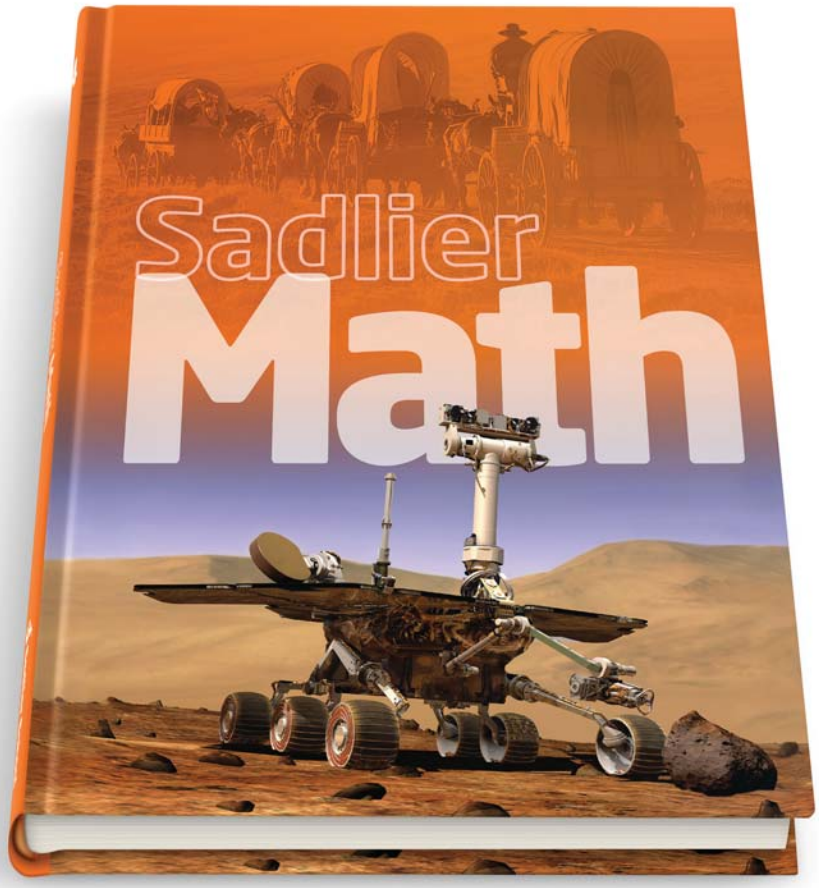
Sadlier Math™

Correlation to the Archdiocese of Newark Catholic Schools Curriculum Map for Mathematics

Grade 4



Learn more at www.SadlierSchool.com/SadlierMath

FIRST TRIMESTER: SEPTEMBER - NOVEMBER

Grade 4 Content Standards	*Sadlier Math*, Grade 4
Place Value and Number Sense: Millions – Thousandths	
4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *Example: Recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*	**Chapter 1: 1-2 & 1-3**
4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**Chapter 1: 1-1 through 1-6**
4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.	**Chapter 1: 1-5**
4.NBT.S1 Locate, order, and compare whole numbers on a number line.	**Chapter 1: 1-5 & 1-6**
4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	**Chapter 13: 13-6 & 13-7**
4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**Chapter 2: 2-1 through 2-3** **Chapter 3: 3-1 & 3-6** **Chapter 4: 4-4** **Chapter 7: 7-3** **Chapter 8: 8-1 & 8-3**

FIRST TRIMESTER: SEPTEMBER - NOVEMBER

Grade 4 Content Standards	*Sadlier Math*, Grade 4
Addition: Millions – Thousandths	
4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.	**Chapter 2: 2-2, 2-4 through 2-6** **Chapter 3: 3-2 through 3-5**
4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.	**Chapter 7: 7-5** **Chapter 17: 17-5**
Multiplication	
4.OA.1 Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	**Chapter 4: 4-5** **Chapter 5: 5-5**
4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	**Chapter 4: 4-5** **Chapter 5: 5-5** **Chapter 7: 7-6** **Chapter 8: 8-8**
4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**Chapter 4: 4-1 through 4-3** **Chapter 5: 5-1 through 5-5** **Chapter 6: 6-1 through 6-5** **Chapter 8: 8-7**
4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. All students will gain familiarity with factors and multiples.	**Chapter 7: 7-5** **Chapter 17: 17-5**

