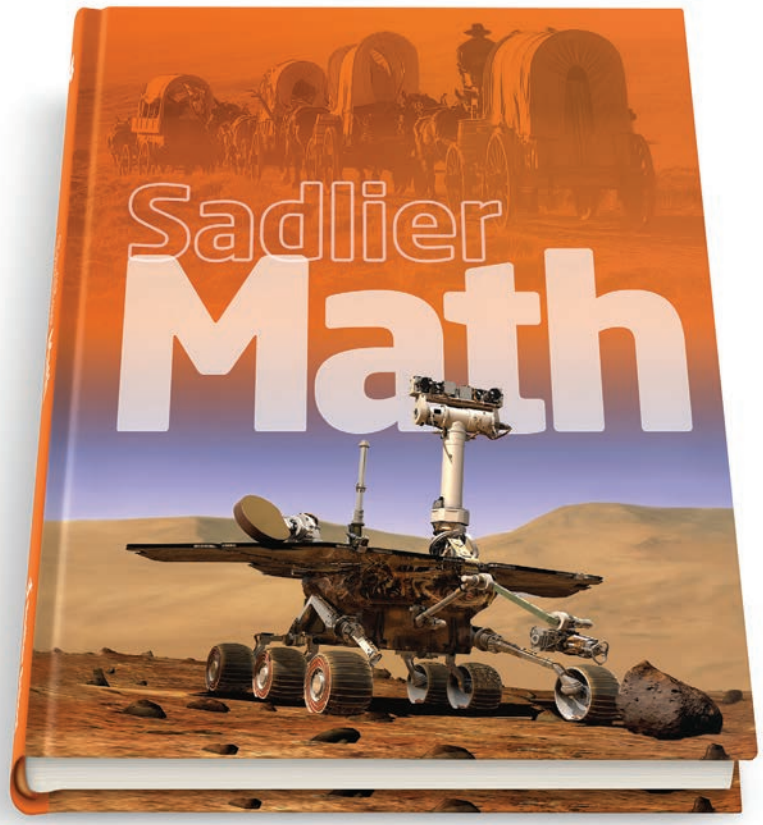
Sadlier Math™

Correlation to the Archdiocese of Louisville Mathematics Standards 2019

Grade 4



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OPERATIONS AND ALGEBRAIC THINKING (OA)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.1 Use the four operations with whole numbers to solve problems.	
***OCS.Math.4.1a** Interpret and express a multiplication equation as a comparison	**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
OCS.Math.4.1b Multiply or divide to solve multiplicative comparison word problems using drawings and equations with symbols for the unknown	**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 **Chapter 7 Division Concepts** • 7-6 Problem Solving: Work Backward—pp. 140–141 **Chapter 8 Divide by One-Digit Numbers** • 8-8 Problem Solving: Use a Model—pp. 164–165
OCS.Math.4.1c Distinguish between multiplicative comparison and additive comparison	**Chapter 5 Multiply by One-Digit Numbers** • 5-5 Multiplicative and Additive Comparisons—pp. 98–99
***OCS.Math.4.1d** Solve equations with a letter standing for the unknown quantity to represent multi step word problems	**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 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
***OCS.Math.4.1e** Solve multistep word problems	**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

