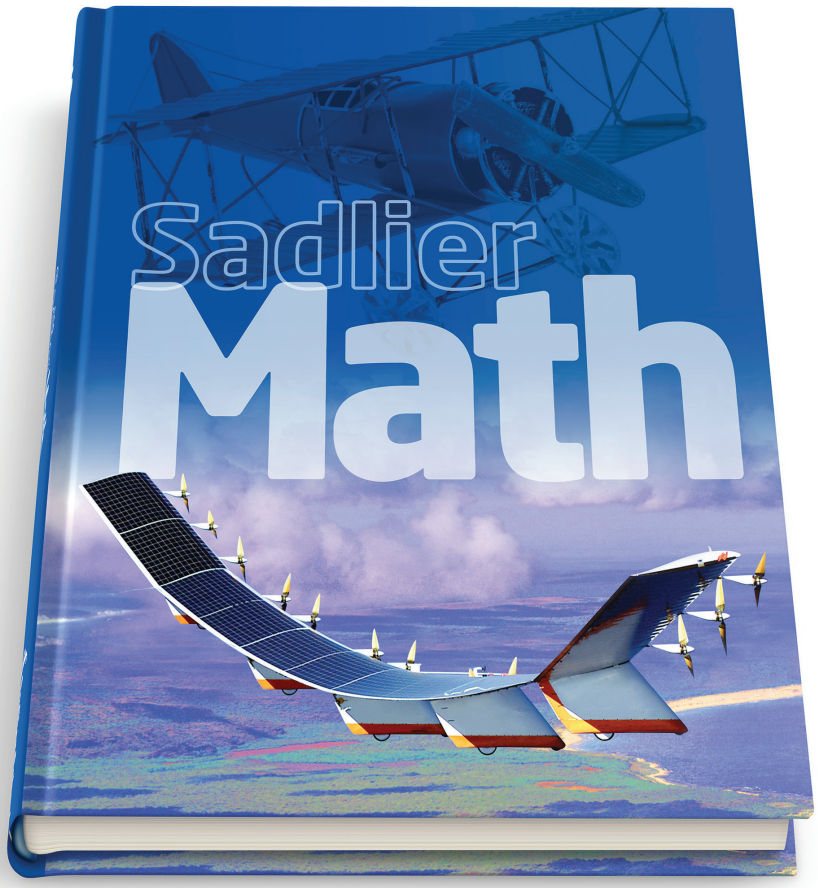
Sadlier Math™

Correlation to the Diocese of Richmond Mathematics Curriculum

Grade 5



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Problem Solving (Strategies)

5th Grade Content Standards	*Sadlier Math*, Grade 5
Problem solving is integrated throughout the content strands. The development of problem-solving skills is a major goal of the mathematics program at every grade level. Instruction in the process of problem solving, which should include problems involving Catholic Social Teaching, not just textbook word problems, will need to be integrated early and continuously into each student's mathematics education. Students must be helped to develop a wide range of skills and strategies for solving a variety of problem types. The student will apply the following problem solving strategies to solve real life situations (use of manipulatives is imperative):	**Chapter 1: 1-4** • 1-4 Problem Solving: The Four-Step Process—pp. 10–11 **Chapter 2: 2-5** • 2-5 Problem Solving: Use Logical Reasoning—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 a Table—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: 8-11** • 8-11 Problem Solving: Use Logical Reasoning —pp. 190–191 **Chapter 9: 9-7** • 9-7 Problem Solving: More Than One Way—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: More Than One Way—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 a Picture—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

I. NUMBERS AND OPERATIONS

5th Grade Content Standards	*Sadlier Math*, Grade 5
GOAL: For students to develop fluency with division of whole numbers, with addition and subtraction of fractions, and addition and subtraction of decimals. The students will extend their understanding of fractions and fractional parts. "Students will develop an understanding of decimals including the connections between fractions and decimals" Focal Points. Teachers should reinforce the process of estimation at each grade level. Students should continue to determine the reasonableness of answers.	
A. Number Sense	
No objectives.	
B. Addition and Subtraction	
No objectives.	
Students should continue to practice skills.	
C. Multiplication and Division	
The student will:	
1. Write remainders as fractions	**Chapter 5: 5-8** • 5-8 Interpret a Remainder—pp. 114–115
2. Divide when zeros are present in the dividend	**Chapter 4: 4-1 4-3 & 4-7** • 4-1 Division Patterns—pp. 68–69 • 4-3 Divide by One-Digit Numbers—pp. 72–73 • 4-7 Use Strategies to Divide—pp. 82–83
3. Divide multi-digit dividends by multi-digit divisors	**Chapter 4: 4-8** • 4-8 Divide by Two-Digit Numbers—pp. 84–85
4. Recite and use divisibility rules for 2,3,4,5,6,9 and 10	**Chapter 4: 4-5** • 4-5 Divisibility and Mental Math—pp. 76–77
D. Properties	
No objectives.	

