



**IDAHO**  
**Mathematics Standards Grade 7**  
**Mathematics: Applications and Concepts Course 2 © 2004**

STANDARDS	PAGE REFERENCES
<b>327. BASIC ARITHMETIC, ESTIMATION, AND ACCURATE COMPUTATIONS.</b>	
01. Understand and use numbers.	
a. Read, write, order, and compare real numbers (integers, fractions, decimals) and absolute values.	SE: 106-108, 109-111, 116 #15, 147 #7, 227-231, 555, 556 TWE: A 231 DI 106 PC 104 F
b. Expand the use of percents and ratios to solve problems.	SE: 288-291, 316-318, 319-321, 323-325, 340-343, 350-353 TWE: DI 317 ICE 289 PS 329
c. Show a sense of magnitudes and relative magnitudes of real numbers (integers, fractions, decimals).	SE: 111 #29, 295 #27-28, 366 #8, 509 #20 TWE: DI 139
d. Develop and apply number theory concepts.	SE: 43-45, 197-200, 203-206, 216-219, 220-223, 224-226, 554 TWE: A 219 ICE 225 PC 194 F PS 235
e. Understand the position of rational numbers on a number line.	SE: 106-108, 109-111, 131 #46-48, 172-175, 240 TWE: A 108, 111 ICE 173 NS 110 TNT 121
02. Perform computations accurately.	
a. Add, subtract, multiply, and divide fractions and decimals.	SE: 209 #34-37, 559-560, 562
b. Evaluate numerical expressions using the order of operations.	SE: 14-17, 21, 47 #17-23 TWE: A 17 B 14 DI 15, 16
c. Explore the use of exponents.	SE: 10-13, 43-45, 47 #8-16, 63 #18, 147 #13 TWE: ICE 11
d. Explore basic operations with integers.	SE: 120-124, 128-131, 134-137, 138-141, 145 #13-20 <i>Hands-On Lab</i> 118-119, 126-127 TWE: DI 135 ICE 121, 135 TNT 121

STANDARDS	PAGE REFERENCES
e. Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the three.	SE: 210 (e.g. 1), 211 (e.g. 3-4), 242 #2, 320 #2, 476 (e.g. 2), 493 (e.g. 2), 561 <i>Spreadsheet Investigation</i> 361 TWE: DI 198, 211 TT 361
f. Use appropriate vocabulary.	SE: <i>New Vocabulary</i> 10, 14, 207, 227 TWE: A 17 B 120, 134, 210 PC 52 F
<b>03. Estimate and judge reasonableness of results.</b>	
a. Use estimation to predict computation results.	SE: 240-243, 248-249, 278, 281, 334, 558 <i>Problem-Solving Strategy</i> 22-23, 338-339
b. Recognize when estimation is appropriate and understand the usefulness of an estimate as distinct from an exact answer.	SE: 6-7, 50 #3, 242 #2, 334 <i>Hands-On Lab</i> 301 <i>Problem-Solving Strategy</i> 338-339 TWE: DI 241, 335
c. Determine whether a given estimate is an overestimate or underestimate.	SE: <i>Problem-Solving Strategy</i> 22-23, 338-339 TWE: DI 338 NS 336
d. Use appropriate vocabulary.	SE: 242, 558 <i>New Vocabulary</i> 240 TWE: B 338 DI 335 PC 238 F
<b>328. MATHEMATICAL REASONING AND PROBLEM SOLVING</b>	
<b>01. Understand and use a variety of problem-solving skills.</b>	
a. Use a variety of strategies including common mathematical formulas to compute problems drawn from real-world situations.	SE: 6-7, 28, 163 #44, 447 <i>Problem-Solving Strategy</i> 22-23, 58-59, 132-133, 252-253 <i>Study Skill</i> 42, 125, 153 TWE: DI 7 PC 148 F, 332 F PS 189, 365
b. Recognize pertinent information for problem solving.	SE: 6-7 <i>Hands-On Lab</i> 73 <i>Problem-Solving Strategy</i> 22-23, 164-165, 201-202 <i>Study Skill</i> 153 <i>Web Quest</i> 3 TWE: B 92 PC 148 F PS 189
c. Make predictions and decisions based on information.	SE: 60-63, 93 #3 & #6, 100 #4, 101 #15, 191 #20, 345-347 <i>Problem-Solving Strategy</i> 22-23, 132-133 <i>Web Quest</i> 3

