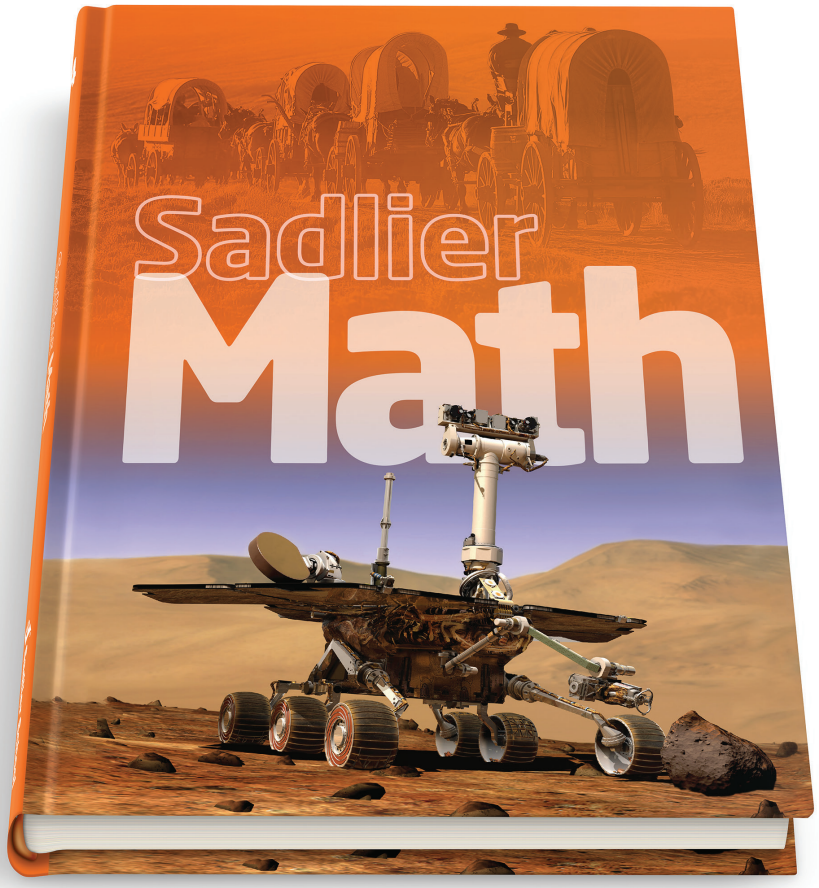
Sadlier Math™

Correlation to the Texas Essential Knowledge and Skills for Mathematics

Grade 4



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Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	
(A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left;	**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) **Chapter 13: 13-5** • 13-5 Decimal Place Value—pp. 280–281 (Use decimal notation for fractions with denominators 10 and 100, and identify the values of the digits; expanded form/notation; TE Develop Concepts: Expand the Place-Value Chart)
(B) represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals;	
(C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =;	**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)
(D) round whole numbers to a given place value through the hundred thousands place;	**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)
(E) represent decimals, including tenths and hundredths, using concrete and visual models and money;	**Chapter 13: 13-1, 13-3 & 13-4** • 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) • 13-3 Tenths and Hundredths as Fractions and Decimals—pp. 276–277 (Use decimal notation for fractions with denominators 10 and 100; TE Develop Concepts: Place Value) • 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)
(F) compare and order decimals using concrete and visual models to the hundredths;	**Chapter 13: 13-6 & 13-7** • 13-6 Compare Decimals with Models and Symbols—pp. 284–285 Chapter(Compare decimals to the hundredths place; TE Develop Concepts: Model Comparing Decimals) • 13-7 Order Decimals—pp. 286–287 (Order decimals to hundredths; TE Develop Concepts: Decimals and Number Lines)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(G) relate decimals to fractions that name tenths and hundredths; and	**Chapter 13: 13-1 & 13-5** • 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) • 13-5 Decimal Place Value—pp. 280–281 (Use decimal notation for fractions with denominators 10 and 100, and identify the values of the digits; TE Develop Concepts: Expand the Place-Value Chart)
(H) determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.	**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; number lines; TE Develop Concepts: Equivalent Fractions)
(3) Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:	
(A) represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b > 0$, including when $a > b$;	**Chapter 11: 11-1 through 11-5** • 11-1 Use Models to Add Fractions—pp. 224–225 (Add fractions using models; TE Develop Concepts: The Meaning of Sums) • 11-2 Add Fractions: Like Denominators—pp. 226–227 (Add fractions with the same denominators; TE Develop Concepts: Modeling Addition with Fractions) • 11-3 Decompose Fractions as Sums of Unit Fractions—pp. 228–229 (Decompose fractions into other fractions, including unit fractions; TE Develop Concepts: Model Decomposing Fractions) • 11-4 Use Models to Subtract Fractions—pp. 230–231 (Subtract fractions using fraction strips and number lines; TE Develop Concepts: Difference of Fractions) • 11-5 Subtract Fractions: Like Denominators—pp. 232–233 (Subtract fractions with like denominators; TE Develop Concepts: Modeling Subtraction with Fractions)
(B) decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations;	**Chapter 11: 11-3 & 11-4** • 11-3 Decompose Fractions as Sums of Unit Fractions—pp. 228–229 (Decompose fractions into other fractions, including unit fractions; TE Develop Concepts: Model Decomposing Fractions) • 11-4 Use Models to Subtract Fractions—pp. 230–231 (Subtract fractions using fraction strips and number lines; TE Develop Concepts: Difference of Fractions)
