Council of Chief State School Officers
Wisconsin Center for Education Research

SURVEYS OF ENACTED CURRICULUM©

Survey Of Instructional Practices
Teacher Survey
Grades K-12
Mathematics

Thank you for agreeing to participate in this survey of instructional practices and content. This survey is part of a collaborative effort to provide education researchers, policymakers, administrators, and most importantly, teachers like yourself with comparative information about instruction in districts participating in the SEC Collaborative or associated initiatives from states and districts around the country. To learn more about the surveys of enacted curriculum and their use in other projects, please visit the project website; http://www.secsurvey.org

Your participation in this survey is voluntary. If you choose to participate, your personal information will remain strictly confidential. Information that could be used to identify you or connect you to individual results will not be shared with staff in your school, district, or state. Individual respondents are never identified in any reports of results. The questionnaire poses no risk to you, and there is no penalty for refusal to participate. You may withdraw from the study simply by returning the questionnaire without completing it, without penalty or loss of services or benefits to which you would be otherwise entitled.

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

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Reporting Period: Most recent school year (current year, if reporting after March 1st)

Instructions for Selecting the Target Class

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

Please read each question and the possible responses carefully, and then mark your response by filling in the appropriate circle in the response section. A pen or pencil may be used to complete the survey.

Survey of Instructional Practices for Mathematics

SCHOOL DESCRIPTION

1 Which of these categories best describes the way your classes at this school are organized? (Check all that apply)

① Departmentalized Instruction
② Taught by Subject-Area Specialist (non-departmental)
③ Self-Contained (e.g., teach multiple subjects)
④ Team Taught

2 If your school is departmentalized, or if you are a subject-area specialist, how many different mathematics classes do you currently teach?

⓪ ① ② ③ ④ ⑤ ⑥ ⑦
(Number of classes taught)

CLASS DESCRIPTION

3 Which term best describes the target class, or course, you are teaching?

⓪ Other
① Elementary Math
② Middle School Math
③ Pre-algebra
④ Algebra
⑤ Integrated Math
⑥ Geometry
⑦ Trigonometry
⑧ Advanced Math
⑨ Calculus

CLASS DESCRIPTION (cont.)

4 What is the grade level of most of the students in the target class?

⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	①	②
K	1	2	3	4	5	6	7	8	9	10	11	12

5 How many students are in the target class?

⓪ 10 or fewer
① 11 to 15
② 16 to 20
③ 21 to 25
④ 26 to 30
⑤ 31 or more

6 What percentage of the students in the target class are <u>female</u>? (Mark nearest 10%)

⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨
Less than 10	10	20	30	40	50	60	70	80	90+ %

7 What percentage of the students in the target class are <u>not</u> Caucasian? (Mark nearest 10%)

⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨
Less than 10	10	20	30	40	50	60	70	80	90+ %

8 <u>During a typical week</u>, approximately how many hours will the target class spend in mathematics instruction?

Number of instructional hours= ⓪ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

9 What is the average length of each class period for the target mathematics class?

⓪ Not applicable
① 30 to 40 minutes
② 41 to 50 minutes
③ 51 to 60 minutes
④ 61 to 90 minutes
⑤ 91 to 120 minutes
⑥ Varies due to block scheduling or integrated instruction

10 For how many weeks will the target mathematics class meet this school year?

Total number of weeks=

⓪	①	②
1 to 12	13 to 24	25 or more

11 What is the achievement level of most of the students in the target class, compared to national norms?

① High Achievement Levels
② Average Achievement Levels
③ Low Achievement Levels
④ Mixed Achievement Levels

12 What percentage of students in the target class are Limited English Proficient (LEP)?

⓪	①	②	③	④
None	Less than 10%	10%-25%	26%-50%	More than 50%

13 What is considered <u>most</u> in scheduling students into the target class?

⓪ Ability or prior achievement
① Limited English proficiency
② Teacher recommendation
③ Parent request
④ Student decision
⑤ No one factor more than another

HOMEWORK (work assigned to be completed *outside of class*)

Answer the following questions with regard to your target class:

14 How often do you usually assign mathematics homework to be completed outside of class?

⓪ Never (Skip to # 25)
① Less than once per week
② Once or twice per week
③ Three to four times per week
④ Every day

15 How many minutes do you expect a typical student to spend on a normal homework assignment completed outside of class?

⓪ I do not assign homework
① Less than 15 minutes
② 15 to 30 minutes
③ 31 to 60 minutes
④ 61 to 90 minutes
⑤ More than 90 minutes

16 Does homework completed outside of class count toward student grades?

⓪ Never
① Usually does not
② Usually does
③ Always does

17 How often do you assign homework to be completed in a small group outside of class?

⓪ Never
① Less than once per week
② Once or twice per week
③ Three to four times per week
④ Every day

AMOUNT OF HOMEWORK TIME

0 - None
1 - Little *(Less than 10% of homework time outside of class)*
2 - Some *(10-25% of homework time outside of class)*
3 - Moderate *(26-50% of homework time outside of class)*
4 - Considerable *(More than 50% of homework time outside of class)*

What percentage of the time that students in the target class spend on mathematics homework done *outside of class* do you expect them to:	**None**	**Little**	**Some**	**Moderate**	**Considerable**
18 Complete computational exercises or procedures from a textbook or worksheet	⓪	①	②	③	④
19 Solve word problems from a textbook or worksheet	⓪	①	②	③	④
20 Explain, using several sentences, their reasoning or thinking in solving a problem	⓪	①	②	③	④
21 Work on a demonstration or proof of their mathematics work	⓪	①	②	③	④
22 Collect data as part of mathematics homework	⓪	①	②	③	④
23 Work on an assignment, report, or project that takes longer than one week to complete	⓪	①	②	③	④
24 Solve novel or non-routine mathematical problems	⓪	①	②	③	④

INSTRUCTIONAL ACTIVITIES IN MATHEMATICS

Listed below are questions about the types of activities **that students in the target class** may engage in during mathematics instruction. Please estimate the relative amount of time a typical student in your class will spend engaged in *each activity* over the course of a school year. The activities are not necessarily mutually exclusive; across activities, **your answers will probably exceed 100%**. Consider each activity on its own, estimating the range that best indicates the relative amount of mathematics instructional time that a typical student in your target class engages in over the course of a school year for that category.