continued

OPERATIONS AND ALGEBRAIC THINKING (OA)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	See also **Grade 4 Skills Update and Practice** • Solve Two-Step Problems—online—online
***OCS.Math.4.1f** Assess the reasonableness of an answer to multistep word problems using estimation, rounding skills and mental computation	**Problem Solving Strategies** • Four-Step Process: Look Back: (Is your answer reasonable?/ Estimate to check for errors)—p. xxii **Problem Solving Math Practices** • MP 6: Be precise (exact answer or estimate?)—p. xxx **Chapter 1 Place Value** • 1-5 Round Whole Numbers—pp. 12–13 **Chapter 2 Addition** • 2-3 Estimate Sums (rounding/reasonable estimate)—pp. 28–29 • 2-4 Add Thousands (rounding/reasonable answer)—pp. 30–31 • 2-5 Add Millions—pp. 34–35 **Chapter 3 Subtraction** • 3-1 Estimate Differences—pp. 46–47 • 3-3 Subtract with Two Regrouping (reasonable answer/ mental math)—pp. 50–51 • 3-6 Multistep Problems Using Addition and Subtraction (rounding/reasonable answer/mental math)—pp. 58–59 • 3-7 Problem Solving: Use a Model—pp. 60–61 **Chapter 4 Multiplication Concepts** • 4-3 Multiply Tens, Hundreds, and Thousands—pp. 74–75 • 4-4 Estimate Products—pp. 76–77 **Chapter 6 Multiply by Two-Digit Numbers** • 6-3 Multiply by Two-Digit Numbers: No Regrouping (estimate/reasonable answer)—pp. 114–115 • 6-4 Multiply by Two-Digit Numbers: Regrouping (reasonable answer)—pp. 116–117 **Chapter 7 Division Concepts** • 7-3 Estimate Quotients (reasonable answer)—pp. 132–133 • 7-4 Use Models to Divide—pp. 136–137 **Chapter 8 Divide by One-Digit Numbers** • 8-1 One-Digit Quotients—pp. 148–149 • 8-3 Two-Digit Quotients—pp. 152–153 **Chapter 10 Fraction Concepts** • 10-12 Problem Solving: Use a Model (reasonable answer)—pp. 216–217 *See also* **Grade 4 Skills Update and Practice** • Round Numbers to the Nearest Ten and Hundred—online

*Essential Standard

OPERATIONS AND ALGEBRAIC THINKING (OA)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.2 Gain familiarity with factors and multiples.	
***OCS.Math.4.2a** Find factor pairs for whole numbers	**Chapter 9 Factors and Multiples** • 9-1 Factors—pp. 172–173 • 9-2 Factor Pairs—pp. 174–175
OCS.Math.4.2b Recognize that a whole number is a multiple of each of its factors	**Chapter 9 Factors and Multiples** • 9-1 Factors—pp. 172–173 • 9-4 Multiples—pp. 180–181 • 9-5 Common Multiples—pp. 182–183
OCS.Math.4.2c Determine whether a number is a multiple of a given one digit number	**Chapter 9 Factors and Multiples** • 9-4 Multiples—pp. 180–181 • 9-5 Common Multiples—pp. 182–183 • 9-6 Problem Solving: Make an Organized List (find the multiples)—pp. 184–185
***OCS.Math.4.2d** Determine whether a number is prime or composite	**Chapter 9 Factors and Multiples** • 9-3 Prime and Composite Numbers—pp. 176–177
OCS.Math.4.3 Generate and analyze patterns.	
OCS.Math.4.3a Generate patterns that follow a given rule	**Chapter 7 Division Concepts** • 7-5 Number Patterns—pp. 138–139 **Chapter 17 Polygons** • 17-5 Shape Patterns—pp. 380–381 *See also* **Grade 4 Skills Update and Practice** • Find Patterns in the Multiplication Table—online
OCS.Math.4.3b Determine the rule of a given pattern	**Chapter 7 Division Concepts** • 7-5 Number Patterns (rule for the pattern)—pp. 138–139 **Chapter 17 Polygons** • 17-5 Shape Patterns (rule for the pattern)—pp. 380–381

NUMBER AND OPERATIONS IN BASE TEN (NBT)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.4 Generalize place value understanding for multi-digit whole numbers.	
***OCS.Math.4.4a** Recognize the relationship of same digits located in different places in a whole number	**Chapter 1 Place Value** • 1-2 What Is One Million?—pp. 4–5 • 1-3 Millions—pp. 6–7

