SADLIER

Progress in Mathematics

Aligned to the

Archdiocese of Detroit

Fourth Grade Mathematics Standards

Grade 4

Sadlier
William H. Sadlier, Inc.
www.sadlierschool.com
800-221-5175

Operations and Algebraic Thinking

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
Use the four operations with whole numbers to solve problems.		
4.OA.A.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.	***4-1B Use Multiplication to Compare Numbers**—Online Objective(s): To interpret a multiplication equation as a comparison. To represent verbal statements of multiplicative comparisons as multiplication equations.
4.OA.A.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.	***4-1B Use Multiplication to Compare Numbers**—Online Objective(s): To interpret a multiplication equation as a comparison. To represent verbal statements of multiplicative comparisons as multiplication equations. ***5-4A Use Bar Diagrams**—Online Objective(s): To use bar diagrams to solve multiplication and division problems. To solve word problems involving multiplicative comparisons. To distinguish multiplicative problems from additive comparison problems. **5-17 Problem Solving Strategy: Interpret the Remainder**—pp. 196–197 Objective(s): To solve problems using the strategy Interpret the Remainder. **5-18 Problem Solving Applications: Mixed Review**—pp. 198–199 Strategy File: Use These Strategies: Interpret the Remainder, Choose the Operation, Logical Reasoning, Write a Number Sentence **12-11 Problem Solving Strategy: Use More Than One Step**—pp. 402–403 Objective(s): To solve problems using the Use More Than One Step strategy. **12-12 Problem Solving Applications: Mixed Review**—pp. 404–405 Strategy File: Use These Strategies: Make a Table, Choose the Operation, Use More Than One Step, Find a Pattern, Use a Diagram/Graph, Interpret the Remainder **14-1 Equations**—pp. 442–443 Objective(s): To write number sentences to solve problems.
4.OA.A.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.	**Problem solving: use more than one step**—pp. 32, 34, 60, 71, 85, 89, 95, 99, 101, 109, 111, 113, 117, 118–119, 131, 135, 139, 141, 153, 154, 156–157, 165, 189, 195, 198, 209, 213, 215, 217, 219, 221, 223, 225, 230–231, 232–233, 241, 249, 259, 261, 289, 315, 316–317, 318–319, 350, 374–375, 397, 402–403, 404–405, 429, 432–433, 434–435, 454, 455, 456–457 **Assess reasonableness of solution**—pp. 21(SU), 30–31, 32–33, 34, 44–45, 57, 58–59, 60–61, 78–79, 80–81, 83–84, 88–89, 96–97, 99, 100–101, 102–103, 104–105, 106–107, 108–109, 110–111, 112–113, 114–115, 116–117, 118–119, 126, 131, 133, 134–135, 136–137, 138–139, 140–141, 142–143, 146–147, 148–149, 150–151, 152–153, 154–155, 156–157, 159, 174, 176–177, 178–179, 180–181, 182–183, 184–185, 187, 188–189, 190, 196–197, 198–199, 230–231, 232–233, 256–257, 258–259, 267, 270–271, 273, 276–277, 285, 286–287, 289, 298, 302–303, 315, 316–317, 318–319, *— continued on next page —*

*Online at progressinmathematics.com.

Operations and Algebraic Thinking

Archdiocese of Detroit: Fourth Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 4
	— *continued from previous page* — 335, 337, 339, 345, 348–349, 350–351, 384, 388–389, 390–391, 392, 394–395, 396–397, 398–399, 400, 402–403, 404–405, 421, 424, 426, 428–429, 430–431, 432–433, 434–435, 443, 444–445, 454–455, 456–457 **Estimation strategies**—pp. 80–81, 82–83, 96–97, 98, 100, 104, 106–107, 108, 116, 134–135, 136–137, 138–139, 140–141, 142–143, 146–147, 148–149, 150–151, 152–153, 159, 172–173, 174–175, 302–303, 386–387, 389, 391, 424–425, 429 **Introduction to Problem Solving: Use More Than One Step**—p. 32 **Introduction to Problem Solving: Write a Number Sentence**—p. 33
Gain familiarity with factors and multiples.	
4.OA.B.4 • Find all factor pairs for a whole number in the range 1–144. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–144 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–144 is prime or composite.	**2-4 Expressions and Variables**—pp. 74–75 Objective(s): To write an addition or subtraction expression with a variable. To solve a mathematical expression with a variable. **2-5 Addition and Subtraction Sentences**—pp. 76–77 Objective(s): To find missing addends, subtrahends, and minuends. **2-6 Mental Math**—pp. 78–79 Objective(s): To add and subtract mentally. ***4-6A Use Mental Math to Multiply**—Online Objective(s): To break apart numbers to find the product of a 2- or 3-digit number and a 1-digit number. To use arrays and the distributive property to find products. To use partial products to find products. ***5-13A Multistep Problems & Bar Diagrams**—Online Objective(s): To use a bar diagram to solve problems with more than one step. **5-17 Problem Solving Strategy: Interpret the Remainder**—pp. 196–197 Objective(s): To solve problems using the strategy Interpret the Remainder. **6-13 Problem Solving Strategy: Use More Than One Step**—pp. 230–231 Objective(s): To solve problems using more than one step. **12-11 Problem Solving Strategy: Use More Than One Step**—pp. 402–403 Objective(s): To solve problems using more than one step. **14-1 Equations**—pp. 442–443 Objective(s): To write number sentences to solve problems.
	8-6 Factors—pp. 276–277 Objective(s): To find factors, common factors, and the greatest common factor of two or more numbers. ***9-6A Factor Pairs**—Online Objective(s): To find factor pairs for a number in the range 1–100. To understand that a number is a multiple of all of its factors. ***9-6B Prime and Composite Numbers**—Online Objective(s): To decide whether a number is prime or composite

*Online at progressinmathematics.com.