AMOUNT OF INSTRUCTIONAL TIME

0 - None
1 - Little *(Less than 10% of instructional time for the school year)*
2 - Some *(10-25% of instructional time for the school year)*
3 - Moderate *(26-50% of instructional time for the school year)*
4 - Considerable *(More than 50% of instructional time for the school year)*

How much of the mathematics instructional time in the target class do students use to engage in the following tasks?	**None**	**Little**	**Some**	**Moderate**	**Considerable**
25 Watch the teacher demonstrate how to do a procedure or solve a problem	⓪	①	②	③	④
26 Read about mathematics in books, magazines, or articles (**not** textbooks)	⓪	①	②	③	④
27 Take notes from lectures or the textbook	⓪	①	②	③	④
28 Complete *computational exercises or procedures* from a textbook or a worksheet	⓪	①	②	③	④
29 Present or demonstrate solutions to a math problem to the whole class	⓪	①	②	③	④
30 Use manipulatives (e.g., geometric shapes or algebraic tiles), measurement instruments (e.g., rulers or protractors), and data collection devices (e.g., surveys or probes)	⓪	①	②	③	④
31 Work *individually* on mathematics exercises, problems, investigations, or tasks	⓪	①	②	③	④
32 Work *in pairs or small groups* on mathematics exercises, problems, investigations, or tasks	⓪	①	②	③	④
33 Do a mathematics activity with the class outside the classroom	⓪	①	②	③	④
34 Use computers, calculators, or other technology to learn mathematics	⓪	①	②	③	④
35 Maintain and reflect on a mathematics portfolio of their own work	⓪	①	②	③	④
36 Take a quiz or test	⓪	①	②	③	④

Listed below are some questions (items 37-63) about what students in the target class do in mathematics. For each activity pick one of the choices to indicate the percentage of instructional time that students are doing each activity. Please think of an average student in the class while responding.

AMOUNT OF INSTRUCTIONAL TIME (***Working individually*** *)*

0 - None
1 - Little *(Less than 10% of individual work time on mathematical exercises, problems, or tasks)*
2 - Some *(10-25% of individual work time on mathematical exercises, problems, or tasks*)
3 - Moderate *(26-50% of individual work time on mathematical exercises, problems, or tasks)*
4 - Considerable *(More than 50% of individual work time on mathematical exercises, problems, or tasks)*

When students in the target class work *individually* on mathematics exercises, problems, investigations, or tasks, how much of that time do they:	**None**	**Little**	**Some**	**Moderate**	**Considerable**
37 Solve *word problems* from a textbook or worksheet	⓪	①	②	③	④
38 Solve non-routine mathematical problems (e.g., problems that require novel or non-formulaic thinking)	⓪	①	②	③	④
39 Explain their reasoning or thinking in solving a problem by using several sentences orally or in writing	⓪	①	②	③	④
40 Apply mathematical concepts to "real-world" problems	⓪	①	②	③	④
41 Make estimates, predictions, or hypotheses	⓪	①	②	③	④
42 Analyze data to make inferences or draw conclusions	⓪	①	②	③	④
43 Work on a problem that takes at least 45 minutes to solve	⓪	①	②	③	④
44 Complete or conduct proofs or demonstrations of their mathematical reasoning	⓪	①	②	③	④

AMOUNT OF INSTRUCTIONAL TIME ***(Working in pairs or small groups)***

0 - None
1 - Little *(Less than 10% of instructional time in pairs or small groups)*
2 - Some *(10-25% of instructional time in pairs or small groups)*
3 - Moderate *(26-50% of instructional time in pairs or small groups)*
4 - Considerable *(More than 50% of instructional time in pairs or small groups)*

When students in the target class work *in pairs or small groups* on mathematics exercises, problems, investigations, or tasks, how much of that time do they:	**None**	**Little**	**Some**	**Moderate**	**Considerable**
45 Solve *word problems* from a textbook or worksheet	⓪	①	②	③	④
46 Solve non-routine mathematical problems (e.g., problems that require novel or non-formulaic thinking)	⓪	①	②	③	④
47 Talk about their reasoning or thinking in solving a problem	⓪	①	②	③	④
48 Apply mathematical concepts to "real-world" problems	⓪	①	②	③	④
49 Make estimates, predictions, or hypotheses	⓪	①	②	③	④
50 Analyze data to make inferences or draw conclusions	⓪	①	②	③	④
51 Work on a problem that takes at least 45 minutes to solve	⓪	①	②	③	④
52 Complete or conduct proofs or demonstrations of their mathematical reasoning	⓪	①	②	③	④

AMOUNT OF INSTRUCTIONAL TIME ***(Use of hands-on materials in mathematics)***

0 - None
1 - Little *(Less than 10% of instructional time using hands-on materials)*
2 - Some *(10-25% of instructional time using hands-on materials)*
3 - Moderate *(26-50% of instructional time using hands-on materials)*
4 - Considerable *(More than 50% of instructional time using hands-on materials)*

When students in the target class use *hands-on materials* , how much of that time do they:	**None**	**Little**	**Some**	**Moderate**	**Considerable**
53 Work with manipulatives (e.g., counting blocks, geometric shapes, or algebraic tiles) to understand mathematical concepts	⓪	①	②	③	④
54 Measure objects using tools such as rulers, scales, or protractors	⓪	①	②	③	④
55 Build models or charts	⓪	①	②	③	④
56 Collect data by counting, observing, or conducting surveys	⓪	①	②	③	④
57 Present information to others using manipulatives (e.g., chalkboard, whiteboard, posterboard, or projector)	⓪	①	②	③	④

