



IDAHO
Mathematics Standards Grade 6
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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: 101 #27-#30, 560 #7-#12, 568 #9-#16 ATE: CE 101 GS 104
b. Understand the use of fractions and decimals and their interrelationship.	SE: 566 ATE: GS 260
c. Expand the use of decimals and fractions to explore the use of percents and ratios.	SE: 256 #1-#16, 433 #19-#30, 566 <i>Mental Math</i> 264 ATE: EL 262 GS 264 TT 256
d. Show a sense of magnitudes and relative magnitudes of real numbers (whole numbers, fractions, decimals).	SE: 101 #27-#30, 105, 107 #46, 560 #7-#12, 568 #9-#16 ATE: CE 101 GS 104
e. Develop and apply number theory concepts [prime, composite, Greatest Common Factor (GCF), Lowest Common Multiple (LCM), prime factorization].	SE: 390 #1-#6, 391 #15-#28, 414-417, 422 #1-#27, 423 #62-#67, 427 #18-#20, 428 #21-#26 ATE: GS 414 QA 416 TT 414
f. Explore the use of integers in real-world situations.	SE: 107 #47, 109 ex 3, 110 #14, 111 #47, 117 #61, 121 #47, 122 #28-#29, 123 #20, 151 #29 <i>Connection</i> 149
02. Perform computations accurately.	
a. Consistently and accurately multiply and divide whole numbers.	SE: 2 #5-#8, 100 #6, 110 #5, 562 #1-#3, 563 #1-#3, 567 #1-#3
b. Add, subtract, multiply, and divide decimals.	SE: 3 #25-#32, 100 #1-#8, 106 #28, 111 #63-#65, 112 #13-#15, 123 #4, 561, 562, 563, 567
c. Add and subtract fractions with unlike denominators and simplify as necessary.	SE: 49 #15-#18, 106 #27, 115 #3, 116 #17, 120 #36, 122 #54, 123 #5, 146 #7, 565
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: 114-117, 122 #1-#29, 123 #72-#77, 141 #81-#83, 146 #17-#20, 148 #17-#22 ATE: EL 115 LS 114 QA 116

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f. Explore the use of exponents.	SE: 132-135, 136-139, 140 #33-#72, 141 #113-#140 ATE: CE 133 EL 137 LS 136 QA 134, 138 TS 134
g. Explore multiplication and division of fractions.	SE: 115 #3, 116 #17, 122 #53, 433 #31-#48, 564
h. Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the three.	SE: 12 #28, 115 ex 3, 128 #3-#4, 139 #52, 143 ex 2, 144 #13-#16, 145 #50-#61, 214 #43, 220 #39-#39, 262 #11
i. Use appropriate vocabulary.	SE: 107 #46, 110 #16, 117 #60, 134 #13, 138 #14, 145 #65, 214 #43, 215 #47, 221 #52, 225 #46
03. Estimate and judge reasonableness of results.	
a. Use estimation to predict computation results.	SE: 63 ex 3, 64 #25-#28, 70 #13-#18, 91 ex 3, 92 #7, 462 #19-#27 <i>Estimation Tip</i> 53, 261
b. Recognize when estimation is appropriate and understand the usefulness of an estimate as distinct from an exact answer.	SE: 63 ex 3, 64 #25-#28, 70 #13-#18, 91 ex 3, 92 #7, 462 #19-#27 <i>Estimation Tip</i> 53, 261
c. Determine whether a given estimate is an overestimate or underestimate.	Estimation can be found in Glencoe's <i>MathMatters 2</i> page 3.
d. Use appropriate vocabulary.	SE: 63 ex 3, 64 #25-#28, 70 #13-#18, 91 ex 3, 92 #7, 462 #19-#27 <i>Estimation Tip</i> 53, 261
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: 20-21, 72-73, 128-129, 170-171, 238-239, 294-295, 306-307, 366-367, 460-461, 502-503
b. Solve problems using the 4-step process of problem solving (explore, plan, solve, examine).	SE: 3 #34-#35, 20-21, 72-73, 128-129, 170-171, 238-239, 294-295, 306-307, 366-367, 460-461, 502-503
c. Make predictions and decisions based on information.	SE: 34-37, 128-129, 460-461 ATE: CE 35 QA 36
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: 107 #46, 110 #16, 117 #60, 134 #13, 138 #14, 145 #65, 214 #43, 215 #47, 221 #52, 225 #46
b. Apply solutions and strategies to new problem situations.	SE: 20-21, 72-73, 128-129, 170-171, 238-239, 294-295, 306-307, 366-367, 460-461, 502-503
c. Formulate conjectures and discuss why they must be or seem to be true.	SE: 482-485, 486 #17-#20, 487 #27-#28, 488-491, 496 #1-#9, 497 #24-#28, 498-501 ATE: EL 484 GS 482 QA 484