(C) determine if two given fractions are equivalent using a variety of methods;	**Chapter 10: 10-2 through 10-4** • 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) • 10-3 Write Equivalent Fractions: Use Models—pp. 196–197 (Use models to find equivalent fractions; TE Develop Concepts: Modeling Fractions) • 10-4 Write Equivalent Fractions: Use Multiplication and Division—pp. 198–199 (Use multiplication and division to find equivalent fractions; TE Develop Concepts: Make More Equal Parts)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(D) compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <;	**Chapter 10: 10-8 & 10-10** • 10-8 Compare Fractions—pp. 208–209 (Compare fractions with different denominators; TE Develop Concepts: Model Comparing Fractions) • 10-10 Compare Mixed Numbers—pp. 212–213 (Compare mixed numbers; TE Develop Concepts: Compare Mixed Numbers on Number Lines)
(E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations;	**Chapter 11: 11-1 through 11-8** • 11-1 Use Models to Add Fractions—pp. 224–225 (Add fractions using models; TE Develop Concepts: The Meaning of Sums) • 11-2 Add Fractions: Like Denominators—pp. 226–227 (Add fractions with the same denominators; TE Develop Concepts: Modeling Addition with Fractions) • 11-3 Decompose Fractions as Sums of Unit Fractions—pp. 228–229 (Decompose fractions into other fractions, including unit fractions; TE Develop Concepts: Model Decomposing Fractions) • 11-4 Use Models to Subtract Fractions—pp. 230–231 (Subtract fractions using fraction strips and number lines; TE Develop Concepts: Difference of Fractions) • 11-5 Subtract Fractions: Like Denominators—pp. 232–233 (Subtract fractions with like denominators; TE Develop Concepts: Modeling Subtraction with Fractions) • 11-6 Write Mixed Numbers as Equivalent Fractions—pp. 236–237 (Write mixed numbers as improper fractions and improper fractions as mixed numbers; TE Develop Concepts: Improper Fractions and Mixed Numbers) • 11-7 Add Mixed Numbers: Like Denominators—pp. 238–239 (Add mixed numbers with like denominators; TE Develop Concepts: Modeling Addition with Mixed Numbers) • 11-8 Subtract Mixed Numbers: Like Denominators—pp. 240–241 (Subtract mixed numbers with like denominators; TE Develop Concepts: Modeling Subtraction with Mixed Numbers)
(F) evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole; and	**Chapter 10: 10-12** • 10-12 Problem Solving: Four-Step Process—pp. 216–217 (Use the Four-Step Process to solve problems; Workbook/Write About It: test for reasonableness; TE Develop Concepts: Introduce the Four Steps)
(G) represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.	**Chapter 13: 13-1 & 13-3** • 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) • 13-3 Tenths and Hundredths as Fractions and Decimals—pp. 276–277 (Use decimal notation for fractions with denominators 10 and 100; TE Develop Concepts: Place Value)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:	
(A) add and subtract whole numbers and decimals to the hundredths place using the standard algorithm;	**Chapter 2: 2-4 through 2-6** • 2-4 Add Thousands—pp. 30–31 (Add whole numbers in the thousands; TE Develop Concepts: Adding with Base Ten Blocks) • 2-5 Add Millions—pp. 34–35 (Add whole numbers in the millions; TE Develop Concepts: Addition Properties and Numbers in the Millions) • 2-6 Three or More Addends—pp. 36–37 (Add three or more numbers; TE Develop Concepts: Adding Three Numbers with Base Ten Blocks) **Chapter 3: 3-2 through 3-5** • 3-2 Subtract with One Regrouping—pp. 48–49 (Subtract multi-digit whole numbers using the standard algorithm; TE Develop Concepts: Using Money to Regroup) • 3-3 Subtract with Two Regroupings—pp. 50–51 (Subtract multi-digit whole numbers with two regroupings; TE Develop Concepts: Regrouping Using Place Value) • 3-4 Subtract Greater Numbers—pp. 54–55 (Subtract multi-digit whole numbers using the standard algorithm; TE Develop Concepts: Place Value and Regrouping) • 3-5 Zeros in Subtraction—pp. 56–57 (Solve subtraction problems with