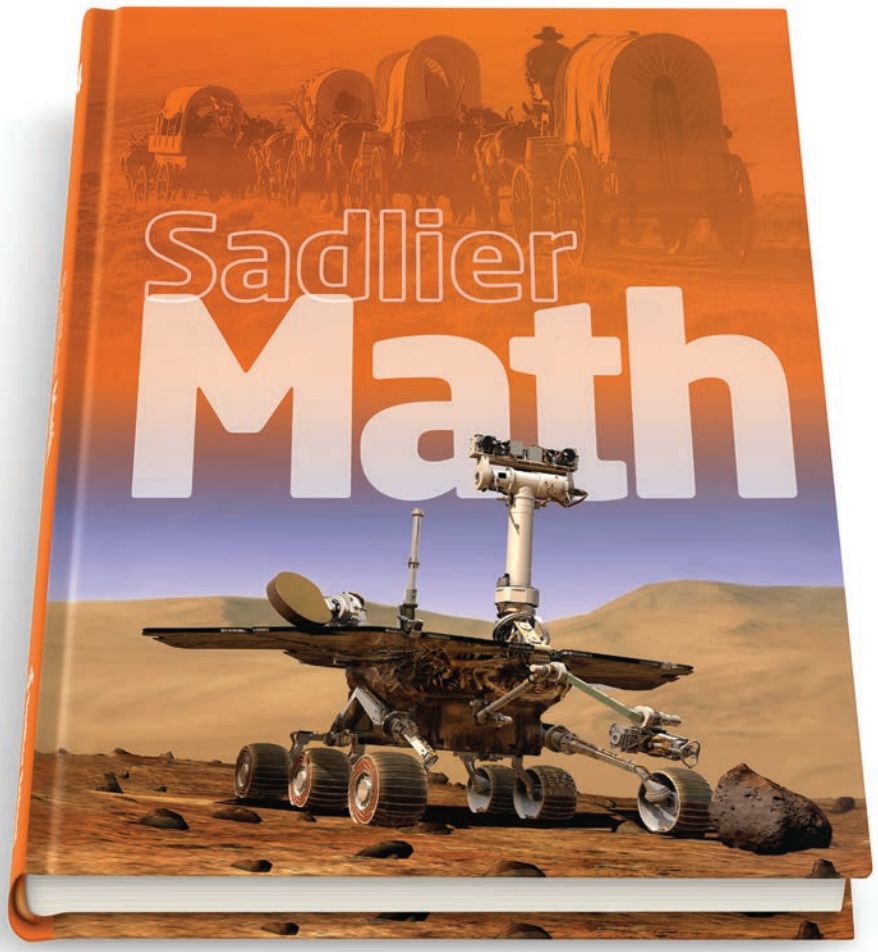
Sadlier Math™

Correlation to the South Carolina College- and Career-Ready Standards for Mathematics

Grade 4



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NUMBER SENSE AND BASE TEN

Grade 4 Content Standards	*Sadlier Math*, Grade 4
The student will:	
4.NSBT.1 Understand that, in a multi-digit whole number, a digit represents ten times what the same digit represents in the place to its right.	**Chapter 1 Place Value** • 1-2 What Is One Million?—pp. 4–5 • 1-3 Millions—pp. 6–7
4.NSBT.2 Recognize math periods and number patterns within each period to read and write in standard form large numbers through 999,999,999.	**Chapter 1 Place Value** • 1-1 Thousands—pp. 2–3 • 1-2 What Is One Million?—pp. 4–5 • 1-3 Millions—pp. 6–7
4.NSBT.3 Use rounding as one form of estimation and round whole numbers to any given place value.	**Chapter 1 Place Value** • 1-5 Round Whole Numbers—pp. 12–13 **Chapter 2 Addition** • 2-3 Estimate Sums—pp. 28–29 **Chapter 3 Subtraction** • 3-1 Estimate Differences—pp. 46–47
4.NSBT.4 Fluently add and subtract multi-digit whole numbers using strategies to include a standard algorithm.	**Chapter 2 Addition** • 2-2 Addition Properties—pp. 26–27 • 2-4 Add Thousands—pp. 30–31 • 2-5 Add Millions—pp. 34–35 **Chapter 3 Subtraction** • 3-2 Subtract with One Regrouping—pp. 48–49 • 3-3 Subtract with Two Regrouping—pp. 50–51 • 3-4 Subtract Greater Numbers—pp. 54–55 • 3-5 Zeros in Subtraction—pp. 56–57
4.NSBT.5 Multiply up to a four-digit number by a one-digit number and multiply a two-digit number by a two-digit number using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using rectangular arrays, area models and/or equations.	**Chapter 4 Multiplication Concepts** • 4-1 Multiplication Properties—pp. 68–69 • 4-2 Use Place-Value Models—pp. 70–71 • 4-3 Multiply Tens, Hundreds, and Thousands—pp. 74–75 • 4-4 Estimate Products—pp. 76–77 • 4-5 Multiply to Compare Numbers—pp. 78–79 **Chapter 5 Multiply by One-Digit Numbers** • 5-1 Multiply with Regrouping—pp. 88–89 • 5-2 Use Properties to Multiply by One-Digit Numbers—pp. 90–91 • 5-3 Use Area Models to Multiply by One-Digit Numbers—pp. 92–93 • 5-4 Multiply Three- and Four-Digit Numbers—pp. 96–97