*Essential Standard

NUMBER AND OPERATIONS IN BASE TEN (NBT)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
***OCS.Math.4.4b** Identify and write multi-digit whole numbers using base-ten numerals, word form and expanded form	**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 • 1-4 Expanded Form—pp. 8–9
***OCS.Math.4.4c** Round multi-digit whole numbers to any place value	**Chapter 1 Place Value** • 1-5 Round Whole Numbers—pp. 12–13 *See also* **Grade 4 Skills Update and Practice** • Round Numbers to the Nearest Ten and Hundred—online
OCS.Math.4.5 Use place value understanding and properties of operations to perform multi-digit arithmetic.	
***OCS.Math.4.5a** Fluently add and subtract multi-digit whole numbers	**Chapter 2 Addition** • 2-2 Addition Properties—pp. 26–27 • 2-4 Add Thousands—pp. 30–31 • 2-5 Add Millions—pp. 34–35 • 2-6 Three or More Addends—pp. 36–37 • 2-7 Problem Solving: Make an Organized List—pp. 38–39 **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 *See also* **Grade 4 Skills Update and Practice** • Use Place Value to Add: Regroup Twice—online
***OCS.Math.4.5b** Apply properties of operations to multiplication and division	**Chapter 4 Multiplication Concepts** • 4-1 Multiplication Properties—pp. 68–69 **Chapter 5 Multiply by One-Digit Numbers** • 5-2 Use Properties to Multiply by One-Digit Numbers—pp. 90–91 *See also* **Grade 4 Skills Update and Practice** • Properties of Operations—online
***OCS.Math.4.5c** Use and explain a variety of strategies to multiply up to four digits by one digit	**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 **Chapter 5 Multiply by One-Digit Numbers** • 5-1 Multiply with Regrouping—pp. 88–89 *continued*

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NUMBER AND OPERATIONS IN BASE TEN (NBT)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	• 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 • 5-5 Multiplicative and Additive Comparisons—pp. 98–99
OCS.Math.4.5d Use and explain a variety of strategies to multiply two digits by two digitsi	**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
***OCS.Math.4.5e** Use and explain a variety of strategies to find whole number quotients and remainders with up to four digit dividends with one digit divisors	**Chapter 7 Division Concepts** • 7-1 Division Rules—pp. 128–129 • 7-2 Relate Multiplication and Division—pp. 130–131 • 7-4 Use Models to Divide—pp. 136–137 **Chapter 8 Divide by One-Digit Numbers** • 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 • 8-7 Multistep Problems Using Multiplication and Division—pp. 162–163
OCS.Math.4.5f Interpret a remainder as a fraction that represents part of the next whole	**Chapter 8 Divide by One-Digit Numbers** • 8-1 One-Digit Quotients (remainder)—pp. 148–149 • 8-5 More Quotients (remainder)—pp. 158–159 *See also Grade 5* **Chapter 5 Number Theory and Fractions** • 5-8 Interpret a Remainder (remainder as a fraction)—pp. 114–115

NUMBER AND OPERATIONS—FRACTIONS (NF)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.6 Extend understanding of fraction equivalence and ordering.	
***OCS.Math.4.6a** Use visual models to describe the relationship between two equivalent fractions	**Chapter 10 Fraction Concepts** • 10-2 Equivalent Fractions: Number Line Diagrams—pp. 194–195