FIRST TRIMESTER: SEPTEMBER - NOVEMBER

Grade 4 Content Standards	*Sadlier Math*, Grade 4
Factors and Multiples	
4.OA.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	**Chapter 9: 9-1 through 9-5**
Division	
4.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**Chapter 7: 7-1, 7-2 & 7-4** **Chapter 8: 8-1 through 8-7**
Problem Solving Skills / Strategies	
4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**Chapter 2: 2-1 through 2-3** **Chapter 3: 3-1 & 3-6** **Chapter 4: 4-4** **Chapter 7: 7-3** **Chapter 8: 8-1 & 8-3**

FIRST TRIMESTER: SEPTEMBER - NOVEMBER

Grade 4 Content Standards	*Sadlier Math*, Grade 4
4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	**Chapter 14: 14-1 through 14-9** **Chapter 15: 15-1 through 15-3**

SECOND TRIMESTER: DECEMBER - FEBRUARY

Grade 4 Content Standards	*Sadlier Math*, Grade 4
Graphing	
4.MD.S4 Draw conclusions and make predictions based on representations of data sets such as: tallies, tables, bar graphs, pictographs, circle graphs, line graphs, and line plots.	**Chapter 3: 3-7** **Chapter 15: 15-5 through 15-8** See also Grade 3 **Chapter 12: 12-1 through 12-8** See also Grade 6 **Chapter 17: 17-5**
4.OA.S2 Represent and analyze patterns and functions using words, tables, and graphs.	**Chapter 7: 7-5**
Multiplication	
4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *Example: Recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*	**Chapter 1: 1-2 & 1-3**

SECOND TRIMESTER: DECEMBER - FEBRUARY

Grade 4 Content Standards	*Sadlier Math*, Grade 4
4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**Chapter 4: 4-1 through 4-3** **Chapter 5: 5-1 through 5-5** **Chapter 6: 6-1 through 6-5** **Chapter 8: 8-7**
Division and Divisibility Rules	
4.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**Chapter 7: 7-1, 7-2 & 7-4** **Chapter 8: 8-1 through 8-7**
4.OA.S1 Develop and use strategies to recognize divisibility by 2, 3, 4, 5, 6, 9 and 10.	**Chapter 8: 8-2** **Chapter 9: 9-3**
4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.	**Chapter 7: 7-5** **Chapter 17: 17-5**
Problem Solving	
4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	**Chapter 4: 4-5** **Chapter 5: 5-5** **Chapter 7: 7-6** **Chapter 8: 8-8**

SECOND TRIMESTER: DECEMBER - FEBRUARY

Grade 4 Content Standards	*Sadlier Math*, Grade 4
4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**Chapter 2: 2-1 through 2-3** **Chapter 3: 3-1 & 3-6** **Chapter 4: 4-4** **Chapter 7: 7-3** **Chapter 8: 8-1 & 8-3**
Statistics and Probability	
4.MD.S6 Conduct simple probability experiments using spinners, counters, number cubes, and other concrete objects and classify outcomes as certain, likely, unlikely, or impossible.	N/A
Fractions and Mixed Numbers	
4.NF.S1 Identify the numerator and denominator of a fraction and understand what each refers to.	**Chapter 10: 10-4** See also Glossary (p. G2 & G7)
4.NF.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	**Chapter 10: 10-1 through 10-6**

SECOND TRIMESTER: DECEMBER - FEBRUARY

Grade 4 Content Standards	*Sadlier Math*, Grade 4
4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	**Chapter 10: 10-7 through 10-11**
4.NF.3 Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.	
a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	**Chapter 11: 11-1 through 11-5**
b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions (e.g., by using a visual fraction model).	**Chapter 11: 11-2 through 11-4**
c. Add and subtract mixed numbers with like denominators (e.g., by replacing each mixed number with an equivalent fraction) and/or by using properties of operations and the relationship between addition and subtraction..	**Chapter 10: 10-9** **Chapter 11: 11-6 through 11-8**
d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators (e.g., by using visual fraction models and equations to represent the problem).	**Chapter 11: 11-1 through 11-5**

SECOND TRIMESTER: DECEMBER - FEBRUARY

Grade 4 Content Standards	*Sadlier Math*, Grade 4
4.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	
c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?	**Chapter 12: 12-1 through 12-7**
Geometry: Angles, Lines	
4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	**Chapter 16: 16-1 through 16-6**
4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:	
a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.	**Chapter 16: 16-2**
b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.	**Chapter 16: 16-1 & 16-2**
3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	**Chapter 15: 15-1 through 15-3**