STANDARDS	PAGE REFERENCES
<b>02. Use reasoning skills to recognize problems and express them mathematically.</b>	
a. Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning and concepts.	SE: 39 (Concept Summary), 55 (e.g. 2), 107 (Key Concept), 172 (Math Symbols), 489 (Key Concept) <i>Hands-On Lab</i> 118-119, 274, 301 <i>Hands-On Mini Lab</i> 258 <i>Problem-Solving Strategy</i> 58-59, 302-303 TWE: B 54, 244 DI 265 PS 365
b. Apply solutions and strategies to new problem situations.	SE: 113 (e.g. 4) <i>Problem-Solving Strategy</i> 58-59, 132-133 <i>Study Skill</i> 153 <i>Web Quest</i> 3, 103 TWE: A 343 DI 109, 113, 289 PC 104 F PS 189 TNT 7
c. Formulate conjectures and discuss why they must be or seem to be true.	SE: 182, 248 <i>Hands-On Lab</i> 118-119, 460-461 <i>Hands-On Mini Lab</i> 422 <i>Problem-Solving Strategy</i> 22-23
<b>03. Apply appropriate technology and models to find solutions to problems.</b>	
a. Understand the purpose and capabilities of appropriate technology use as a tool to solve problems.	SE: 13 #58, 44 (e.g. 3) <i>Graphing Calculator Investigation</i> 84 <i>Spreadsheet Investigation</i> 90-91, 309, 361, 455 <i>Study Skill</i> 125 <i>Study Tip</i> 11, 44, 120, 276 TWE: A 213
b. Use computer applications to display and manipulate data.	SE: <i>Spreadsheet Investigation</i> 90-91 <i>Web Quest</i> 3, 103, 409
c. Select appropriate models to represent mathematical ideas.	SE: <i>Hands-On Lab</i> 196, 296, 322 <i>Hands-On Mini Lab</i> 258, 493 <i>Problem-Solving Strategy</i> 58-59, 302-303 <i>Web Quest</i> 3, 103 TWE: A 291, 373 PC 194 F TNT 121

STANDARDS	PAGE REFERENCES
<b>04. Communicate results using appropriate terminology and methods.</b>	
a. Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to communicate mathematical information.	SE: 50-57, 85-89, 213 #46, 374-377, 418-421 <i>Hands-On Lab</i> 37 <i>Hands-On Mini Lab</i> 18 <i>Problem-Solving Strategy</i> 58-59, 302-303, 518 <i>The Game Zone</i> 29 <i>Web Quest</i> 3, 103 TWE: A 2, 273 B 6 PC 332 F
b. Use appropriate vocabulary to communicate mathematical information.	SE: 14 (Key Concept), 31 (Key Concept), 39 (Concept Summary) <i>Problem-Solving Strategy</i> 22-23, 391-392, 444-445 <i>Reading Math</i> 18, 446 <i>Study Skill</i> 42, 153, 474 <i>Web Quest</i> 3, 103 TWE: PC 52 F, 286 F
c. Use appropriate notation.	SE: 43-45, 211 <i>Reading Math</i> 398 <i>Web Quest</i> 103 TWE: DI 15 PS 49
<b>329. CONCEPTS AND PRINCIPLES OF MEASUREMENT.</b>	
<b>01. Understand and use U.S. customary and metric measurements.</b>	
a. Select and use appropriate units and tools to make formal measurements in both systems.	SE: 267-269, 526 #27, 542-545 <i>Hands-On Lab</i> 512-513 <i>Hands-On Mini Lab</i> 244 TWE: DI 245, 267
b. Apply estimation of measurement to real-world and content problems using actual measuring devices.	SE: 283 #16 TWE: DI 241
c. Recognize the differences between measures of length, area, and volume (capacity) in both systems.	SE: 38-41, 45 #47-49, 271-273, 480, 483-485, 489-492
d. Solve problems involving length, perimeter, area, volume (capacity), weight, mass, and temperature.	SE: 57 #27, 59 #3-4, 109, 169 #40, 270-273, 480, 483-485, 489-492 TWE: A 273, 484, 519 PC 510 F
e. Convert unit of measurement within each system.	SE: 38-41, 139 (e.g. 4), 267-269, 273 #35-38, 280, 281 TWE: DI 139
f. Use appropriate vocabulary.	SE: <i>New Vocabulary</i> 38, 267, 270 <i>Study Skill</i> 42 TWE: B 270, 489 DI 267 TNT 480

