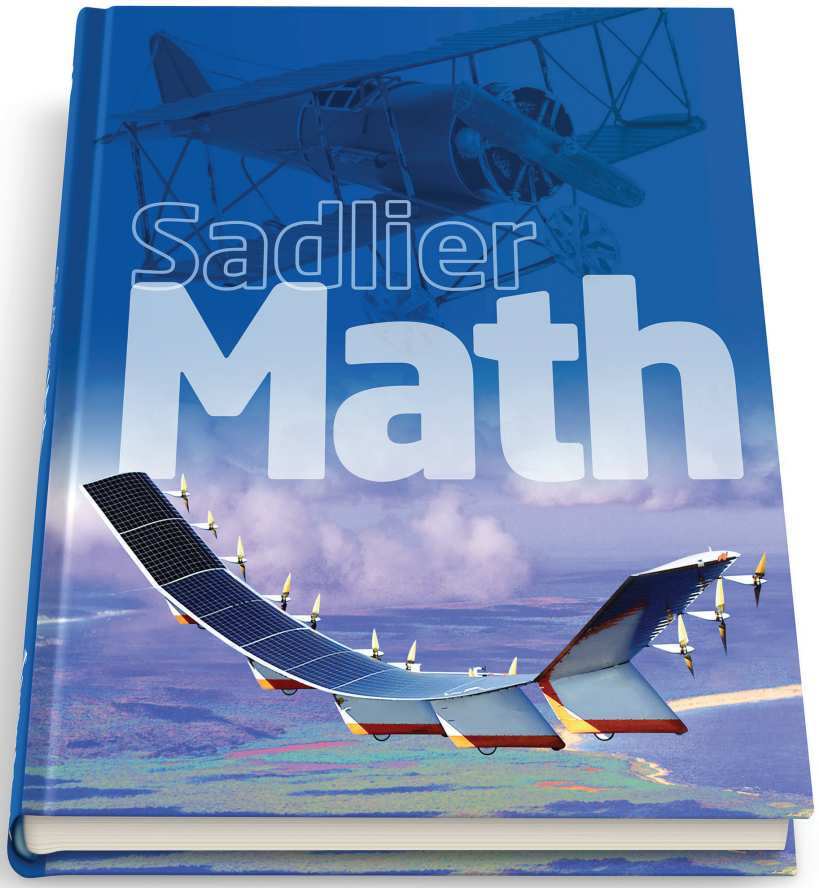
Sadlier Math™

Correlation to the Archdiocese of Hartford Mathematics Standards-based Curriculum

Grade 5



Learn more at www.SadlierSchool.com/SadlierMath

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
NOA 5.1 Use place value understanding and properties of operations to perform multi-digit arithmetic. • To understand number concepts and use numbers appropriately and accurately (NOA 5.1) ○ Fluently multiply multi-digit whole numbers using the standard algorithm ○ Solve problems involving finding 10,000, and 1000 more or less than a number ○ Add and subtract whole numbers (up to 9 digits) presented in both horizontal and vertical form, including column addition.	**Chapter 1: 1-5 through 1-7** • 1-5 Addition Properties and Subtraction Rules—pp. 12–13 • 1-6 Estimate Sums and Differences—pp. 14–15 • 1-7 Find Sums and Differences—pp. 16–17 **Chapter 3: 3-1 through 3-8** • 3-1 Multiplication Properties—pp. 44–45 • 3-2 Multiplication Patterns—pp. 46–47 • 3-3 Estimate Products—pp. 48–49 • 3-4 Zeros in the Multiplicand—pp. 50–51 • 3-5 Multiply by Two-Digit Numbers—pp. 54–55 • 3-6 Problem Solving: Guess and Test—pp. 56–57 • 3-7 Multiply by Three-Digit Numbers—pp. 58–59 • 3-8 Zeros in the Multiplier—pp. 60–61 See also Grade 4 **Chapter 2: 2-2 through 2-6** • 2-2 Addition Properties—pp. 26–27 • 2-3 Estimate Sums—pp. 28–29 • 2-4 Add Thousands—pp. 30–31 • 2-5 Add Millions—pp. 34–35 • 2-6 Three or More Addends—pp. 36–37 **Chapter 3: 3-1 through 3-6** • 3-1 Estimate Differences—pp. 46–47 • 3-2 Subtract with One Regrouping—pp. 48–49 • 3-3 Subtract with Two Regroupings—pp. 50–51 • 3-4 Subtract Greater Numbers—pp. 54–55 • 3-5 Zeros in Subtraction—pp. 56–57 • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58–59
• To represent numbers in expanded and regrouped forms in the base ten place value system (NOA 5.1) ○ Identify and name place values to the hundred billions place ○ Build place value models, draw diagrams and show equivalent representations for whole numbers in expanded and regrouped form ○ Use place value models, diagrams, number patterns and number lines to identify, order, round, and compare whole numbers to one billion ○ Read, write, count, skip count, order, compare, and expand numerals to one billion ○ Write expanded numerals in standard form; write standard form numbers in expanded and word form ○ Round whole numbers to all place values	**Chapter 1: 1-1 through 1-3** • 1-1 Place Value to Billions—pp. 2–3 • 1-2 Expanded Form—pp. 4–5 • 1-3 Powers of 10—pp. 8–9 See also Grade 4 **Chapter 1: 1-1 through 1-6** • 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 • 1-5 Round Whole Numbers—pp. 12–13 • 1-6 Compare and Order Whole Numbers—pp. 14–15