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NUMBER SENSE AND BASE TEN

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	• 5-5 Multiplicative and Additive Comparisons—pp. 98–99 **Chapter 6 Multiply by Two-Digit Numbers** • 6-1 Use Area Models to Multiply by Two-Digit Numbers—pp. 108–109 • 6-2 Break Apart Numbers to Multiply—pp. 110–111 • 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 • 6-4 Multiply by Two-Digit Numbers: Regrouping—pp. 116–117 • 6-5 Multiplication Patterns—pp. 118–119
4.NSBT.6 Divide up to a four-digit dividend by a one-digit divisor using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.	**Chapter 7 Division Concepts** • 7-1 Division Rules—pp. 128–129 • 7-2 Relate Multiplication and Division—pp. 130–131 • 7-3 Estimate Quotients—pp. 132–133 • 7-4 Use Models to Divide—pp. 136–137 **Chapter 8 Divide by One-Digit Number** • 8-1 One-Digit Quotients—pp. 148–149 • 8-2 Divisibility—pp. 150–151 • 8-3 Two-Digit Quotients—pp. 152–153 • 8-4 Zeros in Quotients—pp. 154–155 • 8-5 More Quotients—pp. 158–159 • 8-6 Order of Operations—pp. 160–161

NUMBER SENSE AND OPERATIONS — FRACTIONS

Grade 4 Content Standards	*Sadlier Math*, Grade 4
The student will:	
4.NSF.1 Explain why a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100), $\frac{a}{b}$, is equivalent to a fraction, $\frac{n \times a}{n \times b}$, by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	**Chapter 10 Fraction Concepts** • 10-1 Fractions of a Set—pp. 192–193 • 10-2 Equivalent Fractions: Number Line Diagrams—pp. 194–195 • 10-3 Write Equivalent Fractions: Use Models—pp. 196–197 • 10-4 Write Equivalent Fractions: Use Multiplication and Division—pp. 198–199 • 10-5 Fractions: Lowest Terms—pp. 200–201 • 10-6 Compare Fractions: Use Benchmarks—pp. 204–205 *continued*

