. What is the total number of students in this class? Write your answer in the space provided, then darken the corresponding oval in each column. **Note that if you have more than 39 students in this class, you will not be able to darken the ovals, but you should still write the number in the boxes.**

18b. Please indicate the number of students in this class in each of the following categories. Consult the enclosed federal guidelines at the end of the course list (blue sheet) if you have any questions about how to classify particular students. (Please enter your answers in the spaces provided, then darken the corresponding oval in each column.)

RACE/ETHNICITY

American Indian or Alaskan Native		Asian		Black or African-American		Hispanic or Latino (any race)		Native Hawaiian or Other Pacific Islander		White	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

19a. **Questions 19a and 19b apply only to teachers of non-self-contained classes. If you teach a self-contained class, please darken this oval ○ and skip to question 20.** What is the usual schedule and length (in minutes) of daily class meetings for this class? If the weekly schedule is normally the same, just complete Week 1, as in Example 1. If you are unable to describe this class in the format below, please attach a separate piece of paper with your description.

	Week 1	Week 2
Monday	_____	_____
Tuesday	_____	_____
Wednesday	_____	_____
Thursday	_____	_____
Friday	_____	_____

Examples

Example 1		Example 2	
Week 1	Week 2	Week 1	Week 2
45		90	
45			90
45		90	
45			90
45		90	

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19b. What is the calendar duration of this science class? (Darken one oval.)

○ Year
○ Semester
○ Quarter

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[SERIAL]

20. Are students assigned to this class by level of ability? (Darken one oval.) ○ Yes ○ No

21. Which of the following best describes the ability of the students in this class relative to other students in this school? (Darken one oval.)

○ Fairly homogeneous and low in ability
○ Fairly homogeneous and average in ability
○ Fairly homogeneous and high in ability
○ Heterogeneous, with a mixture of two or more ability levels

22. Indicate if any of the students in this science class are **formally** classified as each of the following: (Darken all that apply.)

○ Limited English Proficiency
○ Learning Disabled
○ Mentally Handicapped
○ Physically Handicapped, please specify handicap(s): _____

23. Think about your plans for this science class for the entire course. How much emphasis will each of the following **student objectives** receive? (Darken one oval on each line.)

		None	Minimal Emphasis	Moderate Emphasis	Heavy Emphasis
a.	Increase students' interest in science	○	○	○	③
b.	Learn basic science concepts	○	○	○	○
c.	Learn important terms and facts of science	○	○	○	○
d.	Learn science process/inquiry skills	○	○	○	○
e.	Prepare for further study in science	○	○	○	○
f.	Learn to evaluate arguments based on scientific evidence	○	○	○	○
g.	Learn how to communicate ideas in science effectively	○	○	○	○
h.	Learn about the applications of science in business and industry	○	○	○	○
i.	Learn about the relationship between science, technology, and society	○	○	○	○
j.	Learn about the history and nature of science	○	○	○	○
k.	Prepare for standardized tests	○	○	○	○

24. About how often do **you** do each of the following in your science instruction? (Darken one oval on each line.)

		Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all science lessons
a.	Introduce content through formal presentations	○	○	○	○	⑤
b.	Pose open-ended questions	○	○	○	○	○
c.	Engage the whole class in discussions	○	○	○	○	○
d.	Require students to supply evidence to support their claims	○	○	○	○	○
e.	Ask students to explain concepts to one another	○	○	○	○	○
f.	Ask students to consider alternative explanations	○	○	○	○	○
g.	Allow students to work at their own pace	○	○	○	○	○
h.	Help students see connections between science and other disciplines	○	○	○	○	○
i.	Assign science homework	○	○	○	○	○
j.	Read and comment on the reflections students have written, e.g., in their journals	○	○	○	○	○

25. About how often do students in this science class take part in the following types of activities? (Darken one oval on each line.)

		Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all science lessons
a.	Listen and take notes during presentation by teacher	①	②	③	④	⑤
b.	Watch a science demonstration	①	②	③	④	⑤
c.	Work in groups	①	②	③	④	⑤
d.	Read from a science textbook in class	①	②	③	④	⑤
e.	Read other (non-textbook) science-related materials in class	①	②	③	④	⑤
f.	Do hands-on/laboratory science activities or investigations	①	②	③	④	⑤
g.	Follow specific instructions in an activity or investigation	①	②	③	④	⑤
h.	Design or implement their *own* investigation	①	②	③	④	⑤
i.	Participate in field work	①	②	③	④	⑤
j.	Answer textbook or worksheet questions	①	②	③	④	⑤
k.	Record, represent, and/or analyze data	①	②	③	④	⑤
l.	Write reflections (e.g., in a journal)	①	②	③	④	⑤
m.	Prepare written science reports	①	②	③	④	⑤
n.	Make formal presentations to the rest of the class	①	②	③	④	⑤
o.	Work on extended science investigations or projects (a week or more in duration)	①	②	③	④	⑤
p.	Use computers as a tool (e.g., spreadsheets, data analysis)	①	②	③	④	⑤
q.	Use mathematics as a tool in problem-solving	①	②	③	④	⑤
r.	Take field trips	①	②	③	④	⑤
s.	Watch audiovisual presentations (e.g., videotapes, CD-ROMs, videodiscs, television programs, films, or filmstrips)	①	②	③	④	⑤

26. About how often do students in this science class use **computers** to: (Darken one oval on each line.)

		Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all science lessons
a.	Do drill and practice	①	②	③	④	⑤
b.	Demonstrate scientific principles	①	②	③	④	⑤
c.	Play science learning games	①	②	③	④	⑤
d.	Do laboratory simulations	①	②	③	④	⑤
e.	Collect data using sensors or probes	①	②	③	④	⑤
f.	Retrieve or exchange data	①	②	③	④	⑤
g.	Solve problems using simulations	①	②	③	④	⑤
h.	Take a test or quiz	①	②	③	④	⑤

27. How often do you assess student progress in science in each of the following ways? (Darken one oval on each line.)

		Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all science lessons
a.	Conduct a pre-assessment to determine what students already know.	①	②	③	④	⑤
b.	Observe students and ask questions as they work individually.	①	②	③	④	⑤
c.	Observe students and ask questions as they work in small groups.	①	②	③	④	⑤
d.	Ask students questions during large group discussions.	①	②	③	④	⑤
e.	Use assessments embedded in class activities to see if students are "getting it"	①	②	③	④	⑤
f.	Review student homework.	①	②	③	④	⑤
g	Review student notebooks/journals.	①	②	③	④	⑤
h.	Review student portfolios.	①	②	③	④	⑤

Question 27 continues on next page...

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27. continued...

		Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all science lessons
i.	Have students do long-term science projects.	①	②	③	④	⑤
j.	Have students present their work to the class.	①	②	③	④	⑤
k.	Give predominantly short-answer tests (e.g., multiple choice, true/false, fill in the blank).	①	②	③	④	⑤
l.	Give tests requiring open-ended responses (e.g., descriptions, explanations).	①	②	③	④	⑤
m.	Grade student work on open-ended and/or laboratory tasks using defined criteria (e.g., a scoring rubric).	①	②	③	④	⑤
n.	Have students assess each other (peer evaluation).	①	②	③	④	⑤

28. For the following equipment, please indicate the extent to which each is available, whether or not each is needed, and the extent to which each is integrated in this science class.