Operations and Algebraic Thinking

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
Generate and Analyze Patterns.		
4.OA.C.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. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*	***4-1A Number Patterns**—Online Objective(s): To identify and generate number patterns. To use a function rule to find the output of a function. To find the rule for a function. **5-4 Number Patterns**—pp. 170–171 Objective(s): To create and extend number patterns. **10-12 Problem Solving Strategy: Find a Pattern**—pp. 348–349 Objective(s): To solve problems by finding geometric patterns. **14-3 Functions**—pp. 446–447 Objective(s): To complete function tables.

*Online at progressinmathematics.com.

Number and Operations in Base Ten

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
Generalize place value understanding for multi-digit whole numbers.		
4.NBT.A.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. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*	**Skills Update: Hundreds**—p. 1 **1-1 Thousands**—pp. 36–37 Objective(s): To understand place value through hundred thousands. To read and write numbers through hundred thousands. **1-2 What is One Million?**—pp. 38–39 Objective(s): To explore the magnitude of 1,000,000. **1-3 Millions**—pp. 40–41 Objective(s): To understand place value through hundred millions. To read and write numbers through hundred millions in words and in standard form. **1-4 Place Value**—pp. 42–43 Objective(s): To write numbers in expanded form from standard form and vice versa. To count on and back by 10, 100, and 1000.
4.NBT.A.2	• Read and write multi-digit whole numbers using standard form, word form, and expanded form. Compare two multi-digit numbers based on value of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**Skills Update: Hundreds**—p. 1 **Skills Update: Compare Whole Numbers**—p. 2 **1-1 Thousands**—pp. 36–37 Objective(s): To understand place value through hundred thousands. To read and write numbers through hundred thousands. **1-4 Place Value**—pp. 42–43 Objective(s): To write numbers in expanded form from standard form and vice versa. To count on and back by 10, 100, and 1000. **1-6 Compare and Order Whole Numbers**—pp. 46–47 Objective(s): To compare and order whole numbers.
4.NBT.A.3	• Use place value understanding to round multi-digit whole numbers to any place.	**1-10 Rounding**—pp. 54–55 Objective(s): To use rounding rules to round whole numbers and money amounts to a given place. See also— **2-7 Estimate Sums and Differences**—pp. 80–81 Objective(s): To use rounding to estimate sums and differences. **2-8 Add and Subtract Money** (rounding to estimate sums and differences)—pp. 82–83 Objective(s): To add and subtract money amounts with no regrouping. **4-11 Products: Rounding to Estimate**—pp. 146–147 Objective(s): To use rounding to estimate products.
4.NBT.A.4	• Read and write numbers to 1,000,000; relate them to the quantities they represent; compare and order.	**Skills Update: Hundreds**—p. 1 **Skills Update: Compare Whole Numbers**—p. 2 **1-1 Thousands**—pp. 36–37 Objective(s): To understand place value through hundred thousands. To read and write numbers through hundred thousands. **1-2 What is One Million?**—pp. 38–39 Objective(s): To explore the magnitude of 1,000,000. **1-3 Millions**—pp. 40–41 Objective(s): To understand place value through hundred millions. To read and write numbers through hundred millions in words and in standard form.

*Online at progressinmathematics.com.

Number and Operations in Base Ten

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
		1-4 Place Value—pp. 42–43 Objective(s): To write numbers in expanded form from standard form and vice versa. To count on and back by 10, 100, and 1000. **1-6 Compare and Order Whole Numbers**—pp. 46–47 Objective(s): To compare and order whole numbers.
4.NBT.A.5	• Compose and decompose numbers using place value to 1,000,000; write numbers in expanded notation.	**1-4 Place Value**—pp. 42–43 Objective(s): To write numbers in expanded form from standard form and vice versa. To count on and back by 10, 100, and 1000.
Use place value understanding and properties of operations to perform multi-digit arithmetic.		
4.NBT.B.6	• Fluently add and subtract multi-digit whole numbers using the standard algorithm	**Skills Update: Add and Subtract without Regrouping**—p. 6 **2-9 Check Addition and Subtraction**—pp. 84–85 Objective(s): To check addition and subtraction. **3-2 Add with Regrouping**—pp. 98–99 Objective(s): To add 2- and 3-digit whole numbers and money amounts with regrouping. **3-3 Four-Digit Addition**—pp. 100–101 Objective(s): To add 4-digit whole numbers and money amounts with regrouping. **3-4 Add Larger Numbers**—pp. 102–103 Objective(s): To find 4- and 5-digit sums involving whole numbers and money amounts. **3-5 Three or More Addends**—pp. 104–105 Objective(s): To find sums of three or more addends with regrouping. **3-6 Subtract with Regrouping**—pp. 106–107 Objective(s): To subtract 2- and 3-digit whole numbers and money amounts, regrouping once. **3-7 Subtraction: Regroup Twice**—pp. 108–109 Objective(s): To subtract 3-digit whole numbers and money amounts, regrouping twice. **3-8 Subtract Larger Numbers**—pp. 110–111 Objective(s): To subtract 3- and 4-digit whole numbers and money amounts, regrouping as needed. **3-9 Zeros in Subtraction**—pp. 112–113 Objective(s): To subtract whole numbers and money amounts with zeros in the minuend. **3-10 Addition and Subtraction Practice**—pp. 114–115 Objective(s): To add or subtract whole numbers and money amounts to 5 digits.
4.NBT.B.7	• Multiply a whole number of up to four digits by a one-digit whole number.	**4-1 Multiplication Properties**—pp. 126–127 Objective(s): To understand and apply the properties of multiplication. **4-2 Multiplication Models**—pp. 128–129 Objective(s): To use models to understand multiplication. **4-3 Special Factors**—pp. 130–131 Objective(s): To multiply tens, hundreds, and thousands by 1-digit numbers **4-4 Multiply by One-Digit Numbers**—pp. 132–133 Objective(s): To multiply 2-digit numbers by 1-digit multipliers with no regrouping.