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
• To extend whole number place value concepts to include decimal numbers that are also represented as fractions whose denominators are multiples of ten (NOA 5.1) ○ Build models and describe tenths and hundredths using equivalent ratio, fraction and decimal notation ○ Read and write decimals to thousandths place in standard form as number words ○ Identify place value in decimal numbers and write decimals in expanded form (EX. 61.34 = 60 + 1 + 0.3 + 0.04) ○ Use models to extend whole number place value concepts and patterns to decimals ○ Compare and order decimals to thousandths place from greatest to least and from least to greatest (use symbols ›, ‹, = and ≠) ○ Read and write decimals to ten thousandths place in standard form as number words ○ Use (greater than or equal, less than or equal) symbols (≥, ≤) ○ Round decimal numbers to the nearest hundredths, tenths, and whole number ○ Express fractions with denominators of 10 and 100 as decimals ○ Annex zeroes to create equivalent decimals ○ Relate decimals in tenths and hundredths to fractions, mixed numbers, and number words ○ Round fractions to nearest half or whole to estimate answers to problems.	**Chapter 2: 2-1 through 2-6** • 2-1 Thousandths—pp. 24–25 • 2-2 Decimals and Expanded Form—pp. 26–27 • 2-3 Compare and Order Decimals—pp. 30–31 • 2-4 Round Decimals—pp. 32–33 • 2-5 Problem Solving: Read and Understand—pp. 34–35 • 2-6 Estimate with Decimals—pp. 36–37 See also Grade 4 **Chapter 13: 13-1 through 13-7** • 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. 276–27 • 13-4 Decimals Greater than One—pp. 278–279 • 13-5 Decimal Place Value—pp. 280–281 • 13-6 Compare Decimals with Models and Symbols—pp. 284–285 • 13-7 Order Decimals—pp. 286–287
• To explore numbers less than zero and extend the number line to illustrate integers (NOA 5.1) ○ Use a number line to compare and order integers ○ Identify the absolute value of an integer ○ Identify opposite integers ○ Use a model to add and subtract integers ○ Use positive and negative integers to describe quantities such as temperature above/below zero, elevation above/below sea level, or credit/debit.	See Grade 6 **Chapter 9: 9-1 through 9-6** • 9-1 Integers on the Number Line—pp. 196–197 • 9-2 Integers in the Real World—pp. 198–199 • 9-3 Compare and Order Integers—pp. 200–201 • 9-4 Absolute Value as Magnitude—pp. 202–203 • 9-5 Rational Numbers—pp. 204–205 • 9-6 Compare and Order Rational Numbers—pp. 206–207

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
• To write expressions, equations and inequalities to express relationships between numbers (NOA 5.1) ○ Model and solve one step equations using materials that model equivalence ○ Represent mathematical relationships using variables in expressions, equations and inequalities ○ Describe how a change in one variable relates to a change in a second variable in a practical situation	**Chapter 4: 4-10 & 4-11** • 4-10 Order of Operations—pp. 88–89 • 4-11 Expressions—pp. 90–91 **Chapter 7: 7-9** • 7-9 Problem Solving: Write and Solve an Equation—pp. 160–161 See also Grade 4 **Chapter 2: 2-1** • 2-1 Mathematical Expressions—pp. 24–25 **Chapter 6: 6-6** • 6-6 Problem Solving: Write and Solve an Equation—pp. 120–121 See also Grade 6 **Chapter 5: 5-5 through 5-8** • 5-5 Inequalities—pp. 108–109 • 5-6 Solutions of Inequalities—pp. 110–111 • 5-7 Write Inequalities—pp. 112–113 • 5-8 Solve Inequalities—pp. 114–115
NOA 5.2 Understand meanings of operations and how they relate to one another to solve problems • To use number patterns, basic facts, arrays, place value models and the distributive property to multiply and divide (NOA 5.2) ○ Identify and use the inverse relationships of multiplication and division to solve and check problems ○ Determine the proper operation to solve a problem and justify the reasoning ○ Express remainders in division as fractions ○ Multiply and divide decimals by whole numbers ○ Use the short division algorithm (to follow mastery of long division) ○ Multiply and divide decimals by decimals ○ Change a fraction to a decimal using division ○ Use arrays and explore using the distributive property [10 x (4+5) = (10 x 5) + (10 x 4)] to estimate, multiply and divide two and three digit number ○ Recognize and apply the distributive property of multiplication ○ Estimate products and missing factors using multiples of 10, 100, 1000 ○ Use mental math to multiply by 10, 100, and 1000 ○ Use mental math to multiply by multiples of 10, 100, and 1000 *continued*	**Chapter 3: 3-1 through 3-8** • 3-1 Multiplication Properties—pp. 44–45 • 3-2 Multiplication Patterns—pp. 46–47 • 3-3 Estimate Products—pp. 48–49 • 3-4 Zeros in the Multiplicand—pp. 50–51 • 3-5 Multiply by Two-Digit Numbers—pp. 54–55 • 3-6 Problem Solving: Guess and Test—pp. 56–57 • 3-7 Multiply by Three-Digit Numbers—pp. 58–59 • 3-8 Zeros in the Multiplier—pp. 60–61 **Chapter 4: 4-1 through 4-11** • 4-1 Division Patterns—pp. 68–69 (divide by multiples of 10, 100, 1000) • 4-2 Estimation: Compatible Numbers—pp. 70–71 • 4-3 Divide by One-Digit Numbers—pp. 72–73 • 4-4 Zeros in the Quotient—pp. 74–75 • 4-5 Divisibility and Mental Math—pp. 76–77 • 4-6 Use Arrays and Area Models to Divide—pp. 80–81 • 4-7 Use Strategies to Divide—pp. 82–83 • 4-8 Divide by Two-Digit Numbers—pp. 84–85 • 4-9 Problem Solving: Work Backward—pp. 86–87 • 4-10 Order of Operations—pp. 88–89 • 4-11 Expressions—pp. 90–91 See also Grade 4 **Chapter 4: 4-1 through 4-3** • 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