		Not at all Available		Readily Available	Needed?		Never use in this course	Use in specific parts of this course	Fully integrated into this cours
a.	Overhead projector	①	②	③	①	②	①	②	③
b.	Videotape player	①	②	③	①	②	①	②	③
c.	Videodisc player	①	②	③	①	②	①	②	③
d.	CD-ROM player	①	②	③	①	②	①	②	③
e.	Four-function calculators	①	②	③	①	②	①	②	③
f.	Fraction calculators	①	②	③	①	②	①	②	③
g.	Graphing calculators	①	②	③	①	②	①	②	③
h.	Scientific calculators	①	②	③	①	②	①	②	③
i.	Computers	①	②	③	①	②	①	②	③
j.	Computers with Internet connection	①	②	③	①	②	①	②	③
k.	Calculator/computer lab interfacing devices	①	②	③	①	②	①	②	③
l.	Running water in labs/classrooms	①	②	③	①	②	①	②	③
m.	Electric outlets in labs/classrooms	①	②	③	①	②	①	②	③
n.	Gas for burners in labs/classrooms	①	②	③	①	②	①	②	③
o.	Hoods or air hoses in labs/classrooms	①	②	③	①	②	①	②	③

29. How much of your own money do you estimate you will spend for supplies for this science class this school year (or semester or quarter if not a full-year course)? (Please enter your answer as a 3-digit number rounded to the nearest dollar, i.e., enter $25.19 as 025. Enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

$ ___ ___ ___

If none, darken this oval: ⓪

30. How much of your own money do you estimate you will spend for your own professional development activities during the period Sept. 1, 1999 - Aug. 31, 2000? (Please enter your answer as a 3-digit number rounded to the nearest dollar, i.e., enter $25.19 as 025. Enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

$ ___ ___ ___

If none, darken this oval: ⓪

31. How much control do you have over each of the following for this science class? (Darken one oval on each line.)

		No Control				Strong Control
a.	Determining course goals and objectives	1	2	3	4	5
b.	Selecting textbooks/instructional programs	1	2	3	4	5
c.	Selecting other instructional materials	1	2	3	4	5
d.	Selecting content, topics, and skills to be taught	1	2	3	4	5
e.	Selecting the sequence in which topics are covered	1	2	3	4	5
f.	Setting the pace for covering topics	1	2	3	4	5
g.	Selecting teaching techniques	1	2	3	4	5
h.	Determining the amount of homework to be assigned	1	2	3	4	5
i.	Choosing criteria for grading students	1	2	3	4	5
j.	Choosing tests for classroom assessment	1	2	3	4	5

32. How much science homework do you assign to this science class in a typical **week**? (Darken one oval.)

1 0-30 min 2 31-60 min 3 61-90 min 4 91-120 min 5 2-3 hours 6 More than 3 hours

33a. Are you using one or more commercially published textbooks or programs for teaching science to this class? (Darken one oval.)

1 No, SKIP TO SECTION D, PAGE 14
2 Yes, CONTINUE WITH 33b

33b. Which best describes your use of textbooks/programs in this class? (Darken one oval.)

1 Use one textbook or program all or most of the time
2 Use multiple textbooks/programs

34. Indicate the publisher of the **one** textbook/program used **most often** by students in this class. (Darken one oval.)

01 Addison Wesley Longman, Inc/Scott Foresman
02 Benjamin/Cummings Publishing Company, Inc.
03 Brooks/Cole Publishing Co
04 Carolina Biological Supply Co
05 Delta Education
06 Encyclopaedia Britannica
07 Globe Fearon, Inc / Cambridge
08 Harcourt Brace/Harcourt, Brace & Jovanovich
09 Holt, Rinehart and Winston, Inc
10 Houghton Mifflin Company/McDougal Littell/D.C. Heath
11 It's About Time
12 J.M. LeBel Enterprises
13 Kendall Hunt Publishing
14 Lawrence Hall of Science
15 McGraw-Hill/Merrill Co (including CTB/McGraw-Hill, Charles Merrill Publishing, Glencoe/McGraw-Hill, Macmillan/McGraw-Hill, McGraw-Hill School Division, Merrill/Glencoe, SRA/McGraw-Hill)
16 Modern Curriculum Press
17 Mosby/The C.V. Mosby Company
18 Nystrom
19 Optical Data Corporation
20 Prentice Hall, Inc.
21 Saxon Publishers
22 Scholastic, Inc.
23 Silver Burdett Ginn
24 South-Western Educational Publishing
25 Steck-Vaughn Company
26 Videodiscovery, Inc
27 W.H. Freeman
28 Wadsworth Publishing

95 Other, please specify: _____

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

35a. Please indicate the title, author, and publication year of the **one** textbook/program used **most often** by students in this class.

For office use only

Title: _____

First Author: _____

Publication Year: _____ Edition: _____

35b. Approximately what percentage of this textbook/program will you "cover" in this course? (Darken one oval.)

○ < 25% ○ 25-49% ○ 50-74% ○ 75-90% ○ >90%

35c. How would you rate the overall quality of this textbook/program? (Darken one oval.)

○ Very Poor ○ Poor ○ Fair ○ Good ○ Very Good ○ Excellent

D. Your Most Recent Science Lesson in This Class

Questions 36-38 refer to the last time you taught science to this class. Do not be concerned if this lesson was not typical of instruction in this class. (Please enter your answers as 3-digit numbers, i.e., if 30 minutes, enter as 030. Enter your answers in the spaces provided, then darken the corresponding oval in each column.)

36a. How many minutes were allocated to the most recent science lesson? (Note: Teachers in departmentalized and other non-self-contained settings should answer for the entire length of the class period, even if there were interruptions.)

36b. Of these, how many minutes were spent on the following: (The sum of the numbers in 1.-6. below should equal your response in 36a.)

1. Daily routines, interruptions, and other non-instructional activities

2. Whole class lecture/discussions

3. Individual students reading textbooks, completing worksheets, etc.

4. Working with hands-on, manipulative, or laboratory materials

5. Non-laboratory small group work

6. Other

37. Which of the following activities took place during that science lesson? (Darken all that apply.)

- Lecture
- Discussion
- Students completing textbook/worksheet problems
- Students doing hands-on/laboratory activities
- Students reading about science
- Students working in small groups
- Students using calculators
- Students using computers
- Students using other technologies
- Test or quiz
- None of the above

38. Did that lesson take place on the most recent day you met with that class? Yes No

E. Demographic Information

39. Indicate your sex:

- Male
- Female

40. Are you: (Darken all that apply)

- American Indian or Alaskan Native
- Asian
- Black or African-American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White

41. In what year were you born? (Enter the last two digits of the year you were born; e.g., if you were born in 1959, enter 59. Please enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

42. How many years have you taught at the K-12 level prior to this school year? (Please enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

43. If you have an email address, please write it here: _____

44. When did you complete this questionnaire? Date: _____ / _____ / _____
Month Day Year

FOR OFFICE USE ONLY
Please do not write in this area.

