

MATHEMATICS TEACHING TARGETS

EIGHTH GRADE

<i>First Six Weeks</i>				
<i>Benchmark Number</i>	<i>Benchmark</i> • <i>Teaching Targets</i>	<i>Tested</i>	<i>Resource</i>	<i>Taught</i>
Chapter 1, (1-9), Chapter 2, (1-10), Chapter 3, (1-7, 9)				
N.3	<i>Reading, writing, representing, and using rational numbers in a variety of forms (e.g., integers, mixed numbers, and improper fractions)</i>			
	• Use understanding of place value, rounding, writing, and comparing whole numbers and perform basic operations.	L21	Activity	
N.5	<i>Applying an understanding of rational numbers and arithmetic operations to real-life situations</i>			
	• Apply skills through the use of word problems.	L21	1-1 ongoing	
N.1	<i>Demonstrating that a rational number can be expressed in many forms, and selecting an appropriate form for a given situation (e.g., fractions, decimals, and percents)</i>			
	• Application of decimals with word problems.	L21	1-6	
M.5	<i>Converting from one unit of measurement to another within the same system (Comparisons between systems, customary and metric, should be based on intuitive reference points, not formal computation.)</i>			
	• Apply decimals to solve metric system problems.	L21	1-6	
M.6	<i>Demonstrating the connection of measurement to the other strands and to real-life situations</i>			
	• Solve problems using customary and metric units.	L21	1-7	
M.4	<i>Using intuition and estimation skills to describe, order, and compare formal and informal measures (e.g., ordering cup, pint, quart, gallon: comparing a meter to a yard)</i>			
	• Identify and describe the relationships between customary and metric systems.	L21	Activity	
A.1	<i>Demonstrating a conceptual understanding of variables, expressions, equations and inequalities (e.g., symbolically represent real-world problems as linear terms, equations or inequalities)</i>			
	• Write numbers in exponential and standard notation.	L21	1-9	
	• Demonstrate an understanding of variables, expressions, and symbols used in algebraic expressions.	L21	2-1	
N.4	<i>Demonstrating a conceptual understanding of the meaning of the basic arithmetic operations (add, subtract, multiply and divide) and their relationships to each other</i>			
	• Extend order of operations to include mini-step problems using rational numbers and exponents.	L21	2-1	
	• Identify and use basic properties to simplify expressions.	L21	2-4	
A.2	<i>Modeling and developing methods for solving equations and inequalities (e.g., using charts, graphs, manipulatives, and/or standard algebraic procedures)</i>			
	• Evaluate one-step and two-step equations with all operations using rational numbers.	L21	2-2, 7	

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<i>First Six Weeks (continued)</i>				
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M.1	<i>Applying the concepts of length, area, surface area, volume, capacity, weight, mass, money, time, temperature, and rate to real-world experiences</i>			
	• Find the perimeter and area of geometric figures to solve problems involving real-life situations.	L21	2-9	
A.1	<i>Demonstrating a conceptual understanding of variables, expressions, equations and inequalities (e.g., symbolically represent real-world problems as linear terms, equations or inequalities)</i>			
	• Solve and graph inequalities on the number line.	L21	2-10	
N.3	<i>Reading, writing, representing, and using rational numbers in a variety of forms (e.g., integers, mixed numbers, and improper fractions)</i>			
	• Solve problems with integers.	L21	3-8	
N.4	<i>Demonstrating a conceptual understanding of the meaning of the basic arithmetic operations (add, subtract, multiply and divide) and their relationships to each other</i>			
	• Extend knowledge of integers including absolute value, comparing, adding, subtracting, multiplication, and division.	L21	3-1,2, 3, 4, 5, 6, 7	
	• Perform operations using the Basic Properties: commutative, distributive, associative, etc.	L21	3-4	
G.6	<i>Demonstrating an understanding of the coordinate system (e.g., locate points, identify coordinates, and graph points in a coordinate plane to represent real-world situations)</i>			
	• Define and label parts of the coordinate system including ordered pairs, x-axis, y-axis, quadrants, and origin.	L21	3-10	

