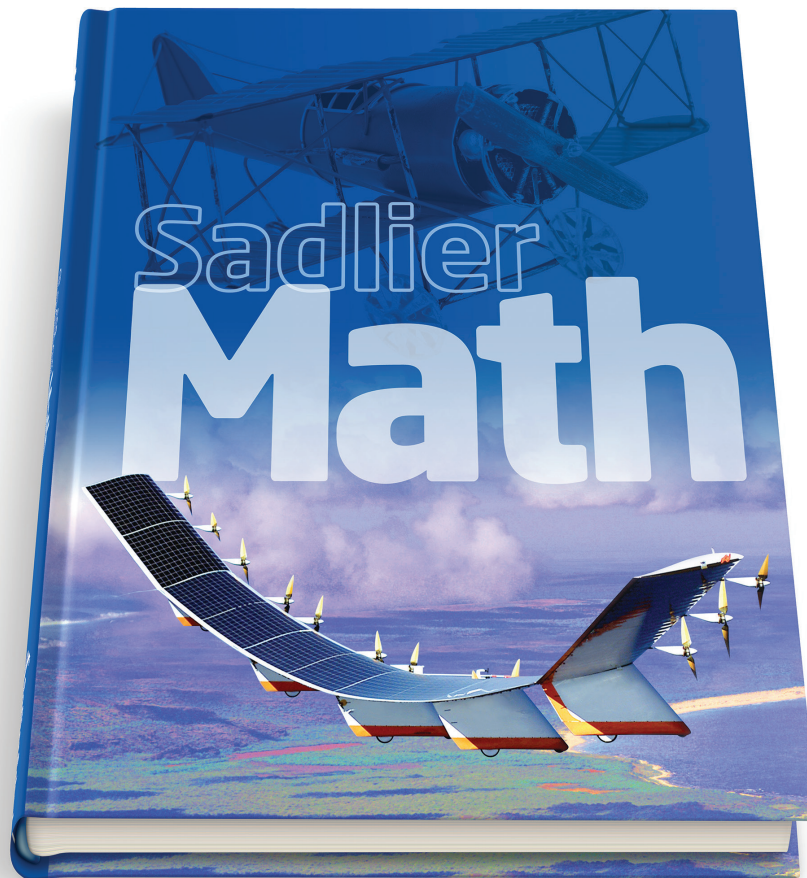


Sadlier Math™

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

Grade 5



Learn more at www.SadlierSchool.com/SadlierMath

STANDARD 1 – NUMBER SENSE	
5 th Grade Content Standards	Sadlier Math, Grade 5
<p><i>Students compute with whole numbers*, decimals, and fractions and understand the relationship among decimals, fractions, and percents. They understand the relative magnitudes of numbers. They understand prime* and composite* numbers.</i></p>	
<p>MA.5.1.1 Convert between numbers in words and numbers in figures, for numbers up to millions and decimals to thousandths.</p> <p>Example: Write the number 198.536 in words.</p>	<p>Chapter 1: 1-1</p> <ul style="list-style-type: none"> 1-1 Place Value to Billions—pp. 2-3 (Understand place value through billions; TE Develop Concepts: Use the Place-Value Chart to Build a Number) <p>Chapter 2: 2-1</p> <ul style="list-style-type: none"> 2-1 Thousandths—pp. 24-25 (Read and write decimals to thousandths using standard form and word form; TE Develop Concepts: Compare Numbers)
<p>MA.5.1.2 Round whole numbers and decimals to any place value.</p> <p>Example: Example: Is 7,683,559 closer to 7,600,000 or 7,700,000? Explain your answer.</p>	<p>Chapter 2: 2-4</p> <ul style="list-style-type: none"> 2-4 Round Decimals—pp. 32-33 (Use place value to round decimal numbers; TE Develop Concepts: Compare Numbers) <p>See also Grade 4</p> <p>Chapter 1: 1-5</p> <ul style="list-style-type: none"> 1-5 Round Whole Numbers—pp. 12-13 (Use place value to round numbers to any place; TE Develop Concepts: Navigating the Number Line)
<p>MA.5.1.3 Arrange in numerical order and compare whole numbers or decimals to two decimal places by using the symbols for less than (<), equals (=), and greater than (>).</p> <p>Example: Write from smallest to largest: 0.5, 0.26, 0.08.</p>	<p>Chapter 2: 2-3</p> <ul style="list-style-type: none"> 2-3 Compare and Order Decimals—pp. 30-31 (Compare and order decimals using symbols to record the comparison; TE Develop Concepts: Compare Numbers) <p>See also Grade 4</p> <p>Chapter 1: 1-6</p> <ul style="list-style-type: none"> 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)
<p>MA.5.1.4 Interpret percents as a part of a hundred. Find decimal and percent equivalents for common fractions and explain why they represent the same value.</p> <p>Example: Shade a 100-square grid to show 30%. What fraction is this?</p>	<p>See Grade 6</p> <p>Chapter 11: 11-1 through 11-6</p> <ul style="list-style-type: none"> 11-1 Percent—pp. 254-255 (Use models, fractions, and decimals to express percents; TE Develop Concepts: Translating Between Fractions and Decimals) 11-2 Relate Percents to Fractions—pp. 256-257 (Rename percents and fractions; TE Develop Concepts: Race to Equate) 11-3 Relate Percents to Decimals—pp. 258-259 (Rename a percent as a decimal and a decimal as a percent; TE Develop Concepts: Marking Benchmarks) 11-4 Relate Decimals, Fractions, and Percents—pp. 260-261 (Connect decimals, fractions, and percents; TE Develop Concepts: Repeat or Terminate?) 11-5 Percents Greater Than 100%—pp. 262-263 (Rename percents greater than 100%; TE Develop Concepts: Equivalent Numbers, Different Ways (improper fractions)) 11-6 Percents Less Than 1%—pp. 264-265 (Rename percents less than 1%; TE Develop Concepts: Patterns in Division)

