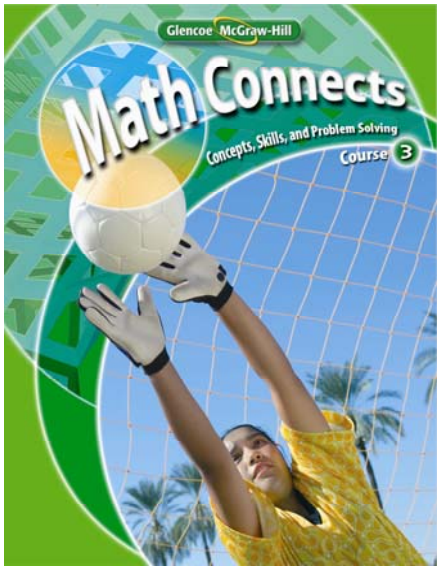
Mathematics Grade Level Expectations
Grade 8



Math Connects

Concepts, Skills, and Problem Solving
Course 3

STANDARDS	PAGE REFERENCES
Cluster 1. Numbers and Operation	
Content Standard A: Number and Number Sense: Students will understand and demonstrate a sense of what numbers mean and how they are used. Students will be able to:	
M1A1.8 Use numbers in a variety of equivalent and interchangeable forms (e.g., integer, fraction, decimal, percent, exponential, and scientific notation) in problem-solving.	**Student Edition:** 86 Example 3, 87 #26-#29, #38-#39, 88 #47-#48, 92 Example 3, 94 #34-#36, 128 #28-#31, 131 Example 5, 133 #30-#33, 258 Example 7, #10, 259 #21-#22, #31-#32, #41-#45 *Get Ready* 91 **Teacher Wraparound Edition:** 126a; AE 86, 92, 131, 258
M1A3.8 Apply concepts of ratios, proportions, percents, and number theory (e.g. primes, factors, and multiples) in practical and other mathematical situations.	**Student Edition:** 7, 190-193, 194-197, 198-203, 204-209, 210-214, 232-235, 236-241, 252-255, 263-267 *Reading to Solve Problems* 262 *Spreadsheet Lab* 231 **Teacher Wraparound Edition:** AE 191, 195, 199, 200, 205, 211, 212, 253

Codes used for Teacher Wraparound Edition pages are the initial caps of headings on that page.

STANDARDS	PAGE REFERENCES
Content Standard B: Computation: Students will understand and demonstrate computation skills (no calculator use for straight computation and numbers used in this section should match those listed for Standard A). Students will be able to:	
M1B1.8 Compute and model all four operations with whole numbers, fractions, decimals, sets of numbers, and percents, applying the proper order of operations. Note: Includes positive and negative numbers.	**Student Edition:** 31-32, 41-45, 46-49, 51-56, 65-69, 70-73, 96-101, 102-107, 108-112, 114-118 *Algebra Lab* 40 *Problem-Solving Investigation* 62 **Teacher Wraparound Edition:** 46a, 51a, 96a; PA 32
M1B2.8 Create, solve, and justify the solution for multi-step, real-life problems including those with ratio and proportion.	**Student Edition:** 4-5, 24-27 *Problem-Solving Investigation* 124, 125 #10, #13-#14, 152, 153 #4, #7, #9, #11, 216, 217 #3, #5, #7-#10, #14, 272, 273 #3-#6, #8-#13, 315 #4, #7-#9, 438, 439 #4, #6, #10-#14, 539 #3-#6, #8-#11, 575 #8-#9, #11 **Teacher Wraparound Edition:** AE 26, 124, 153
Content Standard I. Discrete Mathematics: There is considerable overlap with other areas and other aspects are more appropriately assessed locally. No Grade Level Expectations in 5-8.	
Cluster 2. Shape and Size	
Content Standard E: Geometry: Students will understand and apply concepts from geometry.	
M2E1.8 Compare, classify, and draw two-dimensional shapes and three-dimensional figures.	**Student Edition:** 306-308, 316-317, 320, 332-336, 337-341, 368-372, 399-403 *Geometry Lab* 312-313, 324-325, 358-359 *Get Ready* 368 *Measurement Lab* 385, 392 *Mini Lab* 373 **Teacher Wraparound Edition:** 316a; FM 317

STANDARDS	PAGE REFERENCES
M2E2.8 Apply geometric properties to represent and solve real-life problems involving regular and irregular shapes.	**Student Edition:** 308 #3, 309 #9, 310 #24-#27, 317 Example 2, #4, 318 #11-#12, #19, 322 #14, 323 #15, 335 #10-#12, 364 Example 3, 366 #17, 375 Example 4, 381 Example 2 *Get ready* 332, 363 *Mini Lab* 327, 352 *Measurement Lab* 362 **Teacher Wraparound Edition:** AE 387
M2E3.8 Use a coordinate system to define and locate position.	**Student Edition:** 173-177, 332-335, 337-341, 475, 482 Example 3, 483 Example 4-Example 5 *Study Guide and Review* 345 6-6, 346 **Teacher Wraparound Edition:** 332a, 337a; AE 174, 175, 333, 338
Content Standard F: Measurement: Students will understand and demonstrate measurement skills. Students will be able to:	
M2F1.8 Demonstrate the structure and use of systems of measurements.	**Student Edition:** 206 Example 3d, 207 #1, 214 #27, 373-377, 381-383, 394-396 *Concepts and Skills Bank* 742-745 *Measurement Lab* 362, 385, 392 *Spreadsheet Lab* 397 **Teacher Wraparound Edition:** 373a; T 373
M2F2.8 Develop and use concepts that can be measured directly, or indirectly (e.g., the concept of rate).	**Student Edition:** 191-193, 194-197, 198-203, 204-209, 213 #21, 232-235, 236-241 *Get Ready* 190 **Teacher Wraparound Edition:** 232a; AE 191, 195, 199, 205, 233, 237
M2F3.8 Demonstrate an understanding of length, area, volume, and the corresponding units, square units, and cubic units of measure.	**Student Edition:** 232-235, 236-241, 374-377, 380-383 *Concepts and Skills Bank* 742-745 *Measurement Lab* 385 *Mini Lab* 373 *Problem-Solving Investigation* 315 #10 **Teacher Wraparound Edition:** 352a; T 373, 380

