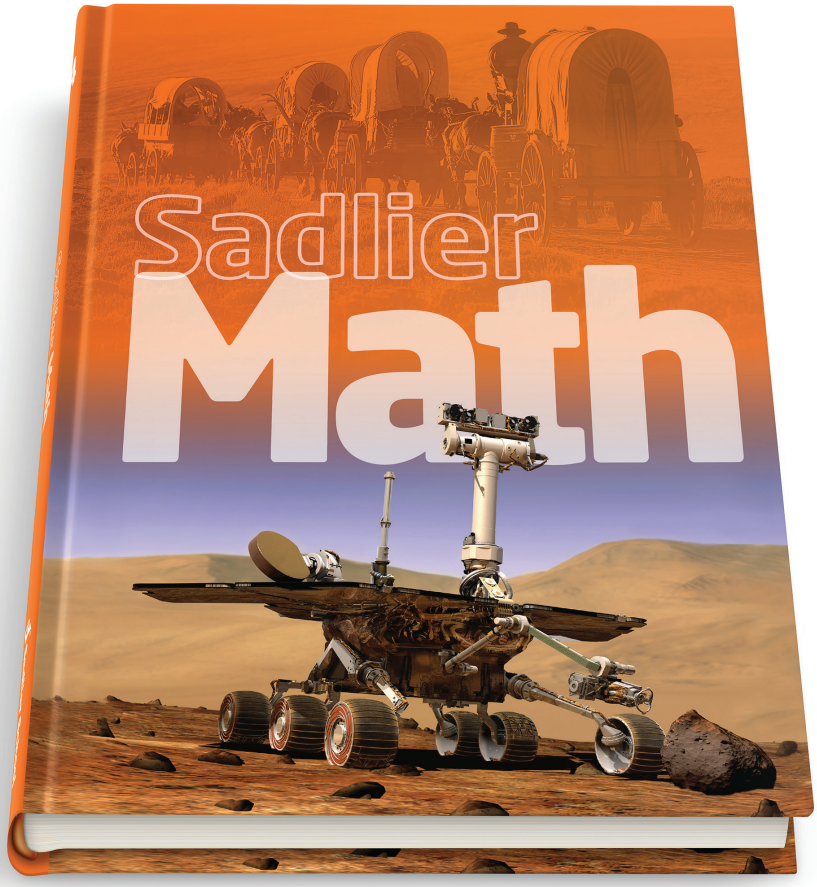
Sadlier Math™

Correlation to the Archdiocese of Washington Catholic Schools Academic Standards: Mathematics

Grade 4



Learn more at www.SadlierSchool.com/SadlierMath

STANDARD 1 – NUMBER SENSE

4th Grade Content Standards	*Sadlier Math*, Grade 4
Students understand the place value of whole numbers* and decimals to two decimal places and how whole numbers and decimals relate to simple fractions.	
MA.4.1.1 Read and write whole numbers up to 1,000,000. Example: Read aloud the number 394,734.	**Chapter 1: 1-1 through 1-3** • 1-1 Thousands—pp. 2–3 (Read and write numbers to thousands; TE Develop Concepts: Modeling Place Value) • 1-2 What Is One Million?—pp. 4–5 (Use place value to understand millions; TE Develop Concepts: Place Value of 1) • 1-3 Millions—pp. 6–7 (Read and write numbers in millions using numerals and number names; TE Develop Concepts: Number Periods and Place Value)
MA.4.1.2 Identify and write whole numbers up to 1,000,000, given a place-value model. Example: Write the number that has 2 hundred thousands, 7 ten thousands, 4 thousands, 8 hundreds, 6 tens, and 2 ones.	**Chapter 1: 1-1 through 1-4** • 1-1 Thousands—pp. 2–3 (Read and write numbers to thousands; TE Develop Concepts: Modeling Place Value) • 1-2 What Is One Million?—pp. 4–5 (Use place value to understand millions; TE Develop Concepts: Place Value of 1) • 1-3 Millions—pp. 6–7 (Read and write numbers in millions using numerals and number names; TE Develop Concepts: Number Periods and Place Value) • 1-4 Expanded Form—pp. 8–9 (Read and write numbers in expanded form; TE Develop Concepts: Values of Digits in a Number)
MA.4.1.3 Round whole numbers up to 10,000 to the nearest ten, hundred, and thousand. Example: Is 7,683 closer to 7,600 or 7,700? Explain your answer.	**Chapter 1: 1-5** • 1-5 Round Whole Numbers—pp. 12–13 (Use place value to round numbers to any place; TE Develop Concepts: Navigating the Number Line) **Chapter 2: 2-3** • 2-3 Estimate Sums—pp. 28–29 (TE Develop Concepts: Find Sums Using Rounded Numbers) **Chapter 4: 4-4** • 4-4 Estimate Products—pp. 76–77 (Use front-end estimation and rounding to estimate products)
MA.4.1.4 Order and compare whole numbers using symbols for “less than” (<), “equal to” (=), and “greater than” (>). Example: Put the correct symbol in 328 __ 142.	**Chapter 1: 1-6** • 1-6 Compare and Order Whole Numbers—pp. 14–15 (Use place value to compare numbers; TE Develop Concepts: Compare Numbers in the Hundred Thousands)
MA.4.1.5 Rename and rewrite whole numbers as fractions. Example: 3 = 6/2 = 9/3 = ?/4 = ?/5.	See Grade 3 **Chapter 9: 9-6** • 9-6 Use a Fraction to Find the Whole—pp. 200–201 (Given a fractional part, find the whole; TE Develop Concepts: Follow-up on Fractions) **Chapter 10: 10-1** • 10-1 Whole Numbers and Fractions—pp. 210–211 (Write whole numbers as fractions and recognize fractions that are equivalent to whole numbers; TE Develop Concepts: Dividing a Whole into Parts)

STANDARD 1 – NUMBER SENSE

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.1.6 Name and write mixed numbers, using objects or pictures. Example: You have 5 whole straws and half a straw. Write the number that represents these objects.	**Chapter 10: 10-9** • 10-9 Mixed Numbers—pp. 210–211 (Read and write mixed numbers; TE Develop Concepts: Mixed Number Pizzas)
MA.4.1.7 Name and write mixed numbers as improper fractions, using objects or pictures. Example: Use a picture of 3 rectangles, each divided into 5 equal pieces, to write 2 3/5 as an improper fraction.	**Chapter 10: 10-9** • 10-9 Mixed Numbers—pp. 210–211 (Read and write mixed numbers; TE Develop Concepts: Mixed Number Pizzas)
MA.4.1.8 Write tenths and hundredths in decimal and fraction notations. Example: Write two tenths as both 2/10 and 0.2	**Chapter 13: 13-1** • 13-1 Equivalent Fractions: Rename Tenths as Hundredths—pp. 272–273 (Express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100; TE Develop Concepts: Equivalent Fractions)
MA.4.1.9 Round two-place decimals to tenths or to the nearest whole number. Example: You ran the 50-yard dash in 6.73 seconds. Round your time to the nearest tenth.	See Grade 5 **Chapter 2: 2-4** • 2-4 Round Decimals—pp. 32–33 (Use place value to round decimal numbers)