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STANDARD 1 – NUMBER SENSE	
5 th Grade Content Standards	Sadlier Math, Grade 5
<p>MA.5.1.5 Explain different interpretations of fractions: as parts of a whole, parts of a set, and division of whole numbers by whole numbers.</p> <p>Example: What fraction of a pizza will each person get when 3 pizzas are divided equally among 5 people?</p>	<p>See Grade 4</p> <p>Chapter 10: 10-1</p> <ul style="list-style-type: none"> 10-1 Fractions of a Set—pp. 192–193 (Find a fraction of a set; TE Develop Concepts: A Fraction of a Set) <p>Chapter 12: 12-5</p> <ul style="list-style-type: none"> 12-5 Multiply a Fraction and a Whole Number—pp. 260–261 (TE Independent Practice: The fraction bar also means to divide.) <p>See also Grade 3</p> <p>Chapter 9: 9-2</p> <ul style="list-style-type: none"> 9-2 Name Unit Fractions of a Whole—pp. 190–191 (Understand a unit fraction as the quantity formed by 1 part when a whole is partitioned into equal parts; TE Use the Student Pages: The line that separates the top part of a fraction from the bottom part of a fraction is called the fraction bar. The number under the fraction bar tells how many parts the whole has been divided into; Develop Concepts: How Many Equal Parts?)
<p>MA.5.1.6 Describe and identify prime and composite numbers.</p> <p>Example: Which of the following numbers are prime: 3, 7, 12, 17, or 18? Justify your choices.</p>	<p>Chapter 5: 5-1</p> <ul style="list-style-type: none"> 5-1 Factors, Primes and Composite Numbers—pp. 98–99 (Find the prime factorization of a number; TE Develop Concepts: Use Counters to Explore Prime and Composite Numbers)
<p>MA.5.1.7 Identify on a number line the relative position of simple positive fractions, positive mixed numbers, and positive decimals.</p> <p>Example: Find the positions on a number line of $1\frac{1}{4}$ and 1.4.</p>	<p>Chapter 2: 2-4</p> <ul style="list-style-type: none"> 2-4 Round Decimals—pp. 32–33 (positive decimals on a number line) <p>Chapter 5: 5-3, 5-6 & 5-7</p> <ul style="list-style-type: none"> 5-3 Estimation and Equivalent Fractions—pp. 102–103 (positive fractions on a number line) 5-6 Fractions Greater Than or Equal to One—pp. 110–111 (positive fractions and mixed numbers on a number line) 5-7 Compare and Order Fractions and Mixed Numbers—pp. 112–113 (Compare and order fractions and mixed numbers; number line) <p>Chapter 6: 6-3 & 6-5</p> <ul style="list-style-type: none"> 6-3 Fraction Addition: Estimation and Reasonableness—pp. 126–127 (positive fractions on a number line) 6-5 Problem Solving: Use a Model—pp. 132–133 (positive fractions on number lines) <p>Chapter 7: 7-3</p> <ul style="list-style-type: none"> 7-3 Subtract Fractions: Estimation and Reasonableness—pp. 146–147 (positive fractions on a number line) <p>Chapter 8: 8-2</p> <ul style="list-style-type: none"> 8-2 Multiply Fractions by Fractions—pp. 170–171 (TE Develop Concepts: Measure a Fraction of a Fraction, number lines) <p>Chapter 9: 9-2</p> <ul style="list-style-type: none"> 9-2 Reciprocals—pp. 200–201 (positive fractions and mixed numbers on a number line) <p>Chapter 10: 10-4</p> <ul style="list-style-type: none"> 10-4 Problem Solving: Draw a Picture—pp. 228–229 (positive decimals on a number line) <p style="text-align: right;"><i>continued</i></p>

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STANDARD 1 – NUMBER SENSE

5th Grade Content Standards

Sadlier Math, Grade 5

Chapter 11: 11-2 & 11-3

- 11-2 Estimate Decimal Differences—pp. 244-245 (positive decimals on a number line)
- 11-3 Subtract Decimals: Hundredths—pp. 248-249 (positive decimals on a number line)

STANDARD 2 – COMPUTATION

5th Grade Content Standards

Sadlier Math, Grade 5

Students solve problems involving multiplication and division of whole numbers and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.

MA.5.2.1 Solve problems involving multiplication and division of any whole numbers.

Example: $2,867 \times 34 = ?$. Explain your method.

Chapter 3: 3-3 through 3-8

- 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: 4-2 through 4-9

- 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

MA.5.2.2 Add and subtract fractions (including mixed numbers) with different denominators.

Example: $3 \frac{4}{5} - 2 \frac{2}{3} = ?$.

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, 7-2, 7-4, 7-6 through 7-8

- 7-1 Model Subtraction of Fractions with Unlike Denominators—pp. 142-143
- 7-2 Subtract Fractions: Unlike Denominators—pp. 144-145
- 7-4 Model Subtraction with Mixed Numbers—pp. 150-151
- 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

STANDARD 2 – COMPUTATION

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>MA.5.2.3 Use models to show an understanding of multiplication and division of fractions.</p> <p>Example: Draw a rectangle 5 squares wide and 3 squares high. Shade $\frac{2}{3}$ of the rectangle, starting from the left. Shade $\frac{2}{3}$ of the rectangle, starting from the top. Look at the fraction of the squares that you have double-shaded and use that to show how to multiply 4 5 by $\frac{2}{3}$.</p>	<p>Chapter 8: 8-1</p> <ul style="list-style-type: none"> 8-1 Model Multiplying Fractions—pp. 168–169 (Use models to multiply a whole number or fraction by a fraction) <p>Chapter 9: 9-1</p> <ul style="list-style-type: none"> 9-1 Divide Whole Numbers by Unit Fractions—pp. 198–199 (Divide whole numbers by unit fractions; use fraction models)
<p>MA.5.2.4 Multiply and divide fractions to solve problems.</p> <p>Example: You have $3\frac{1}{2}$ pizzas left over from a party. How many people can have $\frac{1}{4}$ of a pizza each?</p>	<p>Chapter 8: 8-2 through 8-11</p> <ul style="list-style-type: none"> 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 <p>Chapter 9: 9-2 through 9-7</p> <ul style="list-style-type: none"> 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
<p>MA.5.2.5 Add and subtract decimals and verify the reasonableness of the results.</p> <p>Example: Compute $39.46 - 20.89$ and check the answer by estimating.</p>	<p>Chapter 10: 10-1 through 10-7</p> <ul style="list-style-type: none"> 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 <p>Chapter 11: 11-1 through 11-6</p> <ul style="list-style-type: none"> 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

