SADLIER

Progress in Mathematics

Aligned to the

Archdiocese of Detroit

Third Grade Mathematics Standards

Grade 3

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

Operations and Algebraic Thinking

Archdiocese of Detroit: Third Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 3
Represent and solve problems involving multiplication and division.	
3.OA.A.1 • Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*	**4-1 Understand Multiplication**—pp. 132–133 Objective(s): To understand the meaning of multiplication. **4-2 One and Zero as Factors**—pp. 134–135 Objective(s): To find the product when 1 or 0 is a factor. **4-3 Multiply Twos**—pp. 136–137 Objective(s): To multiply twos. **4-4 Multiply Threes**—pp. 138–139 Objective(s): To multiply threes. **4-5 Multiply Fours**—pp. 140–141 Objective(s): To multiply fours. **4-6 Multiply Fives**—pp. 142–143 Objective(s): To multiply fives. ***4-6A Multiplication and Arrays**—Online Objective(s): To use arrays to find products of facts. To use the commutative property to multiply. ***4-6B Use a Bar Diagram to Multiply**—Online Objective(s): To use a table and a bar diagram to solve a multiplication fact problem. ***4-6C Multiplication Stories**—Online Objective(s): To write and solve multiplication fact stories that emphasize the different representations of multiplication. **4-7 Multiply Cents**—pp. 144–145 Objective(s): To multiply from 2 to 5 cents. **4-9 Order in Multiplication**—pp. 148–149 Objective(s): To apply the commutative property of multiplication. **4-10 Missing Factors**—pp. 150–151 Objective(s): To find a missing factor. **6-1 Factors and Products**—p. 190 Objective(s): To practice multiplying twos, threes, fours and fives. **6-2 Multiply Sixes**—p. 191 Objective(s): To multiply sixes. **6-3 Multiply Sevens**—pp. 192–193 Objective(s): To multiply sevens. **6-4 Multiply Eights**—pp. 194–195 Objective(s): To multiply eights. **6-5 Multiply Nines**—pp. 196–197 Objective(s): To multiply nines. ***6-5A Break Apart Numbers to Multiply**—Online Objective(s): To draw and decompose arrays to find products of facts. To break apart arrays to find products. To use the distributive property to find products. ***6-5B Multiplication Tables**—Online Objective(s): To use a multiplication table to find products. To identify and explain number patterns in a multiplication table. To apply properties of multiplication to explain multiplication patterns. **6-6 Multiply Three Numbers**—pp. 198–199 Objective(s): To multiply three 1-digit factors.

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Operations and Algebraic Thinking

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
3.OA.A.2	• Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*	**5-1 Understand Division**—pp. 162–163 Objective(s): To understand the meanings of division. To understand the relationship between division and repeated subtraction. **5-2 One and Zero in Division**—pp. 164–165 Objective(s): To use 1 and 0 in division. **5-3 Divide by 2**—pp. 166–167 Objective(s): To divide by 2. **5-4 Divide by 3**—pp. 168–169 Objective(s): To divide by 3. **5-5 Divide by 4**—pp. 170–171 Objective(s): To divide by 4. **5-6 Divide by 5**—pp. 172–173 Objective(s): To divide by 5. ***5-6A Division Stories—Online** Objective(s): To read and write division stories that emphasize the different representations of division. **5-7 Relate Multiplication and Division**—pp. 174–175 Objective(s): To relate multiplication and division. **5-8 Divide Cents**—pp. 176–177 Objective(s): To divide cents by 2 through 5. **6-7 Division Review**—pp. 200–201 Objective(s): To review dividing by 2, 3, 4, and 5. **6-8 Divide by 6**—pp. 202–203 Objective(s): To divide by 6. **6-9 Divide by 7**—pp. 204–205 Objective(s): To divide by 7. **6-10 Divide by 8**—pp. 206–207 Objective(s): To divide by 8. **6-11 Divide by 9**—pp. 208–209 Objective(s): To divide by 9.
3.OA.A.3	• Use multiplication and division within 144 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	**4-3 Multiply Twos**—pp. 136–137 Objective(s): To multiply twos. **4-4 Multiply Threes**—pp. 138–139 Objective(s): To multiply threes. **4-5 Multiply Fours**—pp. 140–141 Objective(s): To multiply fours. **4-6 Multiply Fives**—pp. 142–143 Objective(s): To multiply fives. ***4-6A Multiplication and Arrays**—Online Objective(s): To use arrays to find products of facts. To use the commutative property to multiply. ***4-6B Use a Bar Diagram to Multiply**—Online Objective(s): To use a table and a bar diagram to solve a multiplication fact problem. ***4-6C Multiplication Stories**—Online Objective(s): To write and solve multiplication fact stories that emphasize the different representations of multiplication. **4-7 Multiply Cents**—pp. 144–145 Objective(s): To multiply from 2 to 5 cents. **4-9 Order in Multiplication**—pp. 148–149 Objective(s): To apply the commutative property of multiplication. **4-10 Missing Factors**—pp. 150–151 Objective(s): To find a missing factor