I. NUMBERS AND OPERATIONS

5th Grade Content Standards	*Sadlier Math*, Grade 5
Students should continue to use and explore the property of zero, the property of one and the associative and commutative properties.	**Chapter 1: 1-5** • 1-5 Addition Properties and Subtraction Rules—pp. 12–13 **Chapter 3: 3-1** • 3-1 Multiplication Properties—pp. 44–45 **Chapter 10: 10-2** • 10-2 Use Properties to Add Decimals—pp. 222–223
E. Fractions/Decimals/Percents	
The student will:	
1. Find the least common multiple and the greatest common factor	**Chapter 5: 5-2 & 5-4** • 5-2 Common Factors—pp. 100–101 (GCF) • 5-4 Common Multiples and Common Denominators—pp. 106–107 (LCM)
2. Find the least common denominator for two or more fractions	**Chapter 5: 5-4 & 5-7** • 5-4 Common Multiples and Common Denominators—pp. 106–107 (LCD) • 5-7 Compare and Order Fractions and Mixed Numbers—pp. 112–113 **Chapter 6: 6-1, 6-2 & 6-4** • 6-1 Model Addition with Unlike Denominators—pp. 122–123 (LCD) • 6-2 Add Fractions: Unlike Denominators—pp. 124–125 (LCD) • 6-4 Add Mixed Numbers—pp. 130–131 (LCD)
3. Add and subtract fractions with like and unlike denominators	**Chapter 6: 6-1& 6-2** • 6-1 Model Addition with Unlike Denominators—pp. 122–123 • 6-2 Add Fractions: Unlike Denominators—pp. 124–125 **Chapter 7: 7-1 & 7-2** • 7-1 Model Subtraction of Fractions with Unlike Denominators—pp. 142–143 • 7-2 Subtract Fractions: Unlike Denominators—pp. 144–145 See also Grade 4 **Chapter 11: 11-2 & 11-5** • 11-2 Add Fractions: Like Denominators—pp. 226–227 • 11-5 Subtract Fractions: Like Denominators—pp. 232–233
4. Add and subtract mixed numbers with like and unlike denominators	**Chapter 6: 6-4 & 6-6** • 6-4 Add Mixed Numbers—pp. 130–131 • 6-6 Rename Mixed Number Sums—pp. 134–135 **Chapter 7: 7-4, 7-6 through 7-8** • 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

continued

I. NUMBERS AND OPERATIONS

5th Grade Content Standards	*Sadlier Math*, Grade 5
	See also Grade 4 **Chapter 11: 11-7 & 11-8** • 11-7 Add Mixed Numbers: Like Denominators—pp. 238–239 • 11-8 Subtract Mixed Numbers: Like Denominators—pp. 240–241
5. Change terminating decimals to fractions and fractions with decimals	See Grade 6 **Chapter 7: 7-2 through 7-4** • 7-2 Relate Fractions and Decimals—pp. 144–145 • 7-3 Rename Fractions as Decimals—pp. 146–147 • 7-4 Rename Decimals as Fractions—pp. 148–149
6. Add and subtract decimals	**Chapter 10: 10-1, 10-2, 10-5 through 10-7** • 10-1 Use Models to Add Decimals—pp. 220–221 • 10-2 Use Properties to Add Decimals—pp. 222–223 • 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: 11-1, 11-3** • 11-1 Use Models to Subtract Decimals—pp. 242–243 • 11-3 Subtract Decimals: Hundredths—pp. 248–249 • 11-4 Subtract Decimals: Thousandths—pp. 250–251 • 11-5 Subtraction with Money—pp. 252–253
7. Round numbers less than 1 to tenths, hundredths and thousandths	**Chapter 2: 2-4** • 2-4 Round Decimals—pp. 32–33
8. Multiply and divide decimals (with both whole numbers and decimals in the divisor)	**Chapter 12: 12-2, 12-4 through 12-8** • 12-2 Use Properties to Multiply a Decimal by a Whole Number—pp. 264–265 • 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 **Chapter 13: 13-2, 13-5 through 13-7, 13-9 & 13-10** • 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 • 13-9 Model Dividing a Decimal by a Decimal—pp. 306–307 • 13-10 Divide a Decimal by a Decimal—pp. 308–309

I. NUMBERS AND OPERATIONS

5th Grade Content Standards	*Sadlier Math*, Grade 5
9. Reduce fractions to lowest terms	**Chapter 5: 5-6** • 5-6 Fractions Greater Than or Equal to One—pp. 110–111 (simplest form) See also Grade 4 **Chapter 10: 10-5** • 10-5 Fractions: Lowest Terms—pp. 200–201

II. MEASUREMENT

5th Grade Content Standards	*Sadlier Math*, Grade 5
Students should be able to estimate and measure and in both customary and metric measurements of length, weight, capacity, temperature and time and money. As their ability to measure increases, they should be able to determine the reasonableness of their answers. Students should use appropriate labels for answers.	
A. Linear Measurement	
The student will:	
1. Convert within customary units and metric units of measurement using multiplication and division (How many inches are in two feet? How many cm are in 36 meters? What fractional part of a foot is 3 inches?)	**Chapter 14: 14-1 through 14-8** • 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
B. Weight	
The student will:	
1. Convert within the same system of weight using multiplication and division (How many ounces are in two pounds? How many grams are in 32 Kg? What fractional part of a pound is 4 ounces?)	**Chapter 14: 14-3 & 14-7** • 14-3 Relate Customary Units of Weight—pp. 320–321 • 14-7 Relate Metric Units of Mass—pp. 330–331

