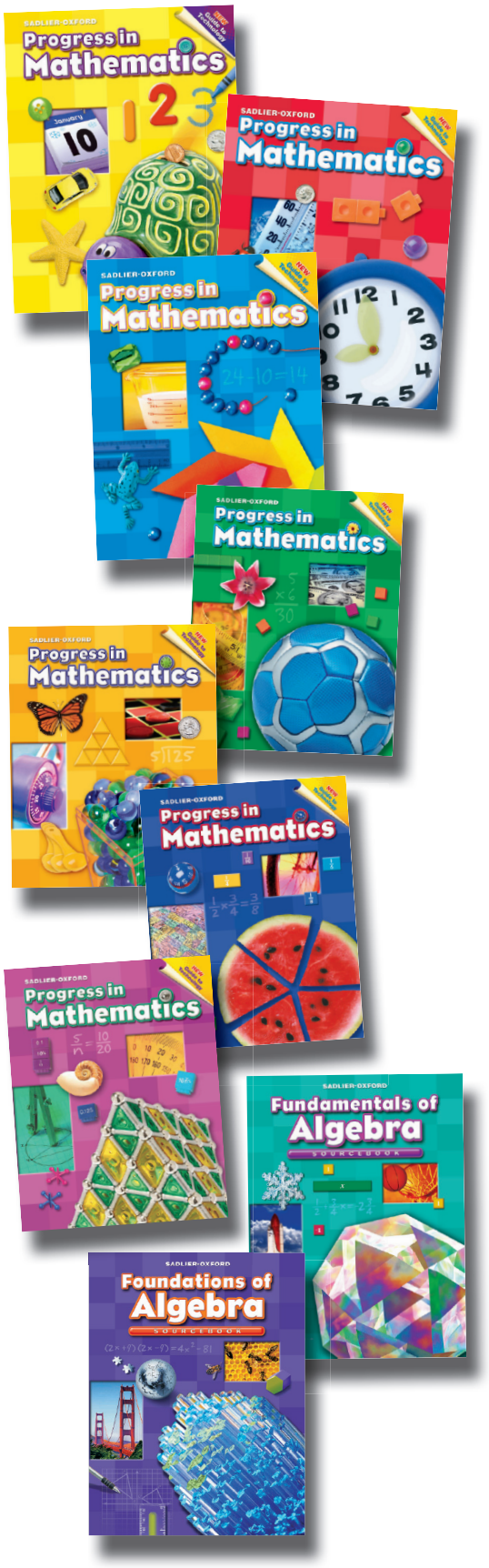

SADLIER

Progress in Mathematics

Aligned to the

College & Career Ready Standards

Indiana

Academic Standards: Mathematics

Grade 6

Number Sense 2
Computation 4
Algebraic and Functions 8
Geometry and Measurement 9
Data Analysis and Statistics 13