*Online at progressinmathematics.com.

Number and Operations in Base Ten

Archdiocese of Detroit: Fourth Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 4
	***4-5A Multiply with Models**—Online Objective(s): To use place-value models to multiply a 2-digit number by a 1-digit number with regrouping. To explain the calculation by using an equation. **4-6 Multiply with Regrouping**—pp. 136–137 Objective(s): To multiply 2-digit numbers by 1-digit multipliers with regrouping. ***4-6A Use Mental Math to Multiply**—Online Objective(s): To break apart numbers to find the product of a 2- or 3-digit number and a 1-digit number. To use arrays and the distributive property to find products. To use partial products to find products. **4-7 Multiply Three-Digit Numbers**—pp. 138–139 Objective(s): To multiply 3-digit numbers by 1-digit multiplier with and without regrouping. **4-9 Multiply Four-Digit Numbers**—pp. 142–143 Objective(s): To multiply 4-digit numbers by 1-digit multipliers with and without regrouping. **4-10 Patterns in Multiplication**—pp. 144–145 Objective(s): To use patterns to multiply by 10 and by multiples of 10. ***4-11A Multiply with Area Models**—Online Objective(s): To use area models and partial products to multiply 2-digit numbers by 2-digit multipliers. To explain the calculation. ***4-11B Break Apart Numbers to Multiply**—Online Objective(s): To break apart numbers to find the product of a 2-digit number and a 2-digit number. To use partial products to find products. **4-12 Multiply by Two-Digit Numbers**—pp. 148–149 Objective(s): To multiply 2-digit whole numbers and money amounts by 2-digit multipliers without regrouping. **4-13 More Multiplying by Two-Digit Numbers**—pp. 150–151 Objective(s): To multiply 2-digit whole numbers and money amounts by 2-digit multipliers with regrouping.
4.NBT.B.7a • Multiply two two-digit numbers, using strategies based on place value and the properties of operations.	**4-12 Multiply by Two-Digit Numbers**—pp. 148–149 Objective(s): To multiply 2-digit whole numbers and money amounts by 2-digit multipliers without regrouping. **4-13 More Multiplying by Two-Digit Numbers**—pp. 150–151 Objective(s): To multiply 2-digit whole numbers and money amounts by 2-digit multipliers with regrouping. See also— **4-14 Multiply with Three-Digit Numbers**—pp. 152–153 Objective(s): To multiply 3-digit whole numbers and money amounts by 2-digit multipliers with regrouping.
4.NBT.B.7b • Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**4-2 Multiplication Models**—pp. 128–129 Objective(s): To use models to understand multiplication. **4-3 Special Factors**—pp. 130–131 Objective(s): To multiply tens, hundreds, and thousands by 1-digit numbers **4-4 Multiply by One-Digit Numbers**—pp. 132–133 Objective(s): To multiply 2-digit numbers by 1-digit multipliers with no regrouping.

*Online at progressinmathematics.com.

Number and Operations in Base Ten

Archdiocese of Detroit: Fourth Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 4
	***4-5A Multiply with Models**—Online Objective(s): To use place-value models to multiply a 2-digit number by a 1-digit number with regrouping. To explain the calculation by using an equation. **4-6 Multiply with Regrouping**—pp. 136–137 Objective(s): To multiply 2-digit numbers by 1-digit multipliers with regrouping. ***4-6A Use Mental Math to Multiply**—Online Objective(s): To break apart numbers to find the product of a 2- or 3-digit number and a 1-digit number. To use arrays and the distributive property to find products. To use partial products to find products. **4-7 Multiply Three-Digit Numbers**—pp. 138–139 Objective(s): To multiply 3-digit numbers by 1-digit multiplier with and without regrouping. **4-9 Multiply Four-Digit Numbers**—pp. 142–143 Objective(s): To multiply 4-digit numbers by 1-digit multipliers with and without regrouping. **4-10 Patterns in Multiplication**—pp. 144–145 Objective(s): To use patterns to multiply by 10 and by multiples of 10. ***4-11A Multiply with Area Models**—Online Objective(s): To use area models and partial products to multiply 2-digit numbers by 2-digit multipliers. To explain the calculation. **4-12 Multiply by Two-Digit Numbers**—pp. 148–149 Objective(s): To multiply 2-digit whole numbers and money amounts by 2-digit multipliers without regrouping. **4-13 More Multiplying by Two-Digit Numbers**—pp. 150–151 Objective(s): To multiply 2-digit whole numbers and money amounts by 2-digit multipliers with regrouping.
4.NBT.B.8 • 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.	**5-2 Relate Multiplication and Division**—pp. 166–167 Objective(s): To write related multiplication and division facts. ***5-4A Use Bar Diagrams—Online** Objective(s): To use bar diagrams to solve multiplication and division problems. To solve word problems involving multiplicative comparisons. To distinguish multiplicative problems from additive comparison problems. ***5-5A Use Models to Divide**—Online Objective(s): To use an array to model division of 2-digit dividends and 1-digit divisors. **5-6 One-Digit Quotients**—pp. 174–175 Objective(s): To divide 2-digit dividends by 1-digit divisors to find 1-digit quotients with remainders. **5-7 Divisibility**—pp. 176–177 Objective(s): To learn divisibility rules for 2, 3, 5, and 10. **5-8 Two-Digit Quotients**—pp. 178–179 Objective(s): To divide 2-digit dividends by 1-digit divisors to find 2-digit quotients with no remainders. **5-9 More Two-Digit Quotients**—pp. 180–181 Objective(s): To divide 2-digit dividends by 1-digit divisors to find 2-digit quotients with remainders. **5-10 Three-Digit Quotients**—pp. 182–183 Objective(s): To divide 3-digit dividends by 1-digit divisors to find 3-digit quotients with and without remainders.