Please make a photocopy of this questionnaire and keep it in case the original is lost in the mail. Please return the original to:

2000 National Survey of Science and Mathematics Education
Westat
1650 Research Blvd.
TB120F
Rockville, MD 20850

THANK YOU!

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

2000 National Survey of Science and Mathematics Education

Mathematics Questionnaire

You have been selected to answer questions about your mathematics instruction. If you do not currently teach mathematics, please call us toll-free at 1-800-937-8288.

How to Complete the Questionnaire

Most of the questions instruct you to "darken one" answer or "darken all that apply." For a few questions, you are asked to write in your answer on the line provided. Please use a #2 pencil or blue or black pen to complete this questionnaire. Darken ovals completely, but do not stray into adjacent ovals. Be sure to erase or white out completely any stray marks.

Class Selection

Part of the questionnaire (sections C and D) asks you to provide information about instruction in a particular class. If you teach mathematics to more than one class, use the label at the right to determine the mathematics class that has been randomly selected for you to answer about. (If your teaching schedule varies by day, use today's schedule, or if today is not a school day, use the most recent school day.)

If You Have Questions

If you have questions about the study or any items in the questionnaire, call us toll-free at 1-800-937-8288.

Each participating school will receive a voucher for $50 worth of science and mathematics materials. The voucher will be augmented by $15 for each responding teacher. In addition, each participating school will receive a copy of the study's results in the spring of 2001.

Thank you very much. Your participation is greatly appreciated. Please return the completed questionnaire to us in the postage-paid envelope:

2000 National Survey of Science and Mathematics Education
Westat
1650 Research Blvd.
TB120F
Rockville, MD 20850

A. Teacher Opinions

1. Please provide your opinion about each of the following statements. (Darken one oval on each line.)

		Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a.	Students learn mathematics best in classes with students of similar abilities.	①	②	③	④	⑤
b.	The testing program in my state/district dictates what mathematics content I teach.	①	②	③	④	⑤
c.	I enjoy teaching mathematics.	①	②	③	④	⑤
d.	I consider myself a "master" mathematics teacher.	①	②	③	④	⑤
e.	I have time during the regular school week to work with my colleagues on mathematics curriculum and teaching.	①	②	③	④	⑤
f.	My colleagues and I regularly share ideas and materials related to mathematics teaching.	①	②	③	④	⑤
g.	Mathematics teachers in this school regularly observe each other teaching classes as part of sharing and improving instructional strategies.	①	②	③	④	⑤
h.	Most mathematics teachers in this school contribute actively to making decisions about the mathematics curriculum.	①	②	③	④	⑤

2a. How familiar are you with the NCTM *Standards*? (Darken one oval.)

- ① Not at all familiar, SKIP TO QUESTION 3
- ② Somewhat familiar
- ③ Fairly familiar
- ④ Very familiar

2b. Please indicate the extent of your agreement with the overall vision of mathematics education described in the NCTM *Standards.* (Darken one oval.)

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
①	②	③	④	⑤

2c. To what extent have you implemented recommendations from the NCTM *Standards* in your mathematics teaching? (Darken one oval.)

Not at all	To a minimal extent	To a moderate extent	To a great extent
①	②	③	④

B. Teacher Background

3. Please indicate how well prepared you currently feel to do each of the following in your mathematics instruction. (Darken one oval on each line.)

		Not Adequately Prepared	Somewhat Prepared	Fairly Well Prepared	Very Well Prepared
a.	Take students' prior understanding into account when planning curriculum and instruction	①	②	③	④
b.	Develop students' conceptual understanding of mathematics	①	②	③	④
c.	Provide deeper coverage of fewer mathematics concepts	①	②	③	④
d.	Make connections between mathematics and other disciplines	①	②	③	④
e.	Lead a class of students using investigative strategies	①	②	③	④
f.	Manage a class of students engaged in hands-on/project-based work	①	②	③	④
g.	Have students work in cooperative learning groups	①	②	③	④
h.	Listen/ask questions as students work in order to gauge their understanding	①	②	③	④
i.	Use the textbook as a resource rather than the primary instructional tool	①	②	③	④
j.	Teach groups that are heterogeneous in ability	①	②	③	④
k.	Teach students who have limited English proficiency	①	②	③	④
l.	Recognize and respond to student cultural diversity	①	②	③	④
m.	Encourage students' interest in mathematics	①	②	③	④
n.	Encourage participation of females in mathematics	①	②	③	④
o.	Encourage participation of minorities in mathematics	①	②	③	④

Question 3 continues on next page...

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[SERIAL]

3. *continued...*

		Not Adequately Prepared	Somewhat Prepared	Fairly Well Prepared	Very Well Prepared
p.	Involve parents in the mathematics education of their children	○	○	○	○ 4
q.	Use calculators/computers for drill and practice	○	○	○	○
r.	Use calculators/computers for mathematics learning games	○	○	○	○
s.	Use calculators/computers to collect and/or analyze data	○	○	○	○
t.	Use calculators/computers to demonstrate mathematics principles	○	○	○	○
u.	Use calculators/computers for simulations and applications	○	○	○	○
v.	Use the Internet in your mathematics teaching for general reference	○	○	○	○
w.	Use the Internet in your mathematics teaching for data acquisition	○	○	○	○
x.	Use the Internet in your mathematics teaching for collaborative projects with classes/individuals in other schools	○	○	○	○

4a. Do you have each of the following degrees?

Bachelors	○ Yes	○ No
Masters	○ Yes	○ No
Doctorate	○ Yes	○ No

4b. Please indicate the subject(s) for each of your degrees.
(Darken all that apply.)

	Bachelors	Masters	Doctorate
Mathematics	○	○	○
Computer Science	○	○	○
Mathematics Education	○	○	○
Science/Science Education	○	○	○
Elementary Education	○	○	○
Other Education (e.g., History Education, Special Education)	○	○	○
Other, please specify _____	○	○	○

5. Which of the following college courses have you completed? Include both semester hour and quarter hour courses, whether graduate or undergraduate level. Include courses for which you received college credit, even if you took the course in high school. (Darken all that apply.)

MATHEMATICS

- ○ Mathematics for elementary school teachers
- ○ Mathematics for middle school teachers
- ○ Geometry for elementary/middle school teachers
- ○ College algebra/trigonometry/elementary functions
- ○ Calculus
- ○ Advanced calculus
- ○ Real analysis
- ○ Differential equations
- ○ Geometry
- ○ Probability and statistics
- ○ Abstract algebra
- ○ Number theory
- ○ Linear algebra
- ○ Applications of mathematics/problem solving
- ○ History of mathematics
- ○ Discrete mathematics
- ○ Other upper division mathematics

SCIENCES/COMPUTER SCIENCES

- ○ Biological sciences
- ○ Chemistry
- ○ Physics
- ○ Physical science
- ○ Earth/space science
- ○ Engineering (any)
- ○ Computer programming
- ○ Other computer science

EDUCATION

- ○ General methods of teaching
- ○ Methods of teaching mathematics
- ○ Instructional uses of computers/other technologies
- ○ Supervised student teaching in mathematics

6. For each of the following subject areas, indicate the number of college semester and quarter courses you have completed. Count each course you have taken, regardless of whether it was a graduate or undergraduate course. If your transcripts are not available, provide your best estimates.