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Number Sense

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
6.NS.1: Understand that positive and negative numbers are used to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge). Use positive and negative numbers to represent and compare quantities in real-world contexts, explaining the meaning of 0 in each situation.	**Instruction** 5-1 Integers—pp. 150–151 *5-1A Integers in the Real World—Online 5-2 Compare and Order Integers—pp. 152–153
6.NS.2: Understand the integer number system. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself (e.g., –(–3) = 3), and that 0 is its own opposite.	**Instruction** 5-1 Integers—pp. 150–151 *5-1A Integers in the Real World—Online 5-2 Compare and Order Integers—pp. 152–153
6.NS.3: Compare and order rational numbers and plot them on a number line. Write, interpret, and explain statements of order for rational numbers in real-world contexts.	**Instruction** 5-1 Integers—pp. 150–151 5-2 Compare and Order Integers—pp. 152–153 *5-2A Use Reasoning to Compare and Order Rational Numbers—Online 5-9 Temperature—pp. 166–167 6-10 Compare Fractions—pp. 196–197 6-11 Order Fractions—pp. 198–199 6-12 Relate Fractions to Decimals—pp. 200–201 6-16 Rational Numbers—pp. 208–209 6-17 Compare and Order Rational Numbers—pp. 210–211
6.NS.4: Understand that the absolute value of a number is the distance from zero on a number line. Find the absolute value of real numbers and know that the distance between two numbers on the number line is the absolute value of their difference. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.	**Instruction** 5-1 Integers (absolute value)—pp. 150–151 5-2 Compare and Order Integers—pp. 152–153 *5-2A Use Reasoning to Compare and Order Rational Numbers—Online 5-5 Multiply Integers—pp. 158–159 5-10 Problem Solving Strategy: Make a Table—pp. 168–169
6.NS.5: Know commonly used fractions (halves, thirds, fourths, fifths, eighths, tenths) and their decimal and percent equivalents. Convert between any two representations (fractions, decimals, percents) of positive rational numbers without the use of a calculator.	**Instruction** 12-1 Mental Math: Percent—pp. 414–415 12-3 Percentage of a Number—pp. 418–419 12-4 Find the Rate—pp. 420–421 12-5 Find the Original Number—pp. 422–423 12-6 Percent Problems—pp. 424–425 12-13 Problem Solving Strategy: Write an Equation—pp. 438–439
6.NS.6: Identify and explain prime and composite numbers.	**Instruction** 6-2 Prime and Composite Numbers—pp. 180–181 6-3 Prime Factorization—pp. 182–183 **Teacher's Edition** English Language Learners: Prime and Composite Numbers—TE p. 177H Differentiated Instruction: Accelerated Learners: Prime and Composite Numbers—TE p. 177J

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Number Sense

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
6.NS.7: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers from 1 to 100, with a common factor as a multiple of a sum of two whole numbers with no common factor.	**Readiness** Skills Update: Factors, Multiples, and Divisibility—p. 3 **Instruction** 6-5 Greatest Common Factor—pp. 186–187 *6-5A The Distributive Property and Common Factors—Online 6-6 Fractions in Simplest Form—pp. 188–189 6-9 Least Common Multiple—pp. 194–195
6.NS.8: Interpret, model, and use ratios to show the relative sizes of two quantities. Describe how a ratio shows the relationship between two quantities. Use the following notations: *a*/*b*, *a* to *b*, *a*:*b*.	**Instruction** *11-2B Ratios and Unit Rates—Online 11-3 Rates (unit rate, unit price)—pp. 380–381 *11-3A Compare Ratios—Online 13-1 Measure Metric Length—pp. 448–449 13-2 Measure Metric Capacity and Mass—pp. 450–451 13-3 Measure Customary Length—pp. 452–453 13-4 Measure Customary Capacity and Weight—pp. 454–455 13-5 Compute Customary Units—pp. 456–457 13-7 Relate Customary and Metric Units—pp. 460–461 *13-7A Use Proportions to Convert Units—Online *14-7A Model Rates—Online
6.NS.9: Understand the concept of a unit rate and use terms related to rate in the context of a ratio relationship.	**Instruction** 11-3 Rates (unit rate, unit price)—pp. 380–381 11-4 Proportions—pp. 382–383 *11-4A Model Proportions with Double Number Lines—Online *11-4B Model Proportions with Tape Diagrams—Online 11-5 Solve Proportions—pp. 384–385 11-6 Write Proportions—pp. 386–387 11-7 Proportions and Similar Figures—pp. 388–389 11-8 Use Proportions—pp. 390–391 12-9 Better Buy—pp. 430–431 **Application** 11-16 Problem Solving Applications: Mixed Review—pp. 406–407
6.NS.10: Use reasoning involving rates and ratios to model real-world and other mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations).	**Instruction** *11-2B Ratios and Unit Rates—Online *11-3A Compare Ratios—Online 12-1 Mental Math: Percent—pp. 414–415 12-3 Percentage of a Number—pp. 418–419 12-4 Find the Rate—pp. 420–421 12-5 Find the Original Number—pp. 422–423 12-6 Percent Problems—pp. 424–425 12-13 Problem Solving Strategy: Write an Equation—pp. 438–439 13-1 Measure Metric Length—pp. 448–449 13-2 Measure Metric Capacity and Mass—pp. 450–451 13-3 Measure Customary Length—pp. 452–453

