



Mathematics

Applications and Concepts
Course 1
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STANDARDS		PAGE REFERENCES
M6.A Numbers and Operations		
ASSESSMENT ANCHOR		
M6.A.1	Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers, and number systems.	
M6.A.1.1	Express numbers in equivalent forms.	
M6.A.1.1.1 Represent common percents as fractions and/or decimals (e.g., $25\% = \frac{1}{4} = .25$) – common percents are 1%, 10%, 25%, 50%, 75%, 100%.	Student Edition: 400-403, 404-406, 420 #32-#51, 421 #10-#13, 423 #19, 633 Teacher's Guide: A 406; DI 404; IE 401, 405	
M6.A.1.1.2 Convert between fractions and decimals and/or differentiate between a terminating decimal and a repeating decimal.	Student Edition: 202-205, 206-209, 213 #16-#18, 215 #15-#17, 253 #11, 628 <i>Study Skill</i> 120 Teacher's Guide: A 209; DI 207; IE 203, 207	
M6.A.1.1.3 Represent a number in exponential form (e.g., $10 \times 10 \times 10 = 10^3$).	Student Edition: 18-21, 43, 45 #6-#8, 46 #7, 131 #10 Teacher's Guide: IE 19	

STANDARDS	PAGE REFERENCES
<p>M6.A.1.1.4 Represent a mixed number as an improper fraction.</p>	<p>Student Edition: 186-189, 190 #13-#15, 211 #20-#28, 213 #7, #8, 289 #12</p> <p>Teacher's Guide: A 189; B 186; DI 187; IE 187;</p>
<p>M6.A.1.2 Compare quantities and/or magnitudes of numbers.</p>	
<p>M6.A.1.2.1 Compare and/or order whole numbers, mixed numbers, fractions and/or decimals (do not mix fractions and decimals – decimals through thousandths).</p>	<p>Student Edition: 108-110, 114 #5-#7, 129 #10-#12, 130 #5, 170 #3, 186, 198-201, 212 #35-#41, 213 #20, 214 #1, 215 #12, 588</p> <p><i>The Game Zone</i> 115</p> <p>Teacher's Guide: A 201; B 108, 111; DI 108; IE 109</p>
<p>M6.A.1.3 Apply number theory concepts (i.e., factors, multiples).</p>	
<p>M6.A.1.3.1 Find the Greatest Common Factor (GCF) of two numbers (through 50) and/or use the GCF to simplify fractions.</p>	<p>Student Edition: 177-180, 190 #2-#5, 210 #7-#11, 213 #3-#5, 214 #6, 215 #11</p> <p><i>The Game Zone</i> 191</p> <p>Teacher's Guide: A 179; DI 178; IE 178; PC 216F</p>
<p>M6.A.1.3.2 Find the Least Common Multiple (LCM) of two numbers (through 50) and/or use the LCM to find the common denominator of two fractions.</p>	<p>Student Edition: 194-197, 211 #29-#34, 213 #9-#11</p> <p>Teacher's Guide: A 197; DI 195; IE 195; PC 216F</p>
<p>M6.A.1.3.3 Use divisibility rules for 2, 3, 5 and/or 10 to draw conclusions and/or solve problems.</p>	<p>Student Edition: 10-13, 17 #57-#59, 21 #54-#56, 22 #4-#6, 27 #46, 43, 45 #3-#5, 46 #4, 47 #16, 94 #1, 328 #2</p> <p>Teacher's Guide: A 13; B 10; DI 11; IE 11; PC 4F</p>
<p>M6.A.1.4 Use or develop models to represent percents.</p>	
<p>M6.A.1.4.1 Model percents (through 100%) using drawings, graphs and/or sets (e.g., circle graph, base ten blocks, etc.).</p>	<p>Student Edition: 62-65, 95 #10, 252 #3, 389 #25-#27, 395-397, 400, 404, 419, 597, 625, 642 #3</p> <p><i>Hands-On Lab</i> 560-561</p> <p>Teacher's Guide: A 65; IE 63, 396</p>