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
○ Multiply to find special products with multipliers that are multiples of 10, 100, 1000 ○ Multiply four digit numbers by a one digit multiplier, two and three digit numbers by a two digit multiplier and three digit numbers by a two digit multiplier ○ Describe the property of zero in multiplication and its implication in division ○ Divide three-digit dividends by multiples of 10 and 100 ○ Divide multiples of 10, 100,1000 and 10,000 by multiples of 10, 100, and 1000 ○ Divide multi-digit dividends by one and two digit divisors to find multi-digit quotients with zeros and remainders ○ Solve problems involving finding 10, 100. And 1000 more and less than a number ○ Determine the proper operation to solve a problem and justifythe reasoning	
• To use factors to explore, represent and classify numbers (NOA 5.2, 5.5) ○ Memorize and apply divisibility rules for 2,3,5,6,9 and 10 ○ Recognize and identify prime and composite numbers to 100 ○ Use rectangular arrays to identify factor pairs and to classify numbers as prime, composite, and perfect squares ○ Draw and use factor trees to determine all the factors of a number ○ Draw and use factor trees to find all prime factors and write prime factorization of numbers ○ Represent numbers by using exponents ○ Change exponent form to standard numeral, write as repeated factors and vice versa ○ Use order of operations including exponents ○ Identify the Greatest Common Factor (GCF) given pairs of numbers up to 81 ○ Identify the Least Common Multiple (LCM) given pairs of numbers less than or equal to 10 ○ Draw and use factor trees to determine all the factors of a number	**Chapter 1: 1-3** • 1-3 Powers of 10—pp. 8–9 **Chapter 4: 4-5 & 4-10** • 4-5 Divisibility and Mental Math—pp. 76–77 • 4-10 Order of Operations—pp. 88–89 **Chapter 5: 5-1 through 5-6** • 5-1 Factors, Primes and Composite Numbers—pp. 98–99 (factor trees, exponents) • 5-2 Common Factors—pp. 100–101 • 5-3 Estimation and Equivalent Fractions—pp. 102–103 • 5-4 Common Multiples and Common Denominators—pp. 106–107 • 5-5 Problem Solving: Make an Organized List—pp. 108–109 • 5-6 Fractions Greater Than or Equal to One—pp. 110–111

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
• To model, identify, compare, and relate rational numbers (NOA 5.2)	**Chapter 1: 1-1 & 1-2** • 1-1 Place Value to Billions—pp. 2–3 • 1-2 Expanded Form—pp. 4–5 **Chapter 2: 2-1 through 2-4** • 2-1 Thousandths—pp. 24–25 • 2-2 Decimals and Expanded Form—pp. 26–27 • 2-3 Compare and Order Decimals—pp. 30–31 • 2-4 Round Decimals—pp. 32–33 **Chapter 5: 5-6 through 5-8** • 5-6 Fractions Greater Than or Equal to One—pp. 110–111 • 5-7 Compare and Order Fractions and Mixed Numbers—pp. 112–113 • 5-8 Interpret a Remainder—pp. 114–115
NOA 5.3 Use numbers and their properties to compute flexibly, fluently, and make reasonable estimates • To use place value concepts, number patterns, and number properties to develop and apply estimation and computation strategies (NOA 5.3) ○ Add, subtract, and multiply, and divide decimals through the hundredths place using concrete models or drawings and strategies based on place value, properties of operations, rounding, and/or the relationship between addition and subtraction and explain the reasoning	**Chapter 2: 2-4 & 2-6** • 2-4 Round Decimals—pp. 32–33 • 2-6 Estimate with Decimals—pp. 36–37 **Chapter 10: 10-1 through 10-7** • 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 • 10-7 Addition with Money—pp. 234–235 **Chapter 11: 11-1 through 11-6** • 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 • 11-5 Subtraction with Money—pp. 252–253 • 11-6 Problem Solving: Use a Model—pp. 254–255 **Chapter 12: 12-1 through 12-9** • 12-1 Multiply by Powers of 10—pp. 262–263 • 12-2 Use Properties to Multiply a Decimal by a Whole Number—pp. 264–265 • 12-3 Estimate Decimal Products—pp. 266–267 • 12-4 Multiply Decimals by Whole Numbers—pp. 268–269 • 12-5 Multiplication with Money—pp. 270–271 • 12-6 Model Multiplying Two Decimals—pp. 274–275 • 12-7 Multiply Decimals by Decimals—pp. 276–277 • 12-8 Zeros in the Product—pp. 278–279 • 12-9 Problem Solving: Compare Strategies—pp. 280–281 **Chapter 13: 13-1 through 13-10** • 13-1 Divide by Powers of 10—pp. 288–289 • 13-2 Model Dividing a Decimal by a Whole Number—pp. 290–291 • 13-3 Estimate Decimal Quotients—pp. 292–293 • 13-4 Estimate with Money—pp. 294–295 • 13-5 Divide Decimals by Whole Numbers—pp. 296–297 • 13-6 Zeros in Decimal Quotients—pp. 298–299 • 13-7 Division with Money—pp. 302–303 • 13-8 Problem Solving: Work Backward—pp. 304–305 • 13-9 Model Dividing a Decimal by a Decimal—pp. 306–307 • 13-10 Divide a Decimal by a Decimal—pp. 308–309