AMOUNT OF INSTRUCTIONAL TIME ***(Use of calculators, computers, or other educational technology)***

0 - None
1 - Little *(Less than 10% of instructional time using calculators, computers, or other educational technology)*
2 - Some *(10-25% of instructional time using calculators, computers, or other educational technology)*
3 - Moderate *(26-50% of instructional time using calculators, computers, or other educational technology)*
4 - Considerable *(More than 50% of instructional time using calculators, computers, or other educational technology)*

When students in the target class are engaged in activities that involve the use of *calculators, computers, or other educational technology* as part of mathematics instruction, how much of that time do they:	**None**	**Little**	**Some**	**Moderate**	**Considerable**
58 Learn facts	⓪	①	②	③	④
59 Practice procedures	⓪	①	②	③	④
60 Use sensors and probes	⓪	①	②	③	④
61 Retrieve or exchange data or information (e.g., using the Internet or partnering with another class)	⓪	①	②	③	④
62 Display and analyze data	⓪	①	②	③	④
63 Develop geometric concepts (e.g., using simulations)	⓪	①	②	③	④

ASSESSMENTS

For items 64-71, please indicate how often you use each of the following strategies when assessing students in the target mathematics class.

		Never	1 - 4 times per **year**	1 - 3 times per **month**	1 - 3 times per **week**	4 - 5 times per **week**
64	Objective items (e.g., multiple choice or true/false)	⓪	①	②	③	④
65	Short answer questions such as performing a mathematical procedure	⓪	①	②	③	④
66	Extended response item for which student must explain or justify solution	⓪	①	②	③	④
67	Performance tasks or events (e.g., hands-on activities)	⓪	①	②	③	④
68	Individual or group demonstration or presentation	⓪	①	②	③	④
69	Mathematics projects	⓪	①	②	③	④
70	Portfolios	⓪	①	②	③	④
71	Systematic observation of students	⓪	①	②	③	④

INSTRUCTIONAL INFLUENCES

For items 72-81, please indicate the degree to which each of the following influences what you teach in the target mathematics class.

		Not Applicable	Strong Negative Influence	Somewhat Negative Influence	Little or No Influence	Somewhat Positive Influence	Strong Positive Influence
72	Your state's curriculum framework or content standards	⓪	①	②	③	④	⑤
73	You district's curriculum framework, standards or guidelines	⓪	①	②	③	④	⑤
74	Textbook or instructional materials	⓪	①	②	③	④	⑤
75	State tests or results from test	⓪	①	②	③	④	⑤
76	District tests or results from test	⓪	①	②	③	④	⑤
77	National mathematics education standards	⓪	①	②	③	④	⑤
78	Your pre-service preparation	⓪	①	②	③	④	⑤
79	Students' special needs	⓪	①	②	③	④	⑤
80	Parental or community preferences	⓪	①	②	③	④	⑤
81	Preparation of students for the next grade or level	⓪	①	②	③	④	⑤

CLASSROOM INSTRUCTIONAL READINESS

For items 82-91, please indicate how well prepared you are to:		Not Well Prepared	Somewhat Prepared	Well Prepared	Very Well Prepared
82	Teach math at your assigned level	⓪	①	②	③
83	Integrate math with other subjects	⓪	①	②	③
84	Provide mathematics instruction that meets mathematics content standards (e.g., district, state, or national)	⓪	①	②	③
85	Use a variety of assessment strategies (including objective and open-ended formats)	⓪	①	②	③
86	Teach problem-solving strategies	⓪	①	②	③
87	Teach mathematics with manipulatives, such as counting blocks or geometric shapes	⓪	①	②	③
88	Teach students with physical disabilities	⓪	①	②	③
89	Teach classes with students with diverse abilities	⓪	①	②	③
90	Teach mathematics to students from a variety of cultural backgrounds	⓪	①	②	③
91	Teach mathematics to students who have limited English proficiency	⓪	①	②	③

TEACHER OPINIONS AND BELIEFS

For items 92-101, please indicate your opinion about each of the statements below:		Strongly Disagree	Disagree	Neutral / Undecided	Agree	Strongly Agree
92	Students learn mathematics best when they ask a lot of questions.	⓪	①	②	③	④
93	It is important for students to learn basic mathematics skills before solving problems.	⓪	①	②	③	④
94	I am supported by colleagues to try out new ideas in teaching mathematics.	⓪	①	②	③	④
95	I am required to follow rules at this school that conflict with my best professional judgment about teaching and learning mathematics.	⓪	①	②	③	④
96	Mathematics teachers in this school regularly observe each other teaching classes.	⓪	①	②	③	④
97	Mathematics teachers in this school trust each other.	⓪	①	②	③	④
98	It's OK in this school to discuss feelings, worries, and frustrations with other mathematics teachers.	⓪	①	②	③	④
99	Mathematics teachers respect other teachers who take the lead in school improvement efforts.	⓪	①	②	③	④
100	It's OK in this school to discuss feelings, worries, and frustrations with the leadership staff.	⓪	①	②	③	④
101	The leadership staff takes personal interest in the professional development of the teachers.	⓪	①	②	③	④

PROFESSIONAL DEVELOPMENT ACTIVITIES IN MATHEMATICS

*In answering the following items, consider all the professional development activities related to mathematics content **or** mathematics education that you have participated in* **since June 1st of last year**. *Professional development refers to a variety of activities intended to enhance your professional knowledge and skills, including in-service training, teacher networks, course work, institutes, committee work, and mentoring. In-service training is professional development offered by your school or district to enhance your professional responsibilities and knowledge. Workshops are short-term learning opportunities that can be located in your school or elsewhere. Institutes are longer term professional learning opportunities, for example, of a week or longer in duration.*