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STANDARD 2 – COMPUTATION

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>MA.5.2.6 Use estimation to decide whether answers are reasonable in addition, subtraction, multiplication, and division problems.</p> <p>Example: Your friend says that $2,867 \times 34 = 20,069$. Without solving, explain why you think the answer is wrong.</p>	<p>Chapter 1: 1-6</p> <ul style="list-style-type: none"> 1-6 Estimate Sums and Differences—pp. 14–15 <p>Chapter 3: 3-3</p> <ul style="list-style-type: none"> 3-3 Estimate Products—pp. 48–49 <p>Chapter 4: 4-2</p> <ul style="list-style-type: none"> 4-2 Estimation: Compatible Numbers—pp. 70–71 <p>Chapter 6: 6-3</p> <ul style="list-style-type: none"> 6-3 Fraction Addition: Estimation and Reasonableness—pp. 126–127 <p>Chapter 7: 7-3 & 7-5</p> <ul style="list-style-type: none"> 7-3 Subtract Fractions: Estimation and Reasonableness—pp. 146–147 7-5 Estimate Sums and Differences of Mixed Numbers—pp. 152–153 <p>Chapter 8: 8-7</p> <ul style="list-style-type: none"> 8-7 Estimate Products with Mixed Numbers—pp. 182–183 <p>Chapter 10: 10-3 & 10-6</p> <ul style="list-style-type: none"> 10-3 Estimate Decimal Sums—pp. 224–225 10-6 Add Decimals: Thousandths—pp. 232–233 (Reasonableness) <p>Chapter 11: 11-2</p> <ul style="list-style-type: none"> 11-2 Estimate Decimal Differences—pp. 244–245 <p>Chapter 12: 12-3</p> <ul style="list-style-type: none"> 12-3 Estimate Decimal Products—pp. 266–267 <p>Chapter 13: 13-3 & 13-4</p> <ul style="list-style-type: none"> 13-3 Estimate Decimal Quotients—pp. 292–293 13-4 Estimate with Money—pp. 294–295
<p>MA.5.2.7 Use mental arithmetic to add or subtract simple decimals.</p> <p>Example: Add 0.006 to 0.027 without using pencil and paper.</p>	<p>Chapter 10: 10-2 & 10-7</p> <ul style="list-style-type: none"> 10-2 Use Properties to Add Decimals—pp. 222–223 (TE Develop Concepts: Regrouping to Add: using mental math strategies to add decimals) 10-7 Addition with Money—pp. 234–235 (Add mentally; TE Mental Math) <p>Chapter 11: 11-1, 11-4, & 11-6</p> <ul style="list-style-type: none"> 11-1 Use Models to Subtract Decimals—pp. 242–243 (TE Mental Math) 11-4 Subtract Decimals: Thousandths—pp. 250–251 (TE Mental Math) 11-6 Problem Solving: Use a Model—pp. 254–255 (TE Mental Math) <p>Chapter 14: 14-8</p> <ul style="list-style-type: none"> 14-8 Compute with Metric Units—pp. 332–333 (TE Mental Math)
<p>MA.5.2.8 Multiple and divide decimals.</p> <p>Example: Example: $.6 \times .7 =$</p>	<p>Chapter 12: 12-1 through 12-9</p> <ul style="list-style-type: none"> 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 <p style="text-align: right;"><i>continued</i></p>

STANDARD 2 – COMPUTATION

5 th Grade Content Standards	<i>Sadlier Math, Grade 5</i>
	<p>Chapter 13: 13-1 through 13-10</p> <ul style="list-style-type: none"> • 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

STANDARD 3 – ALGEBRA AND FUNCTIONS

5 th Grade Content Standards	<i>Sadlier Math, Grade 5</i>
<p><i>Students use variables in simple expressions, compute the value of an expression for specific values of the variable, and plot and interpret the results. They use two-dimensional coordinate grids to represent points and graph lines.</i></p>	
<p>MA.5.3.1 Use a variable to represent an unknown number.</p> <p>Example: When a certain number is multiplied by 3 and then 5 are added, the result is 29. Let x stand for the unknown number and write an equation for the relationship.</p>	<p>Chapter 4: 4-11</p> <ul style="list-style-type: none"> • 4-11 Expressions—pp. 90-91 (Write, evaluate, and compare numerical expressions; TE Develop Concepts: Model Grouping Symbols)
<p>MA.5.3.2 Write simple algebraic expressions in one or two variables and evaluate them by substitution.</p> <p>Example: Find the value of $5x + 2$ when $x = 3$.</p>	<p>Chapter 4: 4-11</p> <ul style="list-style-type: none"> • 4-11 Expressions—pp. 90-91 (Write, evaluate, and compare numerical expressions; TE Develop Concepts: Model Grouping Symbols)
<p>MA.5.3.3 Use the distributive property* in numerical equations and expressions.</p> <p>Example: Explain how you know that $3(16 - 11) = 3 \times 16 - 3 \times 11$.</p>	<p>Chapter 3: 3-1, 3-4 & 3-7</p> <ul style="list-style-type: none"> • 3-1 Multiplication Properties—pp. 44-45 (Use multiplication properties to compare and evaluate expressions, Distributive Property) • 3-4 Zeros in the Multiplicand—pp. 50-51 (TE Develop Concepts: Multiply Using the Distributive Property) • 3-7 Multiply by Three-Digit Numbers—pp. 58-59 (TE Develop Concepts: Distributive Property) <p style="text-align: right;"><i>continued</i></p>