STANDARD 2 – COMPUTATION

4th Grade Content Standards	*Sadlier Math*, Grade 4
Students solve problems involving addition, subtraction, multiplication, and division of whole numbers and understand the relationships among these operations. They extend their use and understanding of whole numbers to the addition and subtraction of simple fractions and decimals.	
MA.4.2.1 Understand and use standard algorithms* for addition and subtraction. Example: 45,329 + 6,984 = ?, 36,296 – 12,075 = ?.	**Chapter 2: 2-4 through 2-7** • 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: 3-2 through 3-7** • 3-2 Subtract with One Regrouping—pp. 48–49 • 3-3 Subtract with Two Regroupings—pp. 50–51 *continued*

STANDARD 2 – COMPUTATION

4th Grade Content Standards	*Sadlier Math*, Grade 4
	• 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 • 3-7 Problem Solving: Use a Model—pp. 60–61
MA.4.2.2 Represent as multiplication any situation involving repeated addition. Example: Each of the 20 students in your physical education class has 3 tennis balls. Find the total number of tennis balls in the class.	**Chapter 5: 5-1** • 5-1 Multiply with Regrouping—pp. 88–89 (TE Develop Concepts: Multiplication with Money, repeated addition) **Chapter 12: 12-1** • 12-1 Add Unit Fractions to Multiply—pp. 250–251 (TE Develop Concepts: multiplication as repeated addition) See also Grade 3 **Chapter 4: 4-1 & 4-2** • 4-1 Represent Multiplication as Repeated Addition—pp. 66–67 (Understand how repeated addition is used to represent multiplication of whole numbers; TE Develop Concepts: Model Repeated Addition) • 4-2 Represent Multiplication on a Number Line—pp. 68–69 (Represent multiplication by skip counting on a number line; TE Develop Concepts: Modeling Repeated Addition on a Number Line)
MA.4.2.3 Represent as division any situation involving the sharing of objects or the number of groups of shared objects. Example: Divide 12 cookies equally among 4 students. Divide 12 cookies equally to find out how many people can get 4 cookies. Compare your answers and methods.	**Chapter 7: 7-4** • 7-4 Use Models to Divide—pp. 136–137 (Find whole-number quotients using models such as arrays and area models; TE Develop Concepts: Arrays as Multiplication and Division) See also Grade 3 **Chapter 4: 4-5** • 4-5 Represent Division by Sharing—pp. 76–77 (Explore the concept of division as sharing; TE Develop Concepts: Make Equal Groups)
MA.4.2.4 Demonstrate mastery of the multiplication tables for numbers between 1 and 12 and of the corresponding division facts. Example: Know the answers to 9 × 4 and 35 ÷ 7.	See Grade 3 **Chapter 5: 5-1 through 5-7** • 5-2 Multiply by 5—pp. 90–91 • 5-3 Multiply by 9—pp. 92–93 • 5-4 Multiply by 1 and 0—pp. 96–97 • 5-5 Multiply by 10—pp. 98–99 • 5-6 Find Patterns in the Multiplication Table—pp. 100–101 • 5-7 Solve for Unknowns—pp. 102–103 **Chapter 6: 6-1 through 6-11** • 6-1 Break Apart to Multiply—pp. 112–113 • 6-2 Multiply by 3—pp. 114–115 • 6-3 Multiply by 4—pp. 116–117 • 6-4 Multiply by 6—pp. 118–119 • 6-5 Multiply by 7—pp. 120–121 • 6-6 Multiply by 8—pp. 122–123 • 6-7 Use a Bar Model to Multiply—pp. 126–127 • 6-8 Problem Solving: Make a Table—pp. 128–129 • 6-9 Use the Associative Property to Multiply—pp. 130–131 • 6-10 Find More Multiplication Patterns—pp. 132–133 • 6-11 Multiply by Multiples of 10—pp. 134–135

STANDARD 2 – COMPUTATION

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.2.5 Use a standard algorithm to multiply numbers up to 100 by numbers up to 10, using relevant properties of the number system. Example: 67 × 3 = ?.	**Chapter 5: 5-1 through 5-3** • 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
MA.4.2.6 Use a standard algorithm to divide numbers up to 100 by numbers up to 10 without remainders, using relevant properties of the number system. Example: 69 ÷ 3 = ?.	**Chapter 8: 8-1 through 8-5** • 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
MA.4.2.7 Understand the special properties of 0 and 1 in multiplication and division. Example: Know that 73 × 0 = 0 and that 42 ÷ 1 = 42.	**Chapter 4: 4-1** • 4-1 Multiplication Properties—pp. 68–69 (Use multiplication properties to multiply accurately and efficiently; TE Develop Concepts: Examples of the Properties of Multiplication) **Chapter 7: 7-1** • 7-1 Division Rules—pp. 128–129 (Find whole-number quotients using strategies and properties of operations; TE Develop Concepts: Division as Separating)
MA.4.2.8 Add and subtract simple fractions with like denominators, using objects or pictures. Example: Use a picture of a circle divided into 6 equal pieces to find 5/6 – 1/3.	**Chapter 11: 11-1 through 11-5** • 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
MA.4.2.9 Add and subtract decimals (to hundredths), using objects or pictures. Example: Use coins to help you find $0.43 – $0.29.	See Grade 5 **Chapter 10: 10-1 through 10-5, 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 • 10-7 Addition with Money—pp. 234–235 **Chapter 11: 11-1 through 11-3, 11-5 & 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 • 11-5 Subtraction with Money—pp. 252–253 • 11-6 Problem Solving: Use a Model—pp. 254–255
MA.4.2.10 Use a standard algorithm to add and subtract decimals (to hundredths). Example: 0.74 + 0.80 = ?.	

