



IDAHO
Mathematics Standards Grade 6
Impact Mathematics: Algebra and More Course 1 © 2004

STANDARDS	PAGE REFERENCES
317. BASIC ARITHMETIC, ESTIMATION, AND ACCURATE COMPUTATIONS.	
01. Understand and use numbers.	
a. Read, write, order, and compare whole numbers, fractions, and decimals.	SE: 99-101, 102-103, 120-122, 128-131, 131-134, 134-136 <i>On Your Own Exercises</i> 124 #24-26
b. Understand the use of fractions and decimals and their interrelationship.	SE: 128-131, 131-134, 134-136 <i>On Your Own Exercises</i> 137-140
c. Expand the use of decimals and fractions to explore the use of percents and ratios.	SE: 227-230, 230-233, 234-236, 236-239 <i>On Your Own Exercises</i> 240-246
d. Show a sense of magnitudes and relative magnitudes of real numbers (whole numbers, fractions, decimals).	SE: 96-98, 112-117 <i>On Your Own Exercises</i> 106 #1-5, 123 #1-11 TG: AM T98
e. Develop and apply number theory concepts [prime, composite, Greatest Common Factor (GCF), Lowest Common Multiple (LCM), prime factorization].	SE: 76-79, 79-81, 82-84, 85-87 <i>Lab Investigation</i> 88-89 <i>On Your Own Exercises</i> 90-95, 247 #48-50, 513 #59-64
f. Explore the use of integers in real-world situations.	SE: 143-145 <i>On Your Own Exercises</i> 146-147 <i>Review and Self-Assessment</i> 150 #13-15
02. Perform computations accurately.	
a. Consistently and accurately multiply and divide whole numbers.	SE: 15-18, 19-22 <i>On Your Own Exercises</i> 25-26, 41 #25-27
b. Add, subtract, multiply, and divide decimals.	SE: 198-201, 201-203, 204-206, 207-210, 210-212 <i>On Your Own Exercises</i> 27 #23-28, 213-219, 247 #42-47
c. Add and subtract fractions with unlike denominators and simplify as necessary.	SE: 154-157, 157-160, 161-163 <i>Lab Investigation</i> 164-165 <i>On Your Own Exercises</i> 166-170, 247 #39-41
d. Instantly recall basic multiplication and division facts from a 12 x 12 Times Table.	Multiplication of whole numbers larger than 12 are used throughout this text.
e. Evaluate numerical expressions using the order of operations.	SE: 19-22, 501-503 <i>Remember</i> 412 <i>On Your Own Exercises</i> 25 #7-14, 41 #25-27, 509 #21-28 <i>Review and Self-Assessment</i> 71 #4 TG: TT T20
f. Explore the use of exponents.	SE: 81, 498-500, 501-503 <i>On Your Own Exercises</i> 508-509 #11-28