STANDARDS	PAGE REFERENCES
<b>02. Apply concepts of rates and other derived or indirect measurements.</b>	
a. Develop the use of rates to make indirect measurements.	SE: 292-295, 327 TWE: A 295 DI 289, 293 ICE 289
<b>03. Apply the concepts of ratios and proportions.</b>	
a. Develop the use of proportions, ratios, and scales.	SE: 237 #19, 286, 288-291, 297-300, 304-308, 326, 327 <i>Hands-On Lab</i> 301 <i>Spreadsheet Investigation</i> 309 <i>The Game Zone</i> 311 TWE: DI 289, 298 PS 329
<b>04. Apply dimensional analysis.</b>	
a. Understand units and their relationship to one another and to real-world applications.	SE: 304-308, 327, 329 #11, 472 #34-36, 509 #20 <i>Problem-Solving Strategy</i> 518-519 <i>Spreadsheet Investigation</i> 309, 523 TWE: ICE 305 PC 286 F
<b>330. CONCEPTS AND LANGUAGE OF ALGEBRA.</b>	
<b>01. Use algebraic symbolism as a tool to represent mathematical relationships.</b>	
a. Develop the use of variables in simple expressions and equations.	SE: 18-21, 24-27, 101 #9, 156 TWE: B 24 DI 19, 25, 275 PS 49
b. Translate simple word statements and story problems into algebraic expressions and equations.	SE: 20 #39, 21 #44-46, 25 (e.g. 3), 27 #42, 33 #49, 51 #14, 150-152, 159 #42, 186, 190 #8, 191 #19 <i>Study Skill</i> 153 TWE: DI 150 PC 148 F
c. Use symbols (<, >, =, <, >, ≠) to express relationships.	SE: 109-111, 172-175, 187, 189, 191 #17 TWE: A 111 B 172 ICE 173
<b>02. Evaluate algebraic expressions.</b>	
a. Develop an understanding of evaluating mathematical and algebraic expressions: commutative, associative, identity, zero, inverse, and substitution.	SE: 18-21, 28 #5-14, 30-33, 50 #6, 123 #31-42, 139 (e.g. 4), 140 #25-32, 261 #37 <i>The Game Zone</i> 29 TWE: ICE 19
b. Understand and use the order of operations in evaluating basic algebraic expressions.	SE: 14-17, 18-19, 47 #25-30, 140 #25-32 TWE: A 17 DI 151
<b>03. Solve algebraic equations and inequalities.</b>	
a. Solve one-step equations using inverse operations.	SE: 156-159, 160-163, 170, 187, 189, 258-264, 279 #38-39, 281 #17-19 TWE: B 160 ICE 259