NUMBER SENSE AND OPERATIONS — FRACTIONS

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	Chapter 11 Fractions: Addition and Subtraction • 11-6 Write Mixed Numbers as Equivalent Fractions—pp. 236–237
4.NSF.2 Compare two given fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$ and represent the comparison using the symbols >, =, or <.	**Chapter 10 Fraction Concepts** • 10-7 Compare Fractions with the Same Denominator—pp. 206–207 • 10-8 Compare Fractions—pp. 208–209 • 10-9 Mixed Numbers—pp. 210–211 • 10-10 Compare Mixed Numbers—pp. 212–213 • 10-11 Order Fractions and Mixed Numbers—pp. 214–215
4.NSF.3 Develop an understanding of addition and subtraction of fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) based on unit fractions.	
a. Compose and decompose a fraction in more than one way, recording each composition and decomposition as an addition or subtraction equation;	**Chapter 11 Fractions: Addition and Subtraction** • 11-1 Use Models to Add Fractions—pp. 224–225 • 11-3 Decompose Fractions as Sums of Unit Fractions—pp. 228–229 • 11-4 Use Models to Subtract Fractions—pp. 230–231
b. Add and subtract mixed numbers with like denominators;	**Chapter 11 Fractions: Addition and Subtraction** • 11-1 Use Models to Add Fractions—pp. 224–225 • 11-2 Add Fractions: Like Denominators—pp. 226–227 • 11-4 Use Models to Subtract Fractions—pp. 230–231 • 11-5 Subtract Fractions: Like Denominators—pp. 232–233 • 11-7 Add Mixed Numbers: Like Denominators—pp. 238–239 • 11-8 Subtract Mixed Numbers: Like Denominators—pp. 240–241
c. Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having like denominators.	**Chapter 11 Fractions: Addition and Subtraction** • 11-1 Use Models to Add Fractions—pp. 224–225 • 11-2 Add Fractions: Like Denominators—pp. 226–227 • 11-3 Decompose Fractions as Sums of Unit Fractions—pp. 228–229 • 11-4 Use Models to Subtract Fractions—pp. 230–231 • 11-5 Subtract Fractions: Like Denominators—pp. 232–233

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NUMBER SENSE AND OPERATIONS — FRACTIONS

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	• 11-7 Add Mixed Numbers: Like Denominators—pp. 238–239 • 11-8 Subtract Mixed Numbers: Like Denominators—pp. 240–241
d. A fraction can be represented using set, area, and linear models.	**Chapter 11 Fractions: Addition and Subtraction** • 11-1 Use Models to Add Fractions—pp. 224–225 • 11-2 Add Fractions: Like Denominators—pp. 226–227 • 11-3 Decompose Fractions as Sums of Unit Fractions—pp. 228–229 • 11-4 Use Models to Subtract Fractions—pp. 230–231 • 11-5 Subtract Fractions: Like Denominators—pp. 232–233
4.NSF.4 Apply and extend an understanding of multiplication by multiplying a whole number and a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100).	
a. Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$;	**Chapter 12 Fractions: Multiply by a Whole Number** • 12-1 Add Unit Fractions to Multiply—pp. 250–251 • 12-2 Model Multiplying a Unit Fraction and a Whole Number—pp. 252–253 • 12-3 Multiply a Unit Fraction and a Whole Number—pp. 254–255 • 12-4 Model Multiplying a Fraction and a Whole Number—pp. 258–259
b. Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number;	**Chapter 12 Fractions: Multiply by a Whole Number** • 12-1 Add Unit Fractions to Multiply—pp. 250–251 • 12-2 Model Multiplying a Unit Fraction and a Whole Number—pp. 252–253 • 12-3 Multiply a Unit Fraction and a Whole Number—pp. 254–255 • 12-4 Model Multiplying a Fraction and a Whole Number—pp. 258–259 • 12-5 Multiply a Fraction and a Whole Number—pp. 260–261

NUMBER SENSE AND OPERATIONS — FRACTIONS

Grade 4 Content Standards	*Sadlier Math*, Grade 4
c. Solve real-world problems involving multiplication of a fraction by a whole number (i.e., use visual fraction models and equations to represent the problem).	**Chapter 12 Fractions: Multiply by a Whole Number** • 12-1 Add Unit Fractions to Multiply—pp. 250–251 • 12-2 Model Multiplying a Unit Fraction and a Whole Number—pp. 252–253 • 12-3 Multiply a Unit Fraction and a Whole Number—pp. 254–255 • 12-4 Model Multiplying a Fraction and a Whole Number—pp. 258–259 • 12-5 Multiply a Fraction and a Whole Number—pp. 260–261 • 12-6 Represent Situations Involving Multiplying a Fraction and a Whole Number—pp. 262–263
4.NSF.5 Express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 and use this technique to add two fractions with respective denominators of 10 and 100.	**Chapter 13 Fractions and Decimals** • 13-1 Equivalent Fractions: Rename Tenths as Hundredths—pp. 272–273 • 13-2 Add and Subtract Fractions with Denominators of 10 and 100—pp. 274–275 • 13-3 Tenths and Hundredths as Fractions and Decimals—pp. 276–277 • 13-4 Decimals Greater Than One—pp. 278–279 • 13-5 Decimal Place value—pp. 280–281
4.NSF.6 Write a fraction with a denominator of 10 or 100 using decimal notation, and read and write a decimal number as a fraction.	**Chapter 13 Fractions and Decimals** • 13-3 Tenths and Hundredths as Fractions and Decimals—pp. 276–277 • 13-4 Decimals Greater Than One—pp. 278–279 • 13-5 Decimal Place value—pp. 280–281
4.NSF.7 Compare and order decimal numbers to hundredths, and justify using concrete and visual models.	**Chapter 13 Fractions and Decimals** • 13-6 Compare Decimals with Models and Symbols—pp. 284–285 • 13-7 Order Decimals—pp. 286–287