Number Sense

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
	13-4 Measure Customary Capacity and Weight—pp. 454–455 13-5 Compute Customary Units—pp. 456–457 13-7 Relate Customary and Metric Units—pp. 460–461 *13-7A Use Proportions to Convert Units—Online *14-7A Model Rates—Online

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Computation

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
6.C.1: Divide multi-digit whole numbers fluently using a standard algorithmic approach.	**Readiness** Skills Update: Trial Quotients—p. 10 Skills Update: Divide Whole Numbers—p. 11 **Instruction** 3-1 Short Division—pp. 88–89 3-3 Divide Whole Numbers—pp. 92–93 **Application** 3-14 Problem Solving Applications: Mixed Review—pp. 114–115
6.C.2: Compute with positive fractions and positive decimals fluently using a standard algorithmic approach.	**Readiness** Skills Update: Add Whole Numbers and Decimals—p. 5 Skills Update: Subtract Whole Numbers and Decimals—p. 6 **Instruction** 1-7 Addition of Whole Numbers and Decimals—pp. 46–47 1-8 Subtraction of Whole Numbers and Decimals—pp. 48–49 1-9 Addition and Subtraction of Decimals—pp. 50–51 2-1 Multiplication Patterns—pp. 66–67 2-4 Multiply with Decimals—pp. 72–73 3-4 Divide Decimals by 10, 100, and 1,000—pp. 94–95 3-5 Divide Decimals by Whole Numbers—pp. 96–97 3-6 Patterns with Tenths, Hundredths, and Thousandths—pp. 98–99 3-8 Decimal Divisors—pp. 102–103 3-9 Zeros in Division—pp. 104–105 8-5 Meaning of Division—pp. 258–259 *8-5A Dividing with Fractions—Online 8-6 Divide Fractions by Fractions—pp. 260–261 8-8 Divide with Whole and Mixed Numbers—pp. 264–265 **Application** 1-13 Problem Solving Applications: Mixed Review—pp. 58–59 2-8 Problem Solving Applications: Mixed Review—pp. 80–81 3-14 Problem Solving Applications: Mixed Review—pp. 114–115 8-18 Problem Solving Applications: Mixed Review—pp. 284–285
6.C.3: Solve real-world problems with positive fractions and decimals by using one or two operations.	**Readiness** Skills Update: Add Whole Numbers and Decimals—p. 5 Skills Update: Subtract Whole Numbers and Decimals—p. 6 **Instruction** 1-7 Addition of Whole Numbers and Decimals—pp. 46–47 1-8 Subtraction of Whole Numbers and Decimals—pp. 48–49 1-9 Addition and Subtraction of Decimals—pp. 50–51

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Computation

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
	2-1 Multiplication Patterns—pp. 66–67 2-4 Multiply with Decimals—pp. 72–73 3-4 Divide Decimals by 10, 100, and 1,000—pp. 94–95 3-5 Divide Decimals by Whole Numbers—pp. 96–97 3-6 Patterns with Tenths, Hundredths, and Thousandths—pp. 98–99 3-8 Decimal Divisors—pp. 102–103 3-9 Zeros in Division—pp. 104–105 8-5 Meaning of Division—pp. 258–259 *8-5A Dividing with Fractions—Online 8-6 Divide Fractions by Fractions—pp. 260–261 8-8 Divide with Whole and Mixed Numbers—pp. 264–265 **Application** 1-13 Problem Solving Applications: Mixed Review—pp. 58–59 2-8 Problem Solving Applications: Mixed Review—pp. 80–81 3-14 Problem Solving Applications: Mixed Review—pp. 114–115 8-18 Problem Solving Applications: Mixed Review—pp. 284–285
6.C.4: Compute quotients of positive fractions and solve real-world problems involving division of fractions by fractions. Use a visual fraction model and/or equation to represent these calculations.	**Instruction** 8-5 Meaning of Division—pp. 258–259 *8-5A Dividing with Fractions—Online 8-6 Divide Fractions by Fractions—pp. 260–261 8-8 Divide with Whole and Mixed Numbers—pp. 264–265 **Application** 8-18 Problem Solving Applications: Mixed Review—pp. 284–285
6.C.5: Evaluate positive rational numbers with whole number exponents.	**Instruction** 1-3 Place Value and Exponents—pp. 38–39 2-5 Exponents—pp. 74–75 4-1 Order of Operations—pp. 122–123 *4-2A Expressions Involving Exponents—Online 4-3 Evaluate Algebraic Expressions—pp. 126–127 8-9 Order of Operations with Fractions—pp. 266–267
6.C.6: Apply the order of operations and properties of operations (identity, inverse, commutative properties of addition and multiplication, associative properties of addition and multiplication, and distributive property) to evaluate numerical expressions with nonnegative rational numbers, including those using grouping symbols, such as parentheses, and involving whole number exponents. Justify each step in the process.	**Instruction** 1-11 Evaluate Addition and Subtraction Expressions—pp. 54–55 2-5 Exponents—pp. 74–75 3-11 Evaluate Multiplication and Division Expressions—pp. 108–109