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Operations and Algebraic Thinking

Archdiocese of Detroit: Third Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 3

5-1 Understand Division—pp. 162–163
Objective(s): To understand the meanings of division.
5-2 One and Zero in Division—pp. 164–165
Objective(s): To use 1 and 0 in division.
5-3 Divide by 2—pp. 166–167
Objective(s): To divide by 2.
5-4 Divide by 3—pp. 168–169
Objective(s): To divide by 3.
5-5 Divide by 4—pp. 170–171
Objective(s): To divide by 4.
5-6 Divide by 5—pp. 172–173
Objective(s): To divide by 5.
***5-6A Division Stories—Online**
Objective(s): To read and write division stories that emphasize the different representations of division.
5-8 Divide Cents—pp. 176–177
Objective(s): To divide cents by 2 through 5.
5-10 Problem Solving Strategy: Write a Number Sentence—pp. 180–181
Objective(s): To write a number sentence for a given problem-solving situation.
5-11 Problem Solving Applications: Mixed Review—pp. 182–183
6-4 Multiply Eights—pp. 194–195
Objective(s): To multiply eights.
6-5 Multiply Nines—pp. 196–197
Objective(s): To multiply nines.
***6-5A Break Apart Numbers to Multiply**—Online
Objective(s): To draw and decompose arrays to find products of facts.
To break apart arrays to find products.
To use the distributive property to find products.
***6-6 Multiply Three Numbers**—pp. 198–199
Objective(s): To multiply three 1-digit factors.
6-7 Division Review—pp. 200–201
Objective(s): To review dividing by 2, 3, 4, and 5.
6-8 Divide by 6—pp. 202–203
Objective(s): To divide by 6.
6-9 Divide by 7—pp. 204–205
Objective(s): To divide by 7.
6-10 Divide by 8—pp. 206–207
Objective(s): To divide by 8.
6-11 Divide by 9—pp. 208–209
Objective(s): To divide by 9.
***6-12A Missing Operands: Multiplication & Division**—Online
Objective(s): To write an equation that is equivalent to one with a missing operand.
To find the missing dividend or divisor; to find missing factors.
6-14 Apply Facts—pp. 214–215
Objective(s): To use various strategies in order to solve multiplication and division problems.
6-15 Problem Solving Strategy: Guess and Test—pp. 216–217
Objective(s): To use *Guess and Test* to solve problems.
8-11 Rename Units of Measure—pp. 280–281
Objective(s): To rename customary units of length and capacity.
To rename metric units of length.

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Operations and Algebraic Thinking