		Semester Courses	Quarter Courses
a.	Mathematics education		
b.	Calculus		
c.	Statistics		
d.	Advanced calculus		
e.	All other mathematics courses		
f.	Computer science		
g.	Science		

7. Considering all of your undergraduate and graduate **mathematics** courses, approximately what percentage were completed at each of the following types of institutions? (Darken one oval on each line.)

		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
a.	Two-year college/community college/technical school											
b.	Four-year college/university											

8. In what year did you last take a formal course for college credit in: (Please enter your answers in the spaces provided, then darken the corresponding oval in each column.)

a. Mathematics

b. The Teaching of Mathematics

If you have never taken a course in the teaching of mathematics, darken this oval and go to question 9.

9. What is the **total** amount of time you have spent on professional development in mathematics or the teaching of mathematics in the last 12 months? in the last 3 years? (Include attendance at professional meetings, workshops, and conferences, but **do not** include formal courses for which you received college credit or time you spent **providing** professional development for other teachers.) (Darken one oval in each column.)

Hours of In-service Education	Last 12 months	Last 3 years
None		
Less than 6 hours		
6-15 hours		
16-35 hours		
More than 35 hours		

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

10. In the past **12 months**, have you:
(Darken one oval on each line.)

a.	Taught any in-service workshops in mathematics or mathematics teaching?	Yes	No
b.	Mentored another teacher as part of a formal arrangement that is recognized or supported by the school or district, not including supervision of student teachers?	Yes	No
c.	Received any local, state, or national grants or awards for mathematics teaching?	Yes	No
d.	Served on a school or district mathematics curriculum committee?	Yes	No
e.	Served on a school or district mathematics textbook selection committee?	Yes	No

11. In the past **3 years**, have you participated in any of the following activities related to mathematics or the teaching of mathematics? (Darken one oval on each line.)

a.	Taken a formal college/university mathematics course. (Please do not include courses taken as part of your undergraduate degree.)	Yes	No
b.	Taken a formal college/university course in the teaching of mathematics. (Please do not include courses taken as part of your undergraduate degree.)	Yes	No
c.	Observed other teachers teaching mathematics as part of your own professional development (formal or informal).	Yes	No
d.	Met with a local group of teachers to study/discuss mathematics teaching issues on a regular basis.	Yes	No
e.	Collaborated on mathematics teaching issues with a group of teachers at a distance using telecommunications.	Yes	No
f.	Served as a mentor and/or peer coach in mathematics teaching, as part of a formal arrangement that is recognized or supported by the school or district. (Please do not include supervision of student teachers.)	Yes	No
g.	Attended a workshop on mathematics teaching.	Yes	No
h.	Attended a national or state mathematics teacher association meeting.	Yes	No
i.	Applied or applying for certification from the National Board for Professional Teaching Standards (NBPTS).	Yes	No
j.	Received certification from the National Board for Professional Teaching Standards (NBPTS).	Yes	No

Questions 12a-12c ask about your professional development in the last 3 years. If you have been teaching for fewer than 3 years, please answer for the time that you have been teaching.

12a. Think back to **3 years ago**. How would you rate your level of need for professional development in each of these areas *at that time*? (Darken one oval on each line.)

	None Needed	Minor Need	Moderate Need	Substantial Need
Deepening my own mathematics content knowledge				
Understanding student thinking in mathematics				
Learning how to use inquiry/investigation-oriented teaching strategies				
Learning how to use technology in mathematics instruction				
Learning how to assess student learning in mathematics				
Learning how to teach mathematics in a class that includes students with special needs				

12b. Considering all the professional development you have participated in **during the last 3 years**, how much was each of the following emphasized? (Darken one oval on each line.)

	Not at all				To a great extent
Deepening my own mathematics content knowledge	○	○	○	○	○
Understanding student thinking in mathematics	○	○	○	○	○
Learning how to use inquiry/investigation-oriented teaching strategies	○	○	○	○	○
Learning how to use technology in mathematics instruction	○	○	○	○	○
Learning how to assess student learning in mathematics	○	○	○	○	○
Learning how to teach mathematics in a class that includes students with special needs	○	○	○	○	○

12c. Considering all your professional development in the **last 3 years**, how would you rate its impact in each of these areas? (Darken one oval on each line.)

	Little or no impact	Confirmed what I was already doing	Caused me to change my teaching practices
Deepening my own mathematics content knowledge	○	○	○
Understanding student thinking in mathematics	○	○	○
Learning how to use inquiry/investigation-oriented teaching strategies	○	○	○
Learning how to use technology in mathematics instruction	○	○	○
Learning how to assess student learning in mathematics	○	○	○
Learning how to teach mathematics in a class that includes students with special needs	○	○	○

13a. Do you teach in a **self-contained class**? (i.e., you teach multiple subjects to the same class of students all or most of the day.)

○ Yes, CONTINUE WITH QUESTIONS 13b AND 13c
○ No, SKIP TO QUESTION 14

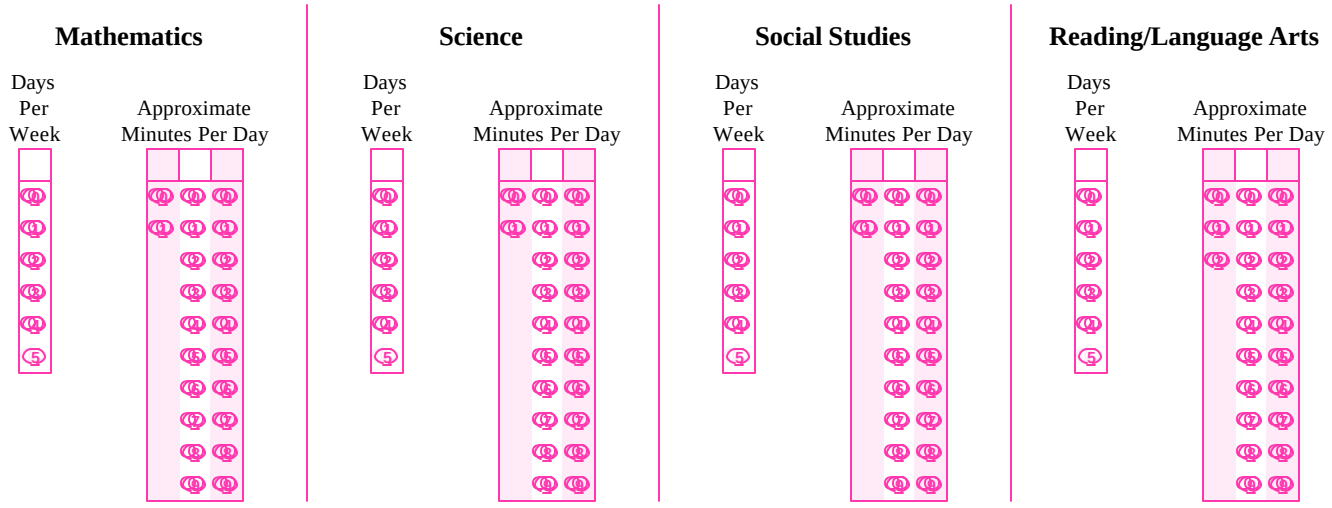
13b. ***For teachers of self-contained classes*:** Many teachers feel better qualified to teach some subject areas than others. How well qualified do you feel to teach each of the following subjects **at the grade level(s) you teach**, whether or not they are currently included in your curriculum? (Darken one oval on each line.)

