

**2012 NATIONAL SURVEY OF SCIENCE AND MATHEMATICS EDUCATION  
MATHEMATICS PROGRAM QUESTIONNAIRE**

**Preview Version**

**This preview version is meant to assist you in gather the information needed to complete the web version of this questionnaire. Responses cannot be submitted on this preview version. *Red italicized text indicates who should answer or skip a particular item on the questionnaire.***

**Some items ask about your school district. On the web questionnaire, Catholic schools associated with a diocese will be asked about their diocese instead. Other private schools will not be asked about a district or diocese.**

This questionnaire asks a number of questions about “mathematics teachers.” In responding, unless otherwise specified, consider ALL teachers of mathematics in your school, including self-contained teachers who teach mathematics and other subjects to the same group of students.

1. Which of the following describes your position? Mark all that apply.

- Mathematics department chair
- Mathematics lead teacher or coach
- Regular classroom teacher
- Principal
- Assistant principal
- Other, please specify: \_\_\_\_\_

### School Programs and Practices

2. **For schools that include self-contained teachers:** Indicate whether each of the following programs and/or practices is currently being implemented in your school. Mark one circle on each line.

	Yes	No
a. Students in self-contained classes receive mathematics instruction from a mathematics specialist <i>instead of</i> their regular teacher.	<input type="radio"/>	<input type="radio"/>
b. Students in self-contained classes receive mathematics instruction from a mathematics specialist <i>in addition to</i> their regular teacher.	<input type="radio"/>	<input type="radio"/>
c. Students in self-contained classes are pulled out for remedial instruction in mathematics.	<input type="radio"/>	<input type="radio"/>
d. Students in self-contained classes are pulled out for enrichment in mathematics.	<input type="radio"/>	<input type="radio"/>
e. Students in self-contained classes are pulled out from mathematics instruction for additional instruction in other content areas.	<input type="radio"/>	<input type="radio"/>

3. **For schools that include any grades 9–12:** Indicate whether each of the following programs and/or practices is currently being implemented in your school. Mark one circle on each line.

	Yes	No
a. Algebra 1 course offered over two years or as two separate block courses (for example: Algebra A and Algebra B)	<input type="radio"/>	<input type="radio"/>
b. Calculus courses (beyond pre-Calculus) offered this school year or in alternating years, on or off site	<input type="radio"/>	<input type="radio"/>
c. Students go to a Career and Technical Education (CTE) Center for mathematics instruction	<input type="radio"/>	<input type="radio"/>
d. Mathematics courses offered by telecommunications	<input type="radio"/>	<input type="radio"/>
e. Students go to another K–12 school for mathematics courses	<input type="radio"/>	<input type="radio"/>
f. Students go to a college or university for mathematics courses	<input type="radio"/>	<input type="radio"/>

4. Which of the following are provided to teachers considered in need of special assistance in mathematics teaching (for example: new teachers)? Mark all that apply.

- Seminars, classes, and/or study groups
- Guidance from a formally designated mentor or coach
- A higher level of supervision than for other teachers

5. **Indicate whether your school does each of the following to enhance students' interest and/or achievement in mathematics.** Mark one circle on each line.

	Yes	No
a. Holds family math nights	<input type="radio"/>	<input type="radio"/>
b. Offers after-school help in mathematics (for example: tutoring)	<input type="radio"/>	<input type="radio"/>
c. Offers formal after-school programs for enrichment in mathematics	<input type="radio"/>	<input type="radio"/>
d. Offers one or more mathematics clubs	<input type="radio"/>	<input type="radio"/>
e. Participates in a local or regional mathematics fair	<input type="radio"/>	<input type="radio"/>
f. Has one or more teams participating in mathematics competitions (for example: Math Counts)	<input type="radio"/>	<input type="radio"/>
g. Encourages students to participate in mathematics summer programs or camps offered by community colleges, universities, museums or mathematics centers	<input type="radio"/>	<input type="radio"/>
h. Sponsors visits to business, industry, and/or research sites related to mathematics	<input type="radio"/>	<input type="radio"/>
i. Sponsors meetings with adult mentors who work in mathematics fields	<input type="radio"/>	<input type="radio"/>

### Your State Standards

6. **Please provide your opinion about each of the following statements in regard to your current state standards for mathematics.** Mark one circle on each line.