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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: 12 #28, 21 #16, 41 #28, 45, 115 ex 3, 128 #3-#4, 139 #52, 143 ex 2, 144 #13-#16, 145 #50-#61, 214 #43, 220 #39-#39, 262 #11, 277 #41-#44, 345, 544-549
b. Use computer applications to display and manipulate data.	SE: 12 #28, 21 #16, 41 #28, 45, 115 ex 3, 128 #3-#4, 139 #52, 143 ex 2, 144 #13-#16, 145 #50-#61, 214 #43, 220 #39-#39, 262 #11, 277 #41-#44, 345, 547-549
c. Select appropriate models to represent mathematical ideas.	SE: 110 #13, 126 #14, 127 #65, 160, 177 #37, 215 #61, 221 #57, 225 #54, 352, 365 #30-#31
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: 13 #47, 59 #51, 64 #11, 69 #41, 82 #14, 86 #15, 93 #28, 107 #46, 111 #6, 121 #49
b. Use appropriate vocabulary to communicate mathematical information.	SE: 107 #46, 110 #16, 117 #60, 134 #13, 138 #14, 145 #65, 214 #43, 215 #47, 221 #52, 225 #46
c. Use appropriate notation.	SE: 59 #51, 69 #41, 82 #14, 87 #56, 111 #61, 117 #70, 124-127 ATE: LS 58 PE 126 TT 106
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: 52-55, 56-59, 60 #1-#54, 61 #55-#75, 71 #35-#44 ATE: CE 53 LS 56 QA 54, 58 TS 52
b. Apply estimation of measurement to real-world and content problems using actual measuring devices.	SE: 62, 63 ex 2, 64 #7, 65 #30-#31, 90-93, 95 #36 ATE: CE 91 EL 90, 91 QA 92
c. Recognize the differences and relationships between perimeter and area in both systems.	SE: 68 #9, 69 #40 ATE: EL 66
d. Solve problems involving length, perimeter, area, weight, mass, and temperature.	SE: 62-65, 66-69, 70 #1-#34 ATE: CE 63, 67 EL 62, 63, 66, 67 LS 68
e. Convert unit of measurement within each system.	SE: 56-59, 60 #23-#37, 61 #63-#68, 69 #42-#47, 71 #39-#44 ATE: CE 57 EL 57 LS 56, 58 QA 58

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f. Apply understanding of relationships to solve real-world problems related to time.	SE: 280-283
g. Use appropriate vocabulary.	SE: 59 #51, 65 #41, 68 #9, 77 #64, 82 #14, 86 #15, 92 #8, 93 #24
02. Apply concepts of rates and other derived or indirect measurements.	
a. Explore the use of rates to make indirect measurements.	SE: 86 #37-#42, 87 #45, 88 #46-#54, 89 #97-#99
03. Apply the concepts of ratios and proportions.	
a. Explore the use of proportions, ratios, and scales.	SE: 74-77, 84-87, 88 #25-#54, 89 #97-#99, 95 #32-#35, 96 #22-#25 ATE: CE 85 EL 74, 75, 85 GS 84
04. Apply dimensional analysis.	
a. Understand units and their relationship to one another and to real-world applications.	SE: 56-59, 60 #23-#37, 61 #63-#68, 69 #42-#47, 71 #39-#44 ATE: CE 57 EL 57 LS 56, 58 QA 58
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: 124-127, 130 #1-#35, 141 #87-#92, 147 #28-#29, 148 #33, 211 #53 ATE: CE 125 EL 125 PE 126 QA 126
b. Translate simple word statements and story problems into algebraic equations.	SE: 124-127, 130 #1-#35, 141 #87-#92, 147 #28-#29, 148 #33, 211 #53 ATE: CE 125 EL 125 PE 126 QA 126
c. Use symbols (<, >, =) to express relationships.	SE: 240-243, 244 #10-#45, 245 #82-#90, 246-249, 251 #36-#43 ATE: CE 241 EL 241 LS 240 QA 242 TT 242
02. Evaluate algebraic expressions.	
a. Explore and use the following properties in evaluating mathematical and algebraic expressions: commutative, associative, identity, zero, inverse, and distributive.	SE: 105, 118-121, 122 #38-#55, 123 #82-#87, 131 #52-#54, 141 #84-#86, 146 #25-#27, 148 #27-#30 ATE: LS 118 QA 120

