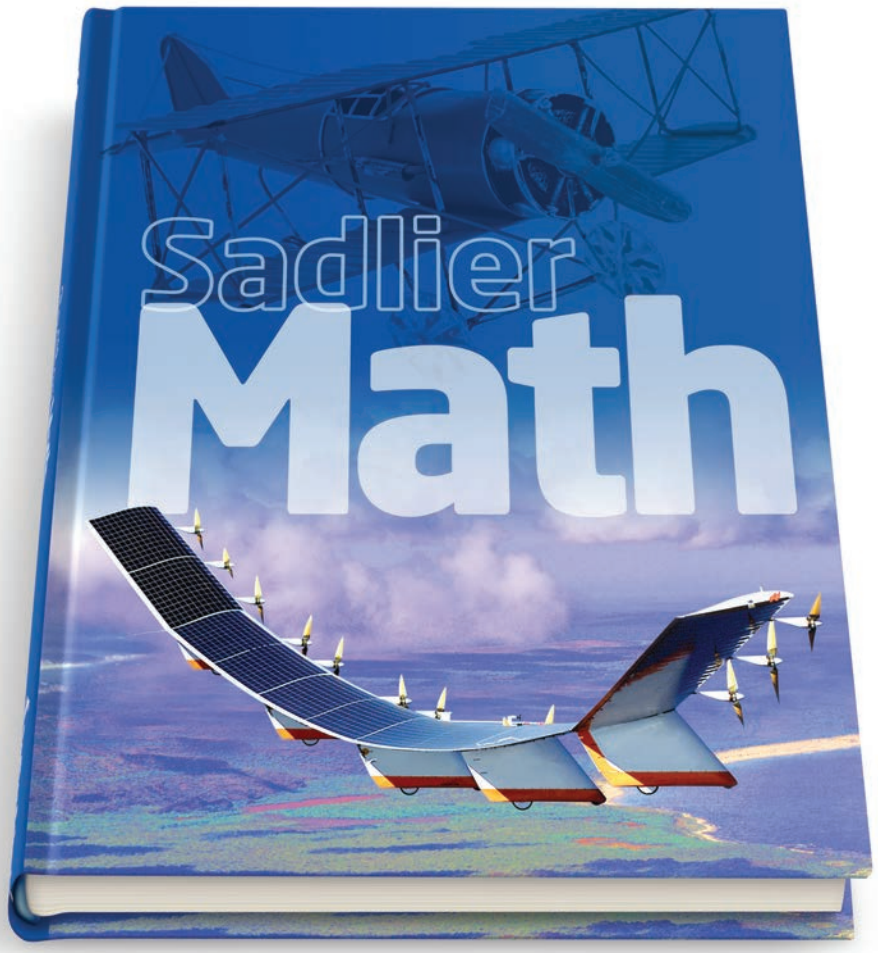
Sadlier Math™

Correlation to the South Carolina College- and Career-Ready Standards for Mathematics

Grade 5



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NUMBER SENSE AND BASE TEN

Grade 5 Content Standards	*Sadlier Math*, Grade 5
The student will:	
5.NSBT.1 Understand that, in a multi-digit whole number, a digit in one place represents 10 times what the same digit represents in the place to its right, and represents $\frac{1}{10}$ times what the same digit represents in the place to its left.	**Chapter 1 Place Value, Addition and Subtraction** • 1-1 Place Value to Billions—pp. 2–3 • 1-2 Expanded Form—pp. 4–5
5.NSBT.2 Use whole number exponents to explain:	
a. patterns in the number of zeros of the product when multiplying a number by powers of 10;	**Chapter 1 Place Value, Addition and Subtraction** • 1-3 Powers of 10—pp. 8–9 **Chapter 12 Decimals: Multiplication** • 12-1 Multiply by Powers of 10—pp. 262–263
b. patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.	**Chapter 12 Decimals: Multiplication** • 12-1 Multiply by Powers of 10—pp. 262–263 **Chapter 13 Decimals: Division** • 13-1 Divide by Powers of 10—pp. 288–289
5.NSBT.3 Read and write decimals in standard and expanded form. Compare two decimal numbers to the thousandths using the symbols >, =, or <.	**Chapter 2 Place Value and Decimals** • 2-1 Thousandths—pp. 24–25 • 2-2 Decimals and Expanded Form—pp. 26–27 • 2-3 Compare and Order Decimals—pp. 30–31
5.NSBT.4 Round decimals to any given place value within thousandths.	**Chapter 2 Place Value and Decimals** • 2-4 Round Decimals—pp. 32–33 • 2-6 Estimate with Decimals—pp. 36–37 **Chapter 10 Decimals: Addition** • 10-3 Estimate Decimal Sums—pp. 224–225 **Chapter 11 Decimals: Subtraction** • 11-2 Estimate Decimal Differences—pp. 244–245
5.NSBT.5 Fluently multiply multi-digit whole numbers using strategies to include a standard algorithm.	**Chapter 3 Multiplication** • 3-2 Multiplication Patterns—pp. 46–47 • 3-3 Estimate Products—pp. 48–49 • 3-4 Zeros in the Multiplicand—pp. 50–51