	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. State mathematics standards have been thoroughly discussed by mathematics teachers in this school	①	②	③	④	⑤
b. There is a school-wide effort to align mathematics instruction with the state mathematics standards	①	②	③	④	⑤
c. Most mathematics teachers in this school teach to the state standards	①	②	③	④	⑤
d. Your district organizes mathematics professional development based on state standards	①	②	③	④	⑤

### Student Enrollment in Mathematics Courses

7. ***For schools that include grade 8:* Approximately how many of this year's 8<sup>th</sup> grade students will have completed Algebra 1 prior to 9th grade?** Please enter your response in the space provided.

\_\_\_\_\_

8. ***For schools that include grade 8:* Approximately how many of this year's 8<sup>th</sup> grade students will have completed Geometry prior to 9th grade?** Please enter your response in the space provided.

\_\_\_\_\_

9. ***For schools that include any grades 9–12:* Approximately how many grades 9–12 students in this school will *not* take a mathematics course this year?** Please enter your response in the space provided.

\_\_\_\_\_

## Mathematics Courses Offered in Your School

*Questions 10–16 are for schools that include any grades 9–12 and ask about the types of mathematics courses offered in your school this year. If your school does not include any of these grades skip to question 19.*

**10. What types of mathematics courses are offered in your school this year?** Mark all that apply.

- Single-subject mathematics courses (for example: Algebra, Geometry)
- Integrated mathematics courses

**11. How many sections of courses in each of the following categories will be offered to grades 9–12 students in this school this year?** Please enter your responses in the spaces provided.

	Number of sections
a. Non-college prep mathematics courses <i>Example courses:</i> Developmental Math; High School Arithmetic; Remedial Math; General Math; Vocational Math; Consumer Math; Basic Math; Business Math; Career Math; Practical Math; Essential Math; Pre-Algebra; Introductory Algebra; Algebra 1 Part 1; Algebra 1A; Math A; Basic Geometry; Informal Geometry; Practical Geometry	_____
b. Formal/College-prep Mathematics Level 1 courses <i>Example courses:</i> Algebra 1; Integrated Math 1; Unified Math I; Algebra 1 Part 2; Algebra 1B; Math B	_____
c. Formal/College-prep Mathematics Level 2 courses <i>Example courses:</i> Geometry; Plane Geometry; Solid Geometry; Integrated Math 2; Unified Math II; Math C	_____
d. Formal/College-prep Mathematics Level 3 courses <i>Example courses:</i> Algebra 2; Intermediate Algebra; Algebra and Trigonometry; Advanced Algebra; Integrated Math 3; Unified Math III	_____
e. Formal/College-prep Mathematics Level 4 courses <i>Example courses:</i> Algebra 3; Trigonometry; Pre-Calculus; Analytic/Advanced Geometry; Elementary Functions; Integrated Math 4, Unified Math IV; Calculus (not including college level/AP); any other College Prep Senior Math with Algebra 2 as a prerequisite	_____
f. Mathematics courses that might qualify for college credit <i>Example courses:</i> Advanced Placement Calculus (AB, BC); Advanced Placement Statistics; IB Mathematics standard level; IB Mathematics higher level; concurrent college and high school credit/dual enrollment	_____

**12. Does this school offer one or more courses focused specifically on probability and/or statistics? (Include both courses that are offered every year and those offered in alternating years.)** Mark one circle.

- Yes
- No *Skip to Question 14*

**13. What probability and/or statistics courses does this school offer?** Mark all that apply.

- Probability and Statistics combined
- Probability
- Statistics

**14. Does your school offer each of the following types of mathematics courses that might qualify for college credit?**

- Include both courses that are offered every year and those offered in alternating years.
- Mark one circle on each line.

