



WYOMING
Mathematics Content and Performance Standards – Grade 6
Mathematics: Applications and Concepts
Course 1 © 2004

BENCHMARKS	PAGE REFERENCES
1. NUMBER OPERATIONS AND CONCEPTS	
Students use numbers, number sense, and number relationships in a problem-solving situation.	
1. Students use the concept of place value to read and write decimals (to 1000ths) in words, standard, and expanded form.	SE: 102-104, 110 #29, #30, 114 #1, 130 #4, 202-203, 586 TWE: A 105 B 202 ICE 103
2. Students multiply decimals (10ths & 100ths) and divide whole numbers by 2-digit divisors and divide decimals by whole numbers.	SE: 132, 141-143, 144-147, 167, 169 #10-#12, 170 #6, 387 Ex 3, 591 <i>Hands-On Lab</i> 139-140 <i>The Game Zone</i> 149 <i>WebQuest</i> 97 TWE: ICE 142, 145
3. Students represent the number line using integers.	SE: 294-298, 300-303, 304-307, 313 #48-#51, 325 #18-#33 <i>WebQuest</i> 291 TWE: A 307 DI 301, 305 ICE 295
4. Students explain their choice of estimation and problem solving strategies and justify results when performing number operations with fractions and decimals in problem-solving situations.	SE: 98, 111-113, 116-119, 124 #44-#47, 128 #17-#27, 129 #20, #21, 130 #7, 154 #37, 155 #38, #39, 170 #6, 216, 219-222, 223-225 <i>Hands-On Lab</i> 218 <i>Problem-Solving Strategy</i> 125-126, 156-157 <i>Study Tip</i> 153 <i>Test-Taking Tip</i> 170 TWE: A 119, 258 B 111, 116, 141 DI 223 ICE 112, 117, 220, 224
5. Students identify prime and composite numbers and apply prime factorization to numbers less than 100.	SE: 14-17, 19 Ex 4, 21 #50-#53, 22 #10-#11, 27 #42-#45, 43 #22-#27, 45 #10-#12, 46 #5, 130 #2 <i>Study Skill</i> 120 TWE: A 17, 179 B 14 DI 15 ICE 15, 19

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<p>6. Students demonstrate an understanding of fractions and decimals by:</p> <ul style="list-style-type: none"> • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages. 	<p>SE: 98, 111-113, 119 #41, 128 #14-#16, 182-185, 186-189, 190 #6-#8, 197 #34-#37, 202-205, 206-209, 211, 212, 213, 214 #5, 289 #15, 404-406, 412 #43 <i>Hands-On Lab</i> 181</p> <p>TWE: A 189, 209 B 111, 202 DI 187, 404 ICE 112, 183, 187, 203, 207, 405 PS 213</p>
<p>7. Students add and subtract mixed numbers with like denominators.</p>	<p>SE: 240-243, 250 #37, #38, 251 #18, 252 #6 TWE: B 240 ICE 241</p>
<p>8. Students represent repeated multiplication in exponential form.</p>	<p>SE: 18-21, 22 #12, #13, 27 #41, 43 #28-#31, 45 #13, 46 #7, 47 #18, 131 #10 TWE: PC 4F</p>
<p>2. GEOMETRY Students apply geometric concepts, properties, and relationships in a problem-solving situation.</p>	
<p>1. Students classify, describe, compare, and draw representations of 1- and 2- dimensional objects and angles.</p>	<p>SE: 161-164, 168 #48-#53, 215 #20, 504, 506-509, 516 Ex 2, 517 #25-#27, 522-525, 543 #13, #14, #19, 544, 549 #24 <i>Hands-On Lab</i> 520-521, 526-527 <i>The Game Zone</i> 519</p> <p>TWE: A 164, 509 DI 507, 523 B 161, 522 ICE 162, 507 PC 504F, 544F PS 169</p>
<p>2. Students identify and classify congruent objects by properties appropriate to grade level.</p>	<p>SE: 534-536, 540 #32-#34, 541 #14-#15, 542 #8, 554 #29-#31 <i>Hands-On Lab</i> 513-514, 526-527 <i>Problem-Solving Strategy</i> 521 #9</p> <p>TWE: B 534 DI 534</p>
<p>3. Students communicate the reasoning used in identifying geometric relationships in problem-solving situations appropriate to grade level.</p>	<p>SE: 171 #16, 193 #8, 215 #20, 253 #10, 515 Ex #1, 517 #18, 523 Ex 2, 528-531, 534-536, 543 #19, 582 #8 <i>Hands-On Lab</i> 526-527, 537</p> <p>TWE: A 531 DI 529 ICE 523</p>

