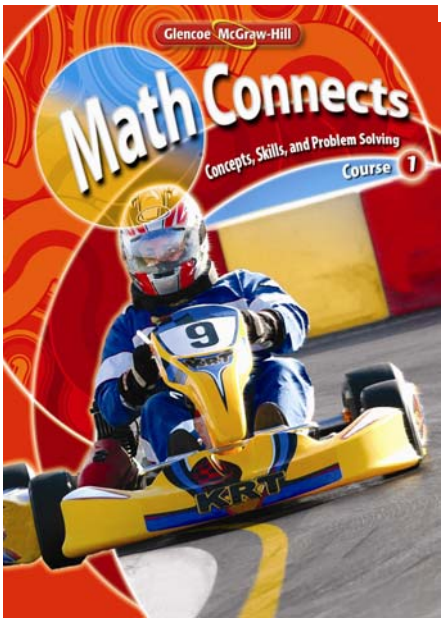
Glencoe

Mathematics Content
and Achievement Standards
Grade 6

North Dakota



Math Connects

Concepts, Skills, and Problem Solving

Course 1

STANDARDS		PAGE REFERENCES
Standard 1: Number and Operation Standard 1: Students understand and use basic and advanced concepts of number and number systems.		
Benchmark Expectations		
NUMBERS, NUMBER RELATIONSHIPS, AND NUMBER SYSTEMS		
6.1.1.	Use a fraction to represent parts of a whole, division, or a ratio	**Student Edition:** 204-208, 209-212, 220-224, 230-232, 314-319, 381-386 *Math Lab* 248 *Mid-Chapter Quiz* 213 *Mini Lab* 209, 220 *Practice Test* 359 #1-#3 *Study Guide and Review* 356 #9-#15 **Teacher Edition:** AE 210, 230, 315-316, 386-387; FMC 315; SGI 229b; SP 229b; T 204, 209, 314; TOD 386; VKL 204a, 220a

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

STANDARDS		PAGE REFERENCES
6.1.2.	Explain and use whole number percents 1 to 100	**Student Edition:** 365-369, 370-375, 377-380, 381-386, 401-405 *Get Ready to Study* 406 *Math Lab* 364 *Mid-Chapter Quiz* 388 #1-#17, #24 *Practice Test* 411 #1-#16, #19, #22-#25 *Study Guide and Review* 407-408, 410 #47-#55 **Teacher Edition:** AE 366, 371-372, 378, 383, 402-403; MC 365a; NM 380; T 365, 377; TOD 375; TNT 367
6.1.3.	Find the equivalent forms among fractions, decimals, and whole number percents	**Student Edition:** 204-208, 209-212, 225-228, 229-232, 365-369, 377-380 *Get Ready* 375 #26-#29 *Mid-Chapter Quiz* 213 #6-#8, #10-#22 *Practice Test* 243 #2-#8, #17-#20 *Ready to Solve Problems* 376 *Spiral Review* 375 #20-22 *Study Guide and Review* 239 #16-#27, 241 #44-#52, 242 #53-#59, 407 #7-#13 **Teacher Edition:** AE 205-206, 210, 226, 230, 366, 378; NM 228, 232 SQ 204, 209, 365 ; VGR 365a
6.1.4.	Compare and order fractions, decimals, mixed numbers and integers	**Student Edition:** 142-145, 220-224, 572-575 *Mid-Chapter Quiz* 161 #8-#14, 591 #1-#7 *Practice Test* 191 #6-#8, 243 #13-#16 *Spiral Review* 149 #36-#38, 228 #42-#45, 586 #43 *Study Guide and Review* 187 #15-#21, 241 #37-#43, 621 #11-#15 **Teacher Edition:** AE 143, 221-222, 573; P 142b, 220b, 572b; SGI 142b, 220b, 572b; SP 142b, 220b, 572b; SQ 142; TOD 145
6.1.5.	Generate a list of factors, prime factors, and multiples	**Student Edition:** 28-31, 197-201, 216-219 *Practice Test* 73 #5, 243 #1, #11 *Study Guide and Review* 69 #10-#13, 239 #11-#15, 240 #31-#36 **Teacher Edition:** AE 29, 198, 217; FMC 198