	Yes	No
a. Advanced Placement (AP) mathematics courses	<input type="radio"/>	<input type="radio"/>
b. International Baccalaureate (IB) mathematics courses	<input type="radio"/>	<input type="radio"/>
c. Concurrent college and high school credit/dual enrollment mathematics courses	<input type="radio"/>	<input type="radio"/>

15. *[Skip if you answered “No” to 14c]* When are concurrent college and high school credit/dual enrollment mathematics course offered in this school? Mark one circle.
- Not offered this school year, but offered in alternating years
  - Offered this school year

16. Is each of the following mathematics courses offered in this school? Mark one circle on each line.

	Not offered at all	Not offered this school year, but offered in alternating years	Offered this school year
a. AP Calculus AB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. AP Calculus BC	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. AP Statistics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. IB Mathematical studies standard level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. IB Mathematics standard level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. IB Mathematics higher level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. IB Further mathematics standard level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Mathematics Requirements

17. *For schools that include grade 12:* In order to graduate from this high school, how many years of grades 9–12 mathematics are students required to take? Mark one circle.

- 1 year
- 2 years
- 3 years
- 4 years

18. *For schools that include grade 12:* How many years of mathematics are required for entry into a four-year college or university in your state university system?

- If your state university system has multiple tiers, answer for the lowest tier that awards four-year degrees, not including community colleges that might include four-year programs.
- Mark one circle.
  - 1 year
  - 2 years
  - 3 years
  - 4 years

### Budget for Mathematics Instruction

19. For this school, how much money was spent on each of the following during the most recently completed budget year?

- If you don't know the exact amount, please provide your best estimates.
- Enter each response as a whole dollar amount.
- Please enter your responses in the spaces provided.

- |  |       |
|--|-------|
| a. Consumable supplies for mathematics instruction (for example: graph paper)  | _____ |
| b. Non-consumable items for mathematics instruction such as calculators, protractors, manipulatives, etc. (Do not include computers) | _____ |
| c. Software specific to mathematics instruction (for example: dynamic geometry software)   | _____ |

## Influences on Mathematics Instruction

20. Please rate the effect of each of the following on the quality of mathematics instruction in your school. Mark one circle on each line.

	Inhibits effective instruction		Neutral or mixed		Promotes effective instruction	N/A or Don't Know
a. District mathematics professional development policies and practices	①	②	③	④	⑤	<input type="radio"/>
b. Time provided for teacher professional development in mathematics	①	②	③	④	⑤	<input type="radio"/>
c. Importance that the school places on mathematics	①	②	③	④	⑤	<input type="radio"/>
d. Public attitudes toward mathematics instruction	①	②	③	④	⑤	<input type="radio"/>
e. Conflict between efforts to improve mathematics instruction and other school and/or district initiatives	①	②	③	④	⑤	<input type="radio"/>
f. Equipment and supplies and/or manipulatives for teaching mathematics (for example: materials for students to draw, cut and build in order to make sense of problems)	①	②	③	④	⑤	<input type="radio"/>

21. In your opinion, how great a problem is each of the following for mathematics instruction *in your school as a whole*? Mark one circle on each line.

	Not a significant problem	Somewhat of a problem	Serious problem
a. Inadequate funds for purchasing mathematics equipment and supplies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Inadequate supply of mathematics textbooks/ programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Inadequate materials for individualizing mathematics instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Low student interest in mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Low student reading abilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Lack of teacher interest in mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Inadequate teacher preparation to teach mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Insufficient time to teach mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Lack of opportunities for mathematics teachers to share ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Inadequate mathematics-related professional development opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Interruptions for announcements, assemblies, and other school activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Large class sizes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. High student absenteeism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Inappropriate student behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Lack of parental support for mathematics education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Mathematics Teacher Turnover

22. *For schools that include any grades 6–12:* How many middle and/or high school mathematics teachers who taught in your school last year (2010–11) did not return to teach mathematics in your school this year (2011–12). Please enter your response in the space provided.