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Chapter 5 (1-6), Chapter 12 (1, 3-7), Chapter 11 (8-10)				
G.2	<i>Identifying, describing, comparing, constructing, and classifying geometric figures and concepts</i>			
	• Identify and label segments, rays, midpoints, and bisectors.	L21	Activity	
	• Identify and label parallel and perpendicular lines.	L21	5-1	
G.1	<i>Using estimation skills to describe, order, and compare geometric measures</i>			
	• Identify using estimation or exact measure different types of angles including right, acute, obtuse, vertical, supplementary, and complementary.	L21	Activity	
D.3	<i>Describing informal thinking procedures (e.g., solving elementary logic problems using Venn diagrams, tables, charts, and/or elementary logic operatives to solve logic problems in real-life situations; reach valid conclusions in elementary logic problems involving “and, or, not, if/then”)</i>			
	• Collect, organize, and interpret data from various sources, including tables, graphs, charts, and Venn Diagrams.	L21	5-2	
G.2	<i>Identifying, describing, comparing, constructing, and classifying geometric figures and concepts</i>			
	• Identify and define different polygons, quadrilaterals, and triangles.	L21	5-3,4	
M.2	<i>Demonstrating an intuitive sense of measurement (e.g., estimating and determining reasonableness of measures)</i>			
	• Estimate the area of polygons.	L21	Activity	
G.2	<i>Identifying, describing, comparing, constructing, and classifying geometric figures and concepts</i>			
	• Explore parts of circle: center, radius, diameter, chord, arc, sector, tangent, central angle.	L21	Activity	
M.1	<i>Applying the concepts of length, area, surface area, volume, capacity, weight, mass, money, time, temperature, and rate to real-world experiences</i>			
	• Find the area of rectangles, squares, parallelograms, triangles, trapezoids, circles, and irregular shapes.	L21	7-7	
	• Find the circumference and area of circles	L21	7-8, 2-1	
	• Find the volume of prisms, pyramids, cones, and cylinders.	L21	12-6, 7	
	• Find the surface area of prisms and cylinders.	L21	12-4, 5	
G.3	<i>Making predictions regarding transformations of geometric figures (e.g., make predictions regarding translations, reflections, and rotations of common figures)</i>			
	• Identify translations, reflections, and rotations.	L21	11-8, 9, 10	

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A.1	<i>Demonstrating a conceptual understanding of variables, expressions, equations and inequalities (e.g., symbolically represent real-world problems as linear terms, equations or inequalities)</i>			
	<ul style="list-style-type: none"> • Explore different methods of finding square roots such as calculators, tables, number patterns, of divide and average 	L21	8-1, 2	
G.7	<i>Demonstrating the connection of geometry to the other strands and to real-life situations (e.g., applications of the Pythagorean Theorem)</i>			
	<ul style="list-style-type: none"> • Explore the Pythagorean properties to solve real-life situations involving right triangles. 	L21	8-5, 6	