STANDARDS		PAGE REFERENCES
6.1.6.	Use rules to determine divisibility by 2, 3, 5, 6, 9, and 10	**Student Edition:** *Quick Quiz* 195 #1-#5 *Quick Review* 195 Example 1 **Teacher Edition:** FMC 29; SH 28a
	OPERATIONS AND THEIR PROPERTIES	
6.1.7.	Explain the effects of arithmetic operations on fractions and decimals	**Student Edition:** 156-160, 163-166, 169-172, 173-176, 179-183, 256-260, 263-268, 270-274, 276-279, 282-286, 287-290, 293-297, 298-301 *Math Lab* 162, 167-168, 177-178, 261-262, 280-281, 291-292 *Practice Test* 191 *Study Guide and Review* 188-190 **Teacher Edition:** AE 157, 164; FMC 164, 170, 174, 180, 264; SQ 156 ; TNT 157
6.1.8.	Identify the uses of the commutative and associative properties of addition and multiplication; e.g., grouping numbers to make addition or multiplication easier	**Student Edition:** 636-641 *Mid-Chapter Quiz* 649 #11-#14 *Practice Test* 667 #12-#16 *Study Guide and Review* 664 #18-#28 **Teacher Edition:** AE 637; SGI 636b
6.1.9.	Use order of operations; i.e., multiplication, division, addition and subtraction, to simplify numeric expressions	**Student Edition:** 37-40, 43-46, 259 #24-#26, 267 #32-#34, 285 #33-#36, 296 #36-#39 *Mid-Chapter Quiz* 41 #13-#16 *Practice Test* 73 #7-#11 *Quick Quiz* 77 #15-#20 *Spiral Review* 53 #32-#33, 60 #42-#44, 67 #38 *Study Guide and Review* 70 **Teacher Edition:** AE 38, 43; FM 37a; NM 40; SQ 37; TNT 39

STANDARDS	PAGE REFERENCES
COMPUTATIONAL FLUENCY AND ESTIMATION	
6.1.10. Multiply and divide decimals	**Student Edition:** 163-166, 169-172, 173-176, 179-183 *Math Lab* 162, 167-168, 177-178 *Practice Test* 191 #16-#24 *Study Guide and Review* 189-190 **Teacher Edition:** AE 164, 170, 174, 180; FMC 164, 170, 174, 180; NM 183; SQ 173, 179; TOD 176
6.1.11. Add, subtract, multiply, and divide fractions	**Student Edition:** 256-260, 263-268, 270-274, 282-286, 287-290, 293-297, 298-301 *Math Lab* 261-262, 280-281, 291-292 *Mid-Chapter Quiz* 275 #8-#20 *Reading to Solve Problems* 269 *Practice Test* 307 #6-#13, #18-#25 *Study Guide and Review* 304-306 **Teacher Edition:** AE 257-258, 264-265, 271-272, 283, 288, 294, 299; FMC 264, 271; SQ 270; TOD 260, 297
6.1.12. Express an exponent in standard form	**Student Edition:** 32-36, 37-40 *Mid-Chapter Quiz* 41 #7-#8, #15-#16 *Practice Test* 73 #8, #11 *Study Guide and Review* 69 #14-#16, 70 #18, #20, #22-#24, #27, #29 **Teacher Edition:** AE 33, 38 #4; NM 40; P 32b; SGI 32b; SP 32b ; VD 32a; WPP 32b
6.1.13. Use problem solving strategies to solve and verify the results of problems	**Student Edition:** 24-27, 54-55, 78-79, 184-185, 214-215, 254-255, 341-342, 399-400, 442-443, 500-501, 592-593, 661-662 *Practice Test* 73 #1, #16 *Study Guide and Review* 69 #6-#7, 72 #37-#39 **Teacher Edition:** AE 25-26; P 24b, 54b; SGI 24b, 54b; SP 24b, 54b; TOD 27; WPP 24b, 54b