\_\_\_\_\_

23. **For schools that include any grades 6–12:** [Skip if you answered “0” to question 22] **How many of those teachers did not return for each of the following reasons?** Please enter your responses in the spaces provided.

- a. Left voluntarily, including mathematics teachers who moved to another department or school, left the profession, or retired \_\_\_\_\_
- b. Were reassigned to another position, department, or school in the district \_\_\_\_\_
- c. Were dismissed or not rehired for poor performance \_\_\_\_\_
- d. Were dismissed or not rehired because of budget constraints \_\_\_\_\_

24. **For schools that include any grades 6–12:** **For the 2011–12 school year, how difficult was it to fill middle and/or high school mathematics teacher vacancies in your school with fully qualified teachers?** Mark one circle.

- There were no vacancies for mathematics teachers
- Easy
- Somewhat difficult
- Very difficult
- Could not fill the vacancies

### Mathematics Professional Development Opportunities

25. **This question is about in-service (professional development) programs offered by your school and/or district, possibly in conjunction with other organizations (for example: other school districts, colleges or universities, museums, professional associations, commercial vendors).**

*In the last three years, has your school and/or district offered in-service workshops specifically focused on mathematics or mathematics teaching?* Mark one circle.

- Yes
- No *Skip to Question 27*

26. **Please indicate the extent to which in-service workshops offered by your school and/or district in the last three years addressed deepening teacher understanding of each of the following:** Mark one circle on each line.

	Not at all		Somewhat		To a great extent
	①	②	③	④	⑤
a. Mathematics content	①	②	③	④	⑤
b. State mathematics standards	①	②	③	④	⑤
c. How to use particular mathematics instructional materials (for example: textbooks or programs)	①	②	③	④	⑤
d. How students think about various mathematical ideas	①	②	③	④	⑤
e. How to monitor student understanding during mathematics instruction	①	②	③	④	⑤
f. How to adapt mathematics instruction to address student misconceptions	①	②	③	④	⑤
g. How to use technology in mathematics instruction	①	②	③	④	⑤
h. How to use investigation-oriented tasks in mathematics instruction	①	②	③	④	⑤
i. How to teach mathematics to students who are English language learners	①	②	③	④	⑤
j. How to provide alternative mathematics learning experiences for students with special needs	①	②	③	④	⑤

27. **In the last three years, has your school offered *teacher study groups* where teachers meet on a regular basis to discuss teaching and learning of mathematics, and possibly other content areas as well (sometimes referred to as Professional Learning Communities, PLCs, or lesson study)?** Mark one circle.
- Yes
  - No *Skip to Question 39*

Questions 28–38 ask about teacher study groups offered in your school in the last three years that included a focus on mathematics content and/or mathematics instruction (sometimes referred to as Professional Learning Communities, PLCs, or lesson study).

28. ***For schools that include any grades K–5:*** Are teachers of grades K–5 mathematics classes required to participate in these mathematics-focused *teacher study groups*? Mark one circle.

- Yes
- No

29. ***For schools that include any grades 6–8:*** Are teachers of grades 6–8 mathematics classes required to participate in these mathematics-focused *teacher study groups*? Mark one circle.

- Yes
- No

30. ***For schools that include any grades 9–12:*** Are teachers of grades 9–12 mathematics classes required to participate in these mathematics-focused *teacher study groups*? Mark one circle.

- Yes
- No

31. **Has your school specified a schedule for when these mathematics-focused *teacher study groups* are expected to meet?** Mark one circle.

- Yes
- No *Skip to Question 39*

32. **Over what period of time were these mathematics-focused *teacher study groups* typically expected to meet?** Mark one circle.

- The entire school year
- One semester
- Less than one semester

33. **How often have these mathematics-focused *teacher study groups* typically been expected to meet?** Mark one circle.