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NUMBER SENSE AND BASE TEN

Grade 5 Content Standards	*Sadlier Math*, Grade 5
	• 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
5.NSBT.6 Divide up to a four-digit dividend by a two-digit divisor, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.	**Chapter 4 Division** • 4-1 Division Patterns—pp. 68–69 • 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
5.NSBT.7 Add, subtract, multiply, and divide decimal numbers to hundredths using concrete area models and drawings.	**Chapter 10 Decimals: Addition** • 10-1 Use Models to Add Decimals—pp. 220–221 • 10-2 Use Properties to Add Decimals—pp. 222–223 • 10-3 Estimate Decimal Sums—pp. 224–225 • 10-4 Problem Solving: Draw a Picture—pp. 228–229 • 10-5 Add Decimals: Hundredths—pp. 230–231 • 10-6 Add Decimals: Thousandths—pp. 232–233 • 10-7 Addition with Money—pp. 234–235 **Chapter 11 Decimals: Subtraction** • 11-1 Use Models to Subtract Decimals—pp. 242–243 • 11-2 Estimate Decimal Differences—pp. 244–245 • 11-3 Subtract Decimals: Hundredths—pp. 248–249 • 11-4 Subtract Decimals: Thousandths—pp. 250–251 • 11-5 Subtraction with Money—pp. 252–253 • 11-6 Problem Solving: Use a Model—pp. 254–255 **Chapter 12 Decimals: Multiplication** • 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: More Than One Way—pp. 280–281

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NUMBER SENSE AND BASE TEN

Grade 5 Content Standards	*Sadlier Math*, Grade 5
	Chapter 13 Decimals: Division • 13-1 Divide by Powers of 10—pp. 288–289 • 13-2 Model Dividing a Decimal by a Whole Number—pp. 290–291 • 13-5 Divide Decimals by Whole Numbers—pp. 296–297 • 13-6 Zeros in Decimal Quotients—pp. 298–299 • 13-7 Division with Money—pp. 302–303 • 13-8 Problem Solving: Work Backward—pp. 304–305 • 13-9 Model Dividing a Decimal by a Decimal—pp. 306–307 • 13-10 Divide a Decimal by a Decimal—pp. 308–309

NUMBER SENSE AND OPERATIONS — FRACTIONS

Grade 5 Content Standards	*Sadlier Math*, Grade 5
The student will:	
5.NSF.1 Add and subtract fractions with unlike denominators (including mixed numbers) using a variety of models, including an area model and number line.	**Chapter 6 Fractions: Addition** • 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 • 6-6 Rename Mixed Number Sums—pp. 134–135 **Chapter 7 Fractions: Subtraction** • 7-1 Model Subtraction of Fractions with Unlike Denominators—pp. 142–143 • 7-2 Subtract Fractions: Unlike Denominators—pp. 144–145 • 7-3 Subtract Fractions: Estimation and Reasonableness—pp. 146–147 • 7-4 Model Subtraction with Mixed Numbers—pp. 150–151 • 7-5 Estimate Sums and Differences of Mixed Numbers—pp. 152–153 • 7-6 Subtract Fractions and Whole Numbers from Mixed Numbers—pp. 154–155 • 7-7 Subtract Mixed Numbers: Rename Fractions—pp. 156–157 • 7-8 Subtract Mixed Numbers: Rename Whole Numbers and Fractions—pp. 158–159