STANDARDS		PAGE REFERENCES
6.1.14.	Estimate the results of problems involving whole numbers, fractions, and decimals	**Student Edition:** 24-25, 150-154, 156-160, 169-172, 173-176, 179-183, 270-274, 276-279, 283-286, 289-290 *Mid-Chapter Quiz* 161 #19-#25 *Practice Test* 191 #11-#25, 307 #14-#17 *Study Guide and Review* 188-189, 305 #45-#51 **Teacher Edition:** AE 151-152, 277; NM 154, 279; SQ 150
	Standard 2: Geometry and Spatial Sense Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.	
	TWO- AND THREE-DIMENSIONAL SHAPES, GEOMETRIC PROPERTIES AND RELATIONSHIPS	
6.2.1.	Identify relationships between pairs of angles; i.e., adjacent, vertical, complementary, and supplementary	**Student Edition:** 479-484, LA11-LA14 *Mid-Chapter Quiz* 492 #9-#12 *Practice Test* 515 #5-#6 *Spiral Review* 491 #39, 499 #38-#40 *Study Guide and Review* 511 **Teacher Edition:** AE 480-481, LA11 #3; FMC 480; NM 484; P 479b; SGI 479b; SP 479b; WPP 479b
6.2.2.	Identify polygons; i.e., triangle, rectangle, square, rhombus, parallelogram, trapezoid, pentagon, hexagon, octagon	**Student Edition:** 486-491, 494-499 *Geometry Lab* 485, 493 *Mid-Chapter Quiz* 492 #13-#15 *Practice Test* 515 #8-#9, #11 *Study Guide and Review* 512, 513 #32-#34 **Teacher Edition:** AE 487-488, 495-496; FMC 495; P 494b; RET 494a; SGI 494b; SP 494b; SQ 494
6.2.3.	Describe the characteristics of a right triangle	**Student Edition:** 486-491 *Get Ready to Study* 509 *Study Guide and Review* 512 #22 **Teacher Edition:** AE 487; FMC 487

	STANDARDS	PAGE REFERENCES
	COORDINATE GEOMETRY	
6.2.4.	Use ordered pairs to locate a point on a coordinate plane	**Student Edition:** 233-237, 599-603, 604-609, 610-614, 615-619 *Practice Test* 243 #2-#25, 625 #20-#25, #28-#33 *Study Guide and Review* 242 #60-#67, 623-624 **Teacher Edition:** AE 234-235, 600, 605-606, 611, 616; FMC 600; P 233b; SGI 233b; SP 233b; TOD 237, 609, 619
	TRANSFORMATION AND SYMMETRY	
6.2.5.	Identify, describe, and model motion geometry; i.e., rotations, reflections, and translations	**Student Edition:** 604-609, 610-614, 615-619 *Practice Test* 625 #28-#33 *Spiral Review* 641 #56 *Study Guide and Review* 623 #54-#57, 624 **Teacher Edition:** AE 605-606, 611, 616; FMC 605; P 604b, 610b, 615b; SGI 604b, 610b, 615b; SP 604b, 610b, 615b; SQ 604, 610, 615; TOD 609, 613; TNT 607; WPP 604b, 610b, 615b
	VISUALIZATION, SPATIAL REASONING, AND GEOMETRIC MODELING	
6.2.6.	Draw basic geometric figures using appropriate tools; i.e., circle with a compass, triangle and rectangle with a ruler or straight edge	Angles are drawn using appropriate tools in the following references and may be used to meet this objective. **Student Edition:** 475-476 *Mid-Chapter Quiz* 492 #6-#8 *Spiral Review* 484 #43-#45 *Study Guide and Review* 510 #9-#12 **Teacher Edition:** AE 475 #2; P 474b; SGI 474b; SP 474b; TOD 478