*Online at progressinmathematics.com.

Number and Operations in Base Ten

Archdiocese of Detroit: Fourth Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 4
	5-11 More Quotients—pp. 184–185 Objective(s): To divide 3-digit dividends by 1-digit divisors to find 2-digit quotients with and without remainders. **5-12 Zeros in the Quotient**—pp. 186–187 Objective(s): To divide 3-digit dividends by 1-digit divisors to find 3-digit quotients with one or more zeros. **5-13 Larger Numbers in Division**—pp. 188–189 Objective(s): To divide 4-digit dividends by 1-digit divisors to find 3- and 4-digit quotients with and without remainders. ***5-13A Multistep Problems & Bar Diagrams**—Online Objective(s): To use a bar diagram to solve problems with more than one step.
4.NBT.B.8a • Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**5-2 Relate Multiplication and Division**—pp. 166–167 Objective(s): To write related multiplication and division facts. **5-3 Missing Numbers**—pp. 168–169 Objective(s): To find missing dividends and divisors. To find the value of a variable in a multiplication or a division sentence. ***5-4A Use Bar Diagrams—Online** Objective(s): To use bar diagrams to solve multiplication and division problems. To solve word problems involving multiplicative comparisons. To distinguish multiplicative problems from additive comparison problems. ***5-5A Use Models to Divide**—Online Objective(s): To use an array to model division of 2-digit dividends and 1-digit divisors. **5-6 One-Digit Quotients**—pp. 174–175 Objective(s): To divide 2-digit dividends by 1-digit divisors to find 1-digit quotients with remainders. **5-8 Two-Digit Quotients**—pp. 178–179 Objective(s): To divide 2-digit dividends by 1-digit divisors to find 2-digit quotients with no remainders. **5-9 More Two-Digit Quotients**—pp. 180–181 Objective(s): To divide 2-digit dividends by 1-digit divisors to find 2-digit quotients with remainders. **5-10 Three-Digit Quotients**—pp. 182–183 Objective(s): To divide 3-digit dividends by 1-digit divisors to find 3-digit quotients with and without remainders. **5-11 More Quotients**—pp. 184–185 Objective(s): To divide 3-digit dividends by 1-digit divisors to find 2-digit quotients with and without remainders. **5-12 Zeros in the Quotient**—pp. 186–187 Objective(s): To divide 3-digit dividends by 1-digit divisors to find 3-digit quotients with one or more zeros. **5-13 Larger Numbers in Division**—pp. 188–189 Objective(s): To divide 4-digit dividends by 1-digit divisors to find 3- and 4-digit quotients with and without remainders. ***5-13A Multistep Problems & Bar Diagrams**—Online Objective(s): To use a bar diagram to solve problems with more than one step.

*Online at progressinmathematics.com.

Number and Operations in Base Ten

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
4.NBT.B.9	• Find all factors of any whole number through 50, list factor pairs, and determine if a one-digit number is a factor of a given whole number	**8-6 Factors**—pp. 276–277 Objective(s): To find factors, common factors, and the greatest common factor of two or more numbers. ***9-6A Factor Pairs**—Online Objective(s): To find factor pairs for a number in the range 1–100. To understand that a number is a multiple of all of its factors.
4.NBT.B.10	• List the first 12 multiples of a given-one-digit whole number; determine if a whole number is a multiple of a given one-digit whole number.	**9-6 Multiples**—pp. 306–307 Objective(s): To find multiples of a number. To find common multiples and the least common multiple (LCM) of two or more numbers. ***9-6A Factor Pairs**—Online Objective(s): To find factor pairs for a number in the range 1–100. To understand that a number is a multiple of all of its factors.
4.NBT.B.11	• Know that some numbers have exactly two factors and are called prime numbers. All other numbers are called composite.	***9-6B Prime and Composite Numbers**—Online Objective(s): To decide whether a number is prime or composite.
4.NBT.B.12	• Use factors and multiples to compose and decompose whole numbers.	**8-6 Factors**—pp. 276–277 Objective(s): To find factors, common factors, and the greatest common factor of two or more numbers. **9-6 Multiples**—pp. 306–307 Objective(s): To find multiples of a number. To find common multiples and the least common multiple (LCM) of two or more numbers. ***9-6A Factor Pairs**—Online Objective(s): To find factor pairs for a number in the range 1–100. To understand that a number is a multiple of all of its factors.
4.NBT.B.13	• Add and subtract basic whole numbers fluently (ex 2+2, 8+7, 4+9).	**Skills Update: Addition and Subtraction Facts**—p. 4 **Skills Update: Related Facts**—p. 5 **2-1 Addition Properties**—pp. 68–69 Objective(s): To understand the properties of addition. **2-2 Addition Strategies**—pp. 70–71 Objective(s): To use strategies to add mentally. **2-3 Subtraction Concepts**—pp. 72–73 Objective(s): To understand the four meanings of subtraction. To use subtraction rules for zero. **2-6 Mental Math**—pp. 78–79 Objective(s): To add and subtract mentally.

*Online at progressinmathematics.com.