STANDARD 2 – COMPUTATION

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.2.11 Know and use strategies for estimating results of any whole-number computations. Example: Your friend says that 45,329 + 6,984 = 5,213. Without solving, explain why you think the answer is wrong.	**Chapter 1: 1-5** • 1-5 Round Whole Numbers—pp. 12–13 **Chapter 2: 2-3** • 2-3 Estimate Sums—pp. 28–29 **Chapter 3: 3-1 & 3-3** • 3-1 Estimate Differences—pp. 46–47 (Use estimation strategies to solve subtraction problems) • 3-3 Subtract with Two Regroupings—pp. 50–51 (Subtract multi-digit whole numbers with two regroupings; estimate difference) **Chapter 4: 4-4** • 4-4 Estimate Products—pp. 76–77 **Chapter 6: 6-3 & 6-4** • 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 (Use rounding to estimate) • 6-4 Multiply by Two-Digit Numbers: Regrouping—pp. 116–117 (Use rounding to estimate) **Chapter 7: 7-3** • 7-3 Estimate Quotients—pp. 132–133 (Use estimation strategies to find and assess the solutions for division problems; TE Develop Concepts: Estimating Quotients)
MA.4.2.12 Use mental arithmetic to add or subtract numbers rounded to hundreds or thousands. Example: Add 3,000 to 8,000 without using pencil and paper.	**Chapter 1: 1-5** • 1-5 Round Whole Numbers—pp. 12–13 **Chapter 2: 2-3** • 2-3 Estimate Sums—pp. 28–29 **Chapter 3: 3-1** • 3-1 Estimate Differences—pp. 46–47

STANDARD 3 – ALGEBRA AND FUNCTIONS

4th Grade Content Standards	*Sadlier Math*, Grade 4
Students use and interpret variables, mathematical symbols, and properties to write and simplify numerical expressions and sentences. They understand relationships among the operations of addition, subtraction, multiplication, and division.	
MA.4.3.1 Use letters, boxes, or other symbols to represent any number in simple expressions, equations, or inequalities (i.e., demonstrate an understanding of and the use of the concept of a variable). *continued*	**Chapter 2: 2-1** • 2-1 Mathematical Expressions—pp. 24–25 (Represent problems using mathematical expressions; TE Develop Concepts: Representing an Unknown with a Letter) **Chapter 8: 8-5 & 8-6** • 8-5 More Quotients—pp. 158–159 (Find whole number quotients and remainders; TE Develop Concepts: Analyze Division Expressions) *continued*

STANDARD 3 – ALGEBRA AND FUNCTIONS

4th Grade Content Standards	*Sadlier Math*, Grade 4
Example: You read the expression "three times some number added to 5" and you write "3*x* + 5." What does *x* represent?	• 8-6 Order of Operations—pp. 160–161 (Solve problems using the order of operations; TE Develop Concepts: Analyze Division Expressions)
MA.4.3.2 Use and interpret formulas to answer questions about quantities and their relationships. Example: Write the formula for the area of a rectangle in words. Now let *l* stand for the length, *w* for the width, and *A* for the area. Write the formula using these symbols.	**Chapter 17: 17-6 & 17-7** • 17-6 Use Perimeter Formulas—pp. 382–383 (Use formulas to find the perimeters of polygons; TE Develop Concepts: What Is Perimeter?) • 17-7 Use Area Formulas—pp. 384–385 (Use formulas to find the areas of rectangles and squares; TE Develop Concepts: Derive Area Formulas
MA.4.3.3 Understand that multiplication and division are performed before addition and subtraction in expressions without parentheses. Example: You go to a store with 90¢ and buy 3 pencils that cost 20¢ each. Write an expression for the amount of money you have left and find its value.	**Chapter 8: 8-6** • 8-6 Order of Operations—pp. 160–161 (Solve problems using the order of operations; TE Develop Concepts: Analyze Division Expressions)
MA.4.3.4 Understand that an equation such as *y* = 3*x* + 5 is a rule for finding a second number when a first number is given. Example: Use the formula *y* = 3*x* + 5 to find the value of *y* when *x* = 6.	**Chapter 15: 15-4** • 15-4 Temperature—pp. 330–331 (TE Early Finishers: formula for converting temperatures from Fahrenheit to Celsius) **Chapter 17: 17-6 & 17-7** • 17-6 Use Perimeter Formulas—pp. 382–383 (Use formulas to find the perimeters of polygons; TE Develop Concepts: What Is Perimeter?) • 17-7 Use Area Formulas—pp. 384–385 (Use formulas to find the areas of rectangles and squares; TE Develop Concepts: Derive Area Formulas)
MA.4.3.5 Continue number patterns using multiplication and division. Example: What is the next number: 160, 80, 40, 20, ...? Explain your answer.	**Chapter 6: 6-5** • 6-5 Multiplication Patterns—pp. 118–119 (Use patterns to multiply by multiples of 10, 100, or 1000; TE Develop Concepts: Break Down Factors) **Chapter 7: 7-5** • 7-5 Number Patterns—pp. 138–139 (Make a number pattern, and find features of patterns; TE Develop Concepts: Patterns and Relationships) **Chapter 13: 13-8** • 13-8 Problem Solving: Find a Pattern—pp. 288–289 (Solve problems by using a variety of strategies, including finding a pattern; TE Develop Concepts: Recognize Patterns)

STANDARD 3 – ALGEBRA AND FUNCTIONS

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.3.6 Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve problems. Example: Find another way of writing 13 + 13 + 13 + 13 + 13.	**Chapter 7: 7-2 & 7-6** • 7-2 Relate Multiplication and Division—pp. 130–131 (Understand the relationship between multiplication and division; TE Develop Concepts: Connecting Models for Multiplication and Division) • 7-6 Problem Solving: Work Backward—pp. 140–141 (Solve problems by working backward; TE Develop Concepts: Inverse Operations) **Chapter 8: 8-7** • 8-7 Multistep Problems Using Multiplication and Division—pp. 162–163 (Solve multistep problems that involve multiplication and division; TE Develop Concepts: Model a Multistep Problem)
MA.4.3.7 Relate problem situations to number sentences involving multiplication and division. Example: You have 150 jelly beans to share among the 30 members of your class. Write a number sentence for this problem and use it to find the number of jelly beans each person will get.	**Chapter 4: 4-1 through 4-6** • 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 • 4-6 Problem Solving: Represent the Situation—pp. 80–81 **Chapter 5: 5-1 through 5-6** • 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 • 5-5 Multiplicative and Additive Comparisons—pp. 98–99 • 5-6 Problem Solving: Guess and Test—pp. 100–101 **Chapter 6: 6-1 through 6-6** • 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 • 6-6 Problem Solving: Write and Solve an Equation—pp. 120–121 **Chapter 7: 7-2 through 7-6** • 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 • 7-5 Number Patterns—pp. 138–139 • 7-6 Problem Solving: Work Backward—pp. 140–141 **Chapter 8: 8-1 through 8-8** • 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 • 8-8 Problem Solving: Use a Model—pp. 164–165

STANDARD 3 – ALGEBRA AND FUNCTIONS

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.3.8 Plot and label whole numbers on a number line up to 100. Estimate positions on the number line. Example: Draw a number line and label it with 0, 10, 20, 30, ..., 90, 100. Estimate the position of 77 on this number line.	**Chapter 1: 1-5** • 1-5 Round Whole Numbers—pp. 12–13 (TE Develop Concepts: Navigating the Number Line) **Chapter 15: 15-1** • 15-1 Represent Measures on a Number Line—pp. 324–325

