



MathScape

Seeing and Thinking Mathematically

Course 3

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STANDARDS	PAGE REFERENCES
<p>1. NUMBER OPERATIONS AND CONCEPTS</p>	
<p>Students use numbers, number sense, and number relationships in a problem-solving situation.</p>	
<p>1. Students represent and apply numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context:</p> <ul style="list-style-type: none"> • prime factors, factors, and multiples; • rational numbers and proportions; and • square roots and powers. 	<p>Student Edition: 150-151, 162-163, 176, 242-243, 244-245, 246-247, 263, 264, 296-297, 298-299</p> <p>Teacher's Guide: 162A, 246A, 298A</p> <p>Note: For additional information on factors and multiples, see Glencoe's <i>Mathscape: Seeing and Thinking Mathematically Course 2</i> © 2005 pages 116-117, 118-119, 120-121, 132-134</p>
<p>2. Students extend understanding and use of basic arithmetic operations on rational numbers.</p> <ul style="list-style-type: none"> • Simplify numerical expressions using the order of operations; • Order rational numbers expressed in a variety of forms 	<p>Student Edition: 140-141, 144-145, 148-149, 182-183, 184-185, 186-187, 191, 192-193, 194-195, 197-198, 211, 213</p> <p>Teacher's Guide: 141A, 192A, 197A</p>
<p>3. Students explain their choice of estimation and problem-solving strategies and justify results of solutions in problem-solving situations involving rational numbers.</p>	<p>Student Edition: 10-11, 22-23, 36, 41, 52-53, 138-139, 160-161, 162-163, 164-165, 166, 167, 169 #10, 175 #14d, 176</p> <p>Teacher's Guide: 22A, 160A, 162A, 163A</p>

STANDARDS	PAGE REFERENCES
4. Students understand properties of operations with rational numbers.	Student Edition: 196-197, 206-207, 216, 220 Teacher's Guide: 196A, 197A
2. GEOMETRY	
Students apply geometric concepts, properties, and relationships in a problem-solving situation.	
1. Students classify and describe one-, two-, and three-dimensional geometric objects, including: <ul style="list-style-type: none"> • lines, rays, segments, and angles; • parallel and perpendicular relationships; • circles and spheres; • regular polygon types; • right prisms, cylinders, cones, and pyramids. 	Student Edition: 94-95, 96-97, 108-109, 114-115, 116-117, 120-121, 122, 123, 126, 127, 128, 130, 131, 252-253, 254-255 Teacher's Guide: 92, 93, 94A, 96A, 108A, 114A, 116A, 120A
2. Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.	Student Edition: 228-229, 252-253, 254-255, 257, 259, 266 Teacher's Guide: 229A, 252A, 254A Note: For additional information, see Glencoe's <i>Mathscape Course 2</i> © 2005 pages 288-289.
3. Students use geometric formulas including the Pythagorean Theorem.	Student Edition: 98-99, 104-105, 106-107, 108-109, 110-111, 114-115, 116-117, 124, 236-237, 238-239, 246-247, 250-251, 260, 261, 264, 265 Teacher's Guide: 98A, 102, 103, 105A, 107A, 109A, 111A, 112, 115A, 117A, 223G, 232, 233, 237A, 239A, 247A
4. Students communicate the reasoning used in identifying geometric relationships in problem-solving situations appropriate to grade level.	Student Edition: 96-97, 100-101, 104-105, 108-109, 114-115, 120-121, 133, 254-255, 267 Teacher's Guide: 101A, 115A, 121A
5. Students represent geometric figures using a rectangular coordinate plane.	Student Edition: 62-63, 83, 292-293 Teacher's Guide: 62A, 292A

STANDARDS	PAGE REFERENCES
3. MEASUREMENT	
Students use a variety of tools and techniques of measurement in a problem-solving situation.	
1. Students apply estimation and measurement of weight/mass to content problems and convert within U.S. customary and within metric units (mg, g, kg).	Student Edition: 16-17, 40, 41, 50-51, 52-53, 132 Teacher's Guide: 48, 51A, 52A
2. Students apply estimation and measurement of capacity/volume to content problems and convert within metric units (ml, l).	Student Edition: 98-99, 104-105, 106-107, 110-111, 114-115, 116-117, 118-119, 124, 126, 129-133, 211 #8 Teacher's Guide: 99A, 102, 103, 105A, 107A, 112, 113, 115A, 117A, 118A
3. Students select and use the appropriate methods, tools, and units to solve problems involving angle measure, perimeter, circumference, area (including circles), and volume of rectangular solids.	Student Edition: 104-105, 226-227, 228-229, 230-231, 244-245, 252-253, 265, 292-293 Teacher's Guide: 102, 226A, 227A, 244A, 292A
4. ALGEBRA	
Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation.	
1. Students translate word phrases, which involve the four basic operations to mathematical expressions.	Student Edition: 184-185, 186-187, 188-189, 211, 212, 213 Teacher's Guide: 184A, 186A, 190, 191
2. Students solve one- and two-step linear equations each with an integer coefficient and integer solutions.	Student Edition: 196-197, 204-205, 206-207, 208-209, 219-221 Teacher's Guide: 204A
3. Students evaluate algebraic expressions and formulas given integer values for variables.	Student Edition: 184-185, 211
4. Using simple linear equations, students create a table, and graph the solutions on the coordinate system.	The following pages can be used for students to make a table. Student Edition: 196-197, 204-205, 219 Graphing the solutions can be done with teacher instruction.

STANDARDS	PAGE REFERENCES
5. DATA ANALYSIS AND PROBABILITY	
Students use data analysis and probability to analyze given situations and the results of experiments.	
1. Students systematically collect, organize, describe, analyze, and represent data using tables, charts, diagrams, and graphs.	Student Edition: 6-7, 8-9, 10-11, 12-13, 16-17, 18-19, 20-21, 35, 36, 39-41 Teacher's Guide: 6A, 7A, 8A, 9A
2. Students calculate mean, median, mode, and range for data sets and use in a real-world setting appropriate to grade level.	Student Edition: 6-7, 8-9, 10-11, 12-13, 16-17, 34-38 Teacher's Guide: 3G, 4, 5, 8A, 12A
3. Students predict, compare, and calculate probable outcomes of experiments or simulations.	Student Edition: 26-27, 28-29, 30-31, 32-33, 42-45 Teacher's Guide: 26A, 27A, 30A, 32A, 33A
4. Students communicate about the likelihood of events using concepts from probability such as impossible, equally likely and certain appropriate to grade level.	Student Edition: 26-27, 32-33, 42, 45