STANDARDS	PAGE REFERENCES
b. Explore solutions of simple one-step equations using negative numbers.	SE: 158 (e.g. 3), #6 & #8, 160-162, 170, 187, 279 #43, 281 #18
c. Explore graphical representation to show simple linear equations.	SE: 177-181, 185 #24-26, 188, 190 #9 <i>Hands-On Lab</i> 176 TWE: A 181 ICE 178, 179
<b>331. CONCEPTS AND PRINCIPLES OF GEOMETRY.</b>	
01. Apply concepts of size, shape, and spatial relationships.	
a. Precisely describe, classify, and understand relationships among types of one-, two-, and three-dimensional objects using their defining properties.	SE: 286 #16, 428-431, 434-437, 463 #15-17, 467 #18, 514-517 <i>Hands-On Lab</i> 416-417, 426-427 <i>Study Skill</i> 474 <i>The Game Zone</i> 529 TWE: A 437 ICE 435 PA 515 PC 510 F PS 549
b. Construct and measure various angles and shapes using appropriate tools.	SE: 413-415, 492 #28-31 <i>Hands-On Lab</i> 412, 416-417, 432-433 TWE: A 415 DI 413
c. Apply fundamental concepts, properties, and relationships among points, lines, angles, and shapes.	SE: 413-415, 434-437 <i>Hands-On Lab</i> 416-417, 426-427 TWE: A 415, 437 B 422 ICE 423
d. Recognize and apply congruence, similarities, and symmetry of shapes.	SE: 422-425, 440-443, 464, 467 #16 TWE: TNT 440
e. Apply formulas for perimeter, circumference, and area to triangles, quadrilaterals, and circles.	SE: 28 #18, 163 #44, 270-273, 275-277, 468, 483-485, 489-492, 493-495 TWE: A 273 ICE 271 PC 510 F PS 281
f. Explore the concept of surface area and volume (capacity).	SE: 520-522, 524-527, 532-535, 538-541, 547-548 <i>Hands-On Lab</i> 530-531, 536-537 TWE: A 527 DI 533
g. Explore and model the effects of reflections, translations, and rotations on various shapes.	SE: 446-450, 451-454, 456-459, 464, 473 #48-49 <i>Hands-On Lab</i> 460-461 <i>Spreadsheet Investigation</i> 455

STANDARDS	PAGE REFERENCES
h. Use appropriate vocabulary.	SE: 446 <i>New Vocabulary</i> 422, 440, 446, 456 <i>Reading Math</i> 446, 480, 490 <i>Spreadsheet Investigation</i> 455 <i>Study Skill</i> 474 TWE: A 437 DI 434 TNT 440
<b>02. Apply the geometry of right triangles.</b>	
a. Explore right triangle geometry.	SE: 479-482, 492 #26-27 <i>Hands-On Lab</i> 478 TWE: A 482 B 479 ICE 481
<b>03. Apply graphing in two dimensions.</b>	
a. Identify and plot points on a coordinate plane.	SE: 112-115, 137 #46-48, 178 (e.g. 2), 190 #9, 191 #20 <i>Hands-On Lab</i> 176 <i>Spreadsheet Investigation</i> 455 <i>The Game Zone</i> 117 TWE: DI 113 ICE 113
<b>332. DATA ANALYSIS, PROBABILITY AND STATISTICS.</b>	
<b>01. Understand data analysis.</b>	
a. Read and interpret tables, charts, and graphs (scatter plots, line graphs, bar graphs, pie charts).	SE: 51 #17, 54-57, 64-67, 70 (e.g. 3), 86-87, 100 #4-5 <i>Problem-Solving Strategy</i> 58-59 <i>Web Quest</i> 193 TWE: A 59
b. Explain and justify conclusions drawn from tables, charts, and graphs.	SE: 60-63 <i>Problem-Solving Strategy</i> 58-59 TWE: A 59 DI 59, 60
c. Understand and use appropriate vocabulary.	SE: <i>New Vocabulary</i> 54, 64, 80 TWE: A 79 B 80 DI 66
<b>02. Collect, organize, and display data.</b>	
a. Collect, organize, and display data with appropriate notation in tables, charts, and graphs (scatter plots, line graphs, bar graphs, pie charts).	SE: 54-57, 62 #8 & #10, 64, 66-67, 85-89, 96, 97 <i>Hands-On Lab</i> 344 <i>Web Quest</i> 3, 103, 193
<b>03. Apply simple statistical measurements.</b>	
a. Understand and use the measures of central tendency – mean, median, and mode, with simple sets of data.	SE: 69-72, 79 #26-27, 94 #9-11, 95 #19, 97, 100 #6 <i>Hands-On Lab</i> 73 <i>The Game Zone</i> 75 TWE: PC 52 F
b. Explore the significance of range, frequency, and informal distribution.	SE: 65, 66 #8, 67 #20, 78-79, 85 #20, 95 #20 TWE: DS 66