STANDARD 4 – GEOMETRY

4th Grade Content Standards	*Sadlier Math*, Grade 4
Students show an understanding of plane and solid geometric objects and use this knowledge to show relationships and solve problems.	
MA.4.4.1 Identify, describe, and draw rays, right angles, acute angles, obtuse angles, and straight angles using appropriate mathematical tools and technology. Example: Draw two rays that meet in an obtuse angle.	**Chapter 16: 16-1 through 16-4** • 16-1 Points, Lines, Line Segments, Rays, and Angles—pp. 350–351 (Identify and draw points, lines, line segments, rays, and angles; TE Develop Concepts: Basic Geometric Figures) • 16-2 Angle Measure—pp. 352–353 (Recognize that an angle turns through a fraction of a circle with the vertex of the angle at the center of the circle; degrees; TE Develop Concepts: Angles and Circles) • 16-3 Measure Angles—pp. 356–357 (Measure and sketch angles using a protractor; Workbook: draw an angle; TE Develop Concepts: Measuring Angles) • 16-4 Unknown Angle Measures—pp. 358–359 (Find unknown angle measures; TE Develop Concepts: Additive Property)
MA.4.4.2 Identify, describe, and draw parallel, perpendicular, and oblique lines using appropriate mathematical tools and technology. Example: Use the markings on the gymnasium floor to identify two lines that are parallel. Place a jump rope across the parallel lines and identify any obtuse angles created by the jump rope and the lines.	**Chapter 16: 16-5** • 16-5 Parallel and Perpendicular Lines—pp. 360–361 (Identify and draw parallel and perpendicular lines; TE Develop Concepts: Map Lines)

STANDARD 4 – GEOMETRY

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.4.3 Identify, describe, and draw parallelograms*, rhombuses*, and trapezoids*, using appropriate mathematical tools and technology. Example: Use a geoboard to make a parallelogram. How do you know it is a parallelogram?	**Chapter 17: 17-1 & 17-2** • 17-1 Polygons—pp. 370–371 (Identify and name polygons: triangle, quadrilateral, pentagon, hexagon, and octagon; TE Develop Concepts: Building Polygons) • 17-2 Quadrilaterals—pp. 372–373 (Identify and classify quadrilaterals; TE Develop Concepts: Constructing Quadrilaterals)
MA.4.4.4 Identify congruent* quadrilaterals* and give reasons for congruence using sides, angles, parallels, and perpendiculars. Example: In a collection of parallelograms, rhombuses, and trapezoids, pick out those that are the same shape and size and explain your decisions.	Related content **Chapter 17: 17-2** • 17-2 Quadrilaterals—pp. 372–373 (Identify and classify quadrilaterals, equal sides; TE Develop Concepts: Constructing Quadrilaterals) See also Grade 5 **Chapter 15: 15-1** • 15-1 Polygons—pp. 342–343 (TE Guided Practice: definition of rhombus: parallelogram with 4 congruent sides)
MA.4.4.5 Identify and draw lines of symmetry in polygons. Example: Draw a rectangle and then draw all its lines of symmetry.	**Chapter 17: 17-4** • 17-4 Symmetry—pp. 376–377 (Identify line symmetry in figures and draw lines of symmetry; TE Develop Concepts: Symmetry as Reflections)
MA.4.4.6 Construct cubes and prisms* and describe their attributes. Example: Make a 6-sided prism from construction paper.	See Grade 5 **Chapter 16: 16-1** • 16-1 Solid Figures—pp. 360–361 (Identify solid figures and their attributes; Relate plane and solid figures to identify nets for solid figures; TE Develop Concepts: Two-Dimensional Objects)

STANDARD 5 – MEASUREMENT

4th Grade Content Standards	*Sadlier Math*, Grade 4
Students understand perimeter and area, as well as measuring volume, capacity, time, and money.	
MA.4.5.1 Measure length to the nearest quarter-inch, eighth-inch, and millimeter. Example: Measure the width of a sheet of paper to the nearest millimeter.	**Chapter 14: 14-1 & 14-6** • 14-1 Measure with Inches—pp. 296–297 (Measure length in inches; TE Develop Concepts: Units of Measure) • 14-6 Metric Units of Length—pp. 308–311 (Solve length problems with metric units of measure; TE Develop Concepts: Measuring with Tens)

STANDARD 5 – MEASUREMENT

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.5.2 Subtract units of length that may require renaming of feet to inches or meters to centimeters. Example: The shelf was 2 feet long. Jane shortened it by 8 inches. How long is the shelf now?	**Chapter 14: 14-2, 14-5 & 14-9** • 14-2 Customary Units of Length—pp. 298–299 (Solve length problems using customary units of measure; TE Develop Concepts: Converting Units with Tables) • 14-5 Operations with Customary Units—pp. 304–305 (Solve problems using customary units of measure; TE Develop Concepts: Measurement Operations) • 14-9 Operations with Metric Units—pp. 314–315 (Solve problems using metric units of measure; Use tables to help solve problems; TE Develop Concepts: Modeling Metric Operations)
MA.4.5.3 Know and use formulas for finding the perimeters of rectangles and squares. Example: The length of a rectangle is 4 cm and its perimeter is 20 cm. What is the width of the rectangle?	**Chapter 17: 17-6** • 17-6 Use Perimeter Formulas—pp. 382–383 See also Grade 3 **Chapter 16: 16-1 through 16-3** • 16-1 Understand Perimeter—pp. 332–333 (Find the perimeter of polygons that are shown on grids; TE Develop Concepts: Explore Distance Around a Shape) • 16-2 Find Perimeter—pp. 334–335 (Find the perimeter of polygons; TE Develop Concepts: Explore Squares and Rectangles) • 16-3 Find Unknown Side Lengths—pp. 336–337 (Find the unknown side lengths of a polygon when given the perimeter; TE Develop Concepts: Explore Side Lengths)
MA.4.5.4 Know and use formulas for finding the areas of rectangles and squares. Example: Draw a rectangle 5 inches by 3 inches. Divide it into one-inch squares and count the squares to find its area. Can you see another way to find the area? Do this with other rectangles.	**Chapter 17: 17-7** • 17-7 Use Area Formulas—pp. 384–385 See also Grade 3 **Chapter 15: 15-1 through 15-3** • 15-1 Understand Area—pp. 312–313 (Understand concepts of area measurement; TE Develop Concepts: Describe Lengths of Shapes) • 15-2 Find Area Using Standard Units—pp. 314–315 (Measure area by counting unit squares; TE Develop Concepts: Names for Unit Squares) • 15-3 Find the Area of a Rectangle and a Square—pp. 316–317 (Find the area of a rectangle and a square; TE Develop Concepts: Review Arrays)
MA.4.5.5 Estimate and calculate the area of rectangular shapes using appropriate units, such as square centimeter (cm^2), square meter (m^2), square inch (in^2), or square yard (yd^2). Example: Measure the length and width of a basketball court and find its area in suitable units.	

