



MathScape

Seeing and Thinking Mathematically

Course 1

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STANDARDS	PAGE REFERENCES
<p>Sixth Grade Algebra Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Use procedures to transform algebraic expressions.</p>	
<p>6.A.1.1. Students are able to use order of operations, excluding nested parentheses and exponents, to simplify whole number expressions.</p>	<p>Student Edition: 102-103, 104-105, 145, 146 Teacher's Guide: 104A <i>Quick Review Math Handbook Book 1:</i> 270 <i>Math Skills Maintenance Workbook Course 1:</i> 52, 53</p>
<p>6.A.1.2. Students are able to write algebraic expressions involving addition or multiplication using whole numbers.</p>	
<ul style="list-style-type: none"> Show multiplication in various forms: $2 \bullet 3$ or $2n$ or $2(3)$. 	<p>Student Edition: 332-333, 357, 358 Teacher's Guide: 332A, 333A <i>Quick Review Math Handbook Book 1:</i> 256-257</p>

STANDARDS	PAGE REFERENCES
Indicator 2: Use a variety of algebraic concepts and methods to solve equations and inequalities.	
6.A.2.1. Students are able to write and solve one-step 1st degree equations, with one variable, involving inverse operations using the set of whole numbers.	Student Edition: 332-333, 336-337, 357 Teacher's Guide: 332A <i>Quick Review Math Handbook Book 1:</i> 260, 261
Indicator 3: Interpret and develop mathematical models.	
6.A.3.1. Students are able to identify and graph ordered pairs in Quadrant I on a coordinate plane.	Student Edition: 340-341, 342-343, 348-349, 360, 361, 362, 363, 364 Teacher's Guide: 340A <i>Quick Review Math Handbook Book 1:</i> 282-284
6.A.3.2. Students are able to solve one-step problems involving ratios and rates.	Student Edition: 286-287, 300-301, 302-303, 308 #11, 309 #17, 311 <i>Quick Review Math Handbook Book 1:</i> 274, 277, 290 <i>Math Skills Maintenance Workbook Course 1:</i> 71
Indicator 4: Describe and use properties and behaviors of relations, functions, and inverses.	
6.A.4.1. Students are able to use concrete materials, graphs and algebraic statements to represent problem situations.	
<ul style="list-style-type: none"> Recognize, describe, and extend arithmetic sequences and patterns. 	Student Edition: 324-325, 326-327, 336-337, 354, 355, 356 Teacher's Guide: 323, 326A, 346-347
<ul style="list-style-type: none"> Use variables to represent given quantities in problem situations. 	Student Edition: 332-333, 334-335, 336-337, 357 Teacher's Guide: 332A, 337A <i>Quick Review Math Handbook Book 1:</i> 254-257