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Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
	4-1 Order of Operations—pp. 122–123 *4-1A Expressions—Online 4-2 Translate Expressions—pp. 124–125

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Algebra and Functions

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
6.AF.1: Evaluate expressions for specific values of their variables, including expressions with whole-number exponents and those that arise from formulas used in real-world problems.	**Instruction** 1-3 Place Value and Exponents—pp. 38–39 1-10 Addition and Subtraction Expressions—pp. 52–53 1-11 Evaluate Addition and Subtraction Expressions—pp. 54–55 2-5 Exponents—pp. 74–75 3-10 Multiplication and Division Expressions—pp. 106–107 3-11 Evaluate Multiplication and Division Expressions—pp. 108–109 4-1 Order of Operations—pp. 122–123 *4-1A Expressions—Online 4-2 Translate Expressions—pp. 124–125 *4-2A Expressions Involving Exponents—Online 4-3 Evaluate Algebraic Expressions—pp. 126–127 4-8 Use Formulas—pp. 136–137 8-9 Order of Operations with Fractions—pp. 266–267
6.AF.2: Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions and to justify whether two linear expressions are equivalent when the two expressions name the same number regardless of which value is substituted into them.	**Readiness** Skills Update: Properties of Addition and Multiplication—p. 8 **Instruction** 4-2 Translate Expressions—pp. 124–125 *4-3A Equivalent Expressions—Online *4-3B Simplify Expressions—Online 7-1 Addition Properties: Fractions—pp. 222–223 8-3 Properties of Multiplication—pp. 254–25
6.AF.3: Define and use multiple variables when writing expressions to represent real-world and other mathematical problems, and evaluate them for given values.	**Instruction** 1-3 Place Value and Exponents—pp. 38–39 1-10 Addition and Subtraction Expressions—pp. 52–53 1-11 Evaluate Addition and Subtraction Expressions—pp. 54–55 2-5 Exponents—pp. 74–75 3-10 Multiplication and Division Expressions—pp. 106–107 3-11 Evaluate Multiplication and Division Expressions—pp. 108–109 4-1 Order of Operations—pp. 122–123 *4-1A Expressions—Online 4-2 Translate Expressions—pp. 124–125 *4-2A Expressions Involving Exponents—Online 4-3 Evaluate Algebraic Expressions—pp. 126–127 4-8 Use Formulas—pp. 136–137 8-9 Order of Operations with Fractions—pp. 266–267