STANDARD 3 – ALGEBRA AND FUNCTIONS

5 th Grade Content Standards	Sadlier Math, Grade 5
	<p>Chapter 8: 8-4</p> <ul style="list-style-type: none"> 8-4 Scaling Fractions—pp. 174-175 (TE Develop Concepts: Rewrite a Fraction to Use the Distributive Property) <p>Chapter 12: 12-2</p> <ul style="list-style-type: none"> 12-2 Use Properties to Multiply a Decimal by a Whole Number—pp. 264-265 (Use properties of multiplication to multiply a decimal by a whole number; TE Develop Concepts: The Distributive Property)
<p>MA.5.3.4 Create, describe, and extend number patterns using addition and subtraction.</p> <p>Example: What is the next number: 23, 21, 19, 17, ...? How did you find your answer?</p>	<p>Chapter 1: 1-1 & 1-3</p> <ul style="list-style-type: none"> 1-1 Place Value to Billions—pp. 2-3 (TE Develop Concepts: Use the Place-Value Chart to Build a Number; patterns) 1-3 Powers of 10—pp. 8-9 (Patterns) <p>Chapter 17: 17-5 through 17-7</p> <ul style="list-style-type: none"> 17-5 Write Number Patterns—pp. 390-391 (Use pattern rules to generate patterns; find rules for given patterns; TE Develop Concepts: Displaying Patterns) 17-6 Graph Number Patterns—pp. 392-393 (Graph ordered pairs from number patterns; Identify relationships between corresponding terms of two patterns; TE Develop Concepts: Use Tables to Solve Problems) 17-7 Problem Solving: Find and Use a Pattern—pp. 394-395 (Find and use patterns to analyze information while solving problems; TE Develop Concepts: Using Tables with Patterns) <p>See also Grade 4</p> <p>Chapter 7: 7-5</p> <ul style="list-style-type: none"> 7-5 Number Patterns—pp. 138-139 (Make a number pattern, and find features of patterns; TE Develop Concepts: Patterns and Relationships) <p>Chapter 13: 13-8</p> <ul style="list-style-type: none"> 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) <p>See also Grade 3</p> <p>Chapter 2: 2-2</p> <ul style="list-style-type: none"> 2-2 Explore Addition Patterns—pp. 24-25 (Find addition patterns in an addition table; TE Develop Concepts: Explore the Addition Table)
<p>MA.5.3.5 Find ordered pairs (positive numbers only) that fit a linear equation, graph the ordered pairs, and draw the line they determine.</p> <p>Example: For $x = 1, 2, 3,$ and $4,$ find points that fit the equation $y = x + 1.$ Plot those points on graph paper and join them with a straight line.</p>	<p>Chapter 17: 17-3, 17-6 & 17-7</p> <ul style="list-style-type: none"> 17-3 The Coordinate Plane—pp. 386-387 (Plot and name ordered pairs on the coordinate plane; TE Develop Concepts: Two Kinds of Tables) 17-6 Graph Number Patterns—pp. 392-393 (Graph ordered pairs from number patterns; Identify relationships between corresponding terms of two patterns; TE Develop Concepts: Use Tables to Solve Problems) 17-7 Problem Solving: Find and Use a Pattern—pp. 394-395 (Find and use patterns to analyze information while solving problems; TE Develop Concepts: Using Tables with Patterns)

STANDARD 3 – ALGEBRA AND FUNCTIONS

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>MA.5.3.6 Understand that the length of a horizontal line segment on a coordinate plane equals the difference between the x-coordinates and that the length of a vertical line segment on a coordinate plane equals the difference between the y-coordinates.</p> <p>Example: Find the distance between the points (2, 5) and (7, 5) and the distance between the points (2, 1) and (2, 5).</p>	<p>Chapter 17: 17-4</p> <ul style="list-style-type: none"> 17-4 Using Coordinate Graphs—pp. 388–389 (Interpret coordinate graphs; TE Develop Concepts: Using Tables to Graph)
<p>MA.5.3.7 Use information taken from a graph or equation to answer questions about a problem situation.</p> <p>Example: The speed (v feet per second) of a car t seconds after it starts is given by the formula $v = 12t$. Find the car’s speed after 5 seconds.</p>	<p>Chapter 17: 17-1 & 17-2</p> <ul style="list-style-type: none"> 17-1 Line Plots with Whole Numbers and Decimals—pp. 380–381 (Make and use line plots with whole numbers and decimals; TE Develop Concepts: Organizing Data) 17-2 Line Plots with Fractions and Mixed Numbers—pp. 382–383 (Make and use line plots with fractions and mixed numbers; TE Develop Concepts: Desk Shuffleboard—collect data using fractions and mixed numbers)

STANDARD 4 – GEOMETRY

5 th Grade Content Standards	Sadlier Math, Grade 5
<p><i>Students identify, describe, and classify the properties of plane and solid geometric shapes and the relationships between them.</i></p>	
<p>MA.5.4.1 Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, triangles, and circles by using appropriate tools (e.g., ruler, compass, protractor, appropriate technology, media tools).</p> <p>Example: Draw a rectangle with sides 5 inches and 3 inches.</p>	<p>See Grade 4</p> <p>Chapter 16: 16-1 through 16-3</p> <ul style="list-style-type: none"> 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)

STANDARD 4 – GEOMETRY

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>MA.5.4.2 Identify, describe, draw, and classify triangles as equilateral*, isosceles*, scalene*, right*, acute*, obtuse*, and equiangular*.</p> <p>Example: Draw an isosceles right triangle.</p>	<p>Chapter 15: 15-2</p> <ul style="list-style-type: none"> 15-2 Triangles—pp. 344–345 (Understand and use attributes of triangles; TE Develop Concepts: Classifying Angles)
<p>MA.5.4.3 Identify congruent* triangles and justify your decisions by referring to sides and angles.</p> <p>Example: In a collection of triangles, pick out those that are the same shape and size and explain your decisions.</p>	<p>Related content</p> <p>Chapter 15: 15-1</p> <ul style="list-style-type: none"> 15-1 Polygons—pp. 342–343 (TE Guided Practice: definition of rhombus: parallelogram with 4 congruent sides)
<p>MA.5.4.4 Identify, describe, draw, and classify polygons*, such as pentagons and hexagons.</p> <p>Example: In a collection of polygons, pick out those with the same number of sides.</p>	<p>Chapter 15: 15-1 through 15-4</p> <ul style="list-style-type: none"> 15-1 Polygons—pp. 342–343 (Understand and use attributes of polygons; TE Develop Concepts: Geometric Definitions) 15-2 Triangles—pp. 344–345 (Understand and use attributes of triangles; TE Develop Concepts: Classifying Angles) 15-3 Quadrilaterals—pp. 348–349 (Understand and use attributes of quadrilaterals: trapezoid, parallelogram, rhombus, rectangle, square; TE Develop Concepts: Draw Four-Sided Polygons) 15-4 Classify Quadrilaterals—pp. 350–351 (Classify quadrilaterals in a hierarchy based on their properties; Venn diagram, trapezoid, parallelogram, rhombus, rectangle, square; TE Develop Concepts: Using a Tangram)
<p>MA.5.4.5 Identify and draw the radius and diameter of a circle and understand the relationship between the radius and diameter.</p> <p>Example: On a circle, draw a radius and a diameter and describe the differences and similarities between the two.</p>	<p>See Grade 6</p> <p>Chapter 14: 14-4</p> <ul style="list-style-type: none"> 14-4 Circumferences and Areas of Circles—pp. 324–325 (Find the circumference and area of a circle; TE Develop Concepts: Investigate Pi)
<p>MA.5.4.6 Identify shapes that have reflectional and rotational symmetry*.</p> <p>Example: What kinds of symmetries have the letters M, N, and O?</p>	<p>See Grade 6</p> <p>Chapter 9: 9-8</p> <ul style="list-style-type: none"> 9-8 Reflections of Points—pp. 212–213 (Use signs of coordinates to recognize when points are reflections across one or both axes; TE Develop Concepts: Symmetry)
<p>MA.5.4.7 Understand that 90°, 180°, 270°, and 360° are associated with quarter, half, three-quarters, and full turns, respectively.</p> <p>Example: Face the front of the room. Turn through four right angles. Which way are you now facing?</p>	<p>See Grade 4</p> <p>Chapter 16: 16-2 & 16-3</p> <ul style="list-style-type: none"> 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)