STANDARD 5 – MEASUREMENT

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.5.6 Understand that rectangles with the same area can have different perimeters and that rectangles with the same perimeter can have different areas. Example: Make a rectangle of area 12 units on a geoboard and find its perimeter. Can you make other rectangles with the same area? What are their perimeters?	**Chapter 17: 17-6** • 17-6 Use Perimeter Formulas—pp. 382–383 See also Grade 3 **Chapter 16: 16-5 & 16-6** • 16-5 Same Perimeter, Different Areas—pp. 342–343 (Find rectangles that have the same perimeter and different areas; TE Develop Concepts: Explore Perimeter and Area) • 16-6 Same Area, Different Perimeters—pp. 344–345 (Find rectangles that have the same area and different perimeters; TE Develop Concepts: Explore Area and Perimeter)
MA.4.5.7 Find areas of shapes by dividing them into basic shapes such as rectangles. Example: Find the area of your school building.	**Chapter 17: 17-7** • 17-7 Use Area Formulas—pp. 384–385 See also Grade 3 **Chapter 15: 15-4 & 15-5** • 15-4 Find Area Using the Distributive Property—pp. 320–321 (Find the area of a rectangle by using the Distributive Property; TE Develop Concepts: Review the Distributive Property) • 15-5 Find Area of Composite Shapes—pp. 322–323 (Find the area of a composite shape by decomposition into non-overlapping rectangles; TE Develop Concepts: Decompose Shapes into Rectangles and Squares)
MA.4.5.8 Use volume and capacity as different ways of measuring the space inside a shape. Example: Use cubes to find the volume of a fish tank and a pint jug to find its capacity.	**Chapter 14: 14-3 & 14-7** • 14-3 Customary Units of Capacity—pp. 300–301 (Solve capacity problems using customary units of measure; TE Develop Concepts: Converting Units of Capacity) • 14-7 Metric Units of Capacity—pp. 310–313 (Solve capacity problems using metric units of measure; TE Develop Concepts: Liters and Milliliters) See also Grade 3 **Chapter 11: 11-2 & 11-3** • 11-2 Estimate and Measure Liquid Volume—pp. 234–235 (Estimate liquid volumes in the metric system; TE Develop Concepts: Use Measures of Length to Describe Objects) • 11-3 Operations with Liquid Volume—pp. 236–237 (Solve one-step problems involving liquid volumes that are given in the same units; TE Develop Concepts: Uses of Tables) See also Grade 5 **Chapter 16: 16-2 & 16-3** • 16-2 Cubic Measure—pp. 362–363 (Describe and use cubic measures; TE Develop Concepts: Measuring Volume) • 16-3 Volume of Rectangular Prisms—pp. 364–365 (Find volume by packing with unit cubes; TE Develop Concepts: Using Water to Measure Volumes of Solids)

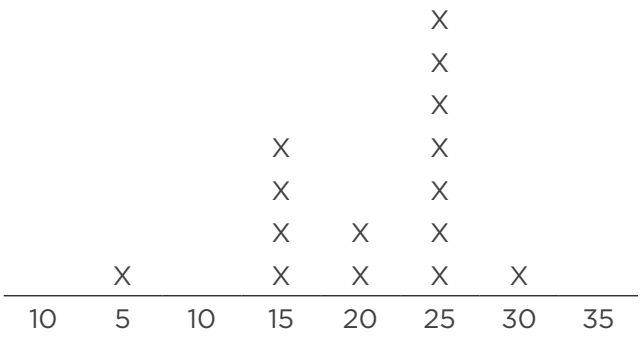
STANDARD 5 – MEASUREMENT

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.5.9 Add time intervals involving hours and minutes. Example: During the school week, you have 5 recess periods of 15 minutes. Find how long that is in hours and minutes.	**Chapter 15: 15-3** • 15-3 Elapsed Time—pp. 328–329 (Solve problems involving the passage of time.; TE Develop Concepts: Modeling Elapsed Time) See also Grade 3 **Chapter 13: 13-2 through 13-4** • 13-2 Measure Elapsed Time—pp. 278–279 (Measure time intervals in hours and minutes; TE Develop Concepts: Explore 1 Minute) • 13-3 Find Start and End Times—pp. 282–283 (Find the start or end time of an event given one time and the elapsed time; TE Develop Concepts: Number Lines and Time) • 13-4 Operations with Time—pp. 284–285 (Solve word problems involving addition and subtraction of time intervals in minutes; TE Develop Concepts: Decide What to Find and Do for Time Problems)
MA.4.5.10 Determine the amount of change from a purchase. Example: You buy a chocolate bar priced at $1.75. How much change do you get if you pay for it with a five-dollar bill?	See Grade 2 **Chapter 12: 12-5** • 12-5 Make Change—pp. 513–516 (Find the amount of change needed, given the price and amount paid; TE Develop Concepts: Finding the Difference in Amounts)
MA.4.5.11 Determine start time, elapsed time, and end times using hours and half hours. Example: If your class started at 9:00 and ended at 9:30 how much time will have passed?	**Chapter 15: 15-3** • 15-3 Elapsed Time—pp. 328–329 (Solve problems involving the passage of time.; TE Develop Concepts: Modeling Elapsed Time) See also Grade 3 **Chapter 13: 13-2 through 13-4** • 13-2 Measure Elapsed Time—pp. 278–279 (Measure time intervals in hours and minutes; TE Develop Concepts: Explore 1 Minute) • 13-3 Find Start and End Times—pp. 282–283 (Find the start or end time of an event given one time and the elapsed time; TE Develop Concepts: Number Lines and Time) • 13-4 Operations with Time—pp. 284–285 (Solve word problems involving addition and subtraction of time intervals in minutes; TE Develop Concepts: Decide What to Find and Do for Time Problems)

STANDARD 6 - DATA ANALYSIS AND PROBABILITY

4th Grade Content Standards	*Sadlier Math*, Grade 4
Students organize, represent, and interpret numerical and categorical data and clearly communicate their findings. They show outcomes for simple probability situations.	
MA.4.6.1 Represent data on a number line and in tables, including frequency tables. *continued*	**Chapter 1: 1-5 & 1-7** • 1-5 Round Whole Numbers—pp. 12–13 (TE Develop Concepts: Navigating the Number Line) *continued*