II. MEASUREMENT

5th Grade Content Standards	*Sadlier Math*, Grade 5
C. Temperature	
No objectives.	
D. Time/Money	
The student will:	
1. Add, subtract, multiply and divide money amounts	**Chapter 10: 10-7** • 10-7 Addition with Money—pp. 234–235 **Chapter 11: 11-5** • 11-5 Subtraction with Money—pp. 252–253 *continued*
	Chapter 12: 12-5 • 12-5 Multiplication with Money—pp. 270–271 **Chapter 13: 13-4 & 13-7** • 13-4 Estimate with Money—pp. 294–295 • 13-7 Division with Money—pp. 302–303
2. Make change to values greater than ten dollars	See related content **Chapter 13: 13-8** • 13-8 Problem Solving: Work Backward—pp. 304–305 (workbook: make change) See Grade 2 related content **Chapter 12: 12-5** • 12-5 Make Change—pp. 513–516
3. Use time applications to solve problems (elapsed time)	See Grade 4 **Chapter 15: 15-3** • 15-3 Elapsed Time—pp. 328–329

III. GEOMETRY

5th Grade Content Standards	*Sadlier Math*, Grade 5
The student will:	
1. Identify and use formulas for area and perimeter for rectangles and triangles	**Chapter 8: 8-10** • 8-10 Find the Area of a Rectangle—pp. 188–189 See Grade 4 related content **Chapter 17: 17-6 & 17-7** • 17-6 Use Perimeter Formulas—pp. 382–383 • 17-7 Use Area Formulas—pp. 384–385

III. GEOMETRY

5th Grade Content Standards	*Sadlier Math*, Grade 5
2. Identify three-dimensional figures including faces, vertices, edges of cubes and pyramids	**Chapter 16: 16-1** • 16-1 Solid Figures—pp. 360–361
3. Identify the effects of combining basic shapes (i.e., the area and perimeter of a square and an adjacent triangle)	See Grade 3 **Chapter 16: 16-5 & 16-6** • 16-5 Same Perimeter, Different Areas—pp. 342–343 • 16-6 Same Area, Different Perimeters—pp. 344–345
4. Draw a pattern for a three-dimensional figure	See Grade 6 **Chapter 15: 15-1** • 15-1 Nets of Three-Dimensional Figures—pp. 338–339
5. Find the surface area and volume of three-dimensional shapes (rectangular prisms)	See Grade 6 **Chapter 15: 15-2 through 15-5** • 15-2 Use Nets to Find Surface Areas of Prisms—pp. 340–341 • 15-3 Use Nets to Find Surface Areas of Pyramids—pp. 342–343 • 15-4 Use Cubes to Find Volumes—pp. 346–347 • 15-5 Volumes of Right Rectangular Prisms—pp. 348–349
6. Derive the formula for the area of a triangle and shapes made from triangles	See Grade 6 **Chapter 14: 14-2 & 14-6** • 14-2 Areas of Triangles—pp. 318–319 • 14-6 Areas of Composite Figures—pp. 328–329

IV. STATISTICS, PROBABILITY AND DATA ANALYSIS

5th Grade Content Standards	*Sadlier Math*, Grade 5
GOAL: The student will display and interpret data and predict outcomes The student will:	
1. Construct, interpret and analyze bar graphs, line graphs and pictographs using whole numbers	See Grade 6 **Chapter 12: 12-1 through 12-4** • 12-1 Read Picture Graphs—pp. 252–253 • 12-2 Make Picture Graphs—pp. 254–255 • 12-3 Read Bar Graphs—pp. 256–257 • 12-4 Make Bar Graphs—pp. 258–259
2. Compare data and predict outcomes for the data	See Grade 4 **Chapter 15: 15-6** • 15-6 Line Plots—pp. 336–337

IV. STATISTICS, PROBABILITY AND DATA ANALYSIS

5th Grade Content Standards	*Sadlier Math*, Grade 5
3. Create a scatter plot using ordered pairs to graph points on a coordinate grid	N/A
4. Compute the mean, median, mode and range of data sets	See Grade 6 **Chapter 16: 16-2 & 16-3** • 16-2 Measures of Center—pp. 360–361 • 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363

V. ALGEBRA

5th Grade Content Standards	*Sadlier Math*, Grade 5
The student will:	
1. Find the missing numbers in a sequence	**Chapter 17: 17-5** • 17-5 Write Number Patterns—pp. 390–391
2. Identify the order of operations for simplifying mathematical equations	**Chapter 4: 4-10** • 4-10 Order of Operations—pp. 88–89
3. Simplify expressions using order of operations	**Chapter 4: 4-10** • 4-10 Order of Operations—pp. 88–89
4. Write and solve equation using a variable	**Chapter 4: 4-11** • 4-11 Expressions—pp. 90–91 **Chapter 7: 7-9** • 7-9 Problem Solving: Write and Solve an Equation—pp. 160–161