multi-digit numbers that include zeros; TE Develop Concepts: Squaring Off) See Grade 5 (add and subtract decimals) **Chapter 10: 10-1 through 10-5** • 10-1 Use Models to Add Decimals—pp. 220–221 (Use base-ten models to add decimals; TE Develop Concepts: Solve Decimal Riddles) • 10-2 Use Properties to Add Decimals—pp. 222–223 (Use properties and strategies to add decimals; TE Develop Concepts: Regrouping to Add) • 10-3 Estimate Decimal Sums—pp. 224–225 (Use front-end estimation and rounding to estimate decimal sums; TE Develop Concepts: Dollar Target) • 10-4 Problem Solving: Draw a Picture—pp. 228–229 (Solve problems by drawing pictures; TE Develop Concepts: Decimal Measurements) • 10-5 Add Decimals: Hundredths—pp. 230–231 (Use an algorithm to add decimals to hundredths; TE Develop Concepts: Target Exactly 1) **Chapter 11: 11-1 through 11-3, 11-5** • 11-1 Use Models to Subtract Decimals—pp. 242–243 (Use concrete models to subtract decimals; TE Develop Concepts: Model Subtraction) • 11-2 Estimate Decimal Differences—pp. 244–245 (Estimate decimal differences; TE Develop Concepts: Estimate Differences) *continued*

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	• 11-3 Subtract Decimals: Hundredths—pp. 248–249 (Subtract decimals through hundredths; TE Develop Concepts: Subtraction and Regrouping) • 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)
(B) determine products of a number and 10 or 100 using properties of operations and place value understandings;	**Chapter 4: 4-3** • 4-3 Multiply Tens, Hundreds, and Thousands—pp. 74–75 (Understand the patterns of zeros when multiplying by tens, hundreds, and thousands; TE Develop Concepts: The Associative Property) **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)
(C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15;	**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) See also related content **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)
(D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties;	**Chapter 4: 4-1 through 4-3** • 4-1 Multiplication Properties—pp. 68–69 (Use multiplication properties to multiply accurately and efficiently; TE Develop Concepts: Examples of the Properties of Multiplication) • 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) • 4-3 Multiply Tens, Hundreds, and Thousands—pp. 74–75 (Understand the patterns of zeros when multiplying by tens, hundreds, and thousands; TE Develop Concepts: The Associative Property) **Chapter 5: 5-1 through 5-4** • 5-1 Multiply with Regrouping—pp. 88–89 (Use regrouping to multiply two numbers; TE Develop Concepts: Multiplication with Money) • 5-2 Use Properties to Multiply by One-Digit Numbers—pp. 90–91 (Use properties to multiply efficiently; TE Develop Concepts: Using Properties to Make Multiplication Simpler) • 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) • 5-4 Multiply Three- and Four-Digit Numbers—pp. 96–97 (Multiply three- and four-digit numbers by one-digit numbers; TE Develop Concepts: Multiply Using Expanded Form) **Chapter 6: 6-1 through 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) • 6-2 Break Apart Numbers to Multiply—pp. 110–111 (Break apart numbers by place value to multiply; TE Develop Concepts: Partial Products) *continued*

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	• 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 (Find the product of two 2-digit numbers; TE Develop Concepts: Partial Products—finding and adding partial products) • 6-4 Multiply by Two-Digit Numbers: Regrouping—pp. 116–117 (Find the product of a two-, three-, or four-digit number and a two-digit number; TE Develop Concepts: Regrouping) • 6-5 Multiplication Patterns—pp. 118–119 (Use patterns to multiply by multiples of 10, 100, or 1000; TE Develop Concepts: Break Down Factors) *A Mental Math activity is featured in the Teacher's Edition for each lesson.
