



**IDAHO**  
**Mathematics Standards Grade 6**  
*Impact Mathematics: Algebra and More for the Middle Grades*  
**Course 1 © 2002**

STANDARDS	PAGE REFERENCES
<b>317. BASIC ARITHMETIC, ESTIMATION, AND ACCURATE COMPUTATIONS.</b>	
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
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, 247 #42-47
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
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
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 &amp; Summarize</i> 22, 105, 131, 203 <i>Think &amp; Discuss</i> 104, 201, 202
<b>03. Estimate and judge reasonableness of results.</b>	
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 &amp; Discuss</i> 104 <i>Share &amp; Summarize</i> 105, 131, 489, 507 <i>Explore</i> 514
<b>318. MATHEMATICAL REASONING AND PROBLEM SOLVING.</b>	
<b>01. Understand and use a variety of problem-solving skills.</b>	
a. Use a variety of strategies to compute problems drawn from real-world situations.	SE: 200, 201-203, 466-471 <i>Share &amp; 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
<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: <i>Share &amp; Summarize</i> 291, 305, 486 <i>Think &amp; 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 &amp; Summarize</i> 320 <i>Lab Investigation</i> 396-397, 433-435 <i>On Your Own Exercises</i> 594-597

STANDARDS	PAGE REFERENCES
<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: 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
<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: 200, 201-203, 466-471 <i>Share &amp; 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 &amp; 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
<b>319. 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: 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 &amp; 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
g. Use appropriate vocabulary.	SE: <i>Share &amp; Summarize</i> 119, 486, 489, 501, 517, 521 <i>Think &amp; Discuss</i> 482, 486
<b>02. Apply concepts of rates and other derived or indirect measurements.</b>	
a. Explore the use of rates to make indirect measurements.	SE: 582 #19, 596 #22
<b>03. Apply the concepts of ratios and proportions.</b>	
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
<b>320. CONCEPTS AND LANGUAGE OF ALGEBRA.</b>	
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, 414-148, 419-421, 560-562 <i>Share &amp; 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> 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
<b>321. 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: 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, 470-471, 486-489, 495-497 <i>Lab Investigation</i> 58-60
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
g. Explore reflections, translations, and rotations on various shapes.	SE: 50-51 <i>On Your Own Exercises</i> 62 #9

<b>STANDARDS</b>	<b>PAGE REFERENCES</b>
h. Use appropriate vocabulary.	SE: <i>Think &amp; Discuss</i> 42, 56, 497 <i>Share &amp; Summarize</i> 46, 49, 521, 524
<b>02. Apply graphing in two dimensions.</b>	
a. Identify and plot points on a coordinate plane.	SE: 302-305 <i>On Your Own Exercises</i> 311-312, 619 #31
<b>322. DATA ANALYSIS, PROBABILITY AND STATISTICS.</b>	
<b>01. Understand data analysis.</b>	
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 &amp; 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
<b>02. Collect, organize, and display data.</b>	
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
<b>03. Apply simple statistical measurements.</b>	
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
<b>04. Understand basic concepts of probability.</b>	
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 &amp; Summarize</i> 607 <i>Lab Investigation</i> 613-614 <i>On Your Own Exercises</i> 615-618, 631-636
<b>05. Make predictions or decisions based on data.</b>	
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
<b>323. FUNCTIONS AND MATHEMATICAL MODELS.</b>	
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
b. Discover, describe, and extend patterns by using manipulatives and pictorial representations.	SE: 5-9, 410-414, 414-148 <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 <i>On Your Own Exercises</i> 36-41 <i>Review and Self-Assessment</i> 69-71
d. Understand and use appropriate vocabulary.	SE: 29-31 <i>Think &amp; Discuss</i> 6, 14 <i>Share &amp; 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, 439-442, 574-578 <i>Lab Investigation</i> 433-435, 563-564

### Codes Used for TG Pages

AM About Mathematics  
TT Tips for Teachers