STANDARD 6 - DATA ANALYSIS AND PROBABILITY

4th Grade Content Standards	*Sadlier Math*, Grade 4
Example: The students in your class are growing plants in various parts of the classroom. Plan a survey to measure the height of each plant in centimeters on a certain day. Record your survey results on a line plot.	• 1-7 Problem Solving: Make a Table—pp. 16–17 (Solve problems by using a variety of strategies, including making a table; TE Develop Concepts: Displaying Data) **Chapter 10: 10-2 & 10-10** • 10-2 Equivalent Fractions: Number Line Diagrams—pp. 194–195 (Use a number line to find equivalent fractions; TE Develop Concepts: Fractions and Number Lines) • 10-10 Compare Mixed Numbers—pp. 212–213 (TE Develop Concepts: Compare Mixed Numbers on Number Lines) **Chapter 11: 11-4** • 11-4 Use Models to Subtract Fractions—pp. 230–231 (Subtract fractions using fraction strips and number lines) **Chapter 13: 13-7** • 13-7 Order Decimals—pp. 286–287 (TE Develop Concepts: Decimals and Number Lines) **Chapter 14: 14-10** • 14-10 Problem Solving: Make a Table—pp. 316–317 (Use tables to help solve problems; TE Develop Concepts: Organize with Tables) **Chapter 15: 15-1 & 15-6** • 15-1 Represent Measures on a Number Line—pp. 324–325 • 15-6 Line Plots—pp. 336–337 (TE Develop Concepts: Making and Using Tally Charts)
MA.4.6.2 Interpret data graphs to answer questions about a situation. Example: The line plot below shows the heights of fast-growing plants reported by third-grade students. Describe any patterns that you can see in the data using the words “most,” “few,” and “none.”  10 5 10 15 20 25 30 35 Plant Heights in Centimeters	**Chapter 15: 15-6 through 15-8** • 15-6 Line Plots—pp. 336–337 (Solve length problems with metric units of measure; TE Develop Concepts: Making and Using Tally Charts) • 15-7 Surveys and Line Plots—pp. 338–339 (Use line plots to organize and display data collected from a survey and to solve problems about survey data.; TE Develop Concepts: Analyzing Surveys) • 15-8 Choose an Appropriate Display—pp. 340–341 (Solve mass problems using metric units of measure; TE Develop Concepts: Comparing Graphical Displays)

STANDARD 6 - DATA ANALYSIS AND PROBABILITY

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.6.3 Summarize and display the results of probability experiments in a clear and organized way. Example: Roll a number cube 36 times and keep a tally of the number of times that 1, 2, 3, 4, 5, and 6 appear. Draw a bar graph to show your results.	Related content **Chapter 15: 15-8** • 15-8 Choose an Appropriate Display—pp. 340–341 (Solve mass problems using metric units of measure; TE Develop Concepts: Comparing Graphical Displays) *Probability not addressed at this level.

STANDARD 6 - PROBLEM SOLVING

4th Grade Content Standards	*Sadlier Math*, Grade 4
Students make decisions about how to approach problems and communicate their ideas.	
MA.4.7.1 Analyze problems by identifying relationships, telling relevant from irrelevant information, sequencing and prioritizing information, and observing patterns. Example: Solve the problem: "Find a relationship between the number of faces, edges, and vertices of a solid shape with flat surfaces." Try two or three shapes and look for patterns.	For each lesson, the new skill or skills are presented in the context of a real-world situation or problem. Students study step-by-step solutions then apply what they've learned in the Problem Solving section of the lesson. In addition, each chapter includes a full Problem Solving lesson that combines application of newly learned skills with a focus on problem solving strategies. See the following problem solving resources: **Problem Solving Math Practices** • Four Steps: Read and Understand, Represent the Situation, Make and Use a Plan, Look Back—p. xxii • Use Reasoning—p. xxiii • Explain Your Reasoning/Model with Mathematics—p. xxiv • Use the Right Tools/Be Precise—p. xxv • Look for a Pattern—p. xxv **Problem Solving Strategies** • Be Precise—p. xxvii • Look for a Pattern—p. xxviii • Use Logical Reasoning—p. xxix • Draw a Picture—p. xxx • Write and Solve an Equation—p. xxxi • Make an Organized List—p. xxxii **Chapter 1: 1-7** • 1-7 Problem Solving: Make a Table— pp. 16–17 *continued*

STANDARD 6 - PROBLEM SOLVING

4th Grade Content Standards	*Sadlier Math*, Grade 4
	Chapter 2: 2-7 • 2-7 Problem Solving: Make an Organized List— pp. 38–39 **Chapter 3: 3-6** • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58–59 **Chapter 4: 4-6** • 4-6 Problem Solving: Represent the Situation— pp. 80–81 **Chapter 5: 5-6** • 5-6 Problem Solving: Guess and Test— pp. 100–101 **Chapter 6: 6-5 & 6-6** • 6-5 Multiplication Patterns—pp. 118–119 • 6-6 Problem Solving: Write and Solve an Equation—pp. 120–121 (Translating relationships into equations) **Chapter 7: 7-2, 7-5 & 7-6** • 7-2 Relate Multiplication and Division—pp. 130–131 • 7-5 Number Patterns—pp. 138–139 (Make a number pattern, and find features of patterns; TE Develop Concepts: Patterns and Relationships) • 7-6 Problem Solving: Work Backward—pp. 140–141 (TE Develop Concepts: Inverse Operations) **Chapter 9: 9-6** • 9-6 Problem Solving: Four-Step Process—pp. 184–185 **Chapter 10: 10-12** • 10-12 Problem Solving: Four-Step Process— pp. 216–217 **Chapter 11: 11-9** • 11-9 Problem Solving: Compare Strategies—pp. 242–243 **Chapter 12: 12-7** • 12-7 Problem Solving: Choose a Strategy— pp. 264–265 **Chapter 13: 13-8** • 13-8 Problem Solving: Find a Pattern—pp. 288–289 **Chapter 14: 14-10** • 14-10 Problem Solving: Make a Table— pp. 316–317 **Chapter 15: 15-9** • 15-9 Problem Solving: Use Logical Reasoning— pp. 342–343 **Chapter 16: 16-6** • 16-6 Problem Solving: Use a Diagram— pp. 362–363 **Chapter 17: 17-1 through 17-3, 17-5 & 17-8** • 17-1 Polygons—pp. 370–371 (Identify and name polygons: triangle, quadrilateral, pentagon, hexagon, and octagon; TE Develop Concepts: Building Polygons) • 17-2 Quadrilaterals—pp. 372–373 (Identify and classify quadrilaterals; TE Develop Concepts: Constructing Quadrilaterals) • 17-3 Triangles—pp. 374–375 (Identify and classify triangles; TE Develop Concepts: Drawing Triangles) • 17-5 Shape Patterns—pp. 380–381 (Identify and generate shape patterns that follow a given rule; TE Develop Concepts: Properties of Patterns) • 17-8 Problem Solving: Draw a Picture— pp. 386–387