	STANDARDS	PAGE REFERENCES
	Standard 3: Data Analysis, Statistics, and Probability Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.	
	DATA COLLECTION, DISPLAY, AND INTERPRETATION	
6.3.1.	Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph	**Student Edition:** 78-79, 81-85, 88-91, 114-118 *Practice Test* 131 #1-#3, #12-#13 *Spreadsheet Lab* 86-87 *Start Smart* 14-15 *Statistics Lab* 119-120 *Study Guide and Review* 127-128, 130 #29-#32 **Teacher Edition:** A 15; AE 78, 82-83, 89, 115-116; FT 14; P 78b, 81b, 88b; SGI 78b, 81b, 88b; SP 78b, 81b, 88b; SQ 14, 81; WPP 78b, 81b, 88b
	PROBABILITY	
6.3.2.	Count possible outcomes using lists	**Student Edition:** 389-393 *Practice Test* 411 #17 *Spiral Review* 398 #24 *Study Guide and Review* 409 #37-#40 **Teacher Edition:** AE 390; P 389b; SGI 389b; SP 389b; SQ 389; WPP 389b
6.3.3.	Use experiments or simulations to determine probabilities	**Student Edition:** *Probability Lab* 387 **Teacher Edition:** AIO 381a; WCG 387
6.3.4.	Use decimal values and ratios to represent probability	**Student Edition:** 381-386, 392 #21-#22, 395-397 *Mid-Chapter Quiz* 388 #20-#24 *Practice Test* 411 #13-#16, #18-#19 *Spiral Review* 393 #28-#30, 398 #25-#28 *Study Guide and Review* 408 #27-#34, 409 #42-#43 *Test Practice* 412 #2-#3 **Teacher Edition:** AE 382; DI 382; P 381b, 394b; SGI 381b, 394b; SP 381b, 394b; TOD 386; WPP 381b, 394b

	STANDARDS	PAGE REFERENCES
	STATISTICAL METHODS	
6.3.5.	Calculate the mean, median, mode, and range of a set of data	**Student Edition:** 102-106, 108-113 *Practice Test* 131 #10-#11 *Spiral Review* 118 #20-#22, 125 #39-#40 *Spreadsheet Math* 107 *Study Guide and Review* 129 #23-#28 **Teacher Edition:** AE 103, 109-110; P 102b, 108b; SGI 102b, 108b; SP102b, 108b; TOD 106; WPP 102b, 108b
	PREDICTIONS, DATA ANALYSIS, AND INFERENCES	
6.3.6.	Make predictions based on trends identified in tables and graphs	**Student Edition:** 394-398 *Practice Test* 411 #20 *Study Guide and Review* 409 #43-#44 **Teacher Edition:** AE 395; CG 394a; P 394b; SGI 394b; SP 394b; SQ 394; WPP 394b
	Standard 4: Measurement Standard 4: Students use concepts and tools of measurement to describe and quantify the world..	
	MEASURABLE ATTRIBUTES, MEASUREMENT SYSTEMS AND UNITS	
6.4.1.	Measure length to the nearest sixteenth of an inch	The following references measure lengths to the nearest eighth of an inch and may be used to meet this objective. **Student Edition:** 418-421 *Mid-Chapter Quiz* 444 #3-#4 **Teacher Edition:** AE 419; E 418b; P 418b; SGI 418b; SP 418b
6.4.2.	Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?	**Student Edition:** 422 #34-#36, 427 #30-#33, 432-436, 437-441 *Key Concepts* 418, 424, 425, 432, 437 *Mini Lab* 419 *Measurement Lab* 459-460 *Practice Test* 465 #16-#17, #19-#20 *Study Guide and Review* 462 #23-#27, 463 #28-#32 **Teacher Edition:** AE 433, 438; E 418b; P 432b, 437b; SGI 432b, 437b; SP 432b, 437b; SQ 418

STANDARDS		PAGE REFERENCES
6.4.3.	Convert unit measurements within the same system (metric and standard)	**Student Edition:** 419-422, 425-429, 445-449 *Measurement Lab* 430-431 *Mid-Chapter Quiz* 444 #6-#11 *Practice Test* 465 #1-#13 *Spiral Review* 436 #43-#45, 441 #37 *Study Guide and Review* 462 #8-#11, #16-#22, 463 #36-#44 **Teacher Edition:** AE 420, 425-426, 446; E 445b; NM 423, 449; P 418b, 424b, 445b; SGI 418b, 424b, 445b; SP 418b, 424b, 445b; WPP 418b, 424b, 445b
6.4.4.	Distinguish among perimeter, area, surface area, and volume	**Student Edition:** 63-67, 522-526, 534-538, 540-544, 548-553, 555-559 *Algebra Lab* 61-62 *Measurement Lab* 520-521 *Get Ready to Study* 561 *Vocabulary Check* 561 #1, #3, #5 **Teacher Edition:** FMC 549
	MEASUREMENT TOOLS, TECHNIQUES, AND FORMULAS	
6.4.5.	Select appropriate tools and units to determine the measurements needed for calculating perimeter, circumference, area, surface area, and volume	**Student Edition:** 63-67, 522-526, 528-533, 540-544, 548-553, 558-559, LA15-LA19, LA20-LA24 *Algebra Lab* 61-63 *Measurement Lab* 527, 560 *Study Guide and Review* 562-563, 564 #32-#37 **Teacher Edition:** AE 64, 523, 529-530, 535-536; P 63b; SGI 63b; SP 63b; TNT 535; WPP 63b
6.4.6.	Use formulas to determine the circumference and area of circles and the perimeter and area of triangles and parallelograms	**Student Edition:** 43 Example 4, 45 #43, 63-67, 522-526, 528-533, 534-538, 540-544, LA15-LA19 *Measurement Lab* 527, 539 *Mid-Chapter Quiz* 545 #12-#18 *Study Guide and Review* 562-563 **Teacher Edition:** AE 64, 523, 529-530, 541; FMC 523; P 63b, 522b, 534b; SGI 63b, 522b, 534b; SP 63b, 522b, 534b; TOD 67, 533, 553; WPP 63b, 522b, 534b