STANDARDS	PAGE REFERENCES
Cluster 3. Mathematical Decision Making	
Content Standard C: Data Analysis and Statistics: Students will understand and apply concepts of data analysis. Students will be able to:	
M3C1.8 Organize and analyze data using mean, median, mode, and range.	**Student Edition:** 54 Example 8, 55 #45-#48, 94 #34, 591-596, 599-603 *Spreadsheet Lab* 597 **Teacher Wraparound Edition:** 591a; AE 54, 592, 593, 600, 601; PA 593; T 599
Content Standard D: Probability: Students will understand and apply concepts of probability. Students will be able to: In the following GLEs it is expected that students use area and set models.	
M3D1.8 Find the probability of simple events and make predictions by applying the theories of probability.	**Student Edition:** 637-642, 643-646, 653-657 *Probability Lab* 648-649 **Teacher Wraparound Edition:** 643a; AE 638, 639, 644, 654, 655; PA 639
M3D4.8 Find all possible combinations and arrangements involving a limited number of variables.	**Student Edition:** 632-635, 642 #37 *Probability Lab* 648-649 *Problem-Solving Investigation* 650 **Teacher Wraparound Edition:** 632a; A 636; AE 633; PA 633; T 632
Content Standard J. Mathematical Reasoning: Content Standard J. Mathematical Reasoning: Due to the difficulty of measuring the Reasoning Indicators independently of other content and the reasoning that is implied in other performance indicators, no indicators from Standard J are included.	
Cluster 4. Patterns	
Content Standard G: Patterns, Relations, and Functions: Students will understand that mathematics is the science of patterns, relationships, and functions. Students will be able to:	
M4G1.8 Describe and represent relationships with tables, graphs, and equations.	**Student Edition:** 436 #22-#23, 469-473, 475-479, 495-497, 434-437 *Get Ready* 434 *Graphing Calculator Lab* 500-501, 516-517 *Problem-Solving Investigation* 153 #8, 438 **Teacher Wraparound Edition:** 469a, 475a; T 469

STANDARDS	PAGE REFERENCES
M4G3.8 Use patterns and multiple representations to solve problems.	**Student Edition:** 422 Example 1, 464-460 *Problem-Solving Investigation* 62, 124 *Reading to Solve Problems* 64 **Teacher Wraparound Edition:** AE 465, 466
Content Standard H: Algebra Concepts: Students will understand and apply algebraic concepts. Students will be able to:	
M4H1.8 Use concepts of variables and expressions.	**Student Edition:** 65-69, 70-73, 416-421, 422-426, 427-431, 435 Example 3, 445-447, 449-453 *Algebra Lab* 432-433 **Teacher Wraparound Edition:** 416a; AE 71, 417, 418; PA 418
M4H3.8 Analyze tables and graphs to identify properties and relationships in a practical context.	**Student Edition:** 504 Example 4, 506, 514 *Graphing Calculator Lab* 500-501, 516-517 *Get Ready* 434, 469, 528 *Problem-Solving Investigation* 438, 508 **Teacher Wraparound Edition:** 469a
M4H4.8 Use graphs to represent two-variable equations.	**Student Edition:** 475-480, 483-486, 488-491, 496-499, 502-507 *Graphing Calculator Lab* 500-501 **Teacher Wraparound Edition:** 475a, 487a; AE 476, 496, 503, 504
M4H6.8 Find solutions for unknown quantities in linear equations and in simple equations and inequalities.	**Student Edition:** 421 #76-#79, 422-426, 428-431, 434-437, 441-444, 445-448, 449-453 *Algebra Lab* 432-433 **Teacher Wraparound Edition:** 422a, 427a, 449a; AE 423, 435

STANDARDS	PAGE REFERENCES
Content Standard K. Communication: Students will reflect upon and clarify their understanding of mathematical ideas and relationships. Students will be able to:	
M4K2.8 Use statistics, tables, and graphs to communicate ideas and information in convincing presentations and analyze presentations of others for bias or deceptive presentation.	**Student Edition:** 576-580, 582-588, 605-510, 612-616, 617-621 *Graphing Calculator Lab* 581, 611 *Problem-Solving Investigation* 574 *Spreadsheet Lab* 589-590 **Teacher Wraparound Edition:** 574a, 576a, 582a, 617a; AE 577, 583, 607