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
• To use place value concepts and the commutative and associative properties to add and subtract flexibly and fluently (NOA 5.3) ○ Estimate decimal sums, differences, products, and quotients using rounding ○ Use benchmarks to understand the relative magnitude of numbers ○ Select and apply the most suitable estimation strategy: rounding, clustering, front end (with adjustment, compatible numbers, and compensation) ○ Determine and discuss the reasonableness of an answer and explain why a particular estimation strategy will result in an over or underestimate ○ Estimate decimal quotients using compatible numbers	**Chapter 2: 2-4 & 2-6** • 2-4 Round Decimals—pp. 32–33 • 2-6 Estimate with Decimals—pp. 36–37 **Chapter 3: 3-1 through 3-8** • 3-1 Multiplication Properties—pp. 44–45 • 3-2 Multiplication Patterns—pp. 46–47 • 3-3 Estimate Products—pp. 48–49 **Chapter 4: 4-1 & 4-2, 4-5 through 4-7** • 4-1 Division Patterns—pp. 68–69 (divide by multiples of 10, 100, 1000) • 4-2 Estimation: Compatible Numbers—pp. 70–71 • 4-5 Divisibility and Mental Math—pp. 76–77 • 4-6 Use Arrays and Area Models to Divide—pp. 80–81 • 4-7 Use Strategies to Divide—pp. 82–83 **Chapter 10: 10-1 through 10-3** • 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 **Chapter 11: 11-1 & 11-2** • 11-1 Use Models to Subtract Decimals—pp. 242–243 • 11-2 Estimate Decimal Differences—pp. 244–245 **Chapter 12: 12-2 & 12-3** • 12-2 Use Properties to Multiply a Decimal by a Whole Number—pp. 264–265 • 12-3 Estimate Decimal Products—pp. 266–267 **Chapter 13: 13-2 through 13-4** • 13-2 Model Dividing a Decimal by a Whole Number—pp. 290–291 • 13-3 Estimate Decimal Quotients—pp. 292–293 • 13-4 Estimate with Money—pp. 294–295
NOA 5.4 Analyze patterns, relations, and functions • To recognize and demonstrate equivalence using number properties (NOA 5.4) ○ Identify, express and apply the commutative and associative properties of whole numbers and identify properties of addition and multiplication ○ Use commutative and associative properties to solve problems, estimate, and compute ○ Demonstrate equivalence with the commutative, distributive and associative properties of whole numbers ○ Demonstrate the equivalence of both sides of an equation as the same value is added, subtracted, multiplied, or divided on each side	**Chapter 3: 3-2 & 3-3** • 3-2 Multiplication Patterns—pp. 46–47 • 3-3 Estimate Products—pp. 48–49 **Chapter 4: 4-1, 4-2, 4-5 & 4-6** • 4-1 Division Patterns—pp. 68–69 (divide by multiples of 10, 100, 1000) • 4-2 Estimation: Compatible Numbers—pp. 70–71 • 4-5 Divisibility and Mental Math—pp. 76–77 • 4-6 Use Arrays and Area Models to Divide—pp. 80–81 **Chapter 7: 7-9** • 7-9 Problem Solving: Write and Solve an Equation—pp. 160–161 **Chapter 10: 10-1 through 10-3** • 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 **Chapter 11: 11-1 & 11-2** • 11-1 Use Models to Subtract Decimals—pp. 242–243 • 11-2 Estimate Decimal Differences—pp. 244–245 *continued*

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
	Chapter 12: 12-1 through 12-3 • 12-1 Multiply by Powers of 10—pp. 262–263 • 12-2 Use Properties to Multiply a Decimal by a Whole Number—pp. 264–265 • 12-3 Estimate Decimal Products—pp. 266–267 **Chapter 13: 13-1 through 13-4** • 13-1 Divide by Powers of 10—pp. 288–289 • 13-2 Model Dividing a Decimal by a Whole Number—pp. 290–291 • 13-3 Estimate Decimal Quotients—pp. 292–293 • 13-4 Estimate with Money—pp. 294–295 **Chapter 17: 17-7** • 17-7 Problem Solving: Find and Use a Pattern—pp. 394–395
• To represent numerical relationships on a coordinate grid (NOA 5.4) ○ Locate points on a four quadrant coordinate grid by using ordered pairs ○ Generate a table of equal ratios and graph the ordered pairs ○ Choose and use benchmarks to approximate locations on number lines and coordinate grids	**Chapter 17: 17-3 through 17-6** • 17-3 The Coordinate Plane—pp. 386–387 • 17-4 Using Coordinate Graphs—pp. 388–389 • 17-5 Write Number Patterns—pp. 390–391 • 17-6 Graph Number Patterns—pp. 392–393
• To solve real-world problems involving multiplication of fractions and mixed numbers (NOA 5.4)	**Chapter 8: 8-1 through 8-11** • 8-1 Model Multiplying Fractions—pp. 168–169 • 8-2 Multiply Fractions by Fractions—pp. 170–171 • 8-3 Multiply Fractions and Whole Numbers—pp. 172–173 • 8-4 Scaling Fractions—pp. 174–175 • 8-5 Common Factors in Products—pp. 176–177 • 8-6 Rename Mixed Numbers as Fractions—pp. 180–181 • 8-7 Estimate Products with Mixed Numbers—pp. 182–183 • 8-8 Multiply Fractions and Mixed Numbers—pp. 184–185 • 8-9 Multiply Mixed Numbers—pp. 186–187 • 8-10 Find the Area of a Rectangle—pp. 188–189 • 8-11 Problem Solving: Use Logical Reasoning—pp. 190–191
• To compare quantities and solve problems using ratios, rates and percents. (NOA 5.4) ○ Read, write, and illustrate ratios using three standard forms ○ Use a table to generate equal ratios, write equal ratios, and tell if two ratios form a proportion ○ Use cross products, multiplication and division to find equivalent ratios ○ Generate a table of equal ratios and graph the ordered pairs ○ Read and write rates, and change a rate to a unit rate *continued*	See Grade 6 **Chapter 10: 10-1 through 10-10** • 10-1 Ratios—pp. 226–227 • 10-2 Tables of Equivalent Ratios—pp. 228–229 • 10-3 Tape Diagrams—pp. 230–231 • 10-4 Double Number Lines—pp. 232–233 • 10-5 Compare Ratios—pp. 236–237 • 10-6 Rates and Unit Rates—pp. 238–239 • 10-7 Compare Prices—pp. 240–241 • 10-8 Equations for Proportional Relationships—pp. 242–243 • 10-9 Graphs of Proportional Relationships—pp. 244–245 • 10-10 Problem Solving: Make a Model—pp. 246–247 *continued*