STANDARDS	PAGE REFERENCES
g. Explore multiplication and division of fractions.	SE: 172-175, 175-177, 178-181, 182-185, 185-188 <i>On Your Own Exercises</i> 189-197
h. Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the three.	SE: 104-105, 200 #1-7, 204-206 <i>Lab Investigation</i> 164-165, 324-326, 525-527 <i>Explore</i> 514
i. Use appropriate vocabulary.	SE: <i>Share & Summarize</i> 22, 105, 131, 203 <i>Think & Discuss</i> 104, 201, 202
03. Estimate and judge reasonableness of results.	
a. Use estimation to predict computation results.	SE: 104-105, 128-131, 233 <i>On Your Own Exercises</i> 189-197
b. Recognize when estimation is appropriate and understand the usefulness of an estimate as distinct from an exact answer.	SE: 482-485, 504-507, 522-524 <i>Explore</i> 514
c. Determine whether a given estimate is an overestimate or underestimate.	SE: 104-105, 128-131 <i>On Your Own Exercises</i> 215-216 #25-28
d. Use appropriate vocabulary.	SE: <i>Think & Discuss</i> 104 <i>Share & Summarize</i> 105, 131, 489, 507 <i>Explore</i> 514
318. MATHEMATICAL REASONING AND PROBLEM SOLVING.	
01. Understand and use a variety of problem-solving skills.	
a. Use a variety of strategies to compute problems drawn from real-world situations.	SE: 200, 201-203, 466-471 <i>Share & Summarize</i> 291, 486, 498, 630 <i>Lab Investigation</i> 324-326, 396-398 <i>On Your Own Exercises</i> 292-299, 423 #5B
b. Solve problems using the 4-step process of problem solving (explore, plan, solve, examine).	Students are taught problem-solving strategies throughout the text.
c. Make predictions and decisions based on information.	SE: 29-31, 32-35, 282-286, 286-291, 320-323, 592-593 <i>On Your Own Exercises</i> 36-42
02. Use reasoning skills to recognize problems and express them mathematically.	
a. Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning and concepts.	SE: <i>Share & Summarize</i> 291, 305, 486 <i>Think & Discuss</i> 486 <i>Review and Self-Assessment</i> 403-407
b. Apply solutions and strategies to new problem situations.	SE: 571-573, 574-576, 576-578, 586-589, 589-591 <i>Lab Investigation</i> 268-269
c. Formulate conjectures and discuss why they must be or seem to be true.	SE: 391-393, 394-395 <i>Share & Summarize</i> 320 <i>Lab Investigation</i> 396-397, 433-435 <i>On Your Own Exercises</i> 594-597

STANDARDS	PAGE REFERENCES
03. Apply appropriate technology and models to find solutions to problems.	
a. Understand the purpose and capabilities of appropriate technology use as a tool to solve problems.	SE: 200 #1-7 <i>Lab Investigation</i> 164-165, 324-326, 396-398, 525-527 <i>On Your Own Exercises</i> 448 #20, 631 #3
b. Use computer applications to display and manipulate data.	SE: <i>Lab Investigation</i> 324-326, 396-398, 525-527
c. Select appropriate models to represent mathematical ideas.	SE: 175-177, 227-230, 249-251 <i>Lab Investigation</i> 563-564
04. Communicate results using appropriate terminology and methods.	
a. Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to communicate mathematical information.	SE: 200, 201-203, 466-471 <i>Share & Summarize</i> 291, 486, 498, 630 <i>Lab Investigation</i> 324-326, 396-398 <i>On Your Own Exercises</i> 292-299, 423 #5b
b. Use appropriate vocabulary to communicate mathematical information.	SE: 143-145, 370-372 <i>Explore</i> 142, 182 <i>Think & Discuss</i> 162 <i>On Your Own Exercises</i> 123-126, 327-334, 565-569
c. Use appropriate notation.	SE: 252-255, 261-264, 278-282, 286-291 <i>On Your Own Exercises</i> 292-299
319. CONCEPTS AND PRINCIPLES OF MEASUREMENT.	
01. Understand and use U.S. customary and metric measurements.	
a. Select and use appropriate units and tools to make formal measurements in both systems.	SE: 17-18, 117-119, 470-471, 486-489, 495-497 <i>Lab Investigation</i> 58-60, 525-526
b. Apply estimation of measurement to real-world and content problems using actual measuring devices.	SE: 482-486, 486-489, 514 <i>Think & Discuss</i> 482 <i>On Your Own Exercises</i> 490-493
c. Recognize the differences and relationships between perimeter and area in both systems.	SE: 482-486, 486-489, 494-498, 498-501, 504-507, 514-517, 518-521 <i>On Your Own Exercises</i> 490-493, 508-511
d. Solve problems involving length, perimeter, area, weight, mass, and temperature.	SE: 17-18, 117-119, 145, 482-486, 486-489, 494-498, 498-501 <i>On Your Own Exercises</i> 146
e. Convert unit of measurement within each system.	SE: 17-18, 117-119 <i>On Your Own Exercises</i> 111 #52-55, 123 #12-21, 141 #54-57
f. Apply understanding of relationships to solve real-world problems related to time.	SE: 16 <i>On Your Own Exercises</i> 429 #21, 583 #22
g. Use appropriate vocabulary.	SE: <i>Share & Summarize</i> 119, 486, 489, 501, 517, 521 <i>Think & Discuss</i> 482, 486
02. Apply concepts of rates and other derived or indirect measurements.	
a. Explore the use of rates to make indirect measurements.	SE: 429 #21, 582 #19, 583 #22, 596 #22
03. Apply the concepts of ratios and proportions.	
a. Explore the use of proportions, ratios, and scales.	The concept of proportion is used on the following pages SE: 100-102, 124-126, 195, 199, 205-206