(E) represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations;	**Chapter 7: 7-1** • 7-4 Use Models to Divide—pp. 136–137 (Find whole-number quotients using models such as arrays and area models; two-digit whole number divided by a one-digit whole number; TE Develop Concepts: Arrays as Multiplication and Division) **Chapter 8: 8-1, 8-2 through 8-6** • 8-1 One-Digit Quotients—pp. 148–149 (Solve division problems involving one-digit quotients; TE Develop Concepts: Modeling Division with Remainders) • 8-3 Two-Digit Quotients—pp. 152–153 (Divide to find two-digit quotients; TE Develop Concepts: Model Two-Digit Quotients) • 8-4 Zeros in Quotients—pp. 154–155 (Find quotients that include zeros; TE Develop Concepts: Divide Using Area Models) • 8-5 More Quotients—pp. 158–159 (Find whole number quotients and remainders; four-digit whole number divided by a one-digit whole number; TE Develop Concepts: Analyze Division Expressions) • 8-8 Problem Solving: Use a Model—pp. 164–165 (Solve problems by using various strategies, including using a model; TE Develop Concepts: Understand Bar Models)
(F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor;	**Chapter 8: 8-1 through 8-5** • 8-1 One-Digit Quotients—pp. 148–149 (Solve division problems involving one-digit quotients; TE Develop Concepts: Modeling Division with Remainders) • 8-2 Divisibility—pp. 150–151 (Use divisibility rules to tell whether one number is divisible by another; TE Develop Concepts: Divisibility by 3) • 8-3 Two-Digit Quotients—pp. 152–153 (Divide to find two-digit quotients; TE Develop Concepts: Model Two-Digit Quotients) • 8-4 Zeros in Quotients—pp. 154–155 (Find quotients that include zeros; TE Develop Concepts: Divide Using Area Models) • 8-5 More Quotients—pp. 158–159 (Find whole number quotients and remainders; TE Develop Concepts: Analyze Division Expressions)
(G) round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers; and	**Chapter 7: 7-3 & 7-4** • 7-3 Estimate Quotients—pp. 132–133 (Use estimation strategies to find and assess the solutions for division problems; compatible numbers; TE Develop Concepts: Estimating Quotients) • 7-4 Use Models to Divide—pp. 136–137 (Find whole-number quotients using models such as arrays and area models; estimate; TE Develop Concepts: Arrays as Multiplication and Division) *continued*

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
	Chapter 8: 8-1 & 8-3 • 8-1 One-Digit Quotients—pp. 148–149 (Solve division problems involving one-digit quotients; estimate; TE Develop Concepts: Modeling Division with Remainders) • 8-3 Two-Digit Quotients—pp. 152–153 (Divide to find two-digit quotients; estimate; TE Develop Concepts: Model Two-Digit Quotients)
(H) solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.	**Chapter 5: 5-1 through 5-6** • 5-1 Multiply with Regrouping—pp. 88–89 (Use regrouping to multiply two numbers; TE Develop Concepts: Multiplication with Money) • 5-2 Use Properties to Multiply by One-Digit Numbers—pp. 90–91 (Use properties to multiply efficiently; TE Develop Concepts: Using Properties to Make Multiplication Simpler) • 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) • 5-4 Multiply Three- and Four-Digit Numbers—pp. 96–97 (Multiply three- and four-digit numbers by one-digit numbers; TE Develop Concepts: Multiply Using Expanded Form) • 5-5 Multiplicative and Additive Comparisons—pp. 98–99 (Solve problems that involve multiplicative and additive comparisons; TE Develop Concepts: Illustrate Comparisons) • 5-6 Problem Solving: Guess and Test—pp. 100–101 (Solve problems