

## MATH BENCHMARKS ASSESSED AT GRADES 6-8

SUNSHINE STATE STANDARDS BENCHMARK GRADES 6-8	ITEM FORMATS		
	Grade 6	Grade 7	Grade 8
<b>STRAND A: NUMBER SENSE, CONCEPTS, AND OPERATIONS</b>			
MA.A.1.3.1 associates verbal names, written word names, and standard numerals with integers, fractions, decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.	Assessed with A.1.3.4	Assessed with A.1.3.4	Assessed with A.1.3.4
MA.A.1.3.2 understands the relative size of integers, fractions, and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.	MC	MC	MC
MA.A.1.3.3 understands concrete and symbolic representations of rational numbers and irrational numbers in real-world situations.	Assessed with A.1.3.4 and D.2.3.1	Assessed with A.1.3.4 and D.2.3.1	Assessed with A.1.3.4 and D.2.3.1
MA.A.1.3.4 understands that numbers can be represented in a variety of equivalent forms, including integers, fractions, decimals, percents, scientific notation, exponents, radicals, and absolute value. (Also assesses A.1.3.1 and A.1.3.3)	MC, GR	MC, GR	MC, GR
MA.A.2.3.1 understands and uses exponential and scientific notation.	MC, GR	MC, GR	MC, GR
MA.A.2.3.2 understands the structure of number systems other than the decimal number system.	Not assessed	Not assessed	Not assessed
MA.A.3.3.1 understands and explains the effects of addition, subtraction, multiplication, and division on whole numbers, fractions, including mixed numbers, and decimals, including the inverse relationships of positive and negative numbers.	MC	MC	MC
MA.A.3.3.2 selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.	MC, GR	MC, GR	MC, GR
MA.A.3.3.3 adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.	MC, GR	MC, GR	MC, GR
MA.A.4.3.1 uses estimation strategies to predict results and to check the reasonableness of results. (Also assesses A.4.2.1, B.2.3.1, and B.3.3.1)	MC	MC	MC
MA.A.5.3.1 uses concepts about numbers, including primes, factors, and multiples, to build number sequences.	Assessed with D.1.3.1 and D.1.3.2	Assessed with D.1.3.1 and D.1.3.2	Assessed with D.1.3.1 and D.1.3.2

MC: multiple-choice  
 GR: gridded-response  
 SR: short-response  
 ER: extended-response

## MATH BENCHMARKS ASSESSED AT GRADES 6-8 (CONTINUED)

SUNSHINE STATE STANDARDS BENCHMARK	ITEM FORMATS		
	GRADES 6-8	Grade 6	Grade 7
<b>STRAND B: MEASUREMENT</b>			
MA.B.1.3.1 uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders. (Also assesses B.I. 2.2 and B.2.3.1)	MC, GR	MC, GR	GR, SR
MA.B.1.3.2 uses concrete and graphic models to derive formulas for finding rates, distance, time, and angle measures. (Also assesses B.1.2.2 and B.2.3.1)	Assessed with C.1.3.1	MC, GR	MC, GR
MA.B.1.3.3 understands and describes how the change of a figure in such dimensions as length, width, height, or radius affects its other measurements such as perimeter, area, surface area, and volume. (Also assesses C.2.3.1)	MC, GR	MC, GR	MC, GR
MA.B.1.3.4 constructs, interprets, and uses scale drawings such as those based on number lines and maps to solve real- world problems. (Also assesses B.2.3.1)	MC, GR	MC, GR	MC, GR
MA.B.2.3.1 uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units.	Assessed with A.4.3.1, B.1.3.1, B.1.3.2, and B.1.3.4	Assessed with A.4.3.1, B.1.3.1, B.1.3.2, and B.1.3.4	Assessed with A.4.3.1, B.1.3.1, B.1.3.2, and B.1.3.4
MA.B.2.3.2 solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system.	MC, GR	MC, GR	MC, GR
MA.B.3.3.1 solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.	Assessed with A.4.3.1	Assessed with A.4.3.1	Assessed with A.4.3.1
MA.B.4.3.1 selects appropriate units of measurement and determines and applies significant digits in a real-world context. (Significant digits should relate to both instrument precision and to the least precise unit of measurement.)	Not assessed	Not assessed	Not assessed
MA.B.4.3.2 selects and uses appropriate instruments, technology, and techniques to measure quantities in order to achieve specified degrees of accuracy in a problem situation.	Not assessed	Not assessed	Not assessed