STANDARD 6 - PROBLEM SOLVING

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.7.2 Decide when and how to break a problem into simpler parts. Example: In the first example, find what happens to cubes and rectangular solids.	**Chapter 2: 2-7** • 2-6 Three or More Addends—pp. 36–37 (TE Struggling Learners: Adding smaller, simpler values) **Chapter 5: 5-2 & 5-3** • 5-2 Use Properties to Multiply by One-Digit Numbers—pp. 90–91 (TE Develop Concepts: Using Properties to Make Multiplication Simpler) • 5-3 Use Area Models to Multiply by One-Digit Numbers—pp. 92–93 (TE Develop Concepts: Arrays: split rectangle for a simpler calculation) **Chapter 6: 6-1, 6-3 & 6-5** • 6-1 Use Area Models to Multiply by Two-Digit Numbers—pp. 108–109 (Use area models to multiply by two-digit numbers; Break apart the rectangle for simpler products and sums to calculate) • 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 (TE Guided Practice: simpler partial products) • 6-5 Multiplication Patterns—pp. 118–119 (TE Develop Concepts: Break Down Factors) **Chapter 8: 8-3** • 8-3 Two-Digit Quotients—pp. 152–153 (Using the Student Pages: focus on simpler division equation) **Chapter 13: 13-4** • 13-4 Decimals Greater than One—pp. 278–279 (Using the Student Pages: simpler example) **Chapter 16: 16-6** • 16-6 Problem Solving: Use a Diagram—pp. 362–363 (Using the Student Pages: diagrams as simpler representations of an object or situation)
Students use strategies, skills, and concepts in finding and communicating solutions to problems.	
MA.4.7.3 Apply strategies and results from simpler problems to solve more complex problems. Example: In the first example, use your method for cubes and rectangular solids to find what happens to other prisms and to pyramids.	**Chapter 4: 4-4** • 4-4 Estimate Products—pp. 76–77 (TE Develop Concepts: Demonstrate how estimation can help students judge the reasonableness of answers using the simpler estimated calculations.) **Chapter 5: 5-3** • 5-3 Use Area Models to Multiply by One-Digit Numbers—pp. 92–93 (TE Develop Concepts: Arrays: split rectangle for a simpler calculation) **Chapter 6: 6-1, 6-3, 6-5 & 6-6** • 6-1 Use Area Models to Multiply by Two-Digit Numbers—pp. 108–109 (Use area models to multiply by two-digit numbers; Break apart the rectangle for simpler products and sums to calculate; TE Develop Concepts: Area Models) • 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 (TE Guided Practice: simpler partial products) • 6-5 Multiplication Patterns—pp. 118–119 (TE Develop Concepts: Break Down Factors) • 6-6 Problem Solving: Write and Solve an Equation—pp. 120–121 (TE Write About It: Use this simpler exercise as a lead-in to solving the more complicated exercise.)

STANDARD 6 - PROBLEM SOLVING

4th Grade Content Standards	*Sadlier Math*, Grade 4
MA.4.7.4 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, tools, and models to solve problems, justify arguments, and make conjectures. Example: In the first example, make a table to help you explain your results to another student.	**Problem Solving Math Practices** • Model with Mathematics—p. xxiv **Chapter 3: 3-7** • 3-7 Problem Solving: Use a Model—pp. 60–61 (Solve problems by using a variety of strategies, including using a model; TE Develop Concepts: Make a Bar Graph) **Chapter 4: 4-2** • 4-2 Use Place-Value Models—pp. 70–71 (Use place-value models to illustrate and explain multiplication calculations; TE Develop Concepts: Understanding Multiplication Models) **Chapter 5: 5-3** • 5-3 Use Area Models to Multiply by One-Digit Numbers—pp. 92–93 (Multiply by one-digit numbers using area models; TE Develop Concepts: Arrays) **Chapter 6: 6-1** • 6-1 Use Area Models to Multiply by Two-Digit Numbers—pp. 108–109 (Use area models to multiply by two-digit numbers; TE Develop Concepts: Area Models) **Chapter 7: 7-4** • 7-4 Use Models to Divide—pp. 136–137 (Find whole-number quotients using models such as arrays and area models; TE Develop Concepts: Arrays as Multiplication and Division) **Chapter 8: 8-1, 8-3, 8-4, 8-7 & 8-8** • 8-1 One-Digit Quotients—pp. 148–149 (TE Develop Concepts: Modeling Division with Remainders) • 8-3 Two-Digit Quotients—pp. 152–153 (TE Develop Concepts: Model Two-Digit Quotients) • 8-4 Zeros in Quotients—pp. 154–155 (TE Develop Concepts: Divide Using Area Models) • 8-7 Multistep Problems Using Multiplication and Division—pp. 162–163 (TE Develop Concepts: Model a Multistep Problem) • 8-8 Problem Solving: Use a Model—pp. 164–165 (Solve problems by using various strategies, including using a model) **Chapter 9: 9-2** • 9-2 Factor Pairs—pp. 174–175 (Use area models to find factor pairs of whole numbers; TE Develop Concepts: Modeling Factor Pairs) **Chapter 15: 15-5 through 15-8** • 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
MA.4.7.5 Express solutions clearly and logically by using the appropriate mathematical terms and notation. Support solutions with evidence in both verbal and symbolic work. Example: In the first example, explain what happens with all the shapes that you tried.	In addition to representative instructional activities cited below, students express solutions clearly and logically with appropriate mathematical terms and notation in every lesson. Students support solutions with evidence in the **Write About It** exercises at the conclusion of every lesson. *continued*