STANDARDS		PAGE REFERENCES
ASSESSMENT ANCHOR		
M6.A.2	Understand the meanings of operations, use operations and understand how they relate to each other.	
M6.A.2.1	Select and/or use operations to simplify or solve problems.	
M6.A.2.1.1	Complete equations by using the following properties: associative, commutative, distributive and identity.	Student Edition: 333-336, 342 #42, #43, 347 #42, 348 #7-#10, 370, 589, 590 <i>Hands-On Lab</i> 332 Teacher's Guide: A 336; IE 334; PC 330F
ASSESSMENT ANCHOR		
M6.A.3	Compute accurately and fluently and make reasonable estimates.	
M6.A.3.1	Apply estimation strategies to a variety of problems.	
M6.A.3.1.1	Use estimation to solve problems involving whole numbers and decimals (up to 2-digit divisors and 4 operations).	Student Edition: 116-119, 128, 129 #19-#21, 130 #8, 131 #15, 142 #4, 145 #3, 147 #29, 153 #4 <i>WebQuest</i> 3 Teacher's Guide: A 119; IE 117
M6.A.3.2	Solve problems with and without the use of a calculator.	
M6.A.3.2.1	Solve problems involving operations (+, -, x, ÷) with whole numbers, decimals (through thousandths) and fractions (avoid complicated LCDs) – straight computation or word problems.	Student Edition: 122 #4, 124 #35, 131 #17, 138 #43, #45, 142 #4, 146-147, 154-155, 229 #3, 230-231, 243, 247, 252 #7, 261, 264, 266 #2, 273, 278, 289 #13, #14, 589, 590 <i>Problem-Solving Strategy</i> 126, 157 <i>Web Quest</i> 3, 97, 377 Teacher's Guide: A 147, 155; DI 122, 262

STANDARDS		PAGE REFERENCES
M6.B Measurement		
ASSESSMENT ANCHOR		
M6.B.1	Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.	
M6.B.1.1	Compare and/or determine elapsed time.	
M6.B.1.1.1	Determine and/or compare elapsed time to the minute (time may cross AM to PM or more than one day).	Student Edition: 494-497, 500, 501 #22-#24, 502 #11, 503 #21, 591, 619(12-6) <i>Problem-Solving Strategy</i> 315 #6 Teacher's Guide: A 497; I 495
ASSESSMENT ANCHOR		
M6.B.2	Apply appropriate techniques, tools and formulas to determine measurements.	
M6.B.2.1	Choose or use appropriate tools and/or units to determine measurements within the same system.	
M6.B.2.1.1	Use or read a ruler to measure to the nearest 1/16 inch or millimeter.	Student Edition: 219-222, 247 #23, 465-466, 473 #42, 476-479, 482 #20, 493 #39, #40, 614(10-3), 618(12-3) <i>Hands-On Lab</i> 474-475 Teacher's Guide: DI 162; IE 220, 466, 477
M6.B.2.1.2	Choose the more precise measurement of a given object (e.g., smaller measurements are more precise).	Student Edition: 143 #28, 220 #2, 221 #10, 465-468, 473 #42, 482, 493, 502 #10 <i>Hands-On Lab</i> 474-475, 479, 480-481 <i>Hands-On Mini Lab</i> 219 Teacher's Guide: DI 220, 495; IE 220
M6.B.2.1.3	Measure angles using a protractor up to 180° – protractor must be drawn – one side of the angle to be measured should line up with the straight edge of the protractor.	Student Edition: 506-509, 510-512, 518 #6-#8, 538, 539, 620 Teacher's Guide: A 509; IE 507, 510; PS 541