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
○ Illustrate and describe the relationship between decimals, fractions and percents ○ Represent a rational number in its equivalent fraction, decimal, ratio and percent forms with models, number patterns and common factors ○ Illustrate and describe the relationship between decimals, fractions and percents ○ Represent a rational number in its equivalent fraction, decimal, ratio and percent forms with models, number patterns and common factors ○ Estimate and find percents using benchmarks and number pattern ○ Find what percent one number is of another ○ Solve problems involving sales tax and discounts	**Chapter 11: 11-1 through 11-10** • 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 • 11-5 Percents Greater Than 100%—pp. 262–263 • 11-6 Percents Less Than 1%—pp. 264–265 • 11-7 Find the Part—pp. 268–269 • 11-8 Find the Percent—pp. 270–271 • 11-9 Find the Whole—pp. 272–273 • 11-10 Problem Solving: Act it Out—pp. 274–275
• To represent, extend and analyze numerical and geometric patterns (NOA 5.4)	**Chapter 3: 3-2** • 3-2 Multiplication Patterns—pp. 46–47 **Chapter 17: 17-5 through 17-7** • 17-5 Write Number Patterns—pp. 390–391 • 17-6 Graph Number Patterns—pp. 392–393 • 17-7 Problem Solving: Find and Use a Pattern—pp. 394–395
• To solve real-world problems involving multiplication of fractions and mixed numbers (NOA 5.4)	**Chapter 8: 8-1 through 8-9** • 8-1 Model Multiplying Fractions—pp. 168–169 • 8-2 Multiply Fractions by Fractions—pp. 170–171 • 8-3 Multiply Fractions and Whole Numbers—pp. 172–173 • 8-4 Scaling Fractions—pp. 174–175 • 8-5 Common Factors in Products—pp. 176–177 • 8-6 Rename Mixed Numbers as Fractions—pp. 180–181 • 8-7 Estimate Products with Mixed Numbers—pp. 182–183 • 8-8 Multiply Fractions and Mixed Numbers—pp. 184–185 • 8-9 Multiply Mixed Numbers—pp. 186–187
NOA 5.5 Represent and analyze mathematical situations and structures using algebraic symbols to determine equivalence and solve problems • To use factors to explore, represent and classify numbers (NOA 5.2, 5.5) ○ Identify the written form n^2 ○ Represent in pictorial form a 2x2 square ○ Square a whole number Use exponents to the power of 2 ○ Memorize the perfect squares of numbers from 1 to 15 ○ Express a perfect square in exponent form	**Chapter 5: 5-1, 5-7** • 5-1 Factors, Primes and Composite Numbers—pp. 98–99 • 5-2 Common Factors—pp. 100–101 • 5-3 Estimation and Equivalent Fractions—pp. 102–103 • 5-4 Common Multiples and Common Denominators—pp. 106–107 • 5-5 Problem Solving: Make an Organized List—pp. 108–109 • 5-6 Fractions Greater Than or Equal to One—pp. 110–111 • 5-7 Compare and Order Fractions and Mixed Numbers—pp. 112–113 • 5-8 Interpret a Remainder—pp. 114–115

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
• To recognize, use and simplify arithmetic and algebraic expressions (NOA 5.5) ○ Fluently multiply multi-digit whole numbers using the standard algorithm ○ Evaluate variable expressions that involve a single operation ○ Use order of operations to evaluate single variable algebraic expressions with parentheses ○ Explain the difference between algebraic and arithmetic expressions ○ Use variables to represent quantities in expressions and number sentences ○ Write and evaluate algebraic expressions with two variables	**Chapter 1: 1-1 through 1-7** • 1-7 Find Sums and Differences—pp. 16–17 **Chapter 4: 4-10 & 4-11** • 4-10 Order of Operations—pp. 88–89 • 4-11 Expressions—pp. 90–91 **Chapter 7: 7-9** • 7-9 Problem Solving: Write and Solve an Equation—pp. 160–161 See also Grade 6 **Chapter 4: 4-1 through 4-10** • 4-1 Exponents—pp. 70–71 • 4-2 Order of Operations—pp. 72–73 • 4-3 Parts of Expressions—pp. 74–75 • 4-4 Translate Expressions—pp. 76–77 • 4-5 Translate Expressions Involving Exponents—pp. 78–79 • 4-6 Use the Distributive Property and Evaluate Algebraic Expressions—pp. 82–83 • 4-7 Apply Properties to Write Equivalent Expressions—pp. 84–85 • 4-8 Identify Equivalent Expressions—pp. 86–87 • 4-9 Use Formulas—pp. 88–89 • 4-10 Problem Solving: Represent the Situation—pp. 90–91 **Chapter 5: 5-1 through 5-4, 5-9** • 5-1 Solutions of Equations—pp. 98–99 • 5-2 Addition and Subtraction Equations—pp. 100–101 • 5-3 Multiplication and Division Equations—pp. 102–103 • 5-4 Write and Solve Equations—pp. 104–105 • 5-9 Problem Solving: Write and Solve an Equation—pp. 116–117
NOA 5.6 Analyze change in various contexts • To investigate how a change in one variable change in second variable (NOA 5.6) ○ Model and solve one step equations using materials that model equivalence ○ Represent mathematical relationships using variables in expressions, equations and inequalities ○ Describe how a change in one variable relates to a change in a second variable in a practical situation • To identify and describe situations with constant or varying rates of change and compare them (NOA 5.6) ○ Determine the nature of changes in linear relationships using graphs, tables, and equations ○ Use a table to explore functions and graph them	See Grade 6 **Chapter 10: 10-8 through 10-10** • 10-8 Equations for Proportional Relationships—pp. 242–243 • 10-9 Graphs of Proportional Relationships—pp. 244–245 • 10-10 Problem Solving: Make a Model—pp. 246–247