Number and Operations – Fractions

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
Extend understanding of fraction equivalence and ordering.		
4.NF.A.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.	***8-3A Model Equivalent Fractions**—Online Objective(s): To use a ratio table to find equivalent fractions. To use visual models to justify equivalency. **8-4 Equivalent Fractions**—pp. 272–273 Objective(s): To identify equivalent fractions. **8-5 Write Equivalent Fractions**—pp. 274–275 Objective(s): To find equivalent fractions by multiplying.
4.NF.A.1a	• Recognize and generate equivalent fractions.	***8-3A Model Equivalent Fractions**—Online Objective(s): To use a ratio table to find equivalent fractions. To use visual models to justify equivalency. **8-4 Equivalent Fractions**—pp. 272–273 Objective(s): To identify equivalent fractions. **8-5 Write Equivalent Fractions**—pp. 274–275 Objective(s): To find equivalent fractions by multiplying.
4.NF.A.2	• Compare two fractions with different numerators and different denominators, e.g., by creating common denominators (ex. ¼, 3/4) or numerators (ex. 3/4, 3/5), or by comparing to a benchmark fraction such as 1/2.	**8-2 Fractions on a Number Line**—pp. 268–269 Objective(s): To locate, compare, and order fractions on a number line. **8-3 Estimate Fractions**—pp. 270–271 Objective(s): To estimate a fraction of a region. To tell whether a fraction is closer to 0, to 1/2, or to 1. ***8-8A Compare Fractions Using Benchmarks**—Online Objective(s): To use benchmark fractions to compare unlike fractions. To justify comparisons using visual models. **8-9 Compare Fractions**—pp. 282–283 Objective(s): To compare fractions and mixed numbers. **8-10 Order Fractions**—pp. 284–285 Objective(s): To order fractions.
4.NF.A.2a	• 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, written explanation, or numerical comparison.	**8-2 Fractions on a Number Line**—pp. 268–269 Objective(s): To locate, compare, and order fractions on a number line. **8-3 Estimate Fractions**—pp. 270–271 Objective(s): To estimate a fraction of a region. To tell whether a fraction is closer to 0, to 1/2, or to 1. ***8-8A Compare Fractions Using Benchmarks**—Online Objective(s): To use benchmark fractions to compare unlike fractions. To justify comparisons using visual models. **8-9 Compare Fractions**—pp. 282–283 Objective(s): To compare fractions and mixed numbers. **8-10 Order Fractions**—pp. 284–285 Objective(s): To order fractions.
Build fractions from unit fractions.		
4.NF.B.3	• Understand a fraction a/b with $a>1$ as a sum of fractions $1/b$ (Clarification below).	
4.NF.B.3a	• Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	***9-1A Use Models to Add Fractions**—Online Objective(s): To use models of fraction strips to add fractions with like denominators within 1. To use visual fraction strips to add like fractions within 1. To use a number line to add fractions with like denominators.

*Online at progressinmathematics.com.

Number and Operations – Fractions

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
		***9-1C Use Models to Subtract Fractions**—Online Objective(s): To use fraction strips to subtract fractions with like denominators. To use a number line to subtract fractions with like denominators.
4.NF.B.3b	• 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. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*	***9-1B Decompose Fractions**—Online Objective(s): To decompose fractions into the sum of fractions with the same denominator in more than one way. To write an equation to represent the decomposition of a fraction.
4.NF.B.3c	• 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.	***9-4A Add Mixed Numbers**—Online Objective(s): To use fraction strips to model the addition of two like fractions with a sum greater than 1. To add mixed numbers with like denominators by replacing each mixed number with an equivalent fraction. To use properties of operations to add mixed numbers. ***9-4B Subtract Mixed Numbers**—Online Objective(s): To use fraction strips to model the subtraction of a fraction from a like mixed number by decomposing the whole. To subtract mixed numbers with like denominators by replacing each mixed number with an equivalent fraction. To use the relationship between addition and subtraction to subtract mixed numbers. **9-5 Add and Subtract Mixed Numbers**—pp. 304–305 Objective(s): To add and subtract mixed numbers with like denominators.
4.NF.B.3d	• 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.	**9-1 Add Fractions: Like Denominators**—pp. 296–297 Objective(s): To add fractions with like denominators. ***9-1A Use Models to Add Fractions**—Online Objective(s): To use models of fraction strips to add fractions with like denominators within 1. To use visual fraction strips to add like fractions within 1. To use a number line to add fractions with like denominators. ***9-1B Decompose Fractions** (visual models)—Online Objective(s): To decompose fractions into the sum of fractions with the same denominator in more than one way. To write an equation to represent the decomposition of a fraction. ***9-1C Use Models to Subtract Fractions**—Online Objective(s): To use fraction strips to subtract fractions with like denominators. To use a number line to subtract fractions with like denominators. **9-2 Subtract Fractions: Like Denominators**—pp. 298–299 Objective(s): To subtract fractions with like denominators. ***9-2A Word Problems Involving Fractions**—Online Objective(s): To add and subtract fractions referring to the same whole and having like denominators.

*Online at progressinmathematics.com.

Number and Operations – Fractions

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
4.NF.B.4	• Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	***9-8A Multiply with Fractions**—Online Objective(s): To use models to multiply a fraction by a whole number. To multiply a fraction by a whole number.
4.NF.B.4a	• 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).*	***9-8A Multiply with Fractions**—Online Objective(s): To use models to multiply a fraction by a whole number. To multiply a fraction by a whole number.
4.NF.B.4b	• 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.)*	***9-8A Multiply with Fractions**—Online Objective(s): To use models to multiply a fraction by a whole number. To multiply a fraction by a whole number.
4.NF.B.4c	• 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?*	***9-8A Multiply with Fractions**—Online Objective(s): To use models to multiply a fraction by a whole number. To multiply a fraction by a whole number.
Understand decimal notation for fractions, and compare decimal fractions.		
4.NF.C.5	• Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*	***9-6C Add Fractions with Denominators of 10 and 100**—Online Objective(s): To add two fractions with respective denominators of 10 and 100.
4.NF.C.6	• Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*	**13-1 Tenths and Hundredths**—pp. 412–413 Objective(s): To read and write decimals less than 1 through hundredths. **13-2 Decimals Greater Than One**—pp. 414–415 Objective(s): To read and write decimals greater than 1 through hundredths. **13-3 Decimal Place Value**—pp. 416–417 Objective(s): To understand decimal place value. To write decimals in standard and expanded forms
4.NF.C.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.	***13-3A Compare Decimals with Models and Symbols**—Online Objective(s): To use visual models to compare decimals. To use the symbols <, =, > to compare decimals and justify conclusions using visual models. **13-4 Compare Decimals**—pp. 418–419 Objective(s): To compare decimals **13-5 Order Decimals**—pp. 420–421 Objective(s): To order decimals from least to greatest and greatest to least.