STANDARDS	PAGE REFERENCES
M6.B.2.2 Solve problems involving length, perimeter, area and/or volume of geometric figures.	
M6.B.2.2.1 Find the perimeter of any polygon (may include regular polygons where only the measure of one side is given – same units throughout).	Student Edition: 158-160, 164 #29-#32, 168, 169 #19, 170 #8, 171 #16, 180 #38, #39, 224 #5, 238 #39 <i>Hands-On Lab</i> 464 <i>Problem-Solving Strategy</i> 359 #12, 449 #8, #9, 522 #9, 569 #11 Teacher’s Guide: A 160; B 158; IE 159
M6.B.2.3 Identify, label, and/or list properties of angles or triangles.	
M6.B.2.3.1 Define, label and/or identify right, straight, acute and obtuse angles.	Student Edition: 506-509, 538, 543 #13 <i>Hands-On Lab</i> 526-527 <i>The Game Zone</i> 519 Teacher’s Guide: B 506, 510; DI 507, 510
M6.C Geometry	
ASSESSMENT ANCHOR	
M6.C.1 Analyze characteristics and properties of two- and three-dimensional geometric shapes and demonstrate understanding of geometric relationships.	
M6.C.1.1 Define and/or use basic properties of triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons, nonagons, decagons and circles.	
M6.C.1.1.1 Identify, classify and/or compare polygons (up to ten sides.).	Student Edition: 504, 522-525, 539 #22-#23, 541 #10-#12, 543 #19, 544, 564-566, 621(13-4), 623(14-4), 636(10) Teacher’s Guide: A 525, 565; B 522; DI 564; IE 523; PC 504F, 544F; PS 169, 541
M6.C.1.1.2 Identify and/or describe properties of all types of triangles (scalene, equilateral, isosceles, right, acute, obtuse).	Student Edition: 523, 534-536, 540 #32-#34, 541 #14, #15, 542 #8 <i>Hands-On Lab</i> 526-527
M6.C.1.1.3 Identify and/or determine the measure of the diameter and/or radius of a circle (when one or the other is given).	Student Edition: 161-164, 168 #48-#52, 502 #3, 557 #2, 558 #5, #6, #10, #13, 637 #7 <i>The Game Zone</i> 563 Teacher’s Guide: A 164; IE 557

STANDARDS	PAGE REFERENCES
<p>M6.C.1.1.4 Identify and/or use the total number of degrees in a triangle, quadrilateral and/or circle.</p>	<p>Student Edition: 525 #27-#29 <i>Hands-On Lab</i> 526-527 Teacher's Guide: DI 523</p>
<p>M6.C.1.2 Represent and/or use concepts and relationships of lines and line segments.</p>	
<p>M6.C.1.2.1 Identify, describe and/or label parallel, perpendicular or intersecting lines.</p>	<p>Student Edition: 515, 523, 549 <i>Study Tip</i> 523</p>
<p>M6.C.1.2.2 Identify, draw and/or label points, planes, lines, line segments, rays, angles and vertices.</p>	<p>Student Edition: 506-509, 510-512, 513, 525 #34-#36, 564, 620 (13-3), 636 #5 <i>Hands-On Lab</i> 513-514, 526-527 <i>Problem-Solving Strategy</i> 568-569 Teacher's Guide: A 509; PS 541, 581</p>
<p>ASSESSMENT ANCHOR</p>	
<p>M6.C.2 Locate points or describe relationships using the coordinate plane.</p>	
<p>M6.C.2.1 Identify, plot or match points given an ordered pair.</p>	
<p>M6.C.2.1.1 Plot, locate or identify points in Quadrant I and/or on the x and y axes with intervals of 1, 2, 5 or 10 units – up to a 200 by 200 grid. Points may be in-between lines.</p>	<p>Student Edition: 320-323, 326, 327 #21, #22, #23, #24, 328 #10, 329 #17-#20, 342 #47-#49, 611 Teacher's Guide: A 323; IE 321, 322; PS 327</p>
<p>M6.D Algebraic Concepts</p>	
<p>ASSESSMENT ANCHOR</p>	
<p>M6.D.1 Demonstrate an understanding of patterns, relations and functions.</p>	
<p>M6.D.1.1 Create or extend patterns.</p>	
<p>M6.D.1.1.1 Create, extend or find a missing element in a pattern displayed in a table, chart or graph (pattern must show at least 3 repetitions – may use up to 2 operations with whole numbers).</p>	<p>Student Edition: 10-13, 21 #42-#47, 47 #25, 185 #37-#39, 196, 282-284, 287 #22-#24, 286 #33-#36, 289 #16, 362-365, 372 <i>Hands-On Lab</i> 360-361 <i>Problem-Solving Strategy</i> 157 #6, 280-281 Teacher's Guide: A 284; B 282</p>