MC: multiple-choice  
 GR: gridded-response  
 SR: short-response  
 ER: extended-response

## MATH BENCHMARKS ASSESSED AT GRADES 6-8 (CONTINUED)

SUNSHINE STATE STANDARDS BENCHMARK	ITEM FORMATS		
GRADES 6-8	Grade 6	Grade 7	Grade 8
<b>STRAND C: GEOMETRY AND SPATIAL SENSE</b>			
MA.C.1.3.1 understands the basic properties of, and relationships pertaining to, regular and irregular geometric shapes in two and three dimensions. (Also assesses C.1.2.1)	MC	MC	MC
MA.C.2.3.1 understands the geometric concepts of symmetry, reflections, congruency, similarity, perpendicularity, parallelism, and transformations, including flips (reflections), slides (translations), turns (rotations), and enlargements. (Also assesses B.1.3.3, C.1.2.1, C.1.3.1, and C.3.3.1)	MC	MC	MC, ER
MA.C.2.3.2 predicts and verifies patterns involving tessellations (a covering of a plane with congruent copies of the same pattern with no holes and no overlaps, like floor tiles).	Assessed with C.3.3.1	Assessed with C.3.3.1	Assessed with C.3.3.1
MA.C.3.3.1 represents and applies geometric properties and relationships to solve real-world and mathematical problems. (Also assesses C.2.3.1, C.2.3.2, and C.3.2.2)	MC	MC, GR	MC, SR
MA.C.3.3.2 identifies and plots ordered pairs in all four quadrants of a rectangular coordinate system (graph) and applies simple properties of lines.	MC	MC	MC
<b>STRAND D: ALGEBRAIC THINKING</b>			
MA.D.1.3.1 describes a wide variety of patterns, relationships, and functions through models, such as manipulatives, tables, graphs, expressions, equations, and inequalities. (Also assesses A.5.3.1)	MC, GR	MC, GR	MC, GR
MA.D.1.3.2 creates and interprets tables, graphs, equations, and verbal descriptions to explain cause-and-effect relationships. (Also assesses A.5.3.1)	MC, GR	MC, GR	MC, GR, SR
MA.D.2.3.1 represents and solves real-world problems graphically, with algebraic expressions, equations, and inequalities. (Also assesses A.1.3.3)	MC	MC	MC, SR
MA.D.2.3.2 uses algebraic problem-solving strategies to solve real-world problems involving linear equations and inequalities.	MC, GR	MC, GR	MC, GR

MC: multiple-choice  
 GR: gridded-response  
 SR: short-response  
 ER: extended-response

## MATH BENCHMARKS ASSESSED AT GRADES 6-8 (CONTINUED)

SUNSHINE STATE STANDARDS BENCHMARK	ITEM FORMATS			
	GRADES 6-8	Grade 6	Grade 7	Grade 8
<b>STRAND E: DATA ANALYSIS AND PROBABILITY</b>				
MA.E.1.3.1 collects, organizes, and displays data in a variety of forms, including tables, line graphs, charts, and bar graphs, to determine how different ways of presenting data can lead to different interpretations. (Also assesses E.1.3.3)	MC, GR	MC, GR	MC, GR, ER	
MA.E.1.3.2 understands and applies the concepts of range and central tendency (mean, median, and mode). (Also assesses E.1.3.3)	MC, GR	MC, GR	MC, GR	
MA.E.1.3.3 analyzes real- world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display, using appropriate technology, including calculators and computers.	Assessed with E.1.3.1 and E.1.3.2	Assessed with E.1.3.1 and E.1.3.2	Assessed with E.1.3.1 and E.1.3.2	
MA.E.2.3.1 compares experimental results with mathematical expectations of probabilities.	MC	MC	MC	
MA.E.2.3.2 determines odds for and odds against a given situation. (Also assesses E.2.2.2)	MC	MC	MC	
MA.E.3.3.1 formulates hypotheses, designs experiments, collects and interprets data, and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range, mean, median, and mode) and tables, graphs, and charts. (Also assesses E.3.3.2)	MC	MC	MC	
MA.E.3.3.2 identifies the common uses and misuses of probability and statistical analysis in the everyday world.	Assessed with E.3.3.1	Assessed with E.3.3.1	Assessed with E.3.3.1	

MC: multiple-choice  
 GR: gridded-response  
 SR: short-response  
 ER: extended-response