	How Often?	**How many hours?**
	⓪ Never ③ 3-4 times	⓪ N/A ③ 16-35
	① Once ④ 5-10 times	① 1-6 hrs. ④ 36-60
	② Twice ⑤ > 10 times	② 7-15 hrs. ⑤ 61+ hrs.
102 For the time period referenced above, how often, and for how many total hours, have you participated in *workshopsor in-service training related to mathematics or mathematics education* ?	⓪ ① ② ③ ④ ⑤	⓪ ① ② ③ ④ ⑤
103 For the time period referenced above, how often, and for how many total hours, have you participated in *summer institutes related to mathematics or mathematics education* ?	⓪ ① ② ③ ④ ⑤	⓪ ① ② ③ ④ ⑤
104 For the time period referenced above, how often have you attended *college courses related to mathematics or mathematics education* and about how many hours did you spend in class?	⓪ ① ② ③ ④ ⑤	⓪ ① ② ③ ④ ⑤

Since June 1st of last year, how frequently have you engaged in each of the following activities related specifically to the teaching and learning of mathematics?

	Never	Once or twice a **year**	Once or twice a **term**	Once or twice a **month**	Once or twice a **week**	Almost **daily**
105 Attended conferences related to mathematics or mathematics education	⓪	①	②	③	④	⑤
106 Participated in teacher study groups	⓪	①	②	③	④	⑤
107 Participated in teacher networks or collaboratives of teachers supporting professional development	⓪	①	②	③	④	⑤
108 Acted as a coach or mentor to other teachers or staff in your school	⓪	①	②	③	④	⑤
109 Received coaching or mentoring	⓪	①	②	③	④	⑤
110 Participated in a committee or task force focused on curriculum and instruction	⓪	①	②	③	④	⑤
111 Engaged in informal self-directed learning (e.g., discussed math or math education topics with a colleague, read a journal article on math or math education, used the internet to enrich knowledge and skills)	⓪	①	②	③	④	⑤

Thinking again about all of your professional development activities in mathematics or mathematics education since June 1st of last year, how often has the following occurred for you?

		Never	Rarely	Sometimes	Often
112	Observed demonstrations of teaching techniques	⓪	①	②	③
113	Led group discussions	⓪	①	②	③
114	Developed curricula or lesson plans that other participants or the activity leader reviewed	⓪	①	②	③
115	Reviewed student work or scored assessments	⓪	①	②	③
116	Developed assessments or tasks as part of a formal professional development activity	⓪	①	②	③
117	Practiced what you learned and received feedback as part of a professional development activity	⓪	①	②	③
118	Received coaching or mentoring in the classroom	⓪	①	②	③
119	Given a lecture or presentation to colleagues	⓪	①	②	③

Still thinking about all your professional development activities since June 1st of last year, indicate how often they have been:

		Never	Rarely	Sometimes	Often
120	Designed to support the school-wide improvement plan adopted by your school	⓪	①	②	③
121	Consistent with your mathematics department or grade-level plan to improve teaching	⓪	①	②	③
122	Consistent with your own goals for your professional development	⓪	①	②	③
123	Built on what you had learned in earlier professional development activities	⓪	①	②	③
124	Provided follow-up activities that related clearly to what you learned	⓪	①	②	③

Since June 1st of last year, have you participated in professional development activities in mathematics or mathematics education in the following ways?

		No	Yes
125	I participated in professional development activities with most or all of the teachers from my school.	⓪	①
126	I participated in professional development activities with most or all of the teachers from my department or grade level.	⓪	①
127	I participated in professional development activities NOT attended by other staff members from my school.	⓪	①
128	I discussed what I learned with other teachers in my school or department who did NOT attend the activity.	⓪	①

Since June 1st of last year, how much <u>emphasis</u> did your professional development activities in math or math education place on the following topics?

		None	Minor	Moderate	Major
129	State mathematics content standards (e.g., what they are and how they are used)	⓪	①	②	③
130	Alignment of mathematics instruction to curriculum	⓪	①	②	③
131	Instructional approaches (e.g., use of manipulatives)	⓪	①	②	③
132	In-depth study of mathematics or specific concepts within mathematics (e.g., fractions)	⓪	①	②	③
133	Study of how children learn particular topics in mathematics	⓪	①	②	③
134	Individual differences in student learning	⓪	①	②	③
135	Meeting the learning needs of special populations of students (e.g., English language learners, students with disabilities)	⓪	①	②	③
136	Classroom mathematics assessment (e.g., diagnostic approaches, textbook-developed tests, teacher-developed tests)	⓪	①	②	③
137	State or district mathematics assessments (e.g., preparing, understanding, interpreting assessment data)	⓪	①	②	③
138	Interpretation of assessment data for use in mathematics instruction	⓪	①	②	③
139	Technology to support student learning in mathematics	⓪	①	②	③

TEACHER CHARACTERISTICS

140 Please indicate your gender.

Female	Male
⓪	①

141 Please indicate your ethnicity/race. (Indicate all that apply)

① American Indian or Alaska Native
② Asian
③ Black or African American
④ Hispanic or Latino/a
⑤ Native Hawaiian or Other Pacific Islander
⑥ White

	Less than 1 year	1 - 2 years	3 - 5 years	6 - 8 years	9 - 11 years	12 - 15 years	More than 15 years
142 How many years have you taught mathematics prior to this year?	⓪	①	②	③	④	⑤	⑥
143 How long have you been assigned to teach at your current school?	⓪	①	②	③	④	⑤	⑥

	Does not apply	BA or BS	MA or MS	Multiple MA or MS	Ph.D. or Ed.D.	Other
144 What is the highest degree you hold?	⓪	①	②	③	④	⑤

145 What was your major field of study for the bachelor's degree?

① Elementary Education
② Middle School Education
③ Mathematics Education
④ Mathematics
⑤ Mathematics Education **and** Mathematics
⑥ Other Disciplines (includes other Education fields, Science, History, English, Foreign Languages, etc.)

146 **If applicable**, what was your **major field** of study for the **highest degree you hold** beyond a bachelor's degree?