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STANDARD 4 – GEOMETRY

5 th Grade Content Standards	<i>Sadlier Math, Grade 5</i>
<p>MA.5.4.8 Construct prisms* and pyramids using appropriate materials.</p> <p>Example: Make a square-based pyramid from construction paper.</p>	<p>Chapter 15: 15-1</p> <ul style="list-style-type: none"> 15-1 Nets of Three-Dimensional Figures—pp. 338–339 (Use nets to represent three-dimensional figures; TE Develop Concepts: Relate Two-Dimensional and Three-Dimensional Figures)
<p>MA.5.4.9 Given a picture of a three-dimensional object, build the object with blocks.</p> <p>Example: Given a picture of a house made of cubes and rectangular prisms, build the house.</p>	<p>Related content</p> <p>Chapter 16: 16-1</p> <ul style="list-style-type: none"> 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

5 th Grade Content Standards	<i>Sadlier Math, Grade 5</i>
<p><i>Students understand and compute the areas and volumes of simple objects, as well as measuring weight, temperature, time, and money.</i></p>	
<p>MA.5.5.1 Understand and apply the formulas for the area of a triangle and parallelogram.</p> <p>Example: Find the area of a triangle with base 4 m and height 5 m.</p>	<p>See Grade 3</p> <p>Chapter 15: 15-1 through 15-6</p> <ul style="list-style-type: none"> 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) 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 nonoverlapping rectangles; TE Develop Concepts: Decompose Shapes into Rectangles and Squares) 15-6 Problem Solving: Guess and Test—pp. 324–325 (Solve problems by using guess and test; TE Develop Concepts: Discuss the Problem-Solving Plan)
<p>MA.5.5.2 Solve problems involving perimeters and areas of rectangles, triangles, parallelograms, and trapezoids, using appropriate units.</p> <p style="text-align: right;"><i>continued</i></p>	<p>See Grade 3</p> <p>Chapter 16: 16-1 through 16-6</p> <ul style="list-style-type: none"> 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) <p style="text-align: right;"><i>continued</i></p>

STANDARD 5 – MEASUREMENT

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>Example: A trapezoidal garden bed has parallel sides of lengths 14 m and 11 m and its width is 6 m. Find its area and the length of fencing needed to enclose it. Be sure to use correct units.</p>	<ul style="list-style-type: none"> • 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) • 16-4 Problem Solving: Compare Strategies—pp. 340–341 (Solve problems in two ways by using different strategies and comparing them; TE Develop Concepts: Analyze Strategies) • 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)
<p>MA.5.5.3 Use formulas for the areas of rectangles and triangles to find the area of complex shapes by dividing them into basic shapes.</p> <p>Example: A square room of length 17 feet has a tiled fireplace area that is 6 feet long and 4 feet wide. You want to carpet the floor of the room, except the fireplace area. Find the area to be carpeted.</p>	<p>See Grade 3</p> <p>Chapter 15: 15-5</p> <ul style="list-style-type: none"> • 15-5 Find Area of Composite Shapes—pp. 322–323 (Find the area of a composite shape by decomposition into nonoverlapping rectangles; TE Develop Concepts: Decompose Shapes into Rectangles and Squares)
<p>MA.5.5.4 Find the surface area and volume of rectangular solids using appropriate units.</p> <p>Example: Find the volume of a shoe box with length 30 cm, width 15 cm, and height 10 cm.</p>	<p>See Grade 6</p> <p>Chapter 15: 15-1 through 15-6</p> <ul style="list-style-type: none"> • 15-1 Nets of Three-Dimensional Figures—pp. 338–339 (Use nets to represent three-dimensional figures; TE Develop Concepts: Relate Two-Dimensional and Three-Dimensional Figures) • 15-2 Use Nets to Find Surface Areas of Prisms—pp. 340–341 (Find the surface area of a prism; TE Develop Concepts: Relate Areas of Rectangles and Triangles to Surface Areas of Prisms) • 15-3 Use Nets to Find Surface Areas of Pyramids—pp. 342–343 (Find the surface area of a pyramid; TE Develop Concepts: Relate Areas of Squares and Triangles to Surface Areas of Pyramids) • 15-4 Use Cubes to Find Volumes—pp. 346–347 (Use cubes to find the volume of a rectangular prism; TE Develop Concepts: Model Fractional Edge Lengths) • 15-5 Volumes of Right Rectangular Prisms—pp. 348–349 (Use formulas to find the volume of a rectangular prism; TE Develop Concepts: Explore Volumes of Prisms) • 15-6 Problem Solving: Compare Models—pp. 350–351 (Compare strategies to solve problems; Relate the mass of an object to its volume; TE Develop Concepts: Different Models)

