



Surveys of Enacted Curriculum Data Analysis Guide for Math

Surveys of Enacted Curriculum (SEC) are a practical, reliable set of **data collection tools** used by teachers to collect and report consistent data on **current instructional delivery and content** being taught in classrooms. The resulting data displays provide teachers the ability to analyze the degree of alignment between current instruction and the expectations outline in the state standards.

The SEC Data Analysis Guide is designed around the three phases of the Collaborative Learning Cycle as outlined in *Got Data? Now What? Creating and Leading Cultures of Inquiry* by Lipton and Wellman.

Phase I: Activate and Engage

Generate Predictions & Surface Assumptions

Phase II: Explore and Discover

Analyze Data & Develop Narrative Statements

Phase III: Organize and Integrate

Generate Causal Theories & Explore solutions

References

Lipton, L., & Wellman, B. M. (2012). *Got data? now what?: Creating and leading cultures of inquiry*. Bloomington, IN: Solution Tree Press.

Surveys of Enacted Curriculum, Wisconsin Center for Education Research at the School of Education, University of Wisconsin: Madison : www.seconline.org

Phase I- Activate & Engage

Math Topics

100	Nbr. Sense/Properties	700	Geometric Concepts	1300	Trigonometry
200	Operations	800	Advanced Geometry	1400	Special Topics
300	Measurement	900	Data Displays	1500	Functions
400	Consumer Applications	1000	Statistics	1600	Instructional Technology
500	Basic Algebra	1100	Probability		
600	Advanced Algebra	1200	Analysis		

Consider **both** the coverage of Topics and the Cognitive Demand levels when answering the questions below. (Refer to Cognitive Demand categories below for Math)

1. Which topics in the SEC Taxonomy document do you think will show the closest alignment to the state standards in both coverage and cognitive demand?

2. Which topics in the SEC Taxonomy document do you think will show the most misalignment to the state standards in both coverage and cognitive demand?

3. What topics might be missing and/or need to be removed from your instruction?

Cognitive Demand Categories for Mathematics

B	C	D	E	F
Memorize Facts, Definitions, Formulas	Perform Procedures	Demonstrate Understanding of Mathematical Ideas	Conjecture, Analyze, Generalize, Prove	Solve Non-Routine Problems/ Make Connections

Phase II- Explore & Discover

Math Topics:

100	Nbr. Sense/Properties	700	Geometric Concepts	1300	Trigonometry
200	Operations	800	Advanced Geometry	1400	Special Topics
300	Measurement	900	Data Displays	1500	Functions
400	Consumer Applications	1000	Statistics	1600	Instructional Technology
500	Basic Algebra	1100	Probability		
600	Advanced Algebra	1200	Analysis		

Math Targeted Subtopics: Based on the analysis of your Fine Grain Maps, list one or two misaligned subtopics for each topic you identified above.

Subtopic Code	Subtopic	Cognitive Demand levels indicated by <u>your</u> map	PRIMARY Cognitive Demand level(s) indicated by the state standard map

Cognitive Demand Categories for Mathematics

B	C	D	E	F
Memorize Facts, Definitions, Formulas	Perform Procedures	Demonstrate Understanding of Mathematical Ideas	Conjecture, Analyze, Generalize, Prove	Solve Non-Routine Problems/Make Connections
<ul style="list-style-type: none"> Recite basic mathematical facts Recall mathematical terms and definitions Recall formulas and computational procedures 	<ul style="list-style-type: none"> Use numbers to count, order, denote Do computational procedures or algorithms Follow procedures/instructions Solve equations/formulas/routine word problems Organize or display data Read or produce graphs Execute geometric constructions 	<ul style="list-style-type: none"> Communicate mathematical ideas Use representations to model mathematical ideas Explain findings and results from data analysis strategies Develop/explain relationships between concepts Show or explain relationships between models, diagrams, or other representations 	<ul style="list-style-type: none"> Determine the truth of a mathematical pattern or proposition Write formal or informal proofs Recognize, generate or create patterns Find a mathematical rule to generate a pattern or number sequence Make and investigate mathematical conjectures Identify faulty arguments or misrepresentations of data Reason inductively or deductively 	<ul style="list-style-type: none"> Apply and adapt a variety of appropriate strategies to solve non-routine problems Apply mathematics in contexts outside of mathematics Apply to real world situations Synthesize content and ideas from several sources

1. What important points stand out to you about your data?

2. Looking back at Phase I, what is surprising or unexpected about your data?

Phase III- Organize & Integrate

Instructional Action Plan:

Chose three of the subtopics you identified on page 3, and determine how you will make instructional shifts relating to subtopic coverage and/or cognitive demand. Identify the initial steps that you plan to take to make these changes in instruction.



Professional Development/Coaching/Resource Considerations:

1. What professional learning opportunities will support the instructional shifts that are needed to better align your instruction with state standards and cognitive demand?
2. How might you access/gain customized support for your instructional action plan?
3. What resources might support your instructional journey?