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
NOA 5.7 Use equivalent fractions as a strategy to add and subtract fractions. • To model, identify, and express equivalent forms of numbers expressed as whole numbers, fractions and mixed numbers (NOA 5.7) ○ Identify and find equivalent fractions ○ Locate and place fractions and mixed numbers on a number line ○ Identify and find the simplest form of a fraction ○ Write fractions in lowest terms ○ Use models to change an improper fraction to a mixed number ○ Find fractional parts of numbered groups ○ Write fractions with a denominator of 100 as percent ○ Write percents as decimals and decimals as percents ○ Write percents as fractions in simplest form • To add and subtract fractions and mixed numbers using models, pictures and number sentences (NOA 5.7) ○ Construct and use models to add and subtract like and unlike fractions and mixed numbers ○ Use equivalence and substitution with common denominators when adding and subtracting ○ Add and subtract like and unlike fractions and mixed numbers expressing answers in simplest form ○ Use models and pictures to estimate reasonable answers when adding or subtracting decimals, fractions, and mixed numbers ○ Use models to change an improper fraction to a mixed number ○ Recognize that multiplication by a unit fraction is equivalent to dividing by the fraction's denominator ○ Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem ○ Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.	**Chapter 5: 5-1 through 5-8** • 5-1 Factors, Primes and Composite Numbers—pp. 98–99 • 5-2 Common Factors—pp. 100–101 • 5-3 Estimation and Equivalent Fractions—pp. 102–103 • 5-4 Common Multiples and Common Denominators—pp. 106–107 • 5-5 Problem Solving: Make an Organized List—pp. 108–109 • 5-6 Fractions Greater Than or Equal to One—pp. 110–111 • 5-7 Compare and Order Fractions and Mixed Numbers—pp. 112–113 • 5-8 Interpret a Remainder—pp. 114–115 **Chapter 6: 6-1 through 6-6** • 6-1 Model Addition with Unlike Denominators—pp. 122–123 • 6-2 Add Fractions: Unlike Denominators—pp. 124–125 • 6-3 Fraction Addition: Estimation and Reasonableness—pp. 126–127 • 6-4 Add Mixed Numbers—pp. 130–131 • 6-5 Problem Solving: Use a Model—pp. 132–133 • 6-6 Rename Mixed Number Sums—pp. 134–135 **Chapter 7: 7-1 through 7-8** • 7-1 Model Subtraction of Fractions with Unlike Denominators—pp. 142–143 • 7-2 Subtract Fractions: Unlike Denominators—pp. 144–145 • 7-3 Subtract Fractions: Estimation and Reasonableness—pp. 146–147 • 7-4 Model Subtraction with Mixed Numbers—pp. 150–151 • 7-5 Estimate Sums and Differences of Mixed Numbers—pp. 152–153 • 7-6 Subtract Fractions and Whole Numbers from Mixed Numbers—pp. 154–155 • 7-7 Subtract Mixed Numbers: Rename Fractions—pp. 156–157 • 7-8 Subtract Mixed Numbers: Rename Whole Numbers and Fractions—pp. 158–159 • 7-9 Problem Solving: Write and Solve an Equation—pp. 160–161

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
NOA 5.8 Apply and extend previous understandings of multiplication and division to multiply and divide fractions. • To use models and pictorial representations to develop concepts and methods by which to multiply and divide fractions and mixed numbers (NOA 5.8) ○ Construct and use models and pictorial representations to multiply common fractions and mixed numbers ○ Use models to divide whole numbers by fractions and fractions by whole numbers ○ Recognize that multiplication by a unit fraction is equivalent to dividing by the fraction's denominator ○ Identify reciprocal numbers ○ Apply reciprocal numbers to division of a whole number by a fraction ○ Write whole number division problems in fraction form and round the fraction form to estimate an answer to a division problem ○ Multiply and divide fractions, whole numbers and mixed numbers ○ Use cancellation in multiplication of fractions ○ Solve real-world problems involving multiplication of fractions and mixed numbers, (e.g., by using visual fraction models or equations) ○ Interpret division of a whole number by a unit fraction (e.g., 4 ÷ 1/5 = 20 because 20 x 1/5 = 4) and a unit fraction by a whole number or non-zero number, compute, and apply to real-world problem solving ○ Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. ○ Interpret division of a whole number by a unit fraction, and compute such quotients. ○ Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.	**Chapter 8: 8-1 through 8-11** • 8-1 Model Multiplying Fractions—pp. 168–169 • 8-2 Multiply Fractions by Fractions—pp. 170–171 • 8-3 Multiply Fractions and Whole Numbers—pp. 172–173 • 8-4 Scaling Fractions—pp. 174–175 • 8-5 Common Factors in Products—pp. 176–177 • 8-6 Rename Mixed Numbers as Fractions—pp. 180–181 • 8-7 Estimate Products with Mixed Numbers—pp. 182–183 • 8-8 Multiply Fractions and Mixed Numbers—pp. 184–185 • 8-9 Multiply Mixed Numbers—pp. 186–187 • 8-10 Find the Area of a Rectangle—pp. 188–189 • 8-11 Problem Solving: Use Logical Reasoning—pp. 190–191 **Chapter 9: 9-1 through 9-7** • 9-1 Divide Whole Numbers by Unit Fractions—pp. 198–199 • 9-2 Reciprocals—pp. 200–201 • 9-3 Divide Whole Numbers by Fractions—pp. 202–203 • 9-4 Divide Unit Fractions by Whole Numbers—pp. 206–207 • 9-5 Divide Fractions by Whole Numbers—pp. 208–209 • 9-6 Word Problems Involving Fraction Division—pp. 210–211 • 9-7 Problem Solving: Choose a Strategy—pp. 212–213

NUMBER THEORY, OPERATIONS, ALGEBRAIC THINKING (NOA)

Grade 5 Standards	*Sadlier Math*, Grade 5
• Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction (NOA 5.8) ○ Model and describe when products or quotients with fractions and decimals can yield a larger or smaller result than either factor ○ Multiply and divide fractions, whole numbers and mixed numbers ○ Subtract mixed numbers with renaming ○ Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers ○ Interpret a fraction as division of the numerator by the denominator ○ Interpret multiplication of fractions as scaling (resizing) by comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication ○ Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number ○ Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number ○ Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). ○ Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers ○ Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	**Chapter 8: 8-1 through 8-11** • 8-1 Model Multiplying Fractions—pp. 168–169 • 8-2 Multiply Fractions by Fractions—pp. 170–171 • 8-3 Multiply Fractions and Whole Numbers—pp. 172–173 • 8-4 Scaling Fractions—pp. 174–175 • 8-5 Common Factors in Products—pp. 176–177 • 8-6 Rename Mixed Numbers as Fractions—pp. 180–181 • 8-7 Estimate Products with Mixed Numbers—pp. 182–183 • 8-8 Multiply Fractions and Mixed Numbers—pp. 184–185 • 8-9 Multiply Mixed Numbers—pp. 186–187 • 8-10 Find the Area of a Rectangle—pp. 188–189 • 8-11 Problem Solving: Use Logical Reasoning—pp. 190–191 **Chapter 9: 9-1 through 9-7** • 9-1 Divide Whole Numbers by Unit Fractions—pp. 198–199 • 9-2 Reciprocals—pp. 200–201 • 9-3 Divide Whole Numbers by Fractions—pp. 202–203 • 9-4 Divide Unit Fractions by Whole Numbers—pp. 206–207 • 9-5 Divide Fractions by Whole Numbers—pp. 208–209 • 9-6 Word Problems Involving Fraction Division—pp. 210–211 • 9-7 Problem Solving: Choose a Strategy—pp. 212–213