① Elementary Education
② Middle School Education
③ Mathematics Education
④ Mathematics
⑤ Mathematics Education **and** Mathematics
⑥ Other Disciplines (includes other Education fields, Science, History, English, Foreign Languages, etc.)

147 What type(s) of state certification do you currently have? (Indicate all that apply)

① Emergency, provisional or temporary certification
② Elementary/Early Childhood Certification
③ Middle School Certification
④ Secondary Certification, in a field *other* than Mathematics
⑤ Secondary Mathematics Certification
⑥ National Board Certification

FORMAL COURSE PREPARATION

Please estimate the total number of *quarter or semester courses* you have taken at the undergraduate and/or graduate level in each of the following areas:

		(Number of courses)									
		0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17+
148	Refresher mathematics courses (e.g., algebra, geometry)	⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨
149	Advanced mathematics courses (e.g., calculus, statististcs)	⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨
150	Mathematics Education	⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨

This is the end of the Instructional Practices portion of the survey. Please continue on to complete the Instructional Content portion. Thank you.

Council of Chief State School Officers
Wisconsin Center for Education Research

SURVEYS OF ENACTED CURRICULUM©

Survey Of Instructional Content
Teacher Survey
Grades K-12
Mathematics

The following pages request information regarding topic coverage and your expectations for students in the target mathematics class **for the most recent school year (current year if reporting after March 1st).** The content matrix that follows contains lists of discrete topics associated with mathematics instruction. The categories and the level of specificity are intended to gather information about content across a wide variety of programs. It is not intended to reflect any recommended or prescribed content for the grade level and may or may not be reflective of your local curriculum.

Please read the instructions on the next two pages carefully before proceeding.

Step 1: Indicate topics not covered in this class

Begin by reviewing the entire list of topics identified in the topics column of each table, noting how topics are grouped. After reviewing each topic within a given grouping, if none of the topics listed within that group receive any instructional coverage, circle the "<None>" in the "Time on Topic" column for that group. For any individual topic that is not covered in this mathematics class, fill in the circled "zero" in the "Time on Topic" column. (Not necessary for those groups with "<None>" circled.) Any topics or topic groups so identified will not require further response. [Note, for example, that the class described in the example below did not cover any topics under "Instructional Technology" and so "<None>" is circled.]

Step 2: Indicate the amount of time spent on each topic covered in this class

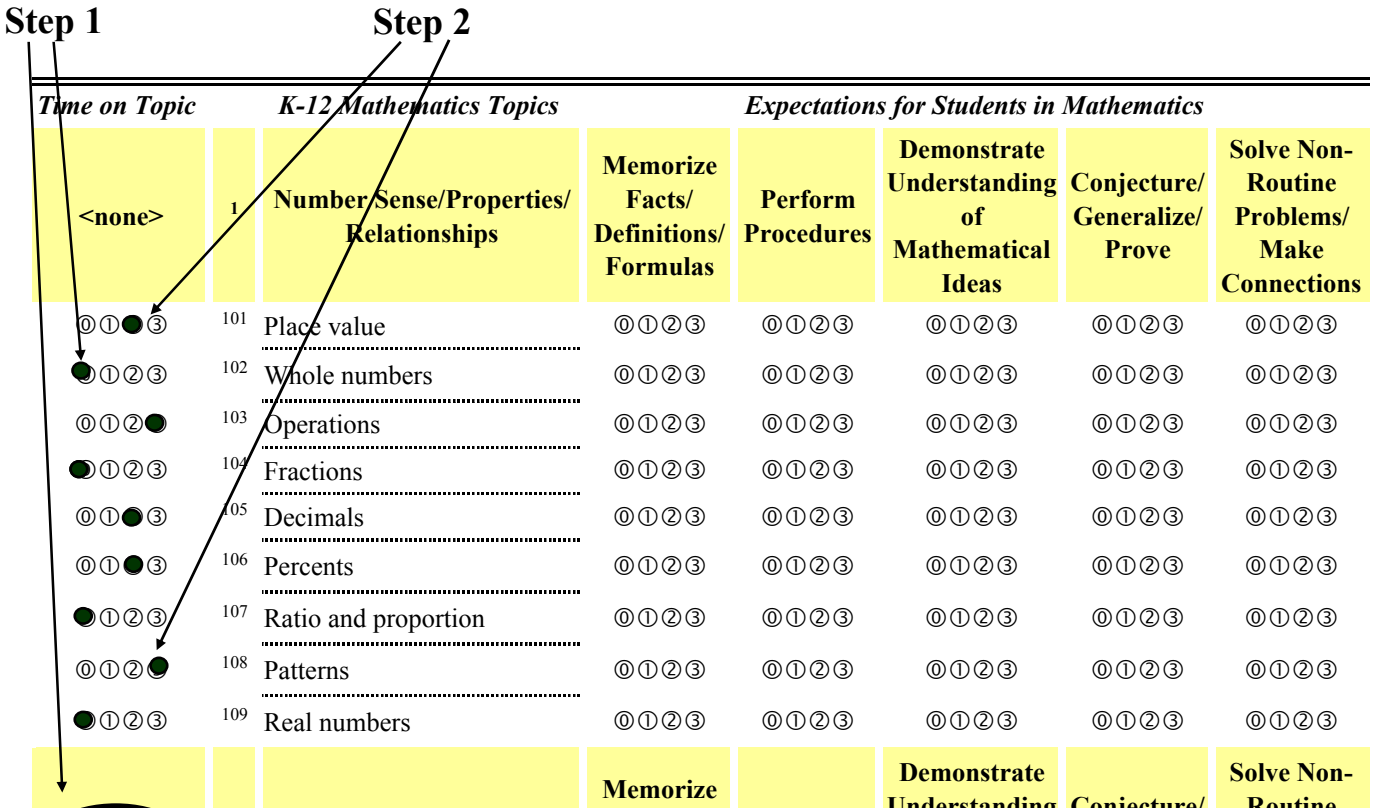
Examine the list of topics a second time. This time note the amount of coverage devoted to each topic by filling in the appropriately numbered circle in the "Time on Topic" column based upon the following codes:

0 = None, not covered

1 = Slight Coverage (less than one class/lesson)

2 = Moderate Coverage (one to five classes/lessons)

3 = Sustained Coverage (more than five classes/lessons)



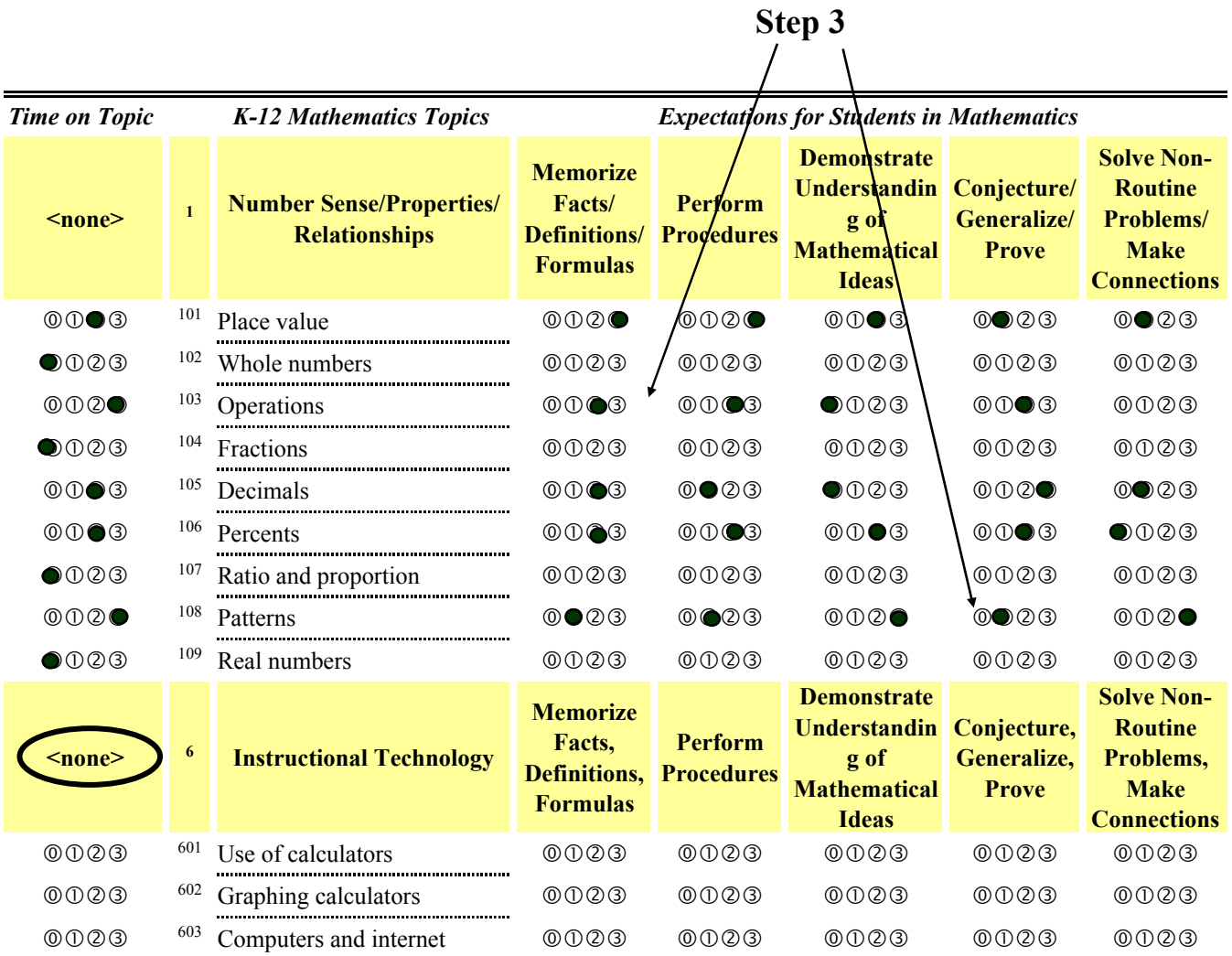
Time on Topic		*K-12 Mathematics Topics*	*Expectations for Students in Mathematics*				
<none>	1	**Number Sense/Properties/ Relationships**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/ Make Connections**
0①●③	101	Place value	0①②③	0①②③	0①②③	0①②③	0①②③
●①②③	102	Whole numbers	0①②③	0①②③	0①②③	0①②③	0①②③
0①②●	103	Operations	0①②③	0①②③	0①②③	0①②③	0①②③
●①②③	104	Fractions	0①②③	0①②③	0①②③	0①②③	0①②③
0①●③	105	Decimals	0①②③	0①②③	0①②③	0①②③	0①②③
0①●③	106	Percents	0①②③	0①②③	0①②③	0①②③	0①②③
●①②③	107	Ratio and proportion	0①②③	0①②③	0①②③	0①②③	0①②③
0①②●	108	Patterns	0①②③	0①②③	0①②③	0①②③	0①②③
●①②③	109	Real numbers	0①②③	0①②③	0①②③	0①②③	0①②③
<none>	6	**Instructional Technology**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/ Make Connections**
0①②③	601	Use of calculators	0①②③	0①②③	0①②③	0①②③	0①②③
0①②③	602	Graphing calculators	0①②③	0①②③	0①②③	0①②③	0①②③
0①②③	603	Computers and internet	0①②③	0①②③	0①②③	0①②③	0①②③

Step 3: Indicate relative emphasis of each student expectation for every topic taught

The final step in completing this section of the survey concerns your expectations for what students should know and be able to do. For each topic area, please provide information about the relative amount of instructional time spent on work designed to help students reach each of the listed expectations by filling in the appropriately numbered circle using the response codes listed below. (Note: To the left of each content sheet you will find a list of descriptors for each of the five expectations for students.)