		Not Well Qualified	Adequately Qualified	Very Well Qualified
a.	Life science	○	○	○
b.	Earth science	○	○	○
c.	Physical science	○	○	○
d.	Mathematics	○	○	○
e.	Reading/Language Arts	○	○	○
f.	Social Studies	○	○	○

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

13c. ***For teachers of self-contained classes:*** We are interested in knowing how much time your students spend studying various subjects. In a typical week, how many days do you have lessons on each of the following subjects, and how many minutes long is an average lesson? (*Please indicate "0" if you do not teach a particular subject to this class.* Please enter your answer in the spaces provided, then darken the corresponding oval in each column. Enter the number of minutes as a 3-digit number; e.g., if 30 minutes, enter as 030.)



NOW GO TO SECTION C, PAGE 8.

14. Which of these categories best describes the way **your** classes at this school are organized? (Darken one oval.)

- a. **Departmentalized Instruction**—you teach subject matter courses (including mathematics, and perhaps other courses) to several different classes of students all or most of the day.
- b. **Elementary Enrichment Class**—you teach only mathematics in an elementary school.
- c. **Team Teaching**—you collaborate with one or more teachers in teaching multiple subjects to the same class of students; your assignment includes mathematics.

15a. ***For teachers of non-self-contained classes:*** Within mathematics, many teachers feel better qualified to teach some topics than others. How well qualified do you feel to teach each of the following topics **at the grade level(s) you teach**, whether or not they are currently included in your curriculum? (Darken one oval on each line.)

		Not Well Qualified	Adequately Qualified	Very Well Qualified
a.	Numeration and number theory			
b.	Computation			
c.	Estimation			
d.	Measurement			
e.	Pre-algebra			
f.	Algebra			
g.	Patterns and relationships			
h.	Geometry and spacial sense			
i.	Functions (including trigonometric functions) and pre-calculus concepts			
j.	Data collection and analysis			
k.	Probability			
l.	Statistics (e.g., hypothesis tests, curve fitting and regression)			
m.	Topics from discrete mathematics (e.g., combinatorics, graph theory, recursion)			
n.	Mathematical structures (e.g., vector spaces, groups, rings, fields)			
o.	Calculus			
p.	Technology (calculators, computers) in support of mathematics			

15b. ***For teachers of non-self-contained classes*:** For each class period you are currently teaching, regardless of the subject, give *course title*, the *code-number* from the enclosed blue "List of Course Titles" that best describes the content addressed in the class, and the *number of students* in the class. (Please enter your answers in the spaces provided, then darken the corresponding oval in each column. **If you teach more than one section of a course, record each section separately below**.)

- Note that if you have more than 39 students in any class, you will not be able to darken the ovals, but you should still write the number in the boxes.

- If you teach more than 6 classes per day, please provide the requested information for the additional classes on a separate sheet of paper.

Course Title _____ Code # # of Students

Course Title _____ Code # # of Students

Course Title _____ Code # # of Students

Course Title _____ Code # # of Students

Course Title _____ Code # # of Students

Course Title _____ Code # # of Students

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

C. Your Mathematics Teaching in a Particular Class

The questions in this section are about a particular mathematics class you teach. **If you teach mathematics to more than one class per day, please consult the label on the front of this questionnaire to determine which mathematics class to use to answer these questions.**

16. Using the blue "List of Course Titles," indicate the code number that best describes this course. Please enter your answer in the spaces to the right, then darken the corresponding oval in each column. (If "other" [Code 299], briefly describe content of course:

_____

_____

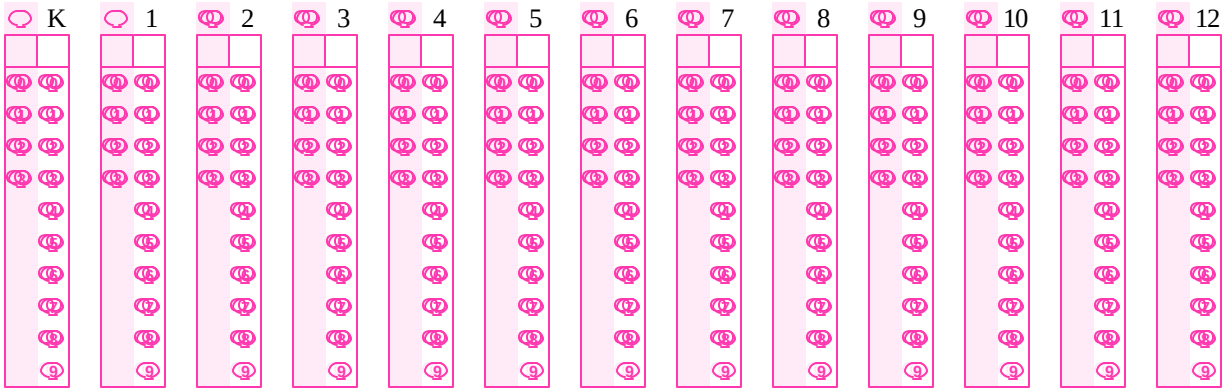
_____)

Code #

17a. Are all students in this class in the same grade?

- Yes, specify grade:
  THEN SKIP TO QUESTION 18a
- No, CONTINUE WITH QUESTION 17b

17b. What grades are represented in this class? (Darken all that apply.) For each grade noted, indicate the number of students in this class in that grade. Write your answer in the space provided, then darken the corresponding oval in each column. **Note that if more than 39 students in this class are in a single grade, you will not be able to darken the ovals, but you should still write the number in the boxes.**



18a. What is the total number of students in this class? Write your answer in the space provided, then darken the corresponding oval in each column. **Note that if you have more than 39 students in this class , you will not be able to darken the ovals, but you should still write the number in the boxes.**

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

18b. Please indicate the number of students in this class in each of the following categories. Consult the enclosed federal guidelines at the end of the course list (blue sheet) if you have any questions about how to classify particular students. (Please enter your answers in the spaces provided, then darken the corresponding oval in each column.)