STANDARDS	PAGE REFERENCES
<b>04. Understand basic concepts of probability.</b>	
a. Predict, perform, and record results of simple probability experiments.	SE: 368, 370-373, 374-377, 403, 407 #16-17 <i>Hands-On Lab</i> 201 <i>The Game Zone</i> 385 <i>Web Quest</i> 285 TWE: B 370 DI 375 PC 368 F PS 405
b. Understand and use the language of probability.	SE: <i>New Vocabulary</i> 370, 374 <i>Web Quest</i> 285 TWE: B 370
c. Recognize equally likely outcomes.	SE: 371 (e.g. 2), 375-376, 380 #9-16, 403, 406 #6, 407 #18 TWE: A 376 PS 405
<b>05. Make predictions or decisions based on data.</b>	
a. Make predictions based on simple experimental and theoretical probabilities.	SE: 370-373, 393-396, 404, 406 <i>Hands-On Lab</i> 397 <i>The Game Zone</i> 385 TWE: DI 394 PS 405
b. Understand and use appropriate vocabulary.	SE: <i>Hands-On Lab</i> 397 <i>New Vocabulary</i> 370, 373 TWE: A 395 B 393 PC 368 F
<b>333. FUNCTIONS AND MATHEMATICAL MODELS.</b>	
<b>01. Understand the concept of functions.</b>	
a. Extend patterns and identify a rule (function) that generates the pattern using real numbers.	SE: 8 (e.g. 2), 51 #17, 177-181, 226 #21 <i>Hands-On Lab</i> 37, 176 <i>Problem-Solving Strategy</i> 132-133 TWE: A 133
b. Use functional relationships to explain how a change in one quantity results in a change in another.	SE: 177-181, 182-185, 188, 191 <i>Hands-On Lab</i> 176, 296 TWE: ICE 178, 179
c. Understand and use appropriate vocabulary.	SE: 179 #2 <i>New Vocabulary</i> 177 TWE: B 177
<b>02. Represent equations, inequalities, and functions in a variety of formats.</b>	
a. Represent a simple set of data in a table, as a graph, and as a mathematical relationship.	SE: 62 #8, 86 (e.g. 2), 87 #3-6 <i>Hands-On Lab</i> 296 <i>Hands-On Mini Lab</i> 60 <i>Problem-Solving Strategy</i> 58-59 TWE: ICE 58
<b>03. Apply functions to a variety of problems.</b>	
a. Use patterns and functions to represent and solve problems.	SE: 177-181, 188, 189 #16-18, 191 #20 <i>Hands-On Lab</i> 176 <i>Problem-Solving Strategy</i> 132-133 TWE: ICE 178

## Codes Used for TWE Pages

A	Assess
B	Bellringer
DI	Daily Intervention
DS	Data Sense
ICE	In-Class Example
NS	Number Sense
PA	Practice/Apply
PC	Project Criss
PS	Portfolio Suggestion
TNT	Tips for New Teachers
TT	Teaching Tip