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
		***9-12B Measurement Problems**—Online Objective(s): To solve one-step measurement problems involving volume and mass and addition, subtraction, multiplication, and division. To solve measurement problems using drawings.
3.OA.A.4	• Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ? (ie. Fact Families)*	**4-10 Missing Factors**—pp. 150–151 Objective(s): To find a missing factor. ***6-12A Missing Operands: Multiplication & Division**—Online Objective(s): To write an equation that is equivalent to one with a missing operand. To find the missing dividend or divisor; to find missing factors. **10-4 Multiply with Models**—pp. 342–343 Objective(s): To use models to show multiplication with regrouping.
Understand properties of multiplication and the relationship between multiplication and division.		
3.OA.B.5	• Apply properties of operations as strategies to multiply and divide. Examples: *Commutative property of multiplication*—If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. *Associative property of multiplication*—If 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. *Distributive property*—Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56.	**4-2 One and Zero as Factors** (Identity Property of Multiplication, Zero Property of Multiplication)—pp. 134–135 Objective(s): To find the product when 1 or 0 is a factor. **4-9 Order in Multiplication**—pp. 148–149 Objective(s): To apply the commutative property of multiplication. **6-6 Multiply Three Numbers** (Associative Property of Multiplication)—pp. 198–199 Objective(s): To multiply three 1-digit factors. ***6-12A Missing Operands: Multiplication & Division**—Online Objective(s): To write an equation that is equivalent to one with a missing operand. To find the missing dividend or divisor; to find missing factors. **6-13 Fact Families**—pp. 212–213 Objective(s): To identify multiplication and division fact families.
3.OA.B.6	• Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by using 8 × ? = 32.*	**5-7 Relate Multiplication and Division**—pp. 174–175 Objective(s): To relate multiplication and division. **6-13 Fact Families**—pp. 212–213 Objective(s): To identify multiplication and division fact families.
Multiply and divide within 144.		
3.OA.C.7	• Fluently multiply and divide within 144, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of 0 through 12.	**5-7 Relate Multiplication and Division**—pp. 174–175 Objective(s): To relate multiplication and division. ***6-5B Multiplication Tables**—Online Objective(s): To use a multiplication table to find products. To identify and explain number patterns in a multiplication table. To apply properties of multiplication to explain multiplication patterns. **6-7 Division Review**—pp. 200–201 Objective(s): To review dividing by 2, 3, 4, and 5. **6-13 Fact Families**—pp. 212–213 Objective(s): To identify multiplication and division fact families.

Operations and Algebraic Thinking

Archdiocese of Detroit: Third Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 3
3.OA.C.8 • Count orally by 6's, 7's, 8's, 9's, 10's, 11's, and 12's starting with 0, making the connection between repeated addition and multiplication.	**Skills Update: Count by 2s, 5s, 10s**—p. 2 **1-4 Counting Patterns** (count by 10s)—pp. 36–37 Objective(s): To explore skip counting patterns using hundred charts. To use skip counting to identify and complete number patterns. **6-2 Multiply Sixes** (count by 6s)—p. 191 Objective(s): To multiply sixes. **6-3 Multiply Sevens** (count by 7s)—pp. 192–193 Objective(s): To multiply sevens. **6-4 Multiply Eights** (count by 8s)—pp. 194–195 Objective(s): To multiply eights. **6-5 Multiply Nines** (count by 9s)—pp. 196–197 Objective(s): To multiply nines. ***6-5B Multiplication Tables** (count by 10s)—Online Objective(s): To use a multiplication table to find products. To identify and explain number patterns in a multiplication table. To apply properties of multiplication to explain multiplication patterns. **10-1 Multiplication Patterns** (count by 10s)—pp. 336–337 Objective(s): To use basic facts and patterns of zero to multiply tens, hundreds, and thousands mentally.
Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
3.OA.D.9 • Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Students assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**1-9 Round Numbers**—pp. 46–47 Objective(s): To round numbers to the nearest ten, hundred, or thousand. **1-12 Compare and Round Money**—pp. 52–53 Objective(s): To compare money amounts. To round money amounts to the nearest dollar. **2-3 Add No Regrouping**—pp. 68–69 Objective(s): To estimate sums using front-end estimation. To add 2- and 3-digit numbers with no regrouping. **2-4 Estimate Sums**—pp. 70–71 Objective(s): To use rounding to estimate sums to the nearest ten or hundred and to the nearest ten cents or dollar. **3-2 Subtract: No Regrouping**—pp. 102–103 Objective(s): To estimate differences using front-end estimation. To subtract 2- and 3-digit whole numbers and money amounts with no regrouping. **3-3 Estimate Differences**—pp. 104–105 Objective(s): To estimate differences to the nearest ten or hundred and to the nearest ten cents or dollar. **3-11 Choose a Computation Method**—pp. 120–121 Objective(s): To identify criteria for choosing a method of computation. To determine whether an exact answer or an estimate is needed. ***6-14A Checking Reasonableness of Answers**—Online Objective(s): To use estimation and mental computation to check reasonableness of answers. ***6-14B Writing Variable Expressions**—Online Objective(s): To represent story problems with an expression using a letter to stand for the unknown quantity.