NUMBER SENSE AND OPERATIONS — FRACTIONS

Grade 5 Content Standards	*Sadlier Math*, Grade 5
5.NSF.2 Solve real-world problems involving addition and subtraction of fractions with unlike denominators.	**Chapter 6 Fractions: Addition** • 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 • 6-6 Rename Mixed Number Sums—pp. 134–135 **Chapter 7 Fractions: Subtraction** • 7-1 Model Subtraction of Fractions with Unlike Denominators—pp. 142–143 • 7-2 Subtract Fractions: Unlike Denominators—pp. 144–145 • 7-3 Subtract Fractions: Estimation and Reasonableness—pp. 146–147 • 7-5 Estimate Sums and Differences of Mixed Numbers—pp. 152–153 • 7-7 Subtract Mixed Numbers: Rename Fractions—pp. 156–157 • 7-8 Subtract Mixed Numbers: Rename Whole Numbers and Fractions—pp. 158–159 **Chapter 9 Fractions: Division** • 9-6 Word Problems Involving Fraction Division—pp. 210–211
5.NSF.3 Understand the relationship between fractions and division of whole numbers by interpreting a fraction as the numerator divided by the denominator (i.e., $\frac{a}{b} = a \div b$).	**Chapter 5 Number Theory and Fractions** • 5-8 Interpret a Remainder—pp. 114–115 **Chapter 8 Fractions: Multiplication** • 8-6 Rename Mixed Numbers as Fractions—pp. 180–181 • 8-7 Estimate Products with Mixed Numbers—pp. 182–183
5.NSF.4 Extend the concept of multiplication to multiply a fraction or whole number by a fraction.	
a. Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths;	**Chapter 8 Fractions: Multiplication** • 8-10 Find the Area of a Rectangle—pp. 188–189
b. Interpret multiplication of a fraction by a whole number and a whole number by a fraction and compute the product;	**Chapter 8 Fractions: Multiplication** • 8-1 Model Multiplying Fractions—pp. 168–169 • 8-3 Multiply Fractions and Whole Numbers—pp. 172–173

NUMBER SENSE AND OPERATIONS — FRACTIONS

Grade 5 Content Standards	*Sadlier Math*, Grade 5
c. Interpret multiplication in which both factors are fractions less than one and compute the product.	**Chapter 8 Fractions: Multiplication** • 8-1 Model Multiplying Fractions—pp. 168–169 • 8-2 Multiply Fractions by Fractions—pp. 170–171
5.NSF.5 Justify the reasonableness of a product when multiplying with fractions.	
a. Estimate the size of the product based on the size of the two factors;	**Chapter 8 Fractions: Multiplication** • 8-7 Estimate Products with Mixed Numbers—pp. 182–183
b. Explain why multiplying a given number by a number greater than 1 (e.g., improper fractions, mixed numbers, whole numbers) results in a product larger than the given number;	**Chapter 8 Fractions: Multiplication** • 8-4 Scaling Fractions—pp. 174–175
c. Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number;	**Chapter 8 Fractions: Multiplication** • 8-4 Scaling Fractions—pp. 174–175
d. Explain why multiplying the numerator and denominator by the same number has the same effect as multiplying the fraction by 1.	**Chapter 8 Fractions: Multiplication** • 8-4 Scaling Fractions—pp. 174–175
5.NSF.6 Solve real-world problems involving multiplication of a fraction by a fraction, improper fraction and a mixed number.	**Chapter 8 Fractions: Multiplication** • 8-2 Multiply Fractions by Fractions—pp. 170–171 • 8-3 Multiply Fractions and Whole Numbers—pp. 172–173 **Chapter 9 Fractions: Division** • 9-6 Word Problems Involving Fraction Division—pp. 210–211
5.NSF.7 Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations.	
a. Interpret division of a unit fraction by a non-zero whole number and compute the quotient;	**Chapter 9 Fractions: Division** • 9-4 Divide Unit Fractions by Whole Numbers—pp. 206–207 • 9-5 Divide Fractions by Whole Numbers—pp. 208–209