continued

*Essential Standard

NUMBER AND OPERATIONS—FRACTIONS (NF)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	• 10-3 Write Equivalent Fractions: Use Models—pp. 196–197 • 10-4 Write Equivalent Fractions: Use Multiplication and Division—pp. 198–199 *See also* **Grade 4 Skills Update and Practice** • Find Fractions on a Number Line—online
***OCS.Math.4.6b** Generate an equivalent fraction by multiplying the numerator and denominator by the same number	**Chapter 10 Fraction Concepts** • 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 *See also* **Grade 4 Skills Update and Practice** • Find Equivalent Fractions—online • Find Equivalent Fractions on a Number Line—online
***OCS.Math.4.6c** Compare two fractions with different numerators and denominators using <,> and =	**Chapter 10 Fraction Concepts** • 10-8 Compare Fractions (different denominators)—pp. 208–209 • 10-10 Compare Mixed Numbers—pp. 212–213 • 10-11 Order Fractions and Mixed Numbers—pp. 214–215 *See also readiness* **Grade 4 Skills Update and Practice** • Compare Fractions with the Same Numerator—online • Compare Fractions with the Same Denominator—online **Chapter 10 Fraction Concepts** • 10-6 Compare Fractions: Use Benchmarks—pp. 204–205 • 10-7 Compare Fractions with the Same Denominator—pp. 206–207
***OCS.Math.4.6d** Recognize that the magnitude of a fraction or decimal is determined by the size of the whole to which it refers	**Chapter 10 Fraction Concepts** • 10-1 Fractions of a Set—pp. 192–193 • 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 **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

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NUMBER AND OPERATIONS—FRACTIONS (NF)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.7 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	
***OCS.Math.4.7a** Understand addition and subtraction of fractions as joining and separating parts referring to the same whole	**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 • 11-7 Add Mixed Numbers: Like Denominators—pp. 238–239 • 11-8 Subtract Mixed Numbers: Like Denominators—pp. 240–241
***OCS.Math.4.7b** Add fractions with common 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
***OCS.Math.4.7c** Subtract fractions with common denominators	**Chapter 11 Fractions: Addition and Subtraction** • 11-4 Use Models to Subtract Fractions—pp. 230–231 • 11-5 Subtract Fractions: Like Denominators—pp. 232–233
OCS.Math.4.7d Decompose a fraction into a sum of fractions with the same denominator	**Chapter 11 Fractions: Addition and Subtraction** • 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
OCS.Math.4.7e Demonstrate that a fraction a/b is a multiple of 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
OCS.Math.4.7f Add and subtract mixed numbers with like denominators	**Chapter 11 Fractions: Addition and Subtraction** • 11-7 Add Mixed Numbers: Like Denominators—pp. 238–239 • 11-8 Subtract Mixed Numbers: Like Denominators—pp. 240–241
OCS.Math.4.7g Solve word problems involving addition and subtraction of fractions with common 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 • 11-9 Problem Solving: More Than One Way—pp. 242–243

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NUMBER AND OPERATIONS—FRACTIONS (NF)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
***OCS.Math.4.7h** Multiply a fraction by a whole number	**Chapter 12 Fractions: Multiply by a Whole Number** • 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
OCS.Math.4.7i Solve word problems involving multiplication of a fraction by a whole number	**Chapter 12 Fractions: Multiply by a Whole Number** • 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 • 12-7 Problem Solving: Write an Equation—pp. 264–265
OCS.Math.4.8 Understand decimal notation for fractions, and compare decimal fractions.	
***OCS.Math.4.8a** Explain the relationship between fractions, decimals, and percents	**Chapter 13 Fractions and Decimals** • 13-1 Equivalent Fractions: Rename Tenths as Hundredths—pp. 272–273 • 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 *See also Grade 6* **Chapter 11 Percent** • 11-1 Percent—pp. 254–255 • 11-2 Relate Percents to Fractions—pp. 256–257 • 11-3 Relate Percents to Decimals—pp. 258–259 • 11-4 Relate Decimals, Fractions, and Percents—pp. 260–261
***OCS.Math.4.8b** Translate fractions with denominators 10 or 100 into decimals	**Chapter 13 Fractions and Decimals** • 13-1 Equivalent Fractions: Rename Tenths as Hundredths—pp. 272–273 • 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