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Operations and Algebraic Thinking

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
		10-2 Estimate Products—pp. 338–339 Objective(s): To estimate products by rounding and front-end estimation. **11-1 Division Sense**—pp. 364–365 Objective(s): To estimate quotients; to recognize division patterns. **11-6 Estimate Quotients**—pp. 374–375 Objective(s): To use rounding to estimate quotients. To estimate quotients by using compatible numbers. **13-6 Multiply Money**—pp. 426–427 Objective(s): To estimate, then multiply, money amounts using a 1-digit multiplier. **14-2 Expressions and Variables**—pp. 442–443 Objective(s): To translate word phrases into expressions with and without variables. ***14-2A Writing Variable Equations**—Online Objective(s): To represent story problems with an equation using a letter to stand for the unknown quantity. **Problem solving: use more than one step** (multistep)—pp. 89, 103, 113, 121, 141, 153, 154–155, 167, 173, 195, 214–215, 217, 218, 253, 267, 273, 275, 279, 281, 296–297, 337, 347, 353, 356–357, 379, 409, 427, 429, 432–433, 452–453, 454
3.OA.D.10	• Estimate the sum and difference of two numbers with three-digit (sums up to 1,000), Students assess the reasonableness of estimates.	**2-3 Add No Regrouping**—pp. 68–69 Objective(s): To estimate sums using front-end estimation. To add 2- and 3-digit numbers with no regrouping. **2-4 Estimate Sums**—pp. 70–71 Objective(s): To use rounding to estimate sums to the nearest ten or hundred and to the nearest ten cents or dollar. **3-2 Subtract: No Regrouping**—pp. 102–103 Objective(s): To estimate differences using front-end estimation. To subtract 2- and 3-digit whole numbers and money amounts with no regrouping. **3-3 Estimate Differences**—pp. 104–105 Objective(s): To estimate differences to the nearest ten or hundred and to the nearest ten cents or dollar. ***6-14A Checking Reasonableness of Answers**—Online Objective(s): To use estimation and mental computation to check reasonableness of answers.
3.OA.D.11	• Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*	**Skills Update: Patterns**—p. 7 **1-4 Counting Patterns**—pp. 36–37 Objective(s): To explore skip counting patterns using hundred charts. To use skip counting to identify and complete number patterns. **4-3 Multiply Twos**—pp. 136–137 Objective(s): To multiply twos. **4-4 Multiply Threes**—pp. 138–139 Objective(s): To multiply threes. **4-5 Multiply Fours**—pp. 140–141 Objective(s): To multiply fours. **4-6 Multiply Fives**—pp. 142–143 Objective(s): To multiply fives. **Ch. 4 Enrichment: Predict Patterns of Sums**—p. 157 **5-3 Divide by 2**—pp. 166–167 Objective(s): To divide by 2. **5-4 Divide by 3**—pp. 168–169 Objective(s): To divide by 3.

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Operations and Algebraic Thinking

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
		5-5 Divide by 4—pp. 170–171 Objective(s): To divide by 4. **5-6 Divide by 5**—pp. 172–173 Objective(s): To divide by 5. **6-2 Multiply Sixes** (count by 6s)—p. 191 Objective(s): To multiply sixes. **6-3 Multiply Sevens** (count by 7s)—pp. 192–193 Objective(s): To multiply sevens. **6-4 Multiply Eights** (count by 8s)—pp. 194–195 Objective(s): To multiply eights. **6-5 Multiply Nines** (count by 9s)—pp. 196–197 Objective(s): To multiply nines. ***6-5B Multiplication Tables**—Online Objective(s): To use a multiplication table to find products. To identify and explain number patterns in a multiplication table. To apply properties of multiplication to explain