RACE/ETHNICITY

American Indian or Alaskan Native		Asian		Black or African-American		Hispanic or Latino (any race)		Native Hawaiian or Other Pacific Islander		White	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

19a. **Questions 19a and 19b apply only to teachers of non-self-contained classes. If you teach a self-contained class, please darken this oval** **and skip to question 20.** What is the usual schedule and length (in minutes) of daily class meetings for this class? If the weekly schedule is normally the same, just complete Week 1, as in Example 1. If you are unable to describe this class in the format below, please attach a separate piece of paper with your description.

	Week 1	Week 2
Monday	_____	_____
Tuesday	_____	_____
Wednesday	_____	_____
Thursday	_____	_____
Friday	_____	_____

Examples

Example 1		Example 2	
Week 1	Week 2	Week 1	Week 2
45	_____	90	_____
45	_____	_____	90
45	_____	90	_____
45	_____	_____	90
45	_____	90	_____

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19b. What is the calendar duration of this mathematics class? (Darken one oval.)

- Year
- Semester
- Quarter

20. Are students assigned to this class by level of ability? (Darken one oval.) Yes No

21. Which of the following best describes the ability of the students in this class relative to other students in this school? (Darken one oval.)

- Fairly homogeneous and low in ability
- Fairly homogeneous and average in ability
- Fairly homogeneous and high in ability
- Heterogeneous, with a mixture of two or more ability levels

22. Indicate if any of the students in this mathematics class are **formally** classified as each of the following: (Darken all that apply.)

- Limited English Proficiency
- Learning Disabled
- Mentally Handicapped
- Physically Handicapped, please specify handicap(s): _____

23. Think about your plans for this mathematics class for the entire course. How much emphasis will each of the following **student objectives** receive? (Darken one oval on each line.)

	None	Minimal Emphasis	Moderate Emphasis	Heavy Emphasis
a. Increase students' interest in mathematics				
b. Learn mathematical concepts				
c. Learn mathematical algorithms/procedures				
d. Develop students' computational skills				
e. Learn how to solve problems				
f. Learn to reason mathematically				
g. Learn how mathematics ideas connect with one another				
h. Prepare for further study in mathematics				
i. Understand the logical structure of mathematics				
j. Learn about the history and nature of mathematics				
k. Learn to explain ideas in mathematics effectively				
l. Learn how to apply mathematics in business and industry				
m. Learn to perform computations with speed and accuracy				
n. Prepare for standardized tests				

24. About how often do **you** do each of the following in your mathematics instruction? (Darken one oval on each line.)

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematics lessons
a. Introduce content through formal presentations					
b. Pose open-ended questions					
c. Engage the whole class in discussions					
d. Require students to explain their reasoning when giving an answer					
e. Ask students to explain concepts to one another					
f. Ask students to consider alternative methods for solutions					
g. Ask students to use multiple representations (e.g., numeric, graphic, geometric, etc.)					
h. Allow students to work at their own pace					
i. Help students see connections between mathematics and other disciplines					
j. Assign mathematics homework					
k. Read and comment on the reflections students have written, e.g., in their journals					

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

25. About how often do students in this **mathematics** class take part in the following types of activities? (Darken one oval on each line.)

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematics lessons
a. Listen and take notes during presentation by teacher	①	②	③	④	⑤
b. Work in groups	①	②	③	④	⑤
c. Read from a mathematics textbook in class	①	②	③	④	⑤
d. Read other (non-textbook) mathematics-related materials in class	①	②	③	④	⑤
e. Engage in mathematical activities using concrete materials	①	②	③	④	⑤
f. Practice routine computations/algorithms	①	②	③	④	⑤
g. Review homework/worksheet assignments	①	②	③	④	⑤
h. Follow specific instructions in an activity or investigation	①	②	③	④	⑤
i. Design their *own* activity or investigation	①	②	③	④	⑤
j. Use mathematical concepts to interpret and solve applied problems	①	②	③	④	⑤
k. Answer textbook or worksheet questions	①	②	③	④	⑤
l. Record, represent, and/or analyze data	①	②	③	④	⑤
m. Write reflections (e.g., in a journal)	①	②	③	④	⑤
n. Make formal presentations to the rest of the class	①	②	③	④	⑤
o. Work on extended mathematics investigations or projects (a week or more in duration)	①	②	③	④	⑤
p. Use calculators or computers for learning or practicing skills	①	②	③	④	⑤
q. Use calculators or computers to develop conceptual understanding	①	②	③	④	⑤
r. Use calculators or computers as a tool (e.g., spreadsheets, data analysis)	①	②	③	④	⑤

26. About how often do students in this mathematics class use **calculators/computers** to: (Darken one oval on each line.)

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematics lessons
a. Do drill and practice	①	②	③	④	⑤
b. Demonstrate mathematics principles	①	②	③	④	⑤
c. Play mathematics learning games	①	②	③	④	⑤
d. Do simulations	①	②	③	④	⑤
e. Collect data using sensors or probes	①	②	③	④	⑤
f. Retrieve or exchange data	①	②	③	④	⑤
g. Solve problems using simulations	①	②	③	④	⑤
h. Take a test or quiz	①	②	③	④	⑤

27. How often do you assess student progress in mathematics in each of the following ways? (Darken one oval on each line.)

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematic lessons
a. Conduct a pre-assessment to determine what students already know.	①	②	③	④	⑤
b. Observe students and ask questions as they work individually.	①	②	③	④	⑤
c. Observe students and ask questions as they work in small groups.	①	②	③	④	⑤
d. Ask students questions during large group discussions.	①	②	③	④	⑤
e. Use assessments embedded in class activities to see if students are "getting it"	①	②	③	④	⑤
f. Review student homework.	①	②	③	④	⑤
g. Review student notebooks/journals.	①	②	③	④	⑤
h. Review student portfolios.	①	②	③	④	⑤
i. Have students do long-term mathematics projects.	①	②	③	④	⑤
j. Have students present their work to the class.	①	②	③	④	⑤
k. Give predominantly short-answer tests (e.g., multiple choice, true/false, fill in the blank).	①	②	③	④	⑤

Question 27 continues on next page...

27. *continued*

		Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematics lessons
l.	Give tests requiring open-ended responses (e.g., descriptions, explanations).	①	②	③	④	⑤
m.	Grade student work on open-ended and/or laboratory tasks using defined criteria (e.g., a scoring rubric).	①	②	③	④	⑤
n.	Have students assess each other (peer evaluation).	①	②	③	④	⑤

28. For the following equipment, please indicate the extent to which each is available, whether or not each is needed, and the extent to which each is integrated in this mathematics class.