*Online at progressinmathematics.com.

Number and Operations – Fractions

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
4.NF.C.8	• Multiply and divide decimals up to two decimal places by a one-digit whole number where the result is a terminating decimal	**4-8 Multiply Money**—pp. 140–141 Objective(s): To multiply money amounts by 1-digit multipliers. **5-14 Divide Money**—pp. 190–191 Objective(s): To divide 2-, 3-, and 4-digit money amounts by 1-digit divisors. **13-10 Divide with Money**—pp. 430–431 Objective(s): To divide whole-dollar amounts to find the better buy.
4.NF.C.9	• Add and subtract all decimal numbers	**2-8 Add and Subtract Money**—pp. 82–83 Objective(s): To add and subtract money amounts with no regrouping. **13-8 Add Decimals**—pp. 426–427 Objective(s): To add decimals through hundredths. **13-9 Subtract Decimals**—pp. 428–429 Objective(s): To subtract decimals through hundredths.

*Online at progressinmathematics.com.

Measurement and Data

Archdiocese of Detroit: Fourth Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 4
Solve problems involving measurement and conversion of measurements.	
4.MD.A.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. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft rope as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*	**Skills Update: Customary Units of Length**—p. 14 **Skills Update: Cup**—p. 15 **Skills Update: Pound**—p. 16 **Skills Update: Centimeter and Meter**—p. 17 **Skills Update: Liter**—p. 18 **Skills Update: Kilogram**—p. 19 **6-2 Rename Units of Length**—pp. 208–209 Objective(s): To rename and compare customary units of length. To develop a sense of the length of a mile. **6-3 Compute Customary Units**—pp. 210–211 Objective(s): To add and subtract customary units of length. **6-4 Customary Units of Capacity**—pp. 212–213 Objective(s): To explore customary units of capacity. To rename customary units of capacity. **6-5 Customary Units of Weight**—pp. 214–215 Objective(s): To use the customary units ounce, pound, and ton. To rename and compare customary units of weight. **6-6 Measure with Metric Units** (ruler)—pp. 216–217 Objective(s): To estimate and measure lengths to the nearest centimeter and decimeter. **6-7 Work with Metric Units**—pp. 218–219 Objective(s): To use metric units to measure length and interpret a map. To rename and compare metric units of length. **6-8 Metric Units of Capacity**—pp. 220–221 Objective(s): To use metric units of capacity. To rename and compare metric units of capacity. **6-9 Metric Units of Mass**—pp. 222–223 Objective(s): To use metric units of mass. To rename and compare metric units of mass. ***6-9A Represent Measures on a Number Line**—Online Objective(s): To represent measures on a number line. To solve measurement problems involving the four operations. **6-11 Time: Equivalent Units of Time** (minutes to seconds)—pp. 226–227 Objective(s): To tell time to the minute. ***6-11A Rename Measures** (hours to minutes; liters to milliliters; gallons to quarts; meters to centimeters; feet to inches)—Online Objective(s): To rename measurement and represent as number pairs. To record equivalent measures in a table. **6-12 Elapsed Time**—pp. 228–229 Objective(s): To find elapsed time on a clock and on a calendar. **6-13 Problem Solving Strategy: Use More Than One Step**—pp. 230–231 Objective(s): To solve problems using more than one step. **6-14 Problem Solving Applications: Mixed Review**—pp. 232–233 Strategy File: Use These Strategies: Make a Table or List, Choose the Operation, Guess and Test, Write a Number Sentence **13-10 Divide with Money**—pp. 430–431 Objective(s): To divide whole-dollar amounts to find the better buy.

*Online at progressinmathematics.com.

Measurement and Data

Archdiocese of Detroit: Fourth Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 4
4.MD.A.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.	**2-8 Add and Subtract Money**—pp. 82–83 Objective(s): To add and subtract money amounts with no regrouping. **4-8 Multiply Money**—pp. 140–141 Objective(s): To multiply money amounts by 1-digit multipliers. **4-12 Multiply by Two-Digit Numbers: Multiply Money**—pp. 148–149 Objective(s): To multiply 2-digit whole numbers and money amounts by 2-digit multipliers without regrouping. **5-14 Divide Money**—pp. 190–191 Objective(s): To divide 2-, 3-, and 4-digit money amounts by 1-digit divisors. **6-2 Rename Units of Length**—pp. 208–209 Objective(s): To rename and compare customary units of length. To develop a sense of the length of a mile. **6-3 Compute Customary Units**—pp. 210–211 Objective(s): To add and subtract customary units of length. **6-4 Customary Units of Capacity**—pp. 212–213 Objective(s): To explore customary units of capacity. To rename customary units of capacity. **6-5 Customary Units of Weight**—pp. 214–215 Objective(s): To use the customary units ounce, pound, and ton. To rename and compare customary units of weight. **6-6 Measure with Metric Units** (ruler)—pp. 216–217 Objective(s): To estimate and measure lengths to the nearest centimeter and decimeter. **6-7 Work with Metric Units**—pp. 218–219 Objective(s): To use metric units to measure length and interpret a map. To rename and compare metric units of length. **6-8 Metric Units of Capacity**—pp. 220–221 Objective(s): To use metric units of capacity. To rename and compare metric units of capacity. **6-9 Metric Units of Mass**—pp. 222–223 Objective(s): To use metric units of mass. To rename and compare metric units of mass. ***6-9A Represent Measures on a Number Line**—Online Objective(s): To represent measures on a number line. To solve measurement problems involving the four operations. **6-11 Time: Equivalent Units of Time**—pp. 226–227 Objective(s): To tell time to the minute. ***6-11A Rename Measures** (hours to minutes; liters to milliliters; gallons to quarts; meters to centimeters; feet to inches)—Online Objective(s): To rename measurement and represent as number pairs. To record equivalent measures in a table. **6-12 Elapsed Time**—pp. 228–229 Objective(s): To find elapsed time on a clock and on a calendar. **6-13 Problem Solving Strategy: Use More Than One Step**—pp. 230–231 Objective(s): To solve problems using more than one step. **6-14 Problem Solving Applications: Mixed Review**—pp. 232–233 Strategy File: Use These Strategies: Make a Table or List, Choose the Operation, Guess and Test, Write a Number Sentence **13-10 Divide with Money**—pp. 430–431 Objective(s): To divide whole-dollar amounts to find the better buy.