ALGEBRAIC THINKING AND OPERATIONS

Grade 4 Content Standards	*Sadlier Math*, Grade 4
The student will:	
4.ATO.1 Interpret a multiplication equation as a comparison (e.g. interpret 35 = 5x7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.) Represent verbal statements of multiplicative comparisons as multiplication equations.	**Chapter 4 Multiplication Concepts** • 4-5 Multiply to Compare Numbers —pp. 78–79 **Chapter 5 Multiply by One-Digit Numbers** • 5-5 Multiplicative and Additive Comparisons —pp. 98–99
4.ATO.2 Solve real-world problems using multiplication (product unknown) and division (group size unknown, number of groups unknown).	**Chapter 2 Addition** • 2-1 Mathematical Expressions—pp. 24–25 • 2-2 Addition Properties—pp. 26–27 • 2-3 Estimate Sums—pp. 28–29 **Chapter 3 Subtraction** • 3-1 Estimate Differences—pp. 46–47 • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58–59 **Chapter 4 Multiplication Concepts** • 4-4 Estimate Products—pp. 76–77 **Chapter 6 Multiply by Two-Digit Numbers** • 6-6 Problem Solving: Write and Solve an Equation—pp. 120–121 **Chapter 7 Division Concepts** • 7-3 Estimate Quotients—pp. 132–133 **Chapter 8 Divide by One-Digit Numbers** • 8-1 One-Digit Quotients—pp. 148–149 • 8-3 Two-Digit Quotients—pp. 152–153
4.ATO.3 Solve multi-step, real-world problems using the four operations. Represent the problem using an equation with a variable as the unknown quantity.	**Chapter 2 Addition** • 2-1 Mathematical Expressions—pp. 24–25 **Chapter 3 Subtraction** • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58–59 **Chapter 8 Divide by One-Digit Numbers** • 8-7 Multistep Problems Using Multiplication and Division—pp. 162–163
4.ATO.4 Recognize that a whole number is a multiple of each of its factors. Find all factors for a whole number in the range 1 – 100 and determine whether the whole number is prime or composite.	**Chapter 9 Factors and Multiples** • 9-1 Factors—pp. 172–173 • 9-2 Factor Pairs—pp. 174–175 • 9-3 Prime and Composite Numbers—pp. 176–177 • 9-4 Multiples—pp. 180–181 • 9-5 Common Multiples—pp. 182–183

ALGEBRAIC THINKING AND OPERATIONS

Grade 4 Content Standards	*Sadlier Math*, Grade 4
4.ATO.5 Generate a number or shape pattern that follows a given rule and determine a term that appears later in the sequence.	**Chapter 7 Division Concepts** • 7-5 Number Patterns—pp. 138–139 **Chapter 17 Polygons** • 17-5 Shape Patterns —pp. 380–381

GEOMETRY

Grade 4 Content Standards	*Sadlier Math*, Grade 4
The student will:	
4.G.1 Draw points, lines, line segments, rays, angles (i.e., right, acute, obtuse), and parallel and perpendicular lines. Identify these in two-dimensional figures.	**Chapter 16 Lines and Angles** • 16-1 Points, Lines, Line Segments, Rays and Angles—pp. 350–351 • 16-2 Angle Measure—pp. 352–353 • 16-3 Measure Angles—pp. 356–357 • 16-4 Unknown Angle Measures—pp. 358–359 • 16-5 Parallel and Perpendicular Lines—pp. 360–361
4.G.2 Classify quadrilaterals based on the presence or absence of parallel or perpendicular lines.	**Chapter 17 Polygons** • 17-1 Polygons—pp. 370–371 • 17-2 Quadrilaterals—pp. 372–373
4.G.3 Recognize right triangles as a category, and identify right triangles.	**Chapter 17 Polygons** • 17-3 Triangles—pp. 374–375
4.G.4 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line- symmetric figures and draw lines of symmetry.	**Chapter 17 Polygons** • 17-4 Symmetry—pp. 376–377