STANDARDS		PAGE REFERENCES
6.4.7.	Use area formulas to determine the surface area of right prisms and square pyramids	**Student Edition:** 555-559, LA20-LA24 *Practice Test* 565 #15-#16 *Spiral Review* 575 #34 *Study Guide and Review* 564 #35-#37 **Teacher Edition:** AE 556, LA21; FMC 556; P 555b; PAPA 559; SGI 555b; SP 555b; TOD 559; WPP 555b
6.4.8.	Use formulas to determine the volume of rectangular prisms	**Student Edition:** 548-553 *Practice Test* 565 #15-#16 *Spiral Review* 559 #32 *Study Guide and Review* 564 #32-#34 **Teacher Edition:** AE 549-550; E 548b; FMC 549; P 548b; PAPA 553; SGI 548b; SP 548b; TOD 553; WPP 548b
	Standard 5: Algebra, Functions and Patterns Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.	
	PATTERNS, RELATIONS, AND FUNCTIONS	
6.5.1.	Identify and describe patterns represented by tables, graphs, and sequences	**Student Edition:** 26-27, 322-327, 341-342, 343-348, 349-353 *Mid-Chapter Quiz* 340 #6-#7 *Quick Quiz* 313 #14-#17 *Quick Review* 313 Example 3 *Spiral Review* 339 #41 *Study Guide and Review* 69 #6, 356 #16-#18, 357 #27-328, 358 **Teacher Edition:** AE 26, 323-324, 344-345; E 322b; P 322b, 341b, 343b; SGI 322b, 341b, 343b; SP 322b, 341b, 343b; SQ 343; WPP 322b, 341b, 343b
	NUMERIC AND ALGEBRAIC REPRESENTATIONS	
6.5.2.	Use a variable to represent an unknown quantity	**Student Edition:** 42-46, 50-52, 57-60, 63-67 *Practice Test* 73 #13-#20 *Study Guide and Review* 70 #22-#29, 71, 72 #40-#41 **Teacher Edition:** AE 43, 50 #3, 64; P 42b, 49b, 57b; PAPA 43; SGI 42b, 49b, 57b; SP 42b, 49b, 57b; WPP 49b

	STANDARDS	PAGE REFERENCES
	MATHEMATICAL MODELING	
6.5.3.	Use representations to solve problems; i.e., tables and numerical sentences	**Student Edition:** 78-79, 349-353, 546-547, 644-648, 651-654, 657-660 *Algebra Lab* 642-643, 650, 655-656 *Practice Test* 359 #18-#20 *Study Guide and Review* 358 #32-#34 **Teacher Edition:** AE 78, 350-351; P 57b, 78b, 349b; SGI 57b, 78b, 349b; SP 57b, 78b, 349b; SQ 349; WPP 57b, 78b, 349b
	RATES OF CHANGE	
6.5.4.	Recognize examples of change over time; e.g., growth of a sixth grader from September to May	**Student Edition:** 82-84, 88-91 *Mid-Chapter Quiz* 101 #4 *Spiral Review* 100 #26-#27 *Spreadsheet Lab* 86-87 *Study Guide and Review* 128 #13-#16 **Teacher Edition:** AE 83, 89; P 81b, 88b; SGI 81b, 88b; SP 88b