*Online at progressinmathematics.com.

Measurement and Data

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
4.MD.A.3	• Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*	**Skills Update: Perimeter**—p. 20 **Skills Update: Area**—p. 24 **11-1 Use Perimeter Formulas**—pp. 358–359 Objective(s): To use formulas to find the perimeters of rectangles, squares, and equilateral triangles. **11-2 Use Area Formulas**—pp. 360–361 Objective(s): To use formulas to find the areas of squares and rectangles. **11-3 Perimeter and Area**—pp. 362–363 Objective(s): To understand that figures with the same area can have different perimeters. To understand that figures with the same perimeter can have different areas. To find the area and perimeter of complex figures. ***11-3A Perimeter and Area Formulas**—Online Objective(s): To apply the area and perimeter formulas for rectangles in real world problems to find missing dimensions.
4.MD.A.4	• Measure using common tools and select appropriate units of measure.	**6-1 Measure with Inches** (ruler)—pp. 206–207 Objective(s): To measure length to the nearest inch, half inch, and quarter inch. To estimate length to the nearest inch. **6-6 Measure with Metric Units** (ruler)—pp. 216–217 Objective(s): To estimate and measure lengths to the nearest centimeter and decimeter. **6-7 Work with Metric Units**—pp. 218–219 Objective(s): To use metric units to measure length and interpret a map. To rename and compare metric units of length. **6-10 Temperature** (thermometer)—pp. 224–225 Objective(s): To measure and compare temperatures using the Fahrenheit and Celsius scales. To compute temperatures. **6-11 Time**—pp. 226–227 Objective(s): To tell time to the minute. Related content— **Skills Update: Customary Units of Length** (ruler)—p. 14 **Skills Update: Cup** (measuring cup)—p. 15 **Skills Update: Pound** (balance)—p. 16 **Skills Update: Kilogram** (balance)—p. 19 **6-5 Customary Units of Weight** (choose measuring tool)—pp. 214–215 Objective(s): To use the customary units ounce, pound, and ton. To rename and compare customary units of weight. **6-8 Metric Units of Capacity** (choose measuring tool)——pp. 220–221 Objective(s): To use metric units of capacity. To rename and compare metric units of capacity.
4.MD.A.5	• Measure and compare integer temperatures in Fahrenheit degrees and Celsius.	**6-10 Temperature**—pp. 224–225 Objective(s): To measure and compare temperatures using the Fahrenheit and Celsius scales. To compute temperatures.
4.MD.A.6	• Measure surface area of cubes and rectangular prisms by covering and counting area of the faces.	*Surface area introduced in Grade 5: 12-9 Surface Area—pp. 398–399

*Online at progressinmathematics.com.

Measurement and Data

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
4.MD.A.7	• Carry out the following conversions from one unit of measure to a larger or smaller unit of measure; meters to centimeters, hours to minutes.	**6-2 Rename Units of Length**—pp. 208–209 Objective(s): To rename and compare customary units of length. To develop a sense of the length of a mile. **6-4 Customary Units of Capacity**—pp. 212–213 Objective(s): To explore customary units of capacity. To rename customary units of capacity. **6-5 Customary Units of Weight**—pp. 214–215 Objective(s): To use the customary units ounce, pound, and ton. To rename and compare customary units of weight. **6-7 Work with Metric Units**—pp. 218–219 Objective(s): To use metric units to measure length and interpret a map. To rename and compare metric units of length. **6-8 Metric Units of Capacity**—pp. 220–221 Objective(s): To use metric units of capacity. To rename and compare metric units of capacity. **6-9 Metric Units of Mass**—pp. 222–223 Objective(s): To use metric units of mass. To rename and compare metric units of mass. ***6-11A Rename Measures** (hours to minutes; liters to milliliters; gallons to quarts; meters to centimeters; feet to inches)—Online Objective(s): To rename measurement and represent as number pairs. To record equivalent measures in a table.
Represent and interpret data.		
4.MD.B.8	• 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. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*	**7-4 Surveys and Line Plots**—pp. 246–247 Objective(s): To interpret and make line plots. To use line plots to find mode and range. To interpret stem-and-leaf plots.
Geometric measurement: understand concepts of angle and measure angles.		
4.MD.C.9	• Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:	
4.MD.C.9a	• 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.	***10-1A Angle Measure**—Online Objective(s): To understand that angle measure is a measure of a turn. To compare angle measures by visual estimation or by given measure. To recognize angles that have approximately equally measure.
4.MD.C.9b	• An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.	***10-1A Angle Measure**—Online Objective(s): To understand that angle measure is a measure of a turn. To compare angle measures by visual estimation or by given measure. To recognize angles that have approximately equally measure.

*Online at progressinmathematics.com.

Measurement and Data

Archdiocese of Detroit: Fourth Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 4
4.MD.C.10 • Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	***10-2A Measure Angles**—Online Objective(s): To measure angles with a protractor. To sketch an angle of a specified measure.
4.MD.C.11 • Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	***10-2B Unknown Angle Measures**—Online Objective(s): To determine that the measures of adjacent angles are summative. To use the measures of 2 adjacent angles to find the measure of the combined angle. To write and solve an equation to find unknown angles on a diagram.