MEASUREMENT (M)

Grade 5 Standards	*Sadlier Math*, Grade 5
M 5.1 Develop and apply appropriate techniques, tools and formulas to estimate and determine measurementss • To determine and use various tools and units to estimate and measure (M 5.1) ○ Estimate and measure length and height in millimeters, decimeters, kilometers ○ Define, identify, use and relate benchmarks in metric and standard systems ○ To use measurement to determine and explain the relative size of given objects and measures (M 5.1) • To use measurement to determine and explain the relative size of given objects and measures (M 5.1) ○ Use the appropriate customary and metric units and tools for measuring volume and capacity ○ Define, identify, use and relate benchmarks of capacity ○ Explain the difference between mass and weight ○ Add and subtract measurements with regrouping recording answers in simplified form • To use standard units to identify and express examples of measurement in daily life (M 5.1) ○ Identify and use kilogram and ton ○ Use the appropriate customary and metric units and tools for measuring weight ○ Define, identify, use and relate benchmarks of weight/mass ○ Use the appropriate customary and metric units and tools for measuring temperature ○ Read Fahrenheit and Celsius thermometers including temperatures below zero ○ Find the change in temperature when one temperature is below zero and the other above	**Chapter 14: 14-1 through 14-9** • 14-1 Relate Customary Units of Length—pp. 316–317 • 14-2 Relate Customary Units of Capacity—pp. 318–319 • 14-3 Relate Customary Units of Weight—pp. 320–321 • 14-4 Compute with Customary Units—pp. 322–323 • 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 • 14-9 Problem Solving: Use the Four-Step Process—pp. 334–335 **Chapter 16: 16-2** • 16-2 Cubic Measure—pp. 362–363 See also Grade 4 **Chapter 14: 14-1 through 14-10** • 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: 15-1 through 15-9** • 15-2 Use Multiplication to Rename Measures—pp. 326–327 • 15-3 Elapsed Time—pp. 328–329 • 15-4 Temperature—pp. 330–331
M 5.2 Convert like measurement units within a given measurement system. ○ Identify the conversions for feet, yards and miles ○ Identify conversion factors in the metric system ○ Compare and convert measures of capacity ○ Identify conversion for pounds and ounces	**Chapter 14: 14-1 through 14-9** • 14-1 Relate Customary Units of Length—pp. 316–317 • 14-2 Relate Customary Units of Capacity—pp. 318–319 • 14-3 Relate Customary Units of Weight—pp. 320–321 • 14-4 Compute with Customary Units—pp. 322–323 • 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 • 14-9 Problem Solving: Use the Four-Step Process—pp. 334–335

DATA ANALYSIS, STATISTICS, & PROBABILITY (DSP)

Grade 5 Standards	*Sadlier Math*, Grade 5
DSP 5.1 Formulate questions that can be addressed with data; collect, organize, and display relevant data to answer them using appropriate statistical & graphical methods • To describe features of a data set (DSP 5.1) ○ Compute the mean of a set of data ○ Use range, mean, median, and mode to explain data ○ Describe how a change in an outlier can change the measures of central tendency	See Grade 6 **Chapter 16: 16-1 through 16-6** • 16-1 Statistical Questions—pp. 358–359 • 16-2 Measures of Center—pp. 360–361 • 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363 • 16-4 Measure of Variation: Mean Absolute Deviation—pp. 366–367 • 16-5 Analyze Data—pp. 368–369
DSP 5.2 Analyze data sets to form hypotheses and make predictions • To use tables, graphs and equations to represent mathematical relationships and solve real-world equations (DSP 5.2, 5.4)	**Chapter 17: 17-1 & 17-2** • 17-1 Line Plots with Whole Numbers and Decimals—pp. 380–381 • 17-2 Line Plots with Fractions and Mixed Numbers—pp. 382–383 See also Grade 4 **Chapter 15: 15-1 through 15-9** • 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 • 15-4 Temperature—pp. 330–331 • 15-5 Line Graphs—pp. 334–335 • 15-6 Line Plots—pp. 336–337 • 15-7 Surveys and Line Plots—pp. 338–339 • 15-8 Choose an Appropriate Display—pp. 340–341 • 15-9 Problem Solving: Use Logical Reasoning—pp. 342–343
DSP 5.3 Understand and apply basic concepts of probability • To determine the likelihood of certain events through games and simple experiments (DSP 5.3) ○ Make and test predictions of probability and fairness ○ Design and conduct probability experiments and games of chance ○ Express probability as a fraction ○ Conduct probability experiments and express the probability based on possible outcomes ○ Identify possible outcomes and express the likelihood of events as a fraction ○ Make generalizations about patterns and relationships and test those generalizations	See Grade 6 **Chapter 18: 18-3 through 18-7** • 18-3 Probability and Likelihood—online • 18-4 Theoretical Probability—online • 18-5 Relative Frequency and Experimental Probability—online • 18-6 Uniform Probability Models—online • 18-7 Non-Uniform Probability Models—online

DATA ANALYSIS, STATISTICS, & PROBABILITY (DSP)

Grade 5 Standards	*Sadlier Math*, Grade 5
DSP 5.4 Develop and evaluate inferences and predictions that are based on data • To use tables, graphs and equations to represent mathematical relationships and solve real-world equations (DSP 5.2, 5.4)	**Chapter 7: 7-9** • 7-9 Problem Solving: Write and Solve an Equation—pp. 160–161 **Chapter 17: 17-1, 17-2, 17-4 & 17-6** • 17-1 Line Plots with Whole Numbers and Decimals—pp. 380–381 • 17-2 Line Plots with Fractions and Mixed Numbers—pp. 382–383 • 17-4 Using Coordinate Graphs—pp. 388–389 • 17-6 Graph Number Patterns—pp. 392–393 See also Grade 4 **Chapter 1: 1-7** • 1-7 Problem Solving: Make a Table—pp. 16–17 **Chapter 14: 14-10** • 14-10 Problem Solving: Make a Table—pp. 316–317 **Chapter 15: 15-1, 15-3 through 15-9** • 15-1 Represent Measures on a Number Line—pp. 324–325 • 15-3 Elapsed Time—pp. 328–329 • 15-4 Temperature—pp. 330–331 • 15-5 Line Graphs—pp. 334–335 • 15-6 Line Plots—pp. 336–337 • 15-7 Surveys and Line Plots—pp. 338–339 • 15-8 Choose an Appropriate Display—pp. 340–341 • 15-9 Problem Solving: Use Logical Reasoning—pp. 342–343