SECOND TRIMESTER: DECEMBER - FEBRUARY

Grade 4 Content Standards	*Sadlier Math*, Grade 4
Polygons	
4.G.2 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. Recognize right triangles as a category, and identify right triangles.	**Chapter 17: 17-1 through 17-3**
4.G.S1 Identify, compare, and analyze attributes of two-dimensional and three-dimensional geometric shapes using mathematical vocabulary.	**Chapter 17: 17-1 through 17-3** See also Grade 5 (three-dimensional shapes) **Chapter 16: 16-1**
Symmetry and Congruence	
4.G.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	**Chapter 17: 17-4**
4.G.S2 Recognize similar figures and congruent figures.	N/A
Coordinate Plane	
4.G.S3 Using ordered pairs of numbers and/or letters, graph, locate, identify points, and describe paths. (first quadrant).	See Grade 5 **Chapter 17: 17-3**
Transformations	
4.G.RCAN Apply transformations of shapes to solve problems.	N/A

SECOND TRIMESTER: DECEMBER - FEBRUARY

Grade 4 Content Standards	*Sadlier Math*, Grade 4
Perimeter / Area / Volume	
4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.	**Chapter 17: 17-6 & 17-7**
Patterns	
4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.	**Chapter 7: 7-5** **Chapter 17: 17-5**
Measurement: Weights, Lengths, Capacity, Conversion	
4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.	**Chapter 14: 14-1 through 14-10**
4.MD.S1 Develop strategies for estimating measurements and determine when estimation is appropriate.	**Chapter 14: 14-1 through 14-10** **Chapter 16: 16-3**
4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	**Chapter 14: 14-1 through 14-9** **Chapter 15: 15-1 through 15-3**

THIRD TRIMESTER: MARCH - JUNE

Grade 4 Content Standards	*Sadlier Math*, Grade 4
Graphing and Data	
4.MD.S2 Collect data through surveys, observations, measurements, and experiments and determine the most appropriate way to organize the collected data.	See Grade 6 **Chapter 17: 17-3**
4.MD.4 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.	**Chapter 15: 15-6 & 15-7**
4.MD.S3 Construct representations of data sets including tables, bar graphs, pictographs, line graphs, and line plots.	**Chapter 3: 3-7** **Chapter 15: 15-5 through 15-8** See also Grade 3 **Chapter 12: 12-1 through 12-8** **Chapter 17: 17-5**
4.MD.S4 Draw conclusions and make predictions based on representations of data sets such as: tallies, tables, bar graphs, pictographs, circle graphs, line graphs, and line plots.	
4.MD.S5 Explore the concept of median, mode, maximum and minimum, and range.	See Grade 6 **Chapter 16: 16-1 through 16-5**
Order of Operations	
5.OA.S1 Apply the order of operations for expressions involving addition, subtraction, multiplication, and division with grouping symbols (+, –, x, ÷).	**Chapter 8: 8-6**
Algebraic Expressions and Equations	
4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems	**Chapter 2: 2-1 through 2-3** **Chapter 3: 3-1 & 3-6** **Chapter 4: 4-4** **Chapter 7: 7-3** **Chapter 8: 8-1 & 8-3**

continued

THIRD TRIMESTER: MARCH - JUNE

Grade 4 Content Standards	*Sadlier Math*, Grade 4
using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	

Functions

4.OA.S2 Represent and analyze patterns and functions using words, tables, and graphs.	**Chapter 4: 4-3** **Chapter 6: 6-5** **Chapter 7: 7-5**

Fractions: Addition, Subtraction and Multiplication

4.NF.3 Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.	
a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	**Chapter 11: 11-1 through 11-5**
4.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	
a. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*	**Chapter 12: 12-1 through 12-4**
b. Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*	**Chapter 12: 12-1 through 12-5**

Decimals

4.NF.6 Use decimal notation for fractions with denominators 10 or 100.	**Chapter 13: 13-3 through 13-5**

THIRD TRIMESTER: MARCH - JUNE

Grade 4 Content Standards	*Sadlier Math*, Grade 4
Multi-Digit Multiplication	
4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**Chapter 4: 4-1 through 4-3** **Chapter 5: 5-1 through 5-5** **Chapter 6: 6-1 through 6-5** **Chapter 8: 8-7**
Multi-Digit Division	
4.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**Chapter 7: 7-1, 7-2 & 7-4** **Chapter 8: 8-1 through 8-7**
4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**Chapter 2: 2-1 through 2-3** **Chapter 3: 3-1 & 3-6** **Chapter 4: 4-4** **Chapter 7: 7-3** **Chapter 8: 8-1 & 8-3**