

GLENCOE CORRELATION
MATHEMATICS: APPLICATIONS AND CONNECTIONS
COURSE 2 © 2001
WYOMING
Grade 8 Mathematics

OBJECTIVES	PAGE REFERENCES
1. NUMBER OPERATIONS AND CONCEPTS	
Students use numbers, number sense, and number relationships in a problem-solving situation. Students communicate the reasoning used in solving these problems.	
1. Students represent and use numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context: <ul style="list-style-type: none"> • Integers as prime factors, factors, and multiples; • Rational numbers including fractions, decimals, percents, ratios, and proportions; • Roots and powers. 	SE: 17-20, 138-141, 150-153, 158-164, 169-171 410-413 TWE: RL 19, 159, 162 EL 141
2. Students extend their understanding and use of basic arithmetic operations on rational numbers. <ul style="list-style-type: none"> • Simplify numerical expressions using the order of operations; • Develop and use order relations (comparisons) for rational numbers. 	SE: 8-10, 56-59, 66-69, 197-205, 284-287, 305-307 <i>Hands-on Lab</i> 64-65 TWE: RL 9 EL 20 ML 268
3. Students use number sense for mental math, estimation, and justifying the reasonableness of solutions to problems involving rational numbers.	SE: 50-53, 268-271, 415-417, 450-453 <i>Thinking Lab</i> 54-55 TWE: CA 53, 271 EL 271 RL 452
2. GEOMETRY	
Students apply geometric concepts, properties, and relationships in a problem-solving situation. Students communicate the reasoning used in solving these problems.	
1. Students classify, describe, and draw one-, two-, and three-dimensional geometric shapes, including: <ul style="list-style-type: none"> • Lines, rays, segments, and angles; • Parallel and perpendicular relationships; • Circles and spheres; • Polygons such as triangles, squares, rectangles, etc.; • Right prisms, cylinders, cones, and pyramids. 	SE: 297-300, 362-365, 382-385, 492-495 <i>Hands-on Lab</i> 366-367, 381 TWE: RL 384 CA 385, 495

OBJECTIVES	PAGE REFERENCES
2. Students select and use the appropriate methods, tools, and units to solve problems involving angle measure, perimeter, circumference, area, and volume: <ul style="list-style-type: none"> • Area of triangles, squares, rectangles, parallelograms, trapezoids, and circles; • Surface area and volume of rectangular solids. 	SE: 30-33, 297-300, 428-435, 498-501, 510-517 <i>Hands-on Lab</i> 28-29, 427, 502 TWE: ML 297 RL 299 CA 431
3. Students make conjectures about geometric figures based on their knowledge of geometric transformations, congruence, and similarity.	SE: 215-217, 371, 376-379, 388-397 TWE: EL 217 CA 217, 379 RL 378
4. Students use geometric formulas including the Pythagorean theorem.	SE: 419-422, 428-435, 498-510, 510-517 <i>Hands-on Lab</i> 28-29 TWE: RL 32 CA 33, 422 MLS 514
3. MEASUREMENT	
Students use a variety of tools and techniques of measurement in a problem-solving situation. Students communicate the reasoning used in solving these problems.	
1. Students measure length, weight/mass, capacity, and angle measure.	SE: 292-295 <i>Hands-on Lab</i> 360-361 <i>Hands-on Mini Lab</i> 504 TWE: ML 74 RL 290, 420 CA 295
2. Students measure two- and three-dimensional models using a variety of tools.	SE: 292-295 <i>Hands-on Mini Lab</i> 297, 363, 504 <i>Hands-on Lab</i> 360-361 TWE: ML 292 RL 290, 299, 378
3. Students convert units of measure within the U.S. system and within the metric system in problem-solving situations across content areas.	SE: 74-76, 289-291 TWE: ML 74, 289 CA 76 MLS 419
4. ALGEBRAIC CONCEPTS AND RELATIONSHIPS	
Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation. Students evaluate and communicate the reasoning used in solving these problems.	
1. Students identify variables, expressions, inequalities, and equations.	SE: 12-15, 44-46, 246-248 <i>Hands-on Lab</i> 11, 226-227 TWE: MJ 11, 227 RL 14 EL 248