STANDARD 5 – MEASUREMENT

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>MA.5.5.5 Understand and use the smaller and larger units for measuring weight (ounce, gram, and ton) and their relationship to pounds and kilograms.</p> <p>Example: How many ounces are in a pound?</p>	<p>Chapter 14: 14-3, 14-4, 14-7 & 14-8</p> <ul style="list-style-type: none"> 14-3 Relate Customary Units of Weight—pp. 320-321 (Convert customary units of weight; TE Develop Concepts: Compare Weights) 14-4 Compute with Customary Units—pp. 322-323 (Use computation skills to solve problems involving customary units; TE Develop Concepts: Equivalent Units) 14-7 Relate Metric Units of Mass—pp. 330-331 (Convert metric units of mass; TE Develop Concepts: 100,000 Gram Challenge) 14-8 Compute with Metric Units—pp. 332-333 (Use computation skills to solve problems involving metric units; TE Develop Concepts: Renaming and Computing Numbers)
<p>MA.5.5.6 Compare temperatures in Celsius and Fahrenheit, knowing that the freezing point of water is 0°C and 32°F and that the boiling point is 100°C and 212°F.</p> <p>Example: What is the Fahrenheit equivalent of 50°C? Explain your answer.</p>	<p>See Grade 4</p> <p>Chapter 15: 15-4</p> <ul style="list-style-type: none"> 15-4 Temperature—pp. 330-331 (Solve problems involving temperature; TE Develop Concepts: Scales as Measurement)
<p>MA.5.5.7 Add and subtract with money in decimal notation.</p> <p>Example: You buy articles that cost \$3.45, \$6.99, and \$7.95. How much change will you receive from \$20?</p>	<p>Chapter 10: 10-7</p> <ul style="list-style-type: none"> 10-7 Addition with Money—pp. 234-235 (Use estimation, models, and addition strategies to add amounts of money; TE Develop Concepts: Many Ways to Make \$1.00) <p>Chapter 11: 11-5</p> <ul style="list-style-type: none"> 11-5 Subtraction with Money—pp. 252-253 (Use estimation and addition strategies to subtract with money; TE Develop Concepts: Applying Estimation in the Real-World)
<p>MA.5.5.8 Determine the start, elapsed, and end times to the minute.</p>	<p>See Grade 4</p> <p>Chapter 15: 15-3</p> <ul style="list-style-type: none"> 15-3 Elapsed Time—pp. 328-329 (Solve problems involving the passage of time; TE Develop Concepts: Modeling Elapsed Time)

STANDARD 6 - DATA ANALYSIS AND PROBABILITY

5 th Grade Content Standards	Sadlier Math, Grade 5
<p><i>Students collect, display, analyze, compare, and interpret data sets. They use the results of probability experiments to predict future events.</i></p>	
<p>MA.5.6.1 Explain which types of displays are appropriate for various sets of data.</p> <p>Example: Conduct a survey to find the favorite</p> <p style="text-align: center;"><i>continued</i></p>	<p>Related content</p> <p>Chapter 17: 17-1 & 17-2</p> <ul style="list-style-type: none"> 17-1 Line Plots with Whole Numbers and Decimals—pp. 380-381 (Make and use line plots with whole numbers and decimals; TE Develop Concepts: Organizing Data) <p style="text-align: center;"><i>continued</i></p>

STANDARD 6 - DATA ANALYSIS AND PROBABILITY

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>movies of the students in your class. Decide whether to use a bar, line, or picture graph to display the data. Explain your decision.</p>	<ul style="list-style-type: none"> 17-2 Line Plots with Fractions and Mixed Numbers—pp. 382–383 (Make and use line plots with fractions and mixed numbers; TE Develop Concepts: Desk Shuffleboard—collect data using fractions and mixed numbers) <p>See also Grade 4</p> <p>Chapter 15: 15-7 & 15-8</p> <ul style="list-style-type: none"> 15-5 Line Graphs—pp. 334–335 (Solve problems using customary units of measure; TE Develop Concepts: Graphing Data) 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 (Choose an appropriate display for a set of data; TE Develop Concepts: Comparing Graphical Displays) <p>See also Grade 3</p> <p>Chapter 12: 12-1 through 12-4</p> <ul style="list-style-type: none"> 12-1 Read Picture Graphs—pp. 252–253 (Read and interpret scaled picture graphs; TE Develop Concepts: Using Cubes to Represent Objects) 12-2 Make Picture Graphs—pp. 254–255 (Make a scaled picture graph using data; TE Develop Concepts: Review the Parts of a Picture Graph) 12-3 Read Bar Graphs—pp. 256–257 (Read a scaled bar graph; TE Develop Concepts: Use a Number Line to Understand Scale) 12-4 Make Bar Graphs—pp. 258–259 (Create a scaled bar graph from data; TE Develop Concepts: Determining Scale)
<p>MA.5.6.2 Find the mean*, median*, mode*, and range* of a set of data and describe what each does and does not tell about the data set.</p> <p>Example: Find the mean, median, and mode of a set of test results and describe how well each represents the data.</p>	<p>See Grade 6</p> <p>Chapter 16: 16-2 through 16-5</p> <ul style="list-style-type: none"> 16-2 Measures of Center—pp. 360–361 (Determine measures of center and use them to summarize data sets; TE Develop Concepts: Review Decimal Division) 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363 (Determine measures of variation and use them to summarize data sets; TE Develop Concepts: Exploring Measures of Center) 16-4 Measure of Variation: Mean Absolute Deviation—pp. 366–367 (Determine mean absolute deviation; TE Develop Concepts: Making Line Plots with People) 16-5 Analyze Data—pp. 368–369 (Identify clusters, gaps, and outliers and use them to analyze data; TE Develop Concepts: Analyze Statistical Pictures)

STANDARD 6 - DATA ANALYSIS AND PROBABILITY

5 th Grade Content Standards	<i>Sadlier Math, Grade 5</i>
<p>MA.5.6.3 Understand that probability can take any value between 0 and 1, events that are not going to occur have probability 0, events certain to occur have probability 1, and more likely events have a higher probability than less likely events.</p> <p>Example: What is the probability of rolling a 7 with a number cube?</p>	N/A
<p>MA.5.6.4 Express outcomes of experimental probability situations verbally and numerically (e.g., 3 out of 4, $\frac{3}{4}$).</p> <p>Example: What is the probability of rolling an odd number with a number cube?</p>	N/A

STANDARD 7 - PROBLEM SOLVING

5 th Grade Content Standards	<i>Sadlier Math, Grade 5</i>
<p><i>Students make decisions about how to approach problems and communicate their ideas.</i></p>	
<p>MA.5.7.1 Analyze problems by identifying relationships, telling relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.</p> <p>Example: Solve the problem: “When you flip a coin 3 times, you can get 3 heads, 3 tails, 2 heads and 1 tail, or 1 head and 2 tails. Find the probability of each of these combinations.”</p> <p>Notice that the case of 3 heads and the case of 3 tails are similar. Notice that the case of 2 heads and 1 tail and the case of 1 head and 2 tails are similar.</p>	<p>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.</p> <p>In addition, each chapter includes a full Problem Solving lesson that combines application of newly learned skills with a focus on problem solving strategies.</p> <p>See the following problem solving resources:</p> <p>Problem Solving Math Practices</p> <ul style="list-style-type: none"> • Four Steps: Read and Understand, Represent the Situation, Make and Use a Plan, Look Back—p. xxii • Make Sense of Problems/Use Reasoning—p. xxiii • Explain Your Reasoning/Model with Mathematics—p. xxiv • Use the Right Tools/Be Precise—p. xxv <p style="text-align: right;"><i>continued</i></p>