by using a variety of strategies, including guess and test; TE Develop Concepts: Guess the Factor) **Chapter 6: 6-1, 6-3 through 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; TE Develop Concepts: Area Models) • 6-3 Multiply by Two-Digit Numbers: No Regrouping—pp. 114–115 (Find the product of two 2-digit numbers; TE Develop Concepts: Partial Products—finding and adding partial products) • 6-4 Multiply by Two-Digit Numbers: Regrouping—pp. 116–117 (Find the product of a two-, three-, or four-digit number and a two-digit number; TE Develop Concepts: Regrouping) • 6-5 Multiplication Patterns—pp. 118–119 (Use patterns to multiply by multiples of 10, 100, or 1000; TE Develop Concepts: Break Down Factors) • 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: 8-1, 8-3 through 8-5, 8-7 & 8-8** • 8-1 One-Digit Quotients—pp. 148–149 (Solve division problems involving one-digit quotients; TE Develop Concepts: Modeling Division with Remainders) • 8-3 Two-Digit Quotients—pp. 152–153 (Divide to find two-digit quotients; TE Develop Concepts: Model Two-Digit Quotients) • 8-4 Zeros in Quotients—pp. 154–155 (Find quotients that include zeros; TE Develop Concepts: Divide Using Area Models) • 8-5 More Quotients—pp. 158–159 (Find whole number quotients and remainders; TE Develop Concepts: Analyze Division Expressions) • 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) • 8-8 Problem Solving: Use a Model—pp. 164–165 (Solve problems by using various strategies, including using a model; TE Develop Concepts: Understand Bar Models)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(5) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:	
(A) represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity;	**Problem Solving Strategies** • Draw a Picture—p. xxx • Write and Solve an Equation—p. xxxi **Chapter 3: 3-6 & 3-7** • 3-6 Multistep Problems Using Addition and Subtraction—pp. 58–59 (Solve multistep addition and subtraction problems using equations; TE Develop Concepts: Representing Equations) • 3-7 Problem Solving: Use a Model— pp. 60–61 **Chapter 4: 4-5** • 4-5 Multiply to Compare Numbers—pp. 78–79 (Interpret a multiplication equation as a comparison; TE Develop Concepts: Count Your Chickens Before They Hatch—egg carton 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: 6-6** • 6-6 Problem Solving: Write and Solve an Equation— pp. 120–121 **Chapter 8: 8-7 & 8-8** • 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) • 8-8 Problem Solving: Use a Model— pp. 164–165 (bar model/strip diagram) **Chapter 17: 17-8** • 17-8 Problem Solving: Draw a Picture— pp. 386–387 *See the Problem Solving section and TE Develop Concepts for many lessons on operations with whole numbers for more multi-step problems using strip diagrams/bar models and equations with a variable.
(B) represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence;	**Chapter 17: 17-5** • 7-5 Number Patterns—pp. 138–139 (Make a number pattern, and find features of patterns; input-output tables; TE Develop Concepts: Patterns and Relationships)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(C) use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square (4s) and the area of a rectangle ($l \times w$); and	**Chapter 17: 17-6 through 17-8** • 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) • 17-8 Problem Solving: Draw a Picture—pp. 386–387 (Solve problems by drawing a picture; TE Develop Concepts: See It to Believe It—perimeter)
(D) solve problems related to perimeter and area of rectangles where dimensions are whole numbers.	