STANDARD 6 - PROBLEM SOLVING

4th Grade Content Standards	*Sadlier Math*, Grade 4
	Problem Solving Math Practices • Explain Your Reasoning—p. xxiv **Problem Solving Strategies** • Look for a Pattern—p. xxviii • Use Logical Reasoning—p. xxix **Chapter 2: 2-1** • 2-1 Mathematical Expressions—pp. 24–25 (Represent problems using mathematical expressions; TE Develop Concepts: Representing an Unknown with a Letter) **Chapter 3: 3-6** • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58–59 (TE Develop Concepts: Representing Equations) **Chapter 4: 4-5** • 4-5 Multiply to Compare Numbers—pp. 78–79 (Interpret a multiplication equation as a comparison) **Chapter 5: 5-4** • 5-4 Multiply Three- and Four-Digit Numbers—pp. 96–97 (TE Develop Concepts: Multiply Using Expanded Form) **Chapter 6: 6-6** • 6-6 Problem Solving: Write and Solve an Equation—pp. 120–121 (Solve problems by using a variety of strategies, including writing and solving an equation; TE Develop Concepts: Translating Descriptions into Equations) **Chapter 8: 8-5 & 8-6** • 8-5 More Quotients—pp. 158–159 (TE Develop Concepts: Analyze Division Expressions) • 8-6 Order of Operations—pp. 160–161 (TE Develop Concepts: Analyze Division Expressions) **Chapter 13: 13-3 through 13-5** • 13-3 Tenths and Hundredths as Fractions and Decimals—pp. 276–277 (Use decimal notation for fractions with denominators 10 and 100) • 13-4 Decimals Greater than One—pp. 278–279 (Use decimal notation for fractions with denominators 10 and 100; TE Develop Concepts: Mixed Numbers and Decimal Notation) • 13-5 Decimal Place Value—pp. 280–281 (Expanded notation; TE Develop Concepts: Expand the Place-Value Chart) **Chapter 15: 15-9** • 15-9 Problem Solving: Use Logical Reasoning— pp. 342–343
MA.4.7.6 Recognize the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy. Example: You are telling a friend the time of a TV program. How accurate should you be: to the nearest day, hour, minute, or second?	**Chapter 1: 1-5** • 1-5 Round Whole Numbers—pp. 12–13 (TE English Language Learners: value of estimate before calculating exact answer) **Chapter 2: 2-3** • 2-3 Estimate Sums—pp. 28–29 (TE English Language Learners: value of estimate in checking reasonableness of an answer) **Chapter 3: 3-1, Before Leaving the Chapter** • 3-1 Estimate Differences—pp. 46–47 (TE Using the Student Pages: estimate differences to get approximate answer when an exact answer is not needed) *continued*

STANDARD 6 - PROBLEM SOLVING

4th Grade Content Standards	*Sadlier Math*, Grade 4
	• Before Leaving the Chapter—TE p. 66A (Sometimes you do not need an exact answer, and it is easier to estimate.) **Chapter 4: 4-4** • 4-4 Estimate Products—pp. 76–77 (TE Using the Student Pages: estimate to find an answer that is close enough for a certain purpose in context.) **Chapter 7: 7-3** • 7-3 Estimate Quotients—pp. 132–133 (TE Using the Student Pages: use estimation in division problems when an exact answer is not needed,)
MA.4.7.7 Know and use appropriate methods for estimating results of whole-number computations. Example: You buy 2 CDs for $15.95 each. The cashier tells you that will be $49.90. Does that surprise you?	**Chapter 1: 1-5** • 1-5 Round Whole Numbers—pp. 12–13 **Chapter 2: 2-3** • 2-3 Estimate Sums—pp. 28–29 **Chapter 3: 3-1 & 3-3** • 3-1 Estimate Differences—pp. 46–47 (Use estimation strategies to solve subtraction problems) • 3-3 Subtract with Two Regroupings—pp. 50–51 (Subtract multi-digit whole numbers with two regroupings; estimate difference) **Chapter 4: 4-4** • 4-4 Estimate Products—pp. 76–77 **Chapter 6: 6-3 & 6-4** • 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 (Use rounding to estimate) • 6-4 Multiply by Two-Digit Numbers: Regrouping—pp. 116–117 (Use rounding to estimate) **Chapter 7: 7-3** • 7-3 Estimate Quotients—pp. 132–133 (Use estimation strategies to find and assess the solutions for division problems; TE Develop Concepts: Estimating Quotients)
MA.4.7.8 Make precise calculations and check the validity of the results in the context of the problem. Example: The buses you use for a school trip hold 55 people each. How many buses will you need to seat 180 people?	**Problem Solving Strategies** • Be Precise—p. xxvii **Chapter 2: 2-3** • 2-3 Estimate Sums—pp. 28–29 (Estimate to check an exact answer) **Chapter 3: 3-1 &, 3-5** • 3-1 Estimate Differences—pp. 46–47 (Estimate to check an exact answer) • 3-5 Zeros in Subtraction—pp. 56–57 (Check answer by adding) **Chapter 4: 4-4** • 4-4 Estimate Products—pp. 76–77 (Estimate to check an exact answer) **Chapter 7: 7-3** • 7-3 Estimate Quotients—pp. 132–133 (Estimate to check an exact answer)

STANDARD 6 - PROBLEM SOLVING

4th Grade Content Standards	*Sadlier Math*, Grade 4
Students determine when a solution is complete and reasonable and move beyond a particular problem by generalizing to other situations.	
MA.4.7.9 Decide whether a solution is reasonable in the context of the original situation. Example: In the last example, would an answer of 3.27 surprise you?	**Chapter 2: 2-3 through 2-5** • 2-3 Estimate Sums—pp. 28–29 (Is her estimate reasonable?) • 2-4 Add Thousands—pp. 30–31 (Write About It: Is Matthew's answer reasonable?) • 2-5 Add Millions—pp. 34–35 (Homework Write About It: Could his estimate be reasonable?) **Chapter 3: 3-1, 3-3 & 3-6** • 3-1 Estimate Differences—pp. 46–47 (TE Summarize: Check reasonableness of exact calculations) • 3-3 Subtract with Two Regroupings—pp. 50–51 (The answer is reasonable) • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58–59 (The answer is reasonable) **Chapter 4: 4-4** • 4-4 Estimate Products—pp. 76–77 (TE Use the Student Pages: Judge reasonableness of an exact answer; TE Develop Concepts: Estimate to Evaluate Answers) **Chapter 6: 6-3 & 6-4** • 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 (The answer is reasonable) • 6-4 Multiply by Two-Digit Numbers: Regrouping—pp. 116–117 (The answer is reasonable) **Chapter 7: 7-3** • 7-3 Estimate Quotients—pp. 132–133 (Homework Write About It: Is answer reasonable?) **Chapter 10: 10-12** • 10-12 Problem Solving: Four-Step Process—pp. 216–217 (Write About It: Is the answer is reasonable?)
MA.4.7.10 Note the method of finding the solution and show a conceptual understanding of the method by solving similar problems. Example: Change the first example so that you look at shapes with curved surfaces.	Students extend their understanding of how to solve one type of problem to solving similar problems in many lessons. For example: **Chapter 2: 2-1, 2-6 & 2-7** • 2-1 Mathematical Expressions—pp. 24–25 (TE Early Finishers: solving similar problems) • 2-6 Three or More Addends—pp. 36–37 (TE Develop Concepts: of adding three or more numbers is very similar to adding two numbers) • 2-7 Problem Solving: Make an Organized List—pp. 38–39 (TE Guided Practice: first problem is similar to example) **Chapter 4: 4-3** • 4-3 Multiply Tens, Hundreds, and Thousands—pp. 74–75 (TE Summarize: When you multiply a single digit by tens or hundreds, you can find the result by multiplying the nonzero digits and then writing 1 or 2 zeros on the end. A similar rule works for thousands.)