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b. Explore the order of operations.	SE: 114-117, 122 #1-#29, 123 #72-#77, 141 #81-#83, 146 #17-#20, 148 #17-#22 ATE: EL 115 LS 114 QA 116
03. Solve algebraic equations and inequalities.	
a. Solve 1-step equations using inverse operations with whole numbers.	SE: 212-215, 216 #37-#63, 217 #79-#90, 218-221 ATE: CE 213 EL 213 LS 212, 218 QA 214, 220
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: 160-163, 164 #28-#39, 165 #48-#51, 166-169, 172 #1-#12 ATE: CE 161, 164, 167 GS 160 QA 162
b. Construct and measure various angles and shapes using appropriate tools.	SE: 158 ex 3, 159 #27-#34, 356-359, 360 #22-#28, 369 #25-#26, 361 #38-#42, 379 #34 ATE: CE 357 EL 357 QA 358
c. Apply fundamental concepts, properties, and relationships among points, lines, angles, and shapes.	SE: 352-355, 360 #1-#21, 362-365 ATE: CE 353 EL 353, 364 LS 354 QA 354, 364 TT 352
d. Recognize and apply congruence, similarities, and symmetry of shapes.	SE: 374-377, 381 ex 3, 382 #3-#5, 383 #11-#13
e. Develop and apply formulas for perimeter, circumference, and area to triangles, quadrilaterals, and circles.	SE: 62-65, 66-69, 70 #1-#34 ATE: CE 63, 67 EL 62, 63, 66, 67 LS 68
f. Explore the relationship between two- and three-dimensional objects.	SE: 160-163, 164 #28-#39, 165 #48-#51, 166-169, 172 #1-#12 ATE: CE 161, 164, 167 GS 160 QA 162
g. Explore reflections, translations, and rotations on various shapes.	SE: 370-373, 374-377, 378 #1-#29, 379 #37-#38, 380-383 ATE: CE 371, 381 EL 374 QA 376 TT 371
h. Use appropriate vocabulary.	SE: 354 #5, 355 #31-#32, 383 #20, 384 #1-#5 ATE: QA 364, 376, 382 TT 352

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02. Apply graphing in two dimensions.	
a. Identify and plot points on a coordinate plane.	SE: 308-311, 312 #11-#40, 313 #45-#59, 323 #55-#58 ATE: CE 309 EL 309 LS 308 QA 310 TT 311, 312
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: 6-9, 14 #1-#7, 15 #27-#29, 16-19, 22 #1-#9, 23 #22-#23 ATE: CE 7 EL 7 QA 8, 26
b. Explain and justify conclusions drawn from tables, charts, and graphs.	SE: 6-9, 14 #1-#7, 15 #27-#29, 16-19, 22 #1-#9, 23 #22-#23 ATE: CE 7 EL 7 QA 8, 26
c. Understand and use appropriate vocabulary.	SE: 6-9, 14 #1-#7, 15 #27-#29, 16-19, 22 #1-#9, 23 #22-#23 ATE: CE 7 EL 7 QA 8, 26
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: 6-9, 14 #1-#7, 15 #27-#29, 16-19, 22 #1-#9, 23 #22-#23 ATE: CE 7 EL 7 QA 8, 26
03. Apply simple statistical measurements.	
a. Find measures of central tendency – mean, median, and mode with simple sets of data.	SE: 10-13, 14 #8-#26, 15 #32-#35 ATE: EL 10, 11 QA 12
b. Determine the range of a set of data.	SE: 10, 11 ex 1d, 12 #12, 13 #39, 14 #22-#26, 15 #32-#35, 22 #3, 23 #24-#27, 33 #22, 40 #19
04. Understand basic concepts of probability.	
a. Predict, perform, and record results of simple probability experiments.	SE: 440-443, 444 #25-#36, 445 #47-#54, 455 #29-#32, 463 #49-#51, 468 #9-#11, 470 #17-#19 ATE: EL 436 TS 440 TT 444
b. Understand and use the language of probability.	SE: 436-439, 468 #1-#8 ATE: QA 438, 442, 458 TT 438

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05. Make predictions or decisions based on data.	
a. Make predictions based on simple experimental probabilities.	SE: 440-443, 444 #25-#36, 445 #47-#54, 455 #29-#32, 463 #49-#51, 468 #9-#11, 470 #17-#19 ATE: EL 436 TS 440 TT 444
b. Understand and use appropriate vocabulary.	SE: 436-439, 468 #1-#8 ATE: QA 438, 442, 458 TT 438
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: 128-129, 130 #62, 141 #93-#94, 147 #34 ATE: CE 129 EL 129 TT 128
b. Discover, describe, and extend patterns by using manipulatives and pictorial representations.	SE: 129 #11-#12 ATE: EL 143
c. Use mathematical models to show change in real context.	SE: 129 #11-#12 ATE: EL 143
d. Understand and use appropriate vocabulary.	SE: 129 #11-#12 ATE: EL 143
02. Apply functions to a variety of problems.	
a. Use patterns and functions to represent and solve simple problems.	SE: 129 #11-#12, 314-317, 321 #41-#43 ATE: EL 143

Codes Used for TWE Pages

CE	Chalkboard Examples
EL	Extend the Lesson
GS	Getting Started
LS	Learning Styles
PE	Predictable Error
QA	Quick Assessment
TS	Teaching Strategies
TT	Teaching Tip