STANDARDS	PAGE REFERENCES
<p>Sixth Grade Geometry Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Use deductive and inductive reasoning to recognize and apply properties of geometric figures.</p>	
<p>6.G.1.1. Students are able to identify and describe the characteristics of triangles and quadrilaterals.</p>	
<ul style="list-style-type: none"> • Identify and describe similarities and differences of triangles: <ul style="list-style-type: none"> Scalene Isosceles Equilateral Right Acute Obtuse 	<p>Student Edition: 176-177, 178-179, 182-183, 198, 199, 200 #13, 201</p> <p>Teacher’s Guide: 174-175, 176A</p> <p>Quick Review Math Handbook Book 1: 301</p>
<ul style="list-style-type: none"> • Identify and describe similarities and differences of quadrilaterals: <ul style="list-style-type: none"> Trapezoid Parallelogram Rectangle Rhombus Square 	<p>Student Edition: 180-181, 182-183, 198, 199, 200, 201</p> <p>Teacher’s Guide: 174, 182A, A10</p> <p>Quick Review Math Handbook Book 1: 304-308, 312, 313</p>
<p>6.G.1.2. Students are able to identify and describe angles.</p>	
<ul style="list-style-type: none"> • Identify and describe differences of angles: <ul style="list-style-type: none"> Acute Obtuse Right 	<p>Student Edition: 178-179, 180-181, 182-183, 199, 200, 201</p> <p>Teacher’s Guide: 178A, 179A, 180A, 181A</p> <p>Quick Review Math Handbook Book 1: 297, 303</p>
<p>Indicator 2: Use properties of geometric figures to solve problems from a variety of perspectives.</p>	
<p>6.G.2.1. Students are able to use basic shapes to demonstrate geometric concepts.</p>	
<ul style="list-style-type: none"> • Demonstrate lines of symmetry. 	<p>Student Edition: 279, 290-291, 304, 309</p> <p>Also see Glencoe’s <i>MathScape: Seeing and Thinking Mathematically Course 2</i> © 2005.</p> <p>Quick Review Math Handbook Book 1: 314, 393 (can be used as an illustration)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use basic shapes to demonstrate congruency (triangle, rectangle, square, parallelogram). 	<p>Student Edition: 168-169, 170-171, 195, 196</p> <p>Teacher's Guide: 169A</p> <p><i>Quick Review Math Handbook Book 1:</i> 393</p>
<ul style="list-style-type: none"> Use basic shapes to demonstrate similarity (triangle, rectangle, square, parallelogram). 	<p>Student Edition: 282-283, 286-287, 290-291, 309, 311, 312</p> <p>Teacher's Guide: 298</p> <p><i>Quick Review Math Handbook Book 1:</i> 368-371</p>
<ul style="list-style-type: none"> Use basic shapes to demonstrate perpendicular lines (triangle, rectangle, square, trapezoid). 	<p>Student Edition: 176-177, 182-183, 190-191, 192-193, 198, 204</p> <p><i>Quick Review Math Handbook Book 1:</i> 326</p>
<ul style="list-style-type: none"> Use basic shapes to demonstrate parallel lines (rectangles, squares, parallelograms). 	<p>Student Edition: 176-177, 182-183, 186-187, 190-191, 192-193, 198, 201, 204, 205</p> <p>Teacher's Guide: 174, 175A, 176A, 183A</p> <p><i>Quick Review Math Handbook Book 1:</i> 305-306, 326</p>
<ul style="list-style-type: none"> Identify a reflection. 	<p>Student Edition: 168-169, 170-171, 195, 196</p> <p>Teacher's Guide: 169A</p> <p><i>Quick Review Math Handbook Book 1:</i> 314-315</p>

STANDARDS	PAGE REFERENCES
<p>Sixth Grade Measurement Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Apply measurement concepts in practical applications.</p>	
<p>6.M.1.1. Students are able to select, use, and convert appropriate unit of measurement for a situation.</p>	
<ul style="list-style-type: none"> Determine elapsed time. 	<p>Student Edition: 273 #21 (can be used to meet this standard) <i>Quick Review Math Handbook Book 1:</i> 366</p>
<ul style="list-style-type: none"> Convert length, capacity, and mass within the Metric system (kilo-, base unit, centi-, milli-). 	<p>Student Edition: 259, 292-293, 296-297, 315 <i>Quick Review Math Handbook Book 1:</i> 356, 357, 359, 364, 365 <i>Math Skills Maintenance Workbook Course 1:</i> 88, 89, 90</p>
<ul style="list-style-type: none"> Convert weight and length within U.S. Customary system. ✓ <i>Convert capacity within U.S. Customary system (fluid ounce, cup, pint, quart, gallon).</i> ✓ <i>Measure angles.</i> 	<p>Student Edition: 178-179, 199, 284-285, 292-293, 296-297, 313, 315 Teacher's Guide: 285A <i>Quick Review Math Handbook Book 1:</i> 352, 356, 357, 359, 364, 365 <i>Math Skills Maintenance Workbook Course 1:</i> 84, 85, 86, 87</p>
<p>6.M.1.2. Students are able to find the perimeter and area of squares and rectangles (whole number measurements).</p>	
<ul style="list-style-type: none"> Apply strategies and/or formulas. 	<p>Student Edition: 158, 182-183, 201, 284-285, 312 #18, 313 Teacher's Guide: 182A <i>Quick Review Math Handbook Book 1:</i> 350, 360</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use appropriate unit of measure. 	<p>Student Edition: 158, 182-183, 201, 256 #19, #20, 257 #25, 259 #28, #30, 261 #26, 262, 273 #20, 275 #28, #29, 280-281, 292-293</p> <p>Teacher's Guide: 182A, 292A, 293A</p> <p>Quick Review Math Handbook Book 1: 356, 359</p>
<p>Sixth Grade Number Sense Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers.</p>	
<p>6.N.1.1. Students are able to represent fractions in equivalent forms and convert between fractions, decimals, and percents using halves, fourths, tenths, hundredths.</p>	
<ul style="list-style-type: none"> Identify both standard and word forms (millions to ten- thousandths) of positive rational numbers. ✓ <i>Identify, represent, compare, and order rational numbers and represent them on a number line.</i> <i>Describe and compare two numbers using ratios including appropriate notation, e.g.,</i> $a:b, \frac{a}{b}, a \text{ to } b.$ 	<p>Student Edition: 112-113, 114-115, 149, 212-213, 214-215, 216-217, 256-258, 311</p> <p>Teacher's Guide: 112A, 113A, 115A, 214A, 216A</p> <p>Quick Review Math Handbook Book 1: 70, 71, 126-131</p> <p>Math Skills Maintenance Workbook Course 1: 1, 4, 68, 69, 71</p>
<p>6.N.1.2. Students are able to find factors and multiples of whole numbers.</p>	
<ul style="list-style-type: none"> Classify numbers as prime or composite. 	<p>Student Edition: 98-99, 100-101, 142</p> <p>Teacher's Guide: 94, 98A, 100A</p> <p>Quick Review Math Handbook Book 1: 82-84</p>