STANDARD 7 - PROBLEM SOLVING

5th Grade Content Standards

Sadlier Math, Grade 5

Problem Solving Strategies

- Look for a Pattern—p. xxvi
- Use a Model—p. xxvii
- Work Backward—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: 1-4

- 1-4 Problem Solving: Use the Four-Step Process—pp. 10-11

Chapter 2: 2-5

- 2-5 Problem Solving: Read and Understand—pp. 34-35

Chapter 3: 3-6

- 3-6 Problem Solving: Guess and Test—pp. 56-57

Chapter 4: 4-9

- 4-9 Problem Solving: Work Backward—pp. 86-87

Chapter 5: 5-5

- 5-5 Problem Solving: Make an Organized List—pp. 108-109

Chapter 6: 6-5

- 6-5 Problem Solving: Use a Model—pp. 132-133

Chapter 7: 7-9

- 7-9 Problem Solving: Write and Solve an Equation—pp. 160-161

Chapter 8: 1-11

- 8-11 Problem Solving: Use Logical Reasoning—pp. 190-191

Chapter 9: 9-7

- 9-7 Problem Solving: Choose a Strategy—pp. 212-213

Chapter 10: 10-4

- 10-4 Problem Solving: Draw a Picture—pp. 228-229

Chapter 11: 11-6

- 11-6 Problem Solving: Use a Model—pp. 254-255

Chapter 12: 12-9

- 12-9 Problem Solving: Compare Strategies—pp. 280-281

Chapter 13: 13-8

- 13-8 Problem Solving: Work Backward—pp. 304-305

Chapter 14: 14-9

- 14-9 Problem Solving: Use the Four-Step Process—pp. 334-335

Chapter 15: 15-5

- 15-5 Problem Solving: Use a Model—pp. 352-353

Chapter 16: 16-6

- 16-6 Problem Solving: Act it Out—pp. 372-373

Chapter 17: 17-7

- 17-7 Problem Solving: Find and Use a Pattern—pp. 394-395

STANDARD 7 - PROBLEM SOLVING

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>MA.5.7.2 Decide when and how to break a problem into simpler parts.</p> <p>Example: In the first example, decide to look at the case of 3 heads and the case of 2 heads and 1 tail.</p>	<p>Chapter 3: 3-1, 3-4 & 3-8</p> <ul style="list-style-type: none"> 3-1 Multiplication Properties—pp. 44-45 (Use properties to rearrange factors to enable multiplying with simpler numbers, including multiples of 10.) 3-4 Zeros in the Multiplicand—pp. 50-51 (TE Develop Concepts: Multiply Using the Distributive Property: It is simpler to find the sum of the partial products than to find the actual product.) 3-8 Zeros in the Multiplier—pp. 60-61 (TE Use the Student Pages: If it seems that some students are having difficulty with this concept, use an example with simpler numbers.)
<p><i>Students use strategies, skills, and concepts in finding and communicating solutions to problems.</i></p>	
<p>MA.5.7.3 Apply strategies and results from simpler problems to solve more complex problems.</p> <p>Example: In the first example, begin with the situation where you flip the coin twice.</p>	<p>Chapter 9: 9-7</p> <ul style="list-style-type: none"> 9-7 Problem Solving: Choose a Strategy—pp. 212-213 (Solve a simpler problem.)
<p>MA.5.7.4 Express solutions clearly and logically by using the appropriate mathematical terms and notation. Support solutions with evidence in both verbal and symbolic work.</p> <p>Example: In the first example, make a table or tree diagram to show another student what is happening.</p>	<p>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. Consider the following representative lessons:</p> <p>Problem Solving Math Practices</p> <ul style="list-style-type: none"> Use Reasoning—p. xxiii Explain Your Reasoning—p. xxiv <p>Problem Solving Strategies</p> <ul style="list-style-type: none"> Use Logical Reasoning—p. xxix <p>Chapter 8: 8-11</p> <ul style="list-style-type: none"> 8-11 Problem Solving: Use Logical Reasoning—pp. 190-191 (Write About It: Explain how logical reasoning can be used to solve Exercise 3 without completing each multiplication.) <p>Chapter 11: 11-1</p> <ul style="list-style-type: none"> 11-1 Use Models to Subtract Decimals—pp. 242-243 (Write About It: Sam uses addition to find $2.28 - 1.34$. Is he correct? Justify your answer.)

STANDARD 7 - PROBLEM SOLVING

5 th Grade Content Standards	Sadlier Math, Grade 5
<p>MA.5.7.5 Recognize the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.</p> <p>Example: You are buying a piece of plastic to cover the floor of your bedroom before you paint the room. How accurate should you be: to the nearest inch, foot, or yard? Explain your answer.</p>	<p>Chapter 2: 2-6</p> <ul style="list-style-type: none"> 2-6 Estimate with Decimals—pp. 36-37 (Write About It: Brainstorm with the class when an exact answer is preferable to an estimate; TE Use the Student Pages: Discuss different situations when an estimate is appropriate and when an exact answer is needed.) <p>Chapter 7: 7-3</p> <ul style="list-style-type: none"> 7-3 Subtract Fractions: Estimation and Reasonableness—pp. 146-147 (TE Use the Student Pages: Have students share when an exact answer might be needed. (Example: doses of medicine))
<p>MA.5.7.6 Know and apply appropriate methods for estimating results of rational-number computations.</p> <p>Example: Will 7×18 be smaller or larger than 100? Explain your answer.</p>	<p>Chapter 1: 1-6</p> <ul style="list-style-type: none"> 1-6 Estimate Sums and Differences—pp. 14-15 (Use front-end estimation and rounding to estimate sums and differences of multi-digit numbers; TE Develop Concepts: Explore Front-End Estimation) <p>Chapter 2: 2-6</p> <ul style="list-style-type: none"> 2-6 Estimate with Decimals—pp. 36-37 (Use front-end estimation and rounding to estimate sums and differences of decimals; TE Develop Concepts: Estimation) <p>Chapter 3: 3-3</p> <ul style="list-style-type: none"> 3-3 Estimate Products—pp. 48-49 (Estimate products of whole numbers; TE Develop Concepts: Rounding Numbers) <p>Chapter 4: 4-2</p> <ul style="list-style-type: none"> 4-2 Estimation: Compatible Numbers—pp. 70-71 (Use compatible numbers to estimate quotients; TE Develop Concepts: Explore Compatible Numbers) <p>Chapter 5: 5-3</p> <ul style="list-style-type: none"> 5-3 Estimation and Equivalent Fractions—pp. 102-103 (Determine if a fraction is closer to 0, $\frac{1}{2}$, or 1; Find equivalent fractions; TE Develop Concepts: Model Fractions with Different Equal Parts) <p>Chapter 6: 6-3</p> <ul style="list-style-type: none"> 6-3 Fraction Addition: Estimation and Reasonableness—pp. 126-127 (Use benchmarks and number sense to estimate and check answers involving fractions; TE Develop Concepts: Show Me Half—equivalent fractions) <p>Chapter 7: 7-3 & 7-5</p> <ul style="list-style-type: none"> 7-3 Subtract Fractions: Estimation and Reasonableness—pp. 146-147 (Use benchmark fractions to assess the reasonableness of answers; TE Develop Concepts: Estimating Fractions) 7-5 Estimate Sums and Differences of Mixed Numbers—pp. 152-153 (Use rounding and front-end estimation to estimate sums and differences of mixed numbers; TE Develop Concepts: Rounding Fractions) <p style="text-align: right;"><i>continued</i></p>