GEOMETRY (G)

Grade 5 Standards	*Sadlier Math*, Grade 5
G 5.1 Analyze properties and characteristics of two-and three-dimensional shapes to describe relationships, communicate ideas and solve problems • To describe and develop relationships between geometric properties of polygons and solids (G 5.1) ○ Make and test conjectures about geometric relationships ○ Identify, describe, classify and draw polygons ○ Identify, compare and contrast regular and irregular polygons • To identify and generalize relationships between measurable attributes of plane and solid figures (G 5.1)	**Chapter 15: 15-1 through 15-5** • 15-1 Polygons—pp. 342–343 • 15-2 Triangles—pp. 344–345 • 15-3 Quadrilaterals—pp. 348–349 • 15-4 Classify Quadrilaterals—pp. 350–351 • 15-5 Problem Solving: Use a Model—pp. 352–353 **Chapter 16: 16-1 through 16-6** • 16-1 Solid Figures—pp. 360–361 • 16-2 Cubic Measure—pp. 362–363 • 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 See also Grade 4 **Chapter 17: 17-1 through 17-5** • 17-1 Polygons—pp. 370–371 • 17-2 Quadrilaterals—pp. 372–373 • 17-3 Triangles—pp. 374–375 • 17-4 Symmetry—pp. 376–377 • 17-5 Shape Patterns—pp. 380–381

GEOMETRY (G)

Grade 5 Standards	*Sadlier Math*, Grade 5
G 5.2 Use visualization, spatial reasoning, and geometric modeling to solve problems • To identify, draw and describe elements needed to explain spatial relationships (G 5.2) ○ Use a protractor to measure angles ○ Use angles to measure and classify polygons ○ Use geometric relationships such as parallel, perpendicular, similar and congruent to describe the attributes of sets and subsets of shapes and solids ○ Identify, describe and classify triangles according to sides and angles ○ Demonstrate and describe the relationship between area and perimeter when the dimensions of a polygon change ○ Apply formulas to find the perimeter and area of squares and rectangles ○ Develop and apply the formulas for perimeter and area of triangles ○ Describe relationships between the lengths of sides of rectangles and their areas and perimeters and generalize the patterns as simple formulas ○ Find strategies for estimating and measuring the perimeters and areas of irregular shapes ○ Identify and measure the parts of a circle (radius, diameter, chord, central angle) ○ Identify the meaning of pi ○ Find the circumference of a circle using a formula ○ Find the area of a circle ○ Develop strategies to determine the formula for the volume of rectangular solids	**Chapter 16: 16-1 through 16-6** • 16-1 Solid Figures—pp. 360–361 • 16-2 Cubic Measure—pp. 362–363 • 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 • 16-6 Problem Solving: Act it Out—pp. 372–373 See also Grade 4 **Chapter 16: 16-1 through 16-6** • 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 **Chapter 17: 17-1 through 17-8** • 17-1 Polygons—pp. 370–371 • 17-2 Quadrilaterals—pp. 372–373 • 17-3 Triangles—pp. 374–375 • 17-4 Symmetry—pp. 376–377 • 17-5 Shape Patterns—pp. 380–381 • 17-6 Use Perimeter Formulas—pp. 382–383 • 17-7 Use Area Formulas—pp. 384–385 • 17-8 Problem Solving: Draw a Picture—pp. 386–387 See also Grade 6 **Chapter 9: 9-7 through 9-11** • 9-7 Plot Points in the Coordinate Plane—pp. 210–211 • 9-8 Reflections of Points—pp. 212–213 • 9-9 Distance on the Coordinate Plane—pp. 214–215 • 9-10 Plot Polygons—pp. 216–217 **Chapter 14: 14-1 through 14-7** • 14-1 Areas of Parallelograms and Rhombuses—pp. 316–317 • 14-2 Areas of Triangles—pp. 318–319 • 14-3 Areas of Trapezoids—pp. 320–321 • 14-4 Circumferences and Areas of Circles—pp. 324–325 • 14-5 Areas of Regular Polygons—pp. 326–327 • 14-6 Areas of Composite Figures—pp. 328–329 • 14-7 Problem Solving: Find a Pattern—pp. 330–331 **Chapter 15: 15-1 through 15-6** • 15-1 Nets of Three-Dimensional Figures—pp. 338–339 • 15-2 Use Nets to Find Surface Areas of Prisms—pp. 340–341 • 15-3 Use Nets to Find Surface Areas of Pyramids—pp. 342–343 • 15-4 Use Cubes to Find Volumes—pp. 346–347 • 15-5 Volumes of Right Rectangular Prisms—pp. 348–34

GEOMETRY (G)

Grade 5 Standards	*Sadlier Math*, Grade 5
• To use coordinate systems to identify and illustrate spatial location and geometric relationships (G 5.2) ○ Identify line and rotational symmetry ○ Identify translations, rotations, and reflections ○ Explain the results of dividing, combining, and transforming shapes and the effects of slides, flips, and turns ○ Draw and interpret simple maps using coordinate systems and shapes or pictures ○ Plot points on the rectangular coordinate system and estimate and determine the distance between points	**Chapter 17: 17-3 through 17-7** • 17-3 The Coordinate Plane—pp. 386–387 • 17-4 Using Coordinate Graphs—pp. 388–389 • 17-5 Write Number Patterns—pp. 390–391 • 17-6 Graph Number Patterns—pp. 392–393 • 17-7 Problem Solving: Find and Use a Pattern—pp. 394–395 See also Grade 6 **Chapter 9: 9-7 through 9-11** • 9-7 Plot Points in the Coordinate Plane—pp. 210–211 • 9-8 Reflections of Points—pp. 212–213 • 9-9 Distance on the Coordinate Plane—pp. 214–215 • 9-10 Plot Polygons—pp. 216–217