0 = No emphasis	(Not an expectation for this topic)
1 = Slight emphasis	(Accounts for less than 25% of the time spent on this topic)
2 = Moderate emphasis	(Accounts for 25% to 33% of the time spent on this topic)
3 = Sustained emphasis	(Accounts for more than 33% of the time spent on this topic)

Note: A code of "3" should typically be given for only one, and no more than two expectation categories within any given topic. No expectation codes should be filled-in for those topics for which no coverage is provided (i.e., circled "0" or "<None>").



Time on Topic		*K-12 Mathematics Topics*	*Expectations for Students in Mathematics*				
<none>	**1**	**Number Sense/Properties/ Relationships**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/ Make Connections**
0 1 ● 3	101	Place value	0 1 2 ●	0 1 2 ●	0 1 ● 3	0 ● 2 3	0 ● 2 3
● 1 2 3	102	Whole numbers	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3
0 1 2 ●	103	Operations	0 1 ● 3	0 1 ● 3	● 1 2 3	0 1 ● 3	0 1 2 3
● 1 2 3	104	Fractions	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3
0 1 ● 3	105	Decimals	0 1 ● 3	0 ● 2 3	● 1 2 3	0 1 2 ●	0 ● 2 3
0 1 ● 3	106	Percents	0 1 ● 3	0 1 ● 3	0 1 ● 3	0 1 ● 3	● 1 2 3
● 1 2 3	107	Ratio and proportion	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3
0 1 2 ●	108	Patterns	0 ● 2 3	0 ● 2 3	0 1 2 ●	0 ● 2 3	0 1 2 ●
● 1 2 3	109	Real numbers	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3
<none>	**6**	**Instructional Technology**	**Memorize Facts, Definitions, Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture, Generalize, Prove**	**Solve Non-Routine Problems, Make Connections**
0 1 2 3	601	Use of calculators	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3
0 1 2 3	602	Graphing calculators	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3
0 1 2 3	603	Computers and internet	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3	0 1 2 3

Expectations for Students in Mathematics

Memorize Facts/Definitions/ Formulas

- Recite basic mathematics facts
- Recall mathematics terms and definitions
- Recall formulas and computational procedures

Perform Procedures

- Use numbers to count, order, or denote
- Do computational procedures or algorithms
- Follow procedures or instructions
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- Make and investigate mathematical conjectures
- Identify faulty arguments or misrepresentations of data
- Reason inductively or deductively

Demonstrate Understanding of Mathematical Ideas

- Communicate mathematical ideas
- Use representations to model mathematical ideas
- Explain findings and results from data analysis strategies
- Develop and explain relationships between concepts
- Show or explain relationships between models, diagrams, and/or other representations

Solve Non-Routine Problems/ Make Connections

- Apply and adapt a variety of appropriate strategies to solve non-routine problems
- Apply mathematics in contexts outside of mathematics
- Analyze data and recognize patterns
- Synthesize content and ideas from several sources

Response Codes

Time on Topic

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(Less than one class/lesson)

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(More than five classes/lessons)

Response Codes

Expectations for Students

0 = No emphasis
(Not a performance goal for this topic)

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(Less than 25% of time on this topic)

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(25% to 33% of time on this topic)

3 = Sustained emphasis
(More than 33% of time on this topic)

Time on Topic		*Grades K-12 Mathematics Topics*	*Expectations for Students in Mathematics*				
<none>	1	**Number Sense/Properties/Relationships**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	101	Place value	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	102	Whole numbers and integers	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	103	Operations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	104	Fractions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	105	Decimals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	106	Percents	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	107	Ratios and proportions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	108	Patterns	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	109	Real and/or rational numbers	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	110	Exponents and scientific notation	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	111	Factors, multiples, and divisibility	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	112	Odd/even/prime/composite/square numbers	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	113	Estimation	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	114	Number comparisons (e.g., order, magnitude, relative size, inverse, opposites, equivalent forms, scale, or number line)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	115	Order of operations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	116	Computational algorithms	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	117	Relationships between operations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	118	Number theory (e.g., base-ten and non-base-ten systems)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	119	Mathematical properties (e.g., distr. property)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	2	**Operations**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	201	Add/subtract whole numbers and integers	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	202	Multiply whole numbers and integers	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	203	Divide whole numbers and integers	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	204	Combinations of operations on whole numbers or integers	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	205	Equivalent and non-equivalent fractions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	206	Add/subtract fractions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	207	Multiply fractions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	208	Divide fractions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	209	Combinations of operations on fractions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	210	Ratio and proportion	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	211	Representations of fractions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	212	Equivalence of decimals, fractions, and percents	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	213	Add/subtract decimals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	214	Multiply decimals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	215	Divide decimals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	216	Combinations of operations on decimals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	217	Computing with percents	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	218	Computing with exponents and radicals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③

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Response Codes

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Time on Topic		*Grades K-12 Mathematics Topics*	*Expectations for Students in Mathematics*				
<none>	3	**Measurement**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	301	Use of measuring instruments	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	302	Theory (e.g., arbitrary, standard units, and unit size)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	303	Conversions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	304	Metric (SI) system	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	305	Length and perimeter	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	306	Area and volume	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	307	Surface area	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	308	Direction, location, and navigation	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	309	Angles	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	310	Circles (e.g., *pi* , radius, and area)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	311	Mass (weight)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	312	Time and temperature	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	313	Money	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	314	Derived measures (e.g., rate and speed)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	315	Calendar	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	316	Accuracy and precision	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	4	**Consumer Applications**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	401	Simple interest	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	402	Compound interest	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	403	Rates (e.g., discount and commission)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	404	Spreadsheets	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	5	**Basic Algebra**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	501	Absolute value	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	502	Use of variables	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	503	Evaluation of formulas, expressions, and equations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	504	One-step equations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	505	Coordinate planes	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	506	Patterns	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	507	Multi-step equations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	508	Inequalities	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	509	Linear and non-linear relations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	510	Rate of change/slope/line	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	511	Operations on polynomials	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	512	Factoring	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	513	Square roots and radicals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	514	Operations on radicals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	515	Rational expressions	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	516	Multiple representations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③