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NUMBER AND OPERATIONS—FRACTIONS (NF)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.8c Compare two decimals to the hundredth place by reasoning about their size	**Chapter 13 Fractions and Decimals** • 13-6 Compare Decimals with Models and Symbols—pp. 284–285 • 13-7 Order Decimals—pp. 286–287
OCS.Math.4.8d Compare two decimals to the hundredth place using <,> and =	**Chapter 13 Fractions and Decimals** • 13-6 Compare Decimals with Models and Symbols—pp. 284–285 • 13-7 Order Decimals—pp. 286–287
***OCS.Math.4.8e** Add decimals	*See Grade 5* **Chapter 10 Decimals: Addition** • 10-1 Use Models to Add Decimals—pp. 220–221 • 10-2 Use Properties to Add Decimals—pp. 222–223 • 10-3 Estimate Decimal Sums—pp. 224–225 • 10-4 Problem Solving: Draw a Picture—pp. 228–229 • 10-5 Add Decimals: Hundredths—pp. 230–231 • 10-6 Add Decimals: Thousandths—pp. 232–233
***OCS.Math.4.8f** Subtract decimals	*See Grade 5* **11 Decimals: Subtraction** • 11-1 Use Models to Subtract Decimals—pp. 242–243 • 11-2 Estimate Decimal Differences—pp. 244–245 • 11-3 Subtract Decimals: Hundredths—pp. 248–249 • 11-4 Subtract Decimals: Thousandths—pp. 250–251

MEASUREMENT AND DATA (MD)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.9 Solve problems involving measurement and conversion of measurements.	
***OCS.Math.4.9a** Know relative size of standard measurement units in customary and metric systems (mass, weight, liquid, volume, length, time)	**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 • 14-6 Metric Units of Length—pp. 308–311 • 14-7 Metric Units of Capacity—pp. 310–313 **Chapter 15 Measurement and Data** • 15-3 Elapsed Time—pp. 328–329 *See also Grade 5* **Chapter 16 Volume** • 16-1 Solid Figures—pp. 360–361 • 16-2 Cubic Measure—pp. 362–363

continued

MEASUREMENT AND DATA (MD)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	• 16-3 Volume of Rectangular Prisms—pp. 364–365 • 16-4 Volume Formulas—pp. 368–369 • 16-5 Volume of Composite Figures—pp. 370–371
***OCS.Math.4.9b** Describe relationship of measurement units within US customary system and metric system	**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
OCS.Math.4.9c Record measurement equivalents in table	**Chapter 14 Measurement** • 14-3 Customary Units of Capacity—pp. 300–301 • 14-4 Customary Units of Weight—pp. 302–303 • 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 • 14-10 Problem Solving: Make a Table—pp. 316–317
OCS.Math.4.9d Use the four operations to solve measurement word problems involving simple fractions	**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
OCS.Math.4.9e Use the four operations to solve measurement word problems involving decimals	*See Grade 5* **Chapter 14 Measurement** • 14-5 Relate Metric Units of Length—pp. 326–327 • 14-6 Relate Metric Units of Capacity—pp. 328–329 • 14-7 Relate Metric Units of Mass—pp. 330–331 • 14-8 Compute with Metric Units—pp. 332–333
OCS.Math.4.9f Use the four operations to solve measurement word problems involving conversions from larger units to smaller units	**Chapter 14 Measurement** • 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 *continued*

*Essential Standard

MEASUREMENT AND DATA (MD)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	Chapter 15 Measurement and Data • 15-2 Use Multiplication to Rename Measures—pp. 326–327 • 15-3 Elapsed Time—pp. 328–329
OCS.Math.4.9g Use a diagram to represent measurement quantities to solve word problems	**Chapter 14 Measurement** • 14-1 Measure with Inches—pp. 296–297 • 14-5 Operations with Customary Units—pp. 304–305 • 14-6 Metric Units of Length—pp. 308–311 **Chapter 15 Measurement and Data** • 15-1 Represent Measures on a Number Line—pp. 324–325 • 15-3 Elapsed Time—pp. 328–329 • 15-4 Temperature—pp. 330–331
***OCS.Math.4.9h** Apply the area formula for rectangles in real world and mathematical problems	**Chapter 17 Polygons** • 17-7 Use Area Formulas—pp. 384–385 *See also* **Grade 4 Skills Update and Practice** • Find the Area of a Rectangle and a Square—online
***OCS.Math.4.9i** Apply the perimeter formula for rectangles in the real world and mathematical problems	**Chapter 17 Polygons** • 17-6 Use Perimeter Formulas—pp. 382–383 *See also* **Grade 4 Skills Update and Practice** • Find Perimeter—online

