![MCAP Maryland Comprehensive Assessment Program]

Aspects of Rigor Levels of Cognitive Complexity

Items on the MCAP mathematics assessments will have a Cognitive Complexity measurement and Aspect of Rigor identification.

	Cognitive Complexity Level 1	Cognitive Complexity Level 2	Cognitive Complexity Level 3
Procedural Complexity:	Solving the problem entails little procedural demand or procedural demand is below grade level.	Solving the problem entails common or grade-level procedure(s) with friendly numbers.	Solving the problem requires common or grade-level procedure(s) with unfriendly numbers, an unconventional combination of procedures, or requires unusual perseverance or organizational skills in the execution of the procedure(s).
Conceptual Complexity:	Solving the problem requires students to recall or recognize a grade-level concept. The student does not need to relate concepts or demonstrate a line of reasoning.	Students may need to relate multiple grade-level concepts or different types, create multiple representations or solutions, or connect concepts with procedures or strategies. The student must do some reasoning, but may not need to demonstrate a line of reasoning.	Solving the problem requires students to relate multiple grade-level concepts and to evidence reasoning, planning, analysis, judgment, and/or creative thought OR work with a sophisticated (nontypical) line of reasoning.
Application Complexity:	Solving the problem entails an application of mathematics, but the required mathematics is either directly indicated or obvious.	Solving the problem entails an application of mathematics and requires an interpretation of the context to determine the procedure or concept (may include extraneous information). The mathematics is not immediately obvious. Solving the problem requires students to decide what to do.	In addition to an interpretation of the context, solving the problem requires recognizing important features, and formulating, computing, and interpreting results as part of a modeling process.

Students will experience all levels of cognitive complexity across the aspects of rigor. The following table displays the distribution of complexity and rigor on the MCAP mathematics assessments for all grade levels.

		Cognitive Complexity			
		Level 1	Level 2	Level 3	Total
Aspect of Rigor	**Procedural**	13%	23%	3%	39%
	Conceptual	13%	23%	3%	39%
	Application	6%	13%	3%	22%
	Total	32%	59%	9%	100%