(6) Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. The student is expected to:	
(A) identify points, lines, line segments, rays, angles, and perpendicular and parallel lines;	**Chapter 16: 16-1** • 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)
(B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure;	**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
(C) apply knowledge of right angles to identify acute, right, and obtuse triangles; and	**Chapter 17: 17-3** • 17-3 Triangles—pp. 374–375 (Identify and classify triangles; TE Develop Concepts: Drawing Triangles)
(D) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.	**Chapter 17: 17-2 & 17-3** • 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)
(7) Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:	
(A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers;	**Chapter 16: 16-2** • 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; TE Develop Concepts: Angles and Circles)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(B) illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" *n*/360 out of any circle whose center is at the angle's vertex has a measure of *n* degrees. Angle measures are limited to whole numbers;	**Chapter 16: 16-2** • 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)
(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor;	**Chapter 16: 16-3** • 16-3 Measure Angles—pp. 356–357 (Measure and sketch angles using a protractor; TE Develop Concepts: Measuring Angles)
(D) draw an angle with a given measure; and	**Chapter 16: 16-3** • 16-3 Measure Angles—pp. 356–357 (Measure and sketch angles using a protractor; Workbook: draw an angle; TE Develop Concepts: Measuring Angles)
(E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.	**Chapter 16: 16-4** • 16-4 Unknown Angle Measures—pp. 358–359 (Find unknown angle measures; TE Develop Concepts: Additive Property)
(8) Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:	
(A) identify relative sizes of measurement units within the customary and metric systems;	**Chapter 14: 14-2 through 14-4, 14-6 through 14-8** • 14-2 Customary Units of Length—pp. 298–299 (Solve length problems using customary units of measure; TE Develop Concepts: Converting Units with Tables) • 14-3 Customary Units of Capacity—pp. 300–301 (Solve capacity problems using customary units of measure; TE Develop Concepts: Converting Units of Capacity) • 14-4 Customary Units of Weight—pp. 302–303 (Solve weight problems using customary units of measure; TE Develop Concepts: Converting Units of Weight) • 14-6 Metric Units of Length—pp. 308–311 (Solve length problems with metric units of measure; TE Develop Concepts: Measuring with Tens) • 14-7 Metric Units of Capacity—pp. 310–313 (Solve capacity problems using metric units of measure; TE Develop Concepts: Liters and Milliliters) • 14-8 Metric Units of Mass—pp. 312–313 (Solve mass problems using metric units of measure; TE Develop Concepts: Metric Mass Balance)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table; and	**Chapter 14: 14-5 & 14-9** • 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) **Chapter 15: 15-2** • 15-2 Use Multiplication to Rename Measures—pp. 326–327 (Solve length problems using customary units of measure; TE Develop Concepts: Conversion Tables)
(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	**Chapter 3: 3-2** • 3-2 Subtract with One Regrouping—pp. 48–49 (TE Develop Concepts: Using Money to Regroup **Chapter 5: 5-1** • 5-1 Multiply with Regrouping—pp. 88–89 (TE Develop Concepts: Multiplication with Money) **Chapter 14: 14-1, 14-2, 14-4 through 14-10** • 14-1 Measure with Inches—pp. 296–297 (Measure length in inches; TE Develop Concepts: Units of Measure) • 14-2 Customary Units of Length—pp. 298–299 (Solve length problems using customary units of measure; TE Develop Concepts: Converting Units with Tables) • 14-4 Customary Units of Weight—pp. 302–303 (Solve weight problems using customary units of measure; TE Develop Concepts: Converting Units of Weight) • 14-5 Operations with Customary Units—pp. 304–305 (Solve problems using customary units of measure; TE Develop Concepts: Measurement Operations) • 14-6 Metric Units of Length—pp. 308–311 (Solve length problems with metric units of measure; TE Develop Concepts: Measuring with Tens) • 14-7 Metric Units of Capacity—pp. 310–313 (Solve capacity problems using metric units of measure; TE Develop Concepts: Liters and Milliliters) • 14-8 Metric Units of Mass—pp. 312–313 (Solve mass problems using metric units of measure; TE Develop Concepts: Metric Mass Balance • 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) • 14-10 Problem Solving: Make a Table—pp. 316–317 (Use tables to help solve problems; TE Develop Concepts: Organize with Tables) **Chapter 15: 15-3** • 15-3 Elapsed Time—pp. 328–329 (Solve capacity problems using customary units of measure; TE Develop Concepts: Modeling Elapsed Time)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(9) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:	
(A) represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions; and	**Chapter 15: 15-5 through 15-8** • 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 (Solve capacity problems using metric units of measure; 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)
(B) solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.	**Chapter 1: 1-7** • 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 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: 15-5 through 15-9** • 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; frequency tables; TE Develop Concepts: Making and Using Tally Charts) • 15-7 Surveys and Line Plots—pp. 338–339 (Solve capacity problems using metric units of measure; 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) • 15-9 Problem Solving: Use Logical Reasoning—pp. 342–343 (Solve problems using metric units of measure; TE Develop Concepts: Diagramming Word Problems) See also Grade 5 **Chapter 17: 17-1 & 17-2** • 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)

Chapter 111. Subchapter A. Elementary, §111.6, Grade 4, Adopted 2012.

Grade 4 Content Standards	*Sadlier Math*, Grade 4
(9) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:	
	N/A