STANDARDS	PAGE REFERENCES
04. Apply dimensional analysis.	
a. Understand units and their relationship to one another and to real-world applications.	SE: 117-119, 472-476, 482-485, 514-517, 518-521, 522-524, 540-543, 582 #19, 596 #22
320. CONCEPTS AND LANGUAGE OF ALGEBRA.	
01. Use algebraic symbolism as a tool to represent mathematical relationships.	
a. Explore the meaning and use of variables in simple expressions and equations.	SE: 410-414, 414-418, 419-421, 560-562 <i>Share & Summarize</i> 454 <i>On Your Own Exercises</i> 565-569
b. Translate simple word statements and story problems into algebraic equations.	SE: 436-439, 439-442, 451-454, 455-456 <i>On Your Own Exercises</i> 443-448, 457-459
c. Use symbols (<, >, =) to express relationships.	SE: 559-562 <i>On Your Own Exercises</i> 389 #26-31, 565 #4-9
02. Evaluate algebraic expressions.	
a. Explore and use the following properties in evaluating mathematical and algebraic expressions: commutative, associative, identity, zero, inverse, and distributive.	The concept of properties is implied on page SE: 452
b. Explore the order of operations.	SE: 19-22, 501-503 <i>Remember</i> 412 <i>On Your Own Exercises</i> 25 #7-14, 41 #25-27, 509 #21-28 <i>Review and Self-Assessment</i> 71 #4 TG: TT T20
03. Solve algebraic equations and inequalities.	
a. Solve 1-step equations using inverse operations with whole numbers.	SE: 559-560, 560-562, 570-573, 574-578 <i>Lab Investigation</i> 563-564
321. CONCEPTS AND PRINCIPLES OF GEOMETRY.	
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: 42-46, 46-49, 50-53, 54-57, 466-471, 472-476, 515-517 <i>Lab Investigation</i> 58-60 <i>On Your Own Exercises</i> 61-68
b. Construct and measure various angles and shapes using appropriate tools.	SE: 117-119, 467-471, 486-489, 495-497 <i>Lab Investigation</i> 58-60 <i>On Your Own Exercises</i> 513 #69-72
c. Apply fundamental concepts, properties, and relationships among points, lines, angles, and shapes.	SE: 42-46, 46-49, 50-53, 54-57, 466-471, 472-476 <i>Lab Investigation</i> 58-60 <i>On Your Own Exercises</i> 61-68
d. Recognize and apply congruence, similarities, and symmetry of shapes.	SE: 42-46, 46-49, 50-54, 54-57, 466-471 <i>Lab Investigation</i> 58-60 <i>On Your Own Exercises</i> 61-68
e. Develop and apply formulas for perimeter, circumference, and area to triangles, quadrilaterals, and circles.	SE: 482-486, 486-489, 495-498, 514-517, 518-521, 522-524 <i>Lab Investigation</i> 525-527 <i>On Your Own Exercises</i> 490-493, 528-534
f. Explore the relationship between two- and three-dimensional objects.	SE: 42-46, 46-49, 50-54, 54-57, 466-471 <i>Lab Investigation</i> 58-60 <i>On Your Own Exercises</i> 61-68