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3. MEASUREMENT Students use a variety of tools and techniques of measurement in a problem-solving situation.	
1. Students apply estimation and measurement of length to content problems and express the results in metric units (centimeters and meters).	SE: 130 #8, 476-479, 499 Ex 4 <i>Hands-On Lab</i> 474-475 <i>The Game Zone</i> 483 TWE: DI 145, 477
2. Students apply estimation and measurement of weight to content problems and express the results in U.S. customary units (ounces, pounds, and tons).	SE: 220 Ex 3, 462, 470-473 <i>Problem-solving Strategy</i> 193 #10, 227 #6 TWE: ICE 117, 471
3. Students apply estimation and measurement of capacity to content problems and express the results in U.S. customary units (teaspoons, tablespoons, cups, pints, quarts, gallons).	SE: 113 #25, 154 #37, 470-473, 499 TWE: A 258
4. Students demonstrate relationships within the U.S. customary units for weight and capacity and within the metric system (centimeters to meters) in problem-solving situations.	SE: 279 #42-#43, 462, 470-473, 484-487, 499, 501 #20, #21 TWE: A 473 DI 471, 485
5. Students determine the area and perimeter of regular polygons and the area of parallelograms, with and without models.	SE: 39-41, 53 #21, 158-161, 171 #16, 243 #34, #35, 268 #18, 329 #14, 546-549, 582 #8 <i>Hands-On Lab</i> 464, 474-475 <i>Spreadsheet Investigation</i> 469 TWE: A 549 DI 158, 547 ICE 159, 547
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 recognize, describe, extend, create, and generalize patterns, such as numeric sequences, by using manipulatives, numbers, graphic representations, including charts and graphs.	SE: 9 #7, 21 #42-#47, 47 #25, 67 #3-#6, 196 #23-#24, 209 #43, 282-284, 286, 289 #16 <i>Problem-Solving Strategy</i> 280-281 TWE: A 284 B 66, 282 DI 254, 280, 520 ICE 280
2. Students apply their knowledge of patterns to describe a constant rate of change when solving problems.	With the definition provided, the following references can be used to meet this benchmark. SE: 47 #25, 289 #16
3. Students represent the idea of a variable as an unknown quantity, a letter, or a symbol within any whole number operation.	SE: 28-31, 34-37, 39 Ex #1, 44 #38-#47, 374 #8, #9 <i>Problem-Solving Strategy</i> 358-359 <i>Test-Taking Tip</i> 374 TWE: ICE 29

BENCHMARKS	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, and describe/represent numeric data using line graphs.	SE: 56-59, 67 #3-#6, #7-#8, 68 #14-#18, 87 Ex 2, 91, 95 #14 <i>Problem-Solving Strategy</i> 55 #7 <i>Spreadsheet Investigation</i> 60-61 <i>WebQuest</i> 48 TWE: DI 57 ICE 55, 58, 67
2. Students, given a scenario, recognize and communicate the likelihood of events using concepts from probability (i.e., impossible, equally likely, certain) appropriate to grade level.	SE: 424, 428-431, 433-436, 454, 455, 473 #43-#45 <i>Hands-On Lab</i> 426-427 <i>The Game Zone</i> 443 <i>Problem-Solving Strategy</i> 448-449 TWE: A 430 PS 457

Codes Used for TWE Pages

A	Assess
B	Bellringer
DI	Daily Intervention
ICE	In-Class Examples
PC	Project CRISS
PS	Portfolio Suggestion