MEASUREMENT AND DATA ANALYSIS

Grade 4 Content Standards	*Sadlier Math*, Grade 4
The student will:	
4.MDA.1 Convert measurements within a single system of measurement, customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., cm, m, km, g, kg, mL, L) from a larger to a smaller unit.	**Chapter 14 Measurement** • 14-1 Measure with Inches—pp. 296–297 • 14-2 Customary Units of Length—pp. 298–299 • 14-3 Customary Units of Capacity—pp. 300–301 • 14-4 Customary Units of Weight—pp. 302–303 • 14-5 Operations with Customary Units—pp. 304–305 • 14-6 Metric Units of Length—pp. 308–311 • 14-7 Metric Units of Capacity—pp. 310–313 • 14-8 Metric Units of Mass—pp. 312–313 • 14-9 Operations with Metric Units—pp. 314–315 **Chapter 15 Measurement and Data** • 15-1 Represent Measures on a Number Line—pp. 324–325 • 15-2 Use Multiplication to Rename Measures—pp. 326–327 • 15-3 Elapsed Time—pp. 328–329
4.MDA.2 Solve real-world problems involving distance/length, intervals of time within 12 hours, liquid volume, mass, and money using the four operations.	**Chapter 14 Measurement** • 14-1 Measure with Inches—pp. 296–297 • 14-2 Customary Units of Length—pp. 298–299 • 14-3 Customary Units of Capacity—pp. 300–301 • 14-4 Customary Units of Weight—pp. 302–303 • 14-5 Operations with Customary Units—pp. 304–305 • 14-6 Metric Units of Length—pp. 308–311 • 14-7 Metric Units of Capacity—pp. 310–313 • 14-8 Metric Units of Mass—pp. 312–313 • 14-9 Operations with Metric Units—pp. 314–315 • 14-10 Problem Solving: Make a Table—pp. 316–317 **Chapter 15 Measurement and Data** • 15-1 Represent Measures on a Number Line—pp. 324–325 • 15-2 Use Multiplication to Rename Measures—pp. 326–327 • 15-3 Elapsed Time—pp. 328–329 • 15-9 Problem Solving: Use Logical Reasoning—pp. 342–343
4.MDA.3 Apply the area and perimeter formulas for rectangles.	**Chapter 17 Polygons** • 17-6 Use Perimeter Formulas—pp. 382–383 • 17-7 Use Area Formulas—pp. 384–385

MEASUREMENT AND DATA ANALYSIS

Grade 4 Content Standards	*Sadlier Math*, Grade 4
4.MDA.4 Create a line plot to display a data set (i.e., generated by measuring length to the nearest quarter-inch and eighth-inch) and interpret the line plot.	**Chapter 15 Measurement and Data** • 15-6 Line Plots—pp. 336–337 • 15-7 Surveys and Line Plots—pp. 338–339
4.MDA.5 Understand the relationship of an angle measurement to a circle.	**Chapter 16 Lines and Angles** • 16-1 Points, Lines, Line Segments, Rays and Angles—pp. 350–351 • 16-2 Angle Measure—pp. 352–353
4.MDA.6 Measure and draw angles in whole number degrees using a protractor.	**Chapter 16 Lines and Angles** • 16-1 Points, Lines, Line Segments, Rays and Angles—pp. 350–351 • 16-2 Angle Measure—pp. 352–353 • 16-3 Measure Angles—pp. 356–357
4.MDA.7 Solve addition and subtraction problems to find unknown angles in real-world and mathematical problems.	**Chapter 16 Lines and Angles** • 16-4 Unknown Angle Measures—pp. 358–359
4.MDA.8 Determine the value of a collection of coins and bills greater than $1.00.	See Grade 3 **Chapter 2 Addition Within 1000** • Enrichment: Coin Combinations—Online