STANDARDS		PAGE REFERENCES
M6.D.1.2 Analyze patterns.		
M6.D.1.2.1 Determine a rule based on a pattern or illustrate a pattern based on a given rule (displayed on a table, chart or graph; pattern must show at least 3 repetitions).	Student Edition: 8 #3, 47 #25, 194 #1, #2, #3, 209 #43, 282-284, 362-365, 372, 375 #12 <i>Hands-On Lab</i> 106-107, 360-361 Teacher's Guide: DI 283	
ASSESSMENT ANCHOR		
M6.D.2 Represent and/or analyze mathematical situations and structures using algebraic symbols, words, tables, and graphs.		
M6.D.2.1 Select and/or use appropriate strategies to solve number sentences.		
M6.D.2.1.1 Identify the inverse operation needed to solve a one-step equation.	Student Edition: 339-342, 344-347, 350-353, 373 #8-#19, 375 #18 <i>Hands-On Lab</i> 343 <i>Problem-Solving Strategy</i> 358-359 Teacher's Guide: A 353	
M6.D.2.1.2 Solve a one-step equation (i.e., using the inverse operation – whole numbers only).	Student Edition: 339-342, 344-347, 350-353, 373 #8-#19, 375 #18 <i>Hands-On Lab</i> 343 <i>The Game Zone</i> 349 Teacher's Guide: A 353	
M6.D.2.2 Create and/or interpret expressions or equations that model problem situations.		
M6.D.2.2.1 Match an equation or expression involving one variable to a verbal math situation (one operation only).	Student Edition: 28-31, 34-37 <i>Problem-Solving Strategy</i> 358-359 Teacher's Guide: A 359; B 358; DI 29; IE 35	

STANDARDS	PAGE REFERENCES
M6.E Data Analysis and Probability	
ASSESSMENT ANCHOR	
M6.E.1	Formulate questions that can be addressed with data and/or collect, organize, display, and analyze data.
M6.E.1.1	Interpret data shown in frequency tables, histograms, circle, bar or double bar graphs, line or double line graphs or line plots.
M6.E.1.1.1 Analyze data and/or answer questions pertaining to data represented in frequency tables, circle graphs, double bar graphs, double line graphs or line plots (for circle graphs, no computation with percents).	Student Edition: 48, 50-53, 56-59, 62-65, 66-69, 86-89, 90-92, 597 <i>Hands-On Lab</i> 437, 560-561 <i>Problem-Solving Strategy</i> 54-55 <i>Spreadsheet Investigation</i> 60 <i>The Game Zone</i> 71 Teacher’s Guide: A 53, 55; DI 51, 63; IE 63; PS 93
M6.E.1.1.2 Choose the appropriate representation for a specific set of data (choices should be the same type of graph).	Student Edition: 56-59, 74 #21-#23, 78 #23 <i>Hands-On Lab</i> 560-561 <i>Spreadsheet Investigation</i> 60-61 Teacher’s Guide: A 59; DI 57; TNT 55
M6.E.1.1.3 Display data in frequency tables, circle graphs, double bar graphs, double line graphs or line plots using a title, appropriate scale, labels and a key when needed. Circle graphs for open-ended items must show a center point and tic marks.	Student Edition: 48, 50-53, 56-59, 62-65, 86-89 <i>Hands-On Lab</i> 560-561 <i>Problem-Solving Strategy</i> 54-55 <i>Spreadsheet Investigation</i> 60-61 <i>WebQuest</i> 377 Teacher’s Guide: A 59; DI 54, 57, 68; IE 55, 57
ASSESSMENT ANCHOR	
M6.E.2	Select and use appropriate statistical methods to analyze data.
M6.E.2.1	Describe data sets using mean, median, mode and/or range.
M6.E.2.1.1 Determine/calculate the mean, median, mode and/or range of displayed data (data can be displayed in a table or line plot – use whole numbers only up to 2 digits).	Student Edition: 76-78, 80-83, 89 #15, 92, 95 #12, #13, 131 #12, 313 #52, 459 #11, 625 #14, #15 <i>Spreadsheet Investigation</i> 79 Teacher’s Guide: A 83; DI 76; IE 77, 81

STANDARDS		PAGE REFERENCES
ASSESSMENT ANCHOR		
M6.E.3	Understand and apply basic concepts of probability.	
M6.E.3.1	Determine all possible combinations, outcomes and/or calculate the probability of a simple event.	
M6.E.3.1.1 Define and/or find the probability of a simple event (express as a fraction in lowest terms).	Student Edition: 428-431, 433-435, 436 #27, #29, 454, 455, 457 <i>Hands-On Lab</i> 426 <i>The Game Zone</i> 443	
M6.E.3.1.2 Determine/show all possible combinations involving no more than 20 total arrangements (e.g., tree diagram, table, grid).	Student Edition: 434 #3, 441 #19, 442 #8, 458 #9, 459 #18 Teacher's Guide: A 436	