OBJECTIVES	PAGE REFERENCES
2. Students translate in both directions word phrases and sentences to mathematical expressions and equations.	SE: 242-245 <i>Hands-on Lab 11</i> <i>Chapter Project 225</i> <i>Thinking Lab 232-233</i> TWE: CA 23 ML 21, 242 MLS 242 RL 244
3. Students solve one- and two-step linear equations and inequalities.	SE: 21-23, 228-231, 239-241, 246-248 <i>Hands-on Lab 226-227</i> TWE: RL 22 CA 248 5MC 249
4. Students evaluate algebraic expressions and formulas given the values for variables.	SE: 12-15, 376-379, 456-458, 478-480 <i>Technology Lab 16</i> <i>Let the Games Begin 20</i> TWE: MLS 12 MJ 16 EL 214 ML 456
5. Students understand and use the coordinate system.	SE: 191-194, 215-217 TWE: EL 194 5MC 197 RL 216, 251
5. STATISTICS AND PROBABILITY	
Students use statistics and probability to analyze given situations and the results of experiments. Students communicate the reasoning used in arriving at a conclusion.	
1. Students systematically collect, organize, describe, analyze, and represent data using tables, charts, and graphs.	SE: 98-101 <i>Chapter Project 87, 183</i> <i>Thinking Lab 92-93</i> TWE: MLS 99 EL 101
2. Students calculate measures of central tendency for data sets.	SE: 102-105 <i>Hands-on Lab 106</i> TWE: RL 104 CA 105 ML 301
3. Students predict, compare, and calculate probable outcomes of simple experiments or simulations.	SE: 94-97, 119-121, 530-533, 542-545 <i>Let the Games Begin 107</i> TWE: ML 17 RL 120 EL 533 MLS 542

OBJECTIVES	PAGE REFERENCES
6. TOOLS AND TECHNOLOGY	
Students use appropriate tools and technologies to model, measure, and apply the results in a problem-solving situation. Students communicate the reasoning used in solving these problems.	
1. Students use manipulatives and concrete models as tools to solve problems.	SE: <i>Hands-on Lab</i> 201 <i>Hands-on Mini Lab</i> 297, 342, 388 <i>Thinking Lab</i> 496-497 TWE: RL 216, 493 ML 362 CA 441
2. Students use a scientific calculator as a tool in problem solving.	SE: <i>Technology Lab</i> 16, 195, 481 <i>Study Hint</i> 346 <i>Chapter Project</i> 407 TWE: MJ 16 RM 18 UC 44, 269 RL 434
3. Students use a computer to organize information and to research a mathematical situation.	SE: <i>Chapter Project</i> 43, 131, 225, 267 <i>Technology Lab</i> 137 TWE: EL 467
4. Students use application software (i.e., spreadsheets, microworlds, probeware, etc.) to assist in the problem-solving process.	SE: <i>Technology Lab</i> 137, 481 <i>Chapter Project</i> 3, 267, 449 TWE: UDS 359
7. PROBLEM SOLVING AND MATHEMATICAL REASONINGS	
Students apply a variety of problem-solving strategies to investigate and solve problems from across the curriculum as well as from practical applications.	
1. Students apply math skills, including mental-math, number sense, estimation, and basic operations in problem-solving situations.	SE: 47-53, 268-271, 415-417, 450-453 <i>Chapter Project</i> 407 TWE: RL 6, 452 ML 50 EL 160 CA 453
2. Students, given a problem to solve, choose a strategy, apply the strategy to find an acceptable solution, and communicate the process involved.	SE: 4-7 <i>Thinking Lab</i> 34-35, 232-233, 408-409 <i>Thinking Lab</i> 454-455 TWE: EL 7 CA 23, 35 RL 52
3. Students recognize and apply deductive and inductive reasoning to simple problem-solving situations.	SE: <i>Thinking Lab</i> 54-55, 386-387 TWE: CA 55 ML 242 GS 329 EL 387 RL 479

Codes Used for TWE Pages

5MC	5-Minute Check
CA	Closing Activity
EL	Extending the Lesson
GS	Getting Started
MJ	Math Journal
ML	Motivating the Lesson
MLS	Multiple Learning Styles
RL	Reteaching the Lesson
RM	Reading Mathematics
UC	Using a Calculator
UDS	Using Drawing Software