		Not at all Available		Readily Available	Needed?		Never use in this course	Use in specific parts of this course	Fully integrated into this course
a.	Overhead projector	①	②	③	①	②	①	②	③
b.	Videotape player	①	②	③	①	②	①	②	③
c.	Videodisc player	①	②	③	①	②	①	②	③
d.	CD-ROM player	①	②	③	①	②	①	②	③
e.	Four-function calculators	①	②	③	①	②	①	②	③
f.	Fraction calculators	①	②	③	①	②	①	②	③
g.	Graphing calculators	①	②	③	①	②	①	②	③
h.	Scientific calculators	①	②	③	①	②	①	②	③
i.	Computers	①	②	③	①	②	①	②	③
j.	Calculator/computer lab interfacing devices	①	②	③	①	②	①	②	③
k.	Computers with Internet connection	①	②	③	①	②	①	②	③

29. How much of your own money do you estimate you will spend for supplies for this mathematics class this school year (or semester or quarter if not a full-year course)? (Please enter your answer as a 3-digit number rounded to the nearest dollar, i.e., enter $25.19 as 025. Enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

$ ___

If none, darken this oval: ①

30. How much of your own money do you estimate you will spend for your own professional development activities during the period Sept. 1, 1999 - Aug. 31, 2000? (Please enter your answer as a 3-digit number rounded to the nearest dollar, i.e., enter $25.19 as 025. Enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

$ ___

If none, darken this oval: ①

31. How much control do you have over each of the following for this mathematics class? (Darken one oval on each line.)

		No Control				Strong Control
a.	Determining course goals and objectives	①	②	③	④	⑤
b.	Selecting textbooks/instructional programs	①	②	③	④	⑤
c.	Selecting other instructional materials	①	②	③	④	⑤
d.	Selecting content, topics, and skills to be taught	①	②	③	④	⑤
e.	Selecting the sequence in which topics are covered	①	②	③	④	⑤
f.	Setting the pace for covering topics	①	②	③	④	⑤
g.	Selecting teaching techniques	①	②	③	④	⑤
h.	Determining the amount of homework to be assigned	①	②	③	④	⑤
i.	Choosing criteria for grading students	①	②	③	④	⑤
j.	Choosing tests for classroom assessment	①	②	③	④	⑤

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[SERIAL]

32. How much mathematics homework do you assign to this mathematics class in a typical **week**? (Darken one oval.)

○ 0-30 min ○ 31-60 min ○ 61-90 min ○ 91-120 min ○ 2-3 hours ○ More than 3 hours

33a. Are you using one or more commercially published textbooks or programs for teaching mathematics to this class? (Darken one oval.)

○ No, SKIP TO SECTION D, PAGE 14
○ Yes, CONTINUE WITH 33b

33b. Which best describes your use of textbooks/programs in this class? (Darken one oval.)

○ Use one textbook or program all or most of the time
○ Use multiple textbooks/programs

34. Indicate the publisher of the **one** textbook/program used **most often** by students in this class. (Darken one oval.)

○ 01 Addison Wesley Longman, Inc/Scott Foresman
○ 02 Brooks/Cole Publishing Co
○ 03 CORD Communications
○ 04 Creative Publications
○ 05 Dale Seymour Publications
○ 06 EFA & Associates
○ 07 Encyclopaedia Britannica
○ 08 Everyday Learning Corporation
○ 09 Globe Fearon, Inc / Cambridge
○ 10 Harcourt Brace/Harcourt, Brace & Jovanovich
○ 11 Holt, Rinehart and Winston, Inc
○ 12 Houghton Mifflin Company/McDougal Littell/D.C. Heath
○ 13 Kendall Hunt Publishing
○ 14 Key Curriculum Press
○ 15 McGraw-Hill/Merrill Co (including CTB/McGraw-Hill, Charles Merrill Publishing, Glencoe/McGraw-Hill, Macmillan/McGraw-Hill, McGraw-Hill School Division, Merrill/Glencoe, SRA/McGraw-Hill)
○ 16 Optical Data Corporation
○ 17 Prentice Hall, Inc.
○ 18 Saxon Publishers
○ 19 Silver Burdett Ginn
○ 20 South-Western Educational Publishing
○ 21 VideoText Interactive
○ 22 Wadsworth Publishing
○ 23 West Educational Publishing

○ 99 Other, please specify: _____

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35a. Please indicate the title, author, and publication year of the **one** textbook/program used **most often** by students in this class.

Title: _____

First Author: _____

Publication Year: _____ Edition: _____

35b. Approximately what percentage of this textbook/program will you "cover" in this course? (Darken one oval.)

○ < 25% ○ 25-49% ○ 50-74% ○ 75-90% ○ >90%

35c. How would you rate the overall quality of this textbook/program? (Darken one oval.)

○ Very Poor ○ Poor ○ Fair ○ Good ○ Very Good ○ Excellent

D. Your Most Recent Mathematics Lesson in This Class

Questions 36-38 refer to the last time you taught mathematics to this class. Do not be concerned if this lesson was not typical of instruction in this class. (Please enter your answers as 3-digit numbers, i.e., if 30 minutes, enter as 030. Enter your answers in the spaces provided, then darken the corresponding oval in each column.)

36a. How many minutes were allocated to the most recent mathematics lesson? Note: Teachers in departmentalized and other non-self-contained settings should answer for the entire length of the class period, even if there were interruptions.

36b. Of these, how many minutes were spent on the following:
(The sum of the numbers in 1.-6. below should equal your response in 36a.)

1. Daily routines, interruptions, and other non-instructional activities

2. Whole class lecture/discussions

3. Individual students reading textbooks, completing worksheets, etc.

4. Working with hands-on or manipulative materials

5. Non-manipulative small group work

6. Other

37. Which of the following activities took place during that mathematics lesson? (Darken all that apply.)

- Lecture
- Discussion
- Students completing textbook/worksheet problems
- Students doing hands-on/manipulative activities
- Students reading about mathematics
- Students working in small groups
- Students using calculators
- Students using computers
- Students using other technologies
- Test or quiz
- None of the above

38. Did that lesson take place on the most recent day you met with that class? Yes No

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[SERIAL]

E. Demographic Information

39. Indicate your sex:

- Male
- Female

40. Are you: (Darken all that apply.)

- American Indian or Alaskan Native
- Asian
- Black or African-American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White

41. In what year were you born? (Enter the last two digits of the year you were born; e.g., if you were born in 1959, enter 59. Please enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

42. How many years have you taught at the K-12 level prior to this school year? (Please enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

43. If you have an email address, please write it here: _____

44. When did you complete this questionnaire? Date: _____ / _____ / _____
Month Day Year

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Please do not write in this area.

Please make a photocopy of this questionnaire and keep it in case the original is lost in the mail. Please return the original to:

2000 National Survey of Science and Mathematics Education
Westat
1650 Research Blvd.
TB120F
Rockville, MD 20850

THANK YOU!