- Less than once a month
- Once a month
- Twice a month
- More than twice a month

34. **Which of the following describe the typical mathematics-focused *teacher study groups* in this school?** Mark all that apply.

- Organized by grade level
- Include teachers from multiple grade levels
- Limited to teachers from this school
- Include teachers from other schools in the district
- Include teachers from other schools outside of your district
- Include school and/or district administrators
- Include parents/guardians or other community members
- Include higher education faculty or other “consultants”



35. Which of the following describe the typical mathematics-focused *teacher study groups* in this school?

Mark all that apply.

- Teachers engage in mathematics investigations.
- Teachers plan mathematics lessons together.
- Teachers analyze student mathematics assessment results.
- Teachers analyze classroom artifacts (for example: student work samples).
- Teachers analyze mathematics instructional materials (for example: textbooks or programs).

36. To what extent have these mathematics-focused *teacher study groups* addressed deepening teacher understanding of each of the following? Mark one circle on each line.

	Not at all		Somewhat		To a great extent
a. Mathematics content	①	②	③	④	⑤
b. State mathematics standards	①	②	③	④	⑤
c. How to use particular mathematics instructional materials (for example: textbooks or programs)	①	②	③	④	⑤
d. How students think about various mathematical ideas	①	②	③	④	⑤
e. How to monitor student understanding during mathematics instruction	①	②	③	④	⑤
f. How to adapt mathematics instruction to address student misconceptions	①	②	③	④	⑤
g. How to use technology in mathematics instruction	①	②	③	④	⑤
h. How to use investigation-oriented tasks in mathematics instruction	①	②	③	④	⑤
i. How to teach mathematics to students who are English language learners	①	②	③	④	⑤
j. How to provide alternative mathematics learning experiences for students with special needs	①	②	③	④	⑤

37. Have there been designated leaders for these mathematics-focused *teacher study groups*? Mark one circle.

- Yes
- No *Skip to Question 39*

38. The designated leaders of these mathematics-focused *teacher study groups* were from: Mark all that apply.

- This school
- Elsewhere in this district
- College or University
- External consultants
- Other, please specify: \_\_\_\_\_

39. Thinking about last school year, which of the following were used to provide teachers in this school with time for in-service (professional development) workshops/teacher study groups that included a focus on mathematics content and/or mathematics instruction, regardless of whether they were offered by your school and/or district? Mark all that apply.

- Early dismissal and/or late start for students
- Professional days/teacher work days during the students' school year
- Professional days/teacher work days before and/or after the students' school year
- Common planning time for teachers
- Substitute teachers to cover teachers' classes while they attend professional development
- None of the above

40. Do any teachers in your school have access to one-on-one “coaching” focused on improving their mathematics instruction? Mark one circle.
- Yes
  - No *Skip to End*
41. *For schools that include any grades K–5:* Are teachers of grades K–5 mathematics classes required to receive one-on-one mathematics-focused coaching? Mark one circle.
- Yes
  - No
42. *For schools that include any grades 6–8:* Are teachers of grades 6–8 mathematics classes required to receive one-on-one mathematics-focused coaching? Mark one circle.
- Yes
  - No
43. *For schools that include any grades 9–12:* Are teachers of grades 9–12 mathematics classes required to receive one-on-one mathematics-focused coaching? Mark one circle.
- Yes
  - No
44. To what extent is one-on-one mathematics-focused coaching in your school provided by each of the following? Mark one circle on each line.

	Not at all		Somewhat		To a great extent
a. The principal of your school	①	②	③	④	⑤
b. An assistant principal at your school	①	②	③	④	⑤
c. District administrators including mathematics supervisors/coordinators	①	②	③	④	⑤
d. Teachers/coaches who do not have classroom teaching responsibilities	①	②	③	④	⑤
e. Teachers/coaches who have part-time classroom teaching responsibilities	①	②	③	④	⑤
f. Teachers/coaches who have full-time classroom teaching responsibilities	①	②	③	④	⑤

**Thank you!**