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Chapter 4 (1-6, 9), Chapter 6 (1-11), Chapter 7 (1-10)				
D.1	<i>Systematically collecting, organizing, describing, and displaying data in charts, tables, plots, graphs, and/or spreadsheets</i>			
	• Interpret tables, graphs, line plots, stem/leaf, etc.	L21	4-1, 2, 3, 4	
D.2	<i>Analyzing, interpreting, evaluating, drawing inferences, and making estimations, predictions, decisions, and convincing arguments based on organized data (e.g., analyze data using concepts of mean, median, mode, range, random samples, sample size, bias, and data extremes)</i>			
	• Analyze data to find mean, median, mode, and range	L21	4-5, 6	
D.2	<i>Analyzing, interpreting, evaluating, drawing inferences, and making estimations, predictions, decisions, and convincing arguments based on organized data (e.g., analyze data using concepts of mean, median, mode, range, random samples, sample size, bias, and data extremes)</i>			
	• Interpret misleading statistics.	L21	4-9	
P.1	<i>Describing, extending, analyzing, and creating a wide variety of numerical, geometrical, and statistical patterns (e.g., skip counting of rational numbers, and simple exponential number patterns)</i>			
	• Identify and use inductive reasoning to discover patterns involving whole numbers.	L21	6A	
N.1	<i>Demonstrating that a rational number can be expressed in many forms, and selecting an appropriate form for a given situation (e.g., fractions, decimals, and percents)</i>			
	• Review and apply the divisibility rules of 2, 3, 4, 5, 6, 8, 9, and 10..	L21	6-1	
	• Use prime factorization of composite numbers to find LCM and GCF of 2 or more numbers.	L21	6-2, 4, 9	
	• Order, compare, and perform basic operations with decimals, including rounding of decimals.	L21	Activity	
	• Identify, classify, and convert terminating and repeating decimals.	L21	6-7	
D.5	<i>Comparing experimental probability results with theoretical probability (e.g., representing probabilities of concrete situations as common fractions, investigating single-event and multiple-event probability, using sample spaces, geometric figures, tables, and/or graphs)</i>			
	• Find and predict probability to solve problems and simple events.	L21	6-8	

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<i>Third Six Weeks (continued)</i>				
<i>Benchmark Number</i>	<i>Benchmark</i> • <i>Teaching Targets</i>	<i>Tested</i>	<i>Resource</i>	<i>Taught</i>
<i>A.1</i>	<i>Demonstrating a conceptual understanding of variables, expressions, equations and inequalities (e.g., symbolically represent real-world problems as linear terms, equations or inequalities)</i>			
	• Use understandings of numbers in exponential, expanded and scientific form to write numbers and perform operations.	L21	6-11	
<i>N.3</i>	<i>Reading, writing, representing, and using rational numbers in a variety of forms (e.g., integers, mixed numbers, and improper fractions)</i>			
	• Use mixed numbers and improper fractions.	L21	7-1	
<i>N.4</i>	<i>Demonstrating a conceptual understanding of the meaning of the basic arithmetic operations (add, subtract, multiply and divide) and their relationships to each other</i>			
	• Order, compare, simplify, and perform basic operations with fractions.	L21	7-1, 2, 3, 4	
<i>N.5</i>	<i>Applying an understanding of rational numbers and arithmetic operations to real-life situations</i>			
	• Use rational numbers to write, order, compare, simplify and perform basic operations (addition, subtraction, multiplication, and division of fractions).	L21	7-1, 2, 3, 4, 9, 10	
	• Use applications of rational numbers with word problems.	L21	7-5, 6	