LIST OF COURSE TITLES

A. SCIENCE COURSES

CODE	Course Category	Sample Course Titles
	Grades K – 5	
100	Science, Grade K	
101	Science, Grade 1	
102	Science, Grade 2	
103	Science, Grade 3	
104	Science, Grade 4	
105	Science, Grade 5	
106	Other Elementary Science	
	Grades 6 – 8	
108	Life Science	
109	Earth Science	
110	Physical Science	
111	General Science	
112	Integrated Science	
	Grades 9 – 12	
	Biology	
114	1st Year	Introductory Biology; Biology I; General Biology; College Prep Biology; Honors Biology
115	1st Year, Applied	Basic Biology; Applied Biology; Life Science; Biomedical Education; Animal Science; Horticulture; Biology Science; Health Science; Nutrition; Agriculture Science; Fundamentals of Biology
116	2nd Year, AP	Advanced Placement
117	2nd Year, Advanced	Biology II; Advanced Biology; College Biology; Physiology; Anatomy; Microbiology; Genetics; Cell Biology; Embryology; Molecular Biology; Invertebrate/Vertebrate Biology
118	2nd Year, Other	Zoology; Botany; Bio-Medical Careers; Field Biology; Marine Biology; Other Biological Sciences
	Chemistry	
119	1st Year	Introductory Chemistry; Chemistry I; General Chemistry; Honors Chemistry
120	1st Year, Applied	Applied Chemistry; Consumer Chemistry; Technical Chemistry; Practical Chemistry
121	2nd Year, AP	Advanced Placement Chemistry
122	2nd Year, Advanced	Chemistry II; Advanced Chemistry; College Chemistry; Organic Chemistry; Inorganic Chemistry; Physical Chemistry; Biochemistry; Analytical Chemistry
	Physics	
123	1st Year	Introductory Physics; Physics I; General Physics; Honors Physics;
124	1st Year, Applied	Applied Physics; Electronics; Radiation Physics; Practical Physics
125	2nd Year, AP	Advanced Placement Physics
126	2nd Year, Advanced	Physics II; Advanced Physics; College Physics; Nuclear Physics; Atomic Physics
127	Physical Science	Physical Science; Interaction of Matter and Energy; Applied Physical Science
	Earth Science	
128	Astronomy *	* NOTE: A course that includes substantial content from two or more of the earth sciences should be listed under code 132, 133, or 134.
129	Geology*	
130	Meteorology*	
131	Oceanography/Marine Science*	
132	1st Year	Earth Science; Earth/Space Science; Honors Earth Science
133	1st Year, Applied	Applied Earth Science; Fundamentals of Earth Science; Soil Science
134	2nd Year, Advanced/Other	Advanced Earth Science; Earth Science II
	Other Science	
135	General Science	General Science; Basic Science; Introductory Science; Investigations in Science
136	Environmental Science	Ecology; Environmental Science
137	Coordinated Science	Coordinated Science includes content from more than one science discipline, e.g., life and physical science, but keeps the disciplines separate
138	Integrated Science	Integrated Science includes content from the various science disciplines and blurs the distinctions among them
199	Other Science	

Course titles continue on next page…

B. MATHEMATICS COURSES

CODE	Course Category	Sample Course Titles
	Grades K – 5	
200	Mathematics, Grade K	
201	Mathematics, Grade 1	
202	Mathematics, Grade 2	
203	Mathematics, Grade 3	
204	Mathematics, Grade 4	
205	Mathematics, Grade 5	
206	Other Elementary Mathematics	
	Grades 6 – 8	
208	Remedial Mathematics 6	Remedial Math 6
209	Regular Mathematics 6	Math 6; Math Grade 6 regular
210	Accelerated/Pre-Algebra Mathematics 6	Accelerated Math 6; Pre-Algebra; Honors Math 6; Enriched Math 6;
211	Remedial Mathematics 7	Remedial Math 7
212	Regular Mathematics 7	Math 7; Math Grade 7 regular
213	Accelerated Mathematics 7	Accelerated Math 7; Pre-Algebra; Honors Math 7; Enriched Math 7;
214	Remedial Mathematics 8	Remedial Math 8
215	Regular Mathematics 8	Math 8; Math Grade 8 regular
216	Enriched Mathematics 8	Pre-Algebra; Accelerated Math 8[1]; Honors Math 8; Enriched Math 8
217	Algebra 1, Grade 7 or 8	Algebra 1; Beginning Algebra; Elementary Algebra
218	Integrated Middle Grade Math, 7 or 8	Integrated Math 7 or 8; Connected Math 7 or 8
	Grades 9 – 12	
	Review Mathematics	
219	Rev. Math Level 1	General Math 1; Basic Math; Math 9; Remedial Math; Developmental; High School Arithmetic; Math Comp Test; Comprehensive Math; Terminal Math
220	Rev. Math Level 2	General Math 2; Vocational Math; Consumer; Technical; Business; Shop; Math 10; Career Math; Practical Math; Essential Math; Cultural Math
221	Rev. Math Level 3	General Math 3; Math 11; Intermediate Math;
222	Rev. Math Level 4	General Math 4; Math 12; Mathematics of Consumer Economics
	Informal Mathematics	
223	Inf. Math Level 1	Pre-Algebra; Introductory Algebra; Basic; Applications; Algebra 1A (first of a two-year sequence for Algebra 1); Math A; Applied Math 1[2]
224	Inf. Math Level 2	Basic Geometry; Informal Geometry; Practical Geometry; Applied Math 2
225	Inf. Math Level 3	Applied Math 3, 4
	Formal Mathematics	
226	For. Math Level 1	Algebra 1; Elementary; Beginning; Unified Math I; Integrated Math 1; Algebra 1B (second year of a two-year sequence for Algebra 1); Math B
227	For. Math Level 2	Geometry; Plane Geometry; Solid Geometry; Integrated Math 2; Unified Math II; Math C
228	For. Math Level 3	Algebra 2; Intermediate Algebra; Algebra and Trigonometry; Advanced Algebra: Algebra and Analytic Geometry; Integrated Math 3; Unified Math III
229	For. Math Level 4	Algebra 3; Trigonometry; College Algebra; Pre-Calculus; Analytic/Advanced Geometry; Trigonometry and Analytic/Solid Geometry; Advanced Math Topics; Introduction to College Math; Number Theory; Math IV; College Prep Senior Math; Elementary Functions; Finite Math; Math Analysis; Numerical Analysis; Discrete Math; Probability; Statistics
230	For. Math Level 5	Calculus and Analytic Geometry; Calculus; Abstract Algebra; Differential Equations; Multivariate Calculus; Linear Algebra; Theory of Equations; Vectors/Matrix Algebra;
231	For. Math Level 5, AP	Advanced Placement Calculus (AB, BC); Advanced Placement Statistics
	Other Mathematics Courses	
232	Probability and Statistics	
233	Mathematics integrated with other subjects	
299	Other Mathematics	

Course titles continue on next page…

[1] If Accelerated Math 8 is the same as Algebra 1 in your state, report the data under Math Grade 8, Algebra 1, and not Math Grade 8, Enriched.
[2] If Applied Math course includes some algebra and geometry, report under Informal Math, Level 1. If it does not, report under Review Math, Level 2.

C. OTHER COURSES

CODE	Course Category
301	Computer Science
302	Social Studies/History
303	English/Language Arts/Reading
304	Business Education
305	Vocational Education
306	Technology Education
307	Foreign Language
308	Health/Physical Education
309	Art/Music/Drama
399	Other subject

Federally Approved Definitions for Race/Ethnicity Categories

American Indian or Alaskan Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African-American. A person having origins in any of the black racial groups of Africa.

Hispanic or Latino. A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.