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- Identify faulty arguments or misrepresentations of data
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Demonstrate Understanding of Mathematical Ideas

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- Use representations to model mathematical ideas
- Explain findings and results from data analysis strategies
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Solve Non-Routine Problems/ Make Connections

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Response Codes

Time on Topic

0 = None
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Time on Topic		*Grades K-12 Mathematics Topics*	*Expectations for Students in Mathematics*				
<none>	**6**	**Advanced Algebra**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	601	Quadratic equations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	602	Systems of equations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	603	Systems of inequalities	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	604	Compound inequalities	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	605	Matrices and determinants	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	606	Conic sections	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	607	Rational, negative exponents, or radicals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	608	Rules for exponents	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	609	Complex numbers	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	610	Binomial theorem	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	611	Factor/remainder theorem	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	612	Field properties of real number system	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	613	Multiple representations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	**7**	**Geometric Concepts**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	701	Basic terminology	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	702	Points, lines, rays, segments, and vectors	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	703	Patterns	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	704	Congruence	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	705	Similarity	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	706	Parallels	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	707	Triangles	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	708	Quadrilaterals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	709	Circles	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	710	Angles	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	711	Polygons	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	712	Polyhedra	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	713	Models	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	714	3-D Relationships	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	715	Symmetry	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	716	Transformations (e.g., flips or turns)	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	717	Pythagorean Theorem	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③

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Time on Topic		*Grades K-12 Mathematics Topics*	*Expectations for Students in Mathematics*				
<none>	8	**Advanced Geometry**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	801	Logic, reasoning, and proofs	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	802	Loci	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	803	Spheres, cones, and cylinders	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	804	Coordinate Geometry	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	805	Vectors	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	806	Analytic Geometry	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	807	Non-Euclidean Geometry	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	808	Topology	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	9	**Data Displays**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	901	Summarize data in a table or graph	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	902	Bar graphs and histograms	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	903	Pie charts and circle graphs	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	904	Pictographs	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	905	Line graphs	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	906	Stem and leaf plots	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	907	Scatter plots	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	908	Box plots	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	909	Line plots	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	910	Classification and Venn diagrams	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	911	Tree diagrams	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	10	**Statistics**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	1001	Mean, median, and mode	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1002	Variability, standard deviation, and range	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1003	Line of best fit	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1004	Quartiles and percentiles	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1005	Bivariate distribution	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1006	Confidence intervals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1007	Correlation	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1008	Hypothesis testing	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1009	Chi-square	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1010	Data transformation	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1011	Central Limit Theorem	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③

Expectations for Students in Mathematics

Memorize Facts/Definitions/ Formulas

- Recite basic mathematics facts
- Recall mathematics terms and definitions
- Recall formulas and computational procedures

Perform Procedures

- Use numbers to count, order, or denote
- Do computational procedures or algorithms
- Follow procedures or instructions
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Response Codes

Time on Topic

0 = None
(Not covered)

1 = Slight coverage
(Less than one class/lesson)

2 = Moderate coverage
(One to five classes/lessons)

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Response Codes

Expectations for Students

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(Not a performance goal for this topic)

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(Less than 25% of time on this topic)

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(25% to 33% of time on this topic)

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(More than 33% of time on this topic)

Time on Topic	*Grades K-12 Mathematics Topics*		*Expectations for Students in Mathematics*				
<none>	11	**Probability**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	1101	Simple probability	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1102	Compound probability	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1103	Conditional probability	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1104	Empirical probability	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1105	Sampling and sample spaces	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1106	Independent vs. dependent events	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1107	Expected value	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1108	Binomial distribution	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1109	Normal curve	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	12	**Analysis**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	1201	Sequences and series	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1202	Limits	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1203	Continuity	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1204	Rates of change	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1205	Maxima, minima, and range	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1206	Differentiation	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1207	Integration	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	13	**Trigonometry**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	1301	Basic ratios	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1302	Radian measure	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1303	Right-triangle trigonometry	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1304	Law of Sines and Cosines	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1305	Identities	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1306	Trigonometric equations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1307	Polar coordinates	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1308	Periodicity	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1309	Amplitude	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③

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Time on Topic		*Grades K-12 Mathematics Topics*	*Expectations for Students in Mathematics*				
<none>	14	**Special Topics**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	1401	Sets	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1402	Logic	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1403	Mathematical induction	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1404	Linear programming	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1405	Networks	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1406	Iteration and recursion	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1407	Permutation combinations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1408	Simulations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1409	Fractals	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	15	**Functions**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	1501	Notation	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1502	Relations	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1503	Linear	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1504	Quadratic	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1505	Polynomial	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1506	Rational	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1507	Logarithmic	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1508	Exponential	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1509	Trigonometric and circular	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1510	Inverse	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1511	Composition	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
<none>	16	**Instructional Technology**	**Memorize Facts/ Definitions/ Formulas**	**Perform Procedures**	**Demonstrate Understanding of Mathematical Ideas**	**Conjecture/ Generalize/ Prove**	**Solve Non-Routine Problems/Make Connections**
⓪ ① ② ③	1601	Use of calculators	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1602	Use of graphing calculators	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1603	Use of computers and the internet	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1604	Computer programming	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③
⓪ ① ② ③	1605	Use of spreadsheets	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③	⓪ ① ② ③

Thank you for your participation in this survey.

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

Name: _____

Email address: _____
(required for on-line access to individual results)

District: _____

School: _____

Date: _____

Providing your name and email address will allow you to gain access to your individual results along with results for your school and/or district.