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g. Explore reflections, translations, and rotations on various shapes.	SE: 50-51 <i>On Your Own Exercises</i> 62 #9
h. Use appropriate vocabulary.	SE: <i>Think & Discuss</i> 42, 56, 497 <i>Share & Summarize</i> 46, 49, 521, 524
02. Apply graphing in two dimensions.	
a. Identify and plot points on a coordinate plane.	SE: 302-305 <i>On Your Own Exercises</i> 311-312, 619 #31
322. DATA ANALYSIS, PROBABILITY AND STATISTICS.	
01. Understand data analysis.	
a. Read and interpret tables, charts, and graphs (line graphs, bar graphs, frequency lines or line plots, and circle graphs).	SE: 230-233, 278-282, 282-291, 346-349, 350-352, 366-369 <i>Share & Summarize</i> 291 <i>On Your Own Exercises</i> 380-388 <i>Review and Self-Assessment</i> 402-407
b. Explain and justify conclusions drawn from tables, charts, and graphs.	SE: 317-318, 319-320, 320-323, 343-345 <i>Lab Investigation</i> 324-326
c. Understand and use appropriate vocabulary.	SE: 317-318, 319-320, 320-323, 343-345 <i>Lab Investigation</i> 324-326
02. Collect, organize, and display data.	
a. Collect, organize, and display data with appropriate notation in tables, charts, and graphs (line graphs, bar graphs, frequency lines or line plots, and circle graphs).	SE: 342-345, 346-349, 350-352, 377-379, 390-393, 394-395 <i>On Your Own Exercises</i> 353-360, 399-401
03. Apply simple statistical measurements.	
a. Find measures of central tendency – mean, median, and mode with simple sets of data.	SE: 362-365, 366-369, 370-372, 373-376, 394-395 <i>On Your Own Exercises</i> 380-388 <i>Lab Investigation</i> 396-398
b. Determine the range of a set of data.	SE: 362-365 <i>On Your Own Exercises</i> 380 #1, 381 #5, 382 #6, 383 #10
04. Understand basic concepts of probability.	
a. Predict, perform, and record results of simple probability experiments.	SE: 605-607, 608-612, 621-622, 623-624, 624-625, 626-630 <i>Lab Investigation</i> 613-614 <i>On Your Own Exercises</i> 615-618, 631-636
b. Understand and use the language of probability.	SE: 605-607, 608-612, 621-622, 623-624, 624-625, 626-630 <i>Share & Summarize</i> 607 <i>Lab Investigation</i> 613-614 <i>On Your Own Exercises</i> 615-618, 631-636
05. Make predictions or decisions based on data.	
a. Make predictions based on simple experimental probabilities.	SE: 604-607, 608-612, 626-630, 638-642 <i>Lab Investigation</i> 613-614 <i>On Your Own Exercises</i> 615-618
b. Understand and use appropriate vocabulary.	SE: 604-607, 608-612, 626-630, 638-642 <i>Lab Investigation</i> 613-614 <i>On Your Own Exercises</i> 615-618

STANDARDS	PAGE REFERENCES
323. FUNCTIONS AND MATHEMATICAL MODELS.	
01. Understand the concept of functions.	
a. Extend patterns and identify a rule (function) that generates the pattern using whole numbers, decimals, and fractions.	SE: 4-9, 14-18, 28-31, 32-35, 42-45, 134-136, 410-413, 414-418, 419-421 <i>On Your Own Exercises</i> 422-429
b. Discover, describe, and extend patterns by using manipulatives and pictorial representations.	SE: 5-9, 410-414, 414-418 <i>On Your Own Exercises</i> 10-13, 422-429
c. Use mathematical models to show change in real context.	SE: 5-9, 28-31, 32-35, 42-46, 419-421 <i>On Your Own Exercises</i> 36-41, 422-429 <i>Review and Self-Assessment</i> 69-71
d. Understand and use appropriate vocabulary.	SE: 29-31 <i>Think & Discuss</i> 6, 14 <i>Share & Summarize</i> 9, 18, 22 <i>Explore</i> 28
02. Apply functions to a variety of problems.	
a. Use patterns and functions to represent and solve simple problems.	SE: 15-18, 411-414, 439-442, 574-578 <i>Lab Investigation</i> 433-435, 563-564 <i>On Your Own Exercises</i> 422-423 #1-5

Codes Used for TG Pages

AM About Mathematics
TT Tips for Teachers