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Algebra and Functions

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
6.AF.4: Understand that solving an equation or inequality is the process of answering the following question: Which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	**Instruction** 4-4 Equations and Inequalities—pp. 128–129 *4-4A Inequalities—Online **Application** Ch. 5 Enrichment: Inequalities in One Variable—p. 173
6.AF.5: Solve equations of the form $x + p = q$ and $px = q$ fluently for cases in which p, q and x are all nonnegative rational numbers. Represent real world problems using equations of these forms and solve such problems.	**Instruction** 1-12 Problem Solving Strategy: Write an Equation—pp. 56–57 4-2 Translate Expressions—pp. 124–125 4-3 Evaluate Algebraic Expressions—pp. 126–127 4-5 Addition Equations—pp. 130–131 4-6 Subtraction Equations—pp. 132–133 4-7 Multiplication and Division Equations—pp. 134–135 *4-7A Write an Equation—Online 4-10 Problem Solving Strategy: Use More Than One Step—pp. 140–141 7-9 Addition and Subtraction Equations with Fractions—pp. 238–239 8-12 Multiplication and Division Equations with Fractions—pp. 272–273 **Application** 4-11 Problem Solving Applications: Mixed Review—pp. 142–143
6.AF.6: Write an inequality of the form $x > c$, $x \geq c$, $x < c$, or $x \leq c$, where c is a rational number, to represent a constraint or condition in a real-world or other mathematical problem. Recognize inequalities have infinitely many solutions and represent solutions on a number line diagram.	**Instruction** *4-4A Inequalities—Online *4-4B Write Inequalities—Online
6.AF.7: Understand that signs of numbers in ordered pairs indicate the quadrant containing the point; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. Graph points with rational number coordinates on a coordinate plane.	**Readiness** 5-1 Integers (absolute value)—pp. 150–151 **Instruction** 14-5 Graph Ordered Pairs—pp. 504–505 *14-5A Distances and the Coordinate Plane—Online *14-5B Graphing Polygons—Online 14-6 Graph Reflections and Translations—pp. 506–507 14-10 Problem Solving Strategy: Use More Than One Strategy—pp. 514–515
6.AF.8: Solve real-world and other mathematical problems by graphing points with rational number coordinates on a coordinate plane. Include the use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	**Readiness** 5-1 Integers (absolute value)—pp. 150–151 **Instruction** 14-5 Graph Ordered Pairs—pp. 504–505 *14-5A Distances and the Coordinate Plane—Online *14-5B Graphing Polygons—Online 14-10 Problem Solving Strategy: Use More Than One Strategy—pp. 514–515

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Algebra and Functions

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
6.AF.9: Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane.	**Instruction** *11-2B Ratios and Unit Rates—Online *11-3A Compare Ratios—Online *14-7A Model Rates—Online
6.AF.10: Use variables to represent two quantities in a proportional relationship in a real-world problem; write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.	**Instruction** 14-4 Functions and Ordered Pairs—pp. 502–503 *14-4A Independent and Dependent Variables—Online 14-8 Graph Functions—pp. 510–511 *14-8A Related Variables—Online 14-9 Algebraic Patterns—pp. 512–513 14-10 Problem Solving Strategy: Use More Than One Strategy—pp. 514–515

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Geometry and Measurement

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
6.GM.1: Convert between measurement systems (English to metric and metric to English) given conversion factors, and use these conversions in solving real-world problems.	**Instruction** 13-1 Measure Metric Length—pp. 448–449 13-2 Measure Metric Capacity and Mass—pp. 450–451 13-3 Measure Customary Length—pp. 452–453 13-4 Measure Customary Capacity and Weight—pp. 454–455 13-5 Compute Customary Units—pp. 456–457 13-7 Relate Customary and Metric Units—pp. 460–461 *13-7A Use Proportions to Convert Units—Online
6.GM.2: Know that the sum of the interior angles of any triangle is 180° and that the sum of the interior angles of any quadrilateral is 360°. Use this information to solve real-world and mathematical problems.	**Readiness** 10-1 Measure and Draw Angles—pp. 330–331 10-2 Lines and Angles—pp. 332–333 10-3 Angle Pairs—pp. 334–335 10-4 Angles of Parallel Lines—pp. 336–337 **Instruction** 10-10 Angles of Triangles and Quadrilaterals—pp. 348–349 10-11 Angles of Polygons—pp. 350–351 **Application** 10-19 Problem Solving Strategy: Logical Reasoning—pp. 366–367 10-20 Problem Solving Applications: Mixed Review—pp. 368–369
6.GM.3: Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate; apply these techniques to solve real-world and other mathematical problems.	**Instruction** 14-5 Graph Ordered Pairs—pp. 504–505 *14-5B Graphing Polygons—Online 14-6 Graph Reflections and Translations—pp. 506–507 14-7 Graph Rotations—pp. 508–509
6.GM.4: Find the area of complex shapes composed of polygons by composing or decomposing into simple shapes; apply this technique to solve real-world and other mathematical problems.	**Readiness** Skills Update: Perimeter and Area of Rectangles—p. 25 **Instruction** 13-9 Area of Rectangles and Squares—pp. 464–465 13-10 Area of Triangles and Parallelograms—pp. 466–467 13-11 Area of Trapezoids—pp. 468–469 *13-11A Plane Figures and Area—Online
6.GM.5: Find the volume of a right rectangular prism with fractional edge lengths using unit cubes of the appropriate unit fraction edge lengths (e.g., using technology or concrete materials), and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = Bh$ to find volumes of right rectangular prisms with fractional edge lengths to solve real-world and other mathematical problems.	**Instruction** 13-16 Volume of Prisms—pp. 478–479 *13-16A Use Partial Cubes to Find Volume—Online *13-16B Volume of a Prism—Online
6.GM.6: Construct right rectangular prisms from nets and use the nets to compute the surface area of prisms; apply this technique to solve real-world and other mathematical problems.	**Instruction** 10-17 Solid Figures—pp. 362–363 *13-13A Use Nets to Find Surface Area—Online 13-14 Surface Area of Cubes, Rectangular Prisms, and Cylinders—pp. 474–47

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Geometry and Measurement

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
	13-15 Surface Area of Pyramids and Triangular Prisms—pp. 476–477 Blackline Masters: Nets—TE p. T54

Data Analysis and Statistics

Indiana Academic Standards: Mathematics: Grade 6	Sadlier *Progress in Mathematics*, Grade 6
6.DS.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for the variability in the answers. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.	**Instruction** *9-6A Statistical Characteristics of a Data Set—Online 9-5 Apply Measures of Central Tendency and Range—pp. 300–301 9-6 Analyze Data—pp. 302–303 *9-7A Describe Data—Online 9-8 Stem–and–Leaf Plots—pp. 306–307
6.DS.2: Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots.	**Instruction** 9-5 Apply Measures of Central Tendency and Range—pp. 300–301 9-6 Analyze Data—pp. 302–303 9-7 Box–and–Whisker Plots—pp. 304–305 *9-7A Describe Data—Online 9-8 Stem–and–Leaf Plots—pp. 306–307
6.DS.3: Formulate statistical questions; collect and organize the data (e.g., using technology); display and interpret the data with graphical representations (e.g., using technology).	**Instruction** *9-3A Summarize the Data—Online 9-4 Record and Interpret Data—pp. 298–299 9-6 Analyze Data—pp. 302–303 *9-6B Choosing the Best Measures to Describe Data—Online 9-7 Box–and–Whisker Plots—pp. 304–305 *9-7A Describe Data—Online 9-8 Stem–and–Leaf Plots—pp. 306–307 9-9 Line Graphs—pp. 308–309 9-13 Histograms—pp. 316–317 **Application** 9-16 Problem Solving Applications: Mixed Review—pp. 322–323
6.DS.4: Summarize numerical data sets in relation to their context in multiple ways, such as: report the number of observations; describe the nature of the attribute under investigation, including how it was measured and its units of measurement; determine quantitative measures of center (mean and/or median) and spread (range and interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered; and relate the choice of measures of center and spread to the shape of the data distribution and the context in which the data were gathered.	**Instruction** *9-3A Summarize the Data—Online 9-4 Record and Interpret Data—pp. 298–299 9-5 Apply Measures of Central Tendency and Range—pp. 300–301 9-6 Analyze Data—pp. 302–303 *9-6B Choosing the Best Measures to Describe Data—Online 9-7 Box–and–Whisker Plots—pp. 304–305 *9-7A Describe Data—Online 9-8 Stem–and–Leaf Plots—pp. 306–307 9-13 Histograms—pp. 316–317 **Application** 9-16 Problem Solving Applications: Mixed Review—pp. 322–323