NUMBER SENSE AND OPERATIONS — FRACTIONS

Grade 5 Content Standards	*Sadlier Math*, Grade 5
b. Interpret division of a whole number by a unit fraction and compute the quotient.	**Chapter 9 Fractions: Division** • 9-1 Divide Whole Numbers by Unit Fractions—pp. 198–199 • 9-2 Reciprocals—pp. 200–201 • 9-3 Divide Whole Numbers by Fractions—pp. 202–203
5.NSF.8 Solve real-world problems involving division of unit fractions and whole numbers, using visual fraction models and equations.	**Chapter 9 Fractions: Division** • 9-6 Word Problems Involving Fraction Division—pp. 210–211

ALGEBRAIC THINKING AND OPERATIONS

Grade 5 Content Standards	*Sadlier Math*, Grade 5
The student will:	
5.ATO.1 Evaluate numerical expressions involving grouping symbols (i.e., parentheses, brackets, braces).	**Chapter 1 Place Value, Addition and Subtraction** • 1-5 Addition Properties and Subtraction Rules—pp. 12–13 **Chapter 2 Place Value and Decimals** • 2-2 Decimals and Expanded Form—pp. 26–27 **Chapter 3 Multiplication** • 3-1 Multiplication Properties—pp. 44–45 **Chapter 4 Division** • 4-10 Order of Operations—pp. 88–89 • 4-11 Expressions—pp. 90–91 **Chapter 7 Fractions: Subtraction** • 7-2 Subtract Fractions: Unlike Denominators—pp. 144–145 **Chapter 17 Graphs and Data** • 12-7 Multiply Decimals by Decimals—pp. 276–277 • 12-8 Zeros in the Product—pp. 278–279
5.ATO.2 Translate verbal phrases into numerical expressions and interpret numerical expressions as verbal phrases.	**Chapter 1 Place Value, Addition and Subtraction** • 1-5 Addition Properties and Subtraction Rules—pp. 12–13 • 1-6 Estimate Sums and Differences—pp. 14–15 • 1-7 Find Sums and Differences—pp. 16–17 **Chapter 3 Multiplication** • 3-2 Multiplication Patterns—pp. 46–47

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ALGEBRAIC THINKING AND OPERATIONS

Grade 5 Content Standards	*Sadlier Math*, Grade 5
	• 3-3 Estimate Products—pp. 48–49 **Chapter 4 Division** • 4-10 Order of Operations—pp. 88–89 • 4-11 Expressions—pp. 90–91
5.ATO.3 Investigate the relationship between two numerical patterns.	
a. Generate two numerical patterns given two rules and organize in tables;	**Chapter 17 Graphs and Data** • 17-5 Write Number Patterns—pp. 390–391 • 17-6 Graph Number Patterns—pp. 392–393 • 17-7 Problem Solving: Find and Use a Pattern—pp. 394–395
b. Translate the two numerical patterns into two sets of ordered pairs;	**Chapter 17 Graphs and Data** • 17-5 Write Number Patterns—pp. 390–391 • 17-6 Graph Number Patterns—pp. 392–393 • 17-7 Problem Solving: Find and Use a Pattern—pp. 394–395
c. Graph the two sets of ordered pairs on the same coordinate plane;	**Chapter 17 Graphs and Data** • 17-3 The Coordinate Plane—pp. 386–387 • 17-4 Using Coordinate Graphs—pp. 388–389
d. Identify the relationship between the two numerical patterns.	**Chapter 17 Graphs and Data** • 17-5 Write Number Patterns—pp. 390–391 • 17-6 Graph Number Patterns—pp. 392–393 • 17-7 Problem Solving: Find and Use a Pattern—pp. 394–395