*Online at progressinmathematics.com.

Geometry

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.		
4.G.A.1	• Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	**10-1 Points, Lines, and Line Segments**—pp. 326–327 Objective(s): To identify, name, and draw points, lines, and line segments. **10-2 Rays and Angles**—pp. 328–329 Objective(s): To identify and name rays and angles and the parts of an angle To determine whether an angle is acute, obtuse, right, or straight. **10-3 Parallel and Perpendicular Lines**—pp. 330–331 Objective(s): To classify sets of lines as intersecting, perpendicular, or parallel. **10-4 Circles** (points, lines)—pp. 332–333 Objective(s): To identify and name a circle and its parts. To identify simple closed curves. **10-11 Coordinate Geometry** (points)—pp. 346–347 Objective(s): To locate, name, and graph ordered pairs of numbers on a coordinate grid.
4.G.A.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.	**10-6 Quadrilaterals**—pp. 336–337 Objective(s): To identify, name, and classify quadrilaterals. **10-7 Triangles**—pp. 338–339 Objective(s): To identify and classify right, isosceles, equilateral, and scalene triangles.
4.G.A.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.	**Skills Update: Lines of Symmetry**—p. 22 ***10-7A Symmetry**—Online Objective(s): To identify line symmetry. To identify line-symmetric figures. To draw lines of symmetry.
4.G.A.4	• Identify basic geometric shapes including isosceles, equilateral and right triangles and use their properties to solve problems.	**10-6 Quadrilaterals**—pp. 336–337 Objective(s): To identify, name, and classify quadrilaterals. **10-7 Triangles**—pp. 338–339 Objective(s): To identify and classify right, isosceles, equilateral, and scalene triangles.
4.G.A.5	• Identify and count the faces, edges and vertices of basic three-dimensional geometric solids including cubes, rectangular prisms, and pyramids; describe the shape of their faces.	**11-4 Solid Figures** (vertex, face, edge)—pp. 364–365 Objective(s): To identify solid figures.
4.G.A.6	• Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object.	**10-9 Transformations: Slides and Flips**—pp. 342–343 Objective(s): To explore slides and flips. **10-10 Turns**—pp. 344–345 Objective(s): To identify turns and turn images. To recognize whether a figure has half-turn symmetry.
4.G.A.7	• Identify the radius and diameter of a circle.	**10-4 Circles** (radius, diameter)—pp. 332–333 Objective(s): To identify and name a circle and its parts. To identify simple closed curves.

*Online at progressinmathematics.com.

Data and Probability

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
Represent and solve problems for given data.		
4.DP.A.1	• Construct tables and bar graphs from given data.	**Skills Update: Record and Organize Data** (tables)—p. 25 **Skills Update: Graphing Sense** (bar graph)—p. 26 **Introduction to Problem Solving: Guess and Test** (make a table)—p. 31 **1-12 Problem Solving Strategy: Make a Table or List**—pp. 58–59 Objective(s): To solve problems using the Make a Table or List strategy. **7-2 Bar Graphs**—pp. 242–243 Objective(s): To make, read, and interpret bar graphs. See also— Make/complete a table—pp. 31, 51, 58–59, 60, 61, 68–69, 86, 87, 89, 118, 119, 170–171, 177, 191, 208–209, 212–213, 214, 218–219, 220–221, 222, 223, 227, 289, 365, 371, 446–447, 404–405, 449 Make a bar graph—pp. 242–243, 245, 255
4.DP.A.2	• Order a given set of data, find the median, mean, mode, and specify the range of values.	**5-16 Find the Mean**—pp. 194–195 Objective(s): To find the mean of a set of numbers. **7-1 Pictographs**—pp. 240–241 Objective(s): To make, read, and interpret pictographs. To find the median of a set of data. **7-4 Surveys and Line Plots**—pp. 246–247 Objective(s): To interpret and make line plots. To use line plots to find mode and range. To interpret stem-and-leaf plots.
4.DP.A.3	• Solve problems using data presented in tables and bar graphs (compare data represented in two bar graphs and read bar graphs showing two data sets).	**Skills Update: Record and Organize Data** (tables)—p. 25 **Skills Update: Graphing Sense** (bar graph)—p. 26 **Introduction to Problem Solving: Guess and Test** (make a table)—p. 31 **Introduction to Problem Solving: Problem-Solving Applications: Mixed Review** (use a table)—p. 34 **1-12 Problem Solving Strategy: Make a Table or List**—pp. 58–59 Objective(s): To solve problems using the Make a Table or List strategy. **7-2 Bar Graphs**—pp. 242–243 Objective(s): To make, read, and interpret bar graphs. See also— Read a table—pp. 6(SU), 25(SU), 31, 32, 34, 56, 58, 59, 69, 96, 98, 102, 106–107, 108–9, 110–111, 135, 140, 152, 159, 170–171, 195, 208, 214, 218, 220, 222, 241, 242–243, 245, 261, 272, 317, 334, 350, 360, 365, 375, 418, 420, 432, 446–447, 448 Interpret bar graphs—pp. 26(SU), 118, 157, 240–241, 242–243, 256, 258, 405, 456

*Online at progressinmathematics.com.

Data and Probability

Archdiocese of Detroit: Fourth Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 4
4.DP.A.4	• Predict the probability of the outcome in a simple event using visual models, ex. Find the probability of a given number when rolling a number cube.	**Skills Update: Probability Experiments**—p. 27 **7-7 Predict Probability**—pp. 252–253 Objective(s): To predict the probability of an event To tell which of two events is more likely or less likely to occur. See also— **7- 8 Events and Outcomes**—pp. 254–255 Objective(s): To understand that probability changes as the number of possible outcomes changes.

*Online at progressinmathematics.com.