OCS.Math.4.10 Understand and apply the statistics process.	
OCS.Math.4.10a Generate and design an investigation for a statistical question based on numerical data	**Chapter 15 Measurement and Data** • 15-7 Surveys and Line Plots—pp. 338–339
OCS.Math.4.10b Make a line plot to display a data set of measurement in fractions of a unit	**Chapter 15 Measurement and Data** • 15-6 Line Plots—pp. 336–337 • 15-7 Surveys and Line Plots—pp. 338–339
OCS.Math.4.10c Use data from line plot to solve problems involving addition and subtraction of fractions	**Chapter 15 Measurement and Data** • 15-6 Line Plots—pp. 336–337 • 15-7 Surveys and Line Plots—pp. 338–339
OCS.Math.4.10d Predict the frequency of an outcome in a simple probability experiment	N/A
OCS.Math.4.10e Determine how the number of repetitions of a probability experiment can affect conclusions drawn	N/A

*Essential Standard

MEASUREMENT AND DATA (MD)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.11 Geometric measurement: understand concepts of angle and measure angles.	
***OCS.Math.4.11a** Show that an angle is measured with reference to a circle with the intersection of the rays at the center of the circle	**Chapter 16 Lines and Angles** • 16-2 Angle Measure—pp. 352–353
***OCS.Math.4.11b** Measure and sketch angles in whole number degrees using protractors	**Chapter 16 Lines and Angles** • 16-3 Measure Angles (use a protractor)—pp. 356–357
OCS.Math.4.11c Recognize that a 1 degree angle is 1/360 of a circle	**Chapter 16 Lines and Angles** • 16-2 Angle Measure—pp. 352–353
OCS.Math.4.11d Show that angle measure is additive	**Chapter 16 Lines and Angles** • 16-4 Unknown Angle Measures—pp. 358–359
***OCS.Math.4.11e** Solve addition and subtraction problems to find the value of unknown angles on a diagram in real world and mathematical problems	**Chapter 16 Lines and Angles** • 16-4 Unknown Angle Measures—pp. 358–359

GEOMETRY (G)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.12 Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	
***OCS.Math.4.12a** Define and draw point, lines, line segments, rays, angles, perpendicular lines and parallel lines	**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 • 16-6 Problem Solving: Use a Diagram—pp. 362–363
***OCS.Math.4.12b** Identify right, acute, obtuse angle, parallel and perpendicular lines in two dimensional figures	**Chapter 16 Lines and Angles** • 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 **Chapter 17 Polygons** • 17-2 Quadrilaterals—pp. 372–373 • 17-3 Triangles—pp. 374–375

GEOMETRY (G)

Grade 4 Content Standards	*Sadlier Math*, Grade 4
OCS.Math.4.12c Classify two dimensional figures based on the presence or absence of parallel or perpendicular lines	**Chapter 17 Polygons** • 17-2 Quadrilaterals—pp. 372–373
OCS.Math.4.12d Classify two dimensional figures based on the presence or absence of angles of a specified size	**Chapter 17 Polygons** • 17-1 Polygons—pp. 370–371 • 17-2 Quadrilaterals—pp. 372–373 • 17-3 Triangles—pp. 374–375
***OCS.Math.4.12e** Identify the attributes of a right triangle	**Chapter 17 Polygons** • 17-3 Triangles—pp. 374–375

*Essential Standard