STANDARD 7 - PROBLEM SOLVING

5 th Grade Content Standards	Sadlier Math, Grade 5
	<p>Chapter 8: 8-7</p> <ul style="list-style-type: none"> 8-7 Estimate Products with Mixed Numbers—pp. 182–183 (Use rounding and compatible numbers to estimate products of mixed numbers; TE Develop Concepts: Betweenness—estimate mixed numbers) <p>Chapter 10: 10-3</p> <ul style="list-style-type: none"> 10-3 Estimate Decimal Sums—pp. 224–225 (Use front-end estimation and rounding to estimate decimal sums; TE Develop Concepts: Dollar Target) <p>Chapter 11: 11-2</p> <ul style="list-style-type: none"> 11-2 Estimate Decimal Differences—pp. 244–245 (Estimate decimal differences; TE Develop Concepts: Estimate Differences) <p>Chapter 12: 12-3</p> <ul style="list-style-type: none"> 12-3 Estimate Decimal Products—pp. 266–267 (Estimate decimal products; TE Develop Concepts: Rounding and Assessing Estimations) <p>Chapter 13: 13-3 through 13-6</p> <ul style="list-style-type: none"> 13-3 Estimate Decimal Quotients—pp. 292–293 (Estimate decimal quotients; TE Develop Concepts: Compatible Numbers) 13-4 Estimate with Money—pp. 294–295 (Estimate quotients of money amounts; TE Develop Concepts: Money and Unit Prices) 13-6 Zeros in Decimal Quotients—pp. 298–299 (Divide decimals using zeros as placeholders; TE Develop Concepts: Estimating Quotients)
<p>MA.5.7.7 Make precise calculations and check the validity of the results in the context of the problem.</p> <p>Example: A recipe calls for $\frac{3}{8}$ of a cup of sugar. You plan to double the recipe for a party and you have only one cup of sugar in the house. Decide whether you have enough sugar and explain how you know.</p>	<p>Throughout the program, students are reminded to check the results of their computation. In addition, several exercises help students focus on error analysis. For example:</p> <p>Problem Solving Math Practices</p> <ul style="list-style-type: none"> Be Precise—p. xxv <p>Chapter 1: 1-4</p> <ul style="list-style-type: none"> 1-4 Problem Solving: Use the Four-Step Process—pp. 10–11 (Look Back: Check whether the answer makes sense; TE Use the Student Pages: Emphasize the importance of answering the question and making sure the answer makes sense.) <p>Chapter 4: 4-9</p> <ul style="list-style-type: none"> 4-9 Problem Solving: Work Backward—pp. 86–87 (TE Have students check their answers using the diagram.) <p>Chapter 13: 13-1</p> <ul style="list-style-type: none"> 13-1 Divide by Powers of 10—pp. 288–289 (TE Guided Practice: Have students think about different ways to check their answers.) 13-6 Zeros in Decimal Quotients—pp. 298–299 (Problem Solving: Jennie is having trouble finding the error in her division. She knows her quotient is incorrect because she checked using multiplication. Analyze her work and explain her error.)

STANDARD 7 - PROBLEM SOLVING

5 th Grade Content Standards	Sadlier Math, Grade 5
<p><i>Students determine when a solution is complete and reasonable and move beyond a particular problem by generalizing to other situations.</i></p>	
<p>MA.5.7.8 Decide whether a solution is reasonable in the context of the original situation.</p> <p>Example: In the first example about flipping a coin, check that your probabilities add to 1.</p>	<p>Students routinely apply estimation skills and models to determine whether a solution is reasonable. For example:</p> <p>Chapter 1: 1-4</p> <ul style="list-style-type: none"> 1-4 Problem Solving: Use the Four-Step Process—pp. 10-11 (TE Develop Concepts: Write Equations to Represent Situations: Encourage students to check the reasonableness of their answer.) <p>Chapter 4: 4-2</p> <ul style="list-style-type: none"> 4-2 Estimation: Compatible Numbers—pp. 70-71 (Both estimates are reasonable.) <p>Chapter 6: 6-5</p> <ul style="list-style-type: none"> 6-5 Problem Solving: Use a Model—pp. 132-133 (Practice #3: Use number line models to check the reasonableness of your answer.) <p>Chapter 12: 12-3</p> <ul style="list-style-type: none"> 12-3 Estimate Decimal Products—pp. 266-267 (TE Use the Student Pages: It is also useful for checking to see if an answer is reasonable.)
<p>MA.5.7.9 Note the method of finding the solution and show a conceptual understanding of the method by solving similar problems.</p> <p>Example: Find the probability of each of the combinations when you flip a coin 4 times.</p>	<p>In several lessons, students are directed to note similarities between a new skill or process and one they've studied earlier. For example:</p> <p>Chapter 3: 3-7</p> <ul style="list-style-type: none"> 3-7 Multiply by Three-Digit Numbers—pp. 58-59 (TE Use the Student Pages: Start out by explaining that the procedure for multiplying by a 3-digit number is similar to multiplying by a 2-digit number.) <p>Chapter 6: 6-6</p> <ul style="list-style-type: none"> 6-6 Rename Mixed Number Sums—pp. 134-135 (TE Use the Student Pages: Adding mixed numbers is similar to adding fractions.)