STANDARDS	PAGE REFERENCES
Indicator 2: Apply number operations with real numbers and other number systems.	
<p>6.N.2.1. Students are able to add, subtract, multiply, and divide decimals.</p> <ul style="list-style-type: none"> ✓ <i>Operations with fractions and integers.</i> 	<p>Student Edition: 220-221, 222-223, 224-225, 226-227, 260, 261, 262, 263</p> <p>Teacher's Guide: 207G, 218, 220A, 221A, 222A, 223A, 226A</p> <p>Quick Review Math Handbook Book 1: 132, 134, 135, 137, 139</p> <p>Math Skills Maintenance Workbook Course 1: 62-67, 74-79</p>
Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.	
6.N.3.1. Students are able to use various strategies to solve one- and two-step problems involving positive decimals.	
<ul style="list-style-type: none"> • Formulate rules to solve practical problems (problem solving). 	<p>Student Edition: 102-103, 104-105, 120-121, 126-127, 132-133, 324-325, 326-327, 328-329, 332-333, 348-349, 350-351, 354, 355, 356, 363, 364</p> <p>Teacher's Guide: 324A, 328A, 332A, 337A, 349A, 351A</p> <p>Quick Review Math Handbook Book 1: 118, 142, 156</p>
<ul style="list-style-type: none"> • Use estimation strategies to make predictions and test the reasonableness of answer. 	<p>Student Edition: 104-105, 129, 134-135, 138-139, 158, 216-217, 220-221, 259, 267, 284-285, 290-291</p> <p>Teacher's Guide: 134A, 139A, 216A, 219</p> <p>Quick Review Math Handbook Book 1: 72, 117, 118, 133, 138, 142, 151</p> <p>Math Skills Maintenance Workbook Course 1: 36-39, 41-51</p>
<ul style="list-style-type: none"> • Explain strategies and justify answers. 	<p>Student Edition: 104-105, 129, 134-135, 138-139, 158, 216-217, 220-221, 259, 267, 284-285, 290-291</p> <p>Teacher's Guide: 134A, 139A, 216A, 219</p> <p>Quick Review Math Handbook Book 1: 72, 117, 118, 130, 133, 135, 138, 142, 151, 324</p> <p>Math Skills Maintenance Workbook Course 1: 36-39, 41-51</p>

STANDARDS	PAGE REFERENCES
<p>Sixth Grade Statistics & Probability Grade Standards, Supporting Skills, and Examples</p>	
<p>Indicator 1: Use statistical models to gather, analyze, and display data to draw conclusions.</p>	
<p>6.S.1.1. Students are able to find the mean, mode, and range of an ordered set of positive data. ✓ Find the median.</p>	<p>Student Edition: 6-7, 8-9, 10-11, 18-19, 22-23, 24-25, 26-27, 30-31, 36-38, 41-44 Teacher’s Guide: 6A, 8A <i>Quick Review Math Handbook Book 1:</i> 183, 204-208</p>
<p>6.S.1.2. Students are able to display data using bar and line graphs and draw conclusions from data displayed in a graph.</p>	<p>Student Edition: 6-7, 8-9, 10-11, 16-17, 18-19, 22-23, 24-25, 26-27, 36-44 Teacher’s Guide: 7A, 8A, 10A, 16A, 19A, 25A <i>Quick Review Math Handbook Book 1:</i> 190-198, 202</p>
<p>Indicator 2: Apply the concepts of probability to predict events/outcomes and solve problems.</p>	
<p>6.S.2.1. Students are able to find the probability of a simple event.</p>	
<ul style="list-style-type: none"> Express the result as a fraction. 	<p>Student Edition: 46-47 <i>Quick Review Math Handbook Book 1:</i> 219, 220, 225, 227</p>