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Chapter 9 (1-3, 5-7), Chapter 10 (1-10), Chapter 11 (1-4, 6)				
N.8	<i>Demonstrating a conceptual understanding and application of proportional reasoning (e.g., determining equivalent ratios, finding a missing term of a given proportion)</i>			
	• Demonstrate proportional reasoning using rates, ratios, and proportions.	L21	9-1	
M.1	<i>Applying the concepts of length, area, surface area, volume, capacity, weight, mass, money, time, temperature, and rate to real-world experiences</i>			
	• Find unit cost.	L21	9-1	
N.8	<i>Demonstrating a conceptual understanding and application of proportional reasoning (e.g., determining equivalent ratios, finding a missing term of a given proportion)</i>			
	• Solve proportions for the missing value including part, whole, and percent.	L21	9-2, 3	
G.2	<i>Identifying, describing, comparing, constructing, and classifying geometric figures and concepts</i>			
	• Explore similar or congruent figures to make predictions regarding transformations and to find missing sides using proportions.	L21	9-5, 6	
	• Setup and solve for missing parts using scale drawings and similar figures.	L21	9-7	
N.8	<i>Demonstrating a conceptual understanding and application of proportional reasoning (e.g., determining equivalent ratios, finding a missing term of a given proportion)</i>			
	• Solve percent problems (including large and small percents) using conversions between fractions or decimals and using proportions involving part, whole, and percent.	L21	10-1, 2, 3, 4, 5, 6	
	• Interpret circle graphs.	L21	10-7	
N.5	<i>Applying an understanding of rational numbers and arithmetic operations to real-life situations</i>			
	• Find the percent of increase or decrease.	L21	10-8	
N.8	<i>Demonstrating a conceptual understanding and application of proportional reasoning (e.g., determining equivalent ratios, finding a missing term of a given proportion)</i>			
	• Find the discount and sale price.	L21	10-9	
A.5	<i>Demonstrating the connection of algebra to the other strands and to real-life situations</i>			
	• Find the simple interest.	L21	10-10	
N.5	<i>Applying an understanding of rational numbers and arithmetic operations to real-life situations</i>			
	• Find the salary and commission.	L21	Activity	

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<i>Fourth Six Weeks (continued)</i>				
<i>Benchmark Number</i>	<i>Benchmark</i> • <i>Teaching Targets</i>	<i>Tested</i>	<i>Resource</i>	<i>Taught</i>
A.1	<i>Demonstrating a conceptual understanding of variables, expressions, equations and inequalities (e.g., symbolically represent real-world problems as linear terms, equations or inequalities)</i>			
	• Use formulas, linear equations, and inequalities to solve real world problems.	L21	11-1, 6	
A.4	<i>Analyzing tables and graphs to identify relationships exhibited by the data and making generalizations based upon these relationships</i>			
	• Create and graph equations based on information found in tables or graphs.	L21	11-2, 4	
A.2	<i>Modeling and developing methods for solving equations and inequalities (e.g., using charts, graphs, manipulatives, and/or standard algebraic procedures)</i>			
	• Find solutions for equations with 2 variables.	L21	11-3	

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<i>Fifth Six Weeks</i>				
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Chapter 13 (1-3, 5), Chapter 5 (1A)				
D.5	<i>Comparing experimental probability results with theoretical probability (e.g., representing probabilities of concrete situations as common fractions, investigating single-event and multiple-event probability, using sample spaces, geometric figures, tables, and/or graphs)</i>			
	• Distinguish between probability of dependent and independent events.	L21	13-5	
D.4	<i>Analyzing various counting and enumeration procedures with and without replacement (e.g., find the total number of possible outcomes or possible choices in a given situation)</i>			
	• Apply the fundamental counting principle to find the total number of outcomes.	L21	13-1	
	• Calculate permutations and combinations.	L21	13-2	
G.2	<i>Identifying, describing, comparing, constructing, and classifying geometric figures and concepts</i>			
	• Construct congruent segments, angles, perpendicular bisectors and angle bisectors.	L21	Activity	

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<i>Sixth Six Weeks</i>				
<i>Benchmark Number</i>	<i>Benchmark</i> • <i>Teaching Targets</i>	<i>Tested</i>	<i>Resource</i>	<i>Taught</i>
G.6	<i>Demonstrating an understanding of the coordinate system (e.g., locate points, identify coordinates, and graph points in a coordinate plane to represent real-world situations)</i>			
	• Explore and graph equations of lines in the form of $y = mx + b$.	L21	11-8B	
A.1	<i>Demonstrating a conceptual understanding of variables, expressions, equations and inequalities (e.g., symbolically represent real-world problems as linear terms, equations or inequalities)</i>			
	• Explore, define, and identify monomials, binomials, trinomials, and polynomials.	L21	14-2	
	• Add and subtract polynomial expressions or equations.	L21	14-3, 4	
	• Multiply, divide, and factor monomial expressions or equations.	L21	14-5, 6	