GEOMETRY

Grade 5 Content Standards	*Sadlier Math*, Grade 5
The student will:	
5.G.1 Define a coordinate system.	
a. The *x*- and *y*- axes are perpendicular number lines that intersect at 0 (the origin);	**Chapter 17 Graphs and Data** • 17-3 The Coordinate Plane—pp. 386–387
b. Any point on the coordinate plane can be represented by its coordinates;	**Chapter 17 Graphs and Data** • 17-3 The Coordinate Plane—pp. 386–387

GEOMETRY

Grade 5 Content Standards	*Sadlier Math*, Grade 5
c. The first number in an ordered pair is the x-coordinate and represents the horizontal distance from the origin;	**Chapter 17 Graphs and Data** • 17-3 The Coordinate Plane—pp. 386–387
d. The second number in an ordered pair is the y-coordinate and represents the vertical distance from the origin.	**Chapter 17 Graphs and Data** • 17-3 The Coordinate Plane—pp. 386–387
5.G.2 Plot and interpret points in the first quadrant of the coordinate plane to represent real-world and mathematical situations.	**Chapter 17 Graphs and Data** • 17-3 The Coordinate Plane—pp. 386–387 • 17-4 Using Coordinate Graphs—pp. 388–389
5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.	**Chapter 15 Geometry** • 15-1 Polygons—pp. 342–343 • 15-2 Triangles—pp. 344–345 • 15-3 Quadrilaterals—pp. 348–349 • 15-4 Classify Quadrilaterals—pp. 350–351
5.G.4 Classify two-dimensional figures in a hierarchy based on their attributes.	**Chapter 15 Geometry** • 15-2 Triangles—pp. 344–345 • 15-4 Classify Quadrilaterals—pp. 350–351

MEASUREMENT AND DATA ANALYSIS

Grade 5 Content Standards	*Sadlier Math*, Grade 5
The student will:	
5.MDA.1 Convert measurements within a single system of measurement: customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., mm, cm, m, km, g, kg, mL, L) from a larger to a smaller unit and a smaller to a larger unit.	**Chapter 14 Measurement** • 14-1 Relate Customary Units of Length—pp. 316–317 • 14-2 Relate Customary Units of Capacity—pp. 318–319 • 14-3 Relate Customary Units of Weight—pp. 320–321 • 14-4 Compute with Customary Units—pp. 322–323 • 14-5 Relate Metric Units of Length—pp. 326–327 • 14-6 Relate Metric Units of Capacity—pp. 328–329 • 14-7 Relate Metric Units of Mass—pp. 330–331 • 14-8 Compute with Metric Units—pp. 332–333

MEASUREMENT AND DATA ANALYSIS

Grade 5 Content Standards	*Sadlier Math*, Grade 5
5.MDA.2 Create a line plot consisting of unit fractions and use operations on fractions to solve problems related to the line plot.	**Chapter 17 Graphs and Data** • 17-1 Line Plots with Whole Numbers and Decimals—pp. 380–381 • 17-2 Line Plots with Fractions and Mixed Numbers—pp. 382–383
5.MDA.3 Understand the concept of volume measurement.	
a. Recognize volume as an attribute of right rectangular prisms;	**Chapter 16 Volume** • 16-3 Volumes of Rectangular Prisms—pp. 364–365
b. Relate volume measurement to the operations of multiplication and addition by packing right rectangular prisms and then counting the layers of standard unit cubes;	**Chapter 16 Volume** • 16-2 Cubic Measure—pp. 362–363 • 16-3 Volumes of Rectangular Prisms—pp. 364–365
c. Determine the volume of right rectangular prisms using the formula derived from packing right rectangular prisms and counting the layers of standard unit cubes.	**Chapter 16 Volume** • 16-3 Volumes of Rectangular Prisms—pp. 364–365
5.MDA.4 Differentiate among perimeter, area and volume and identify which application is appropriate for a given situation.	**Chapter 8 Fractions: Multiplication** • 8-10 Find the Area of a Rectangle—pp. 188–189 **Chapter 16 Volume** • 16-3 Volumes of Rectangular Prisms—pp. 364–365 • 16-4 Volume Formulas—pp. 368–369 • See also Grade 4 • Chapter 17 Polygons • 17-6 Use Perimeter Formulas—pp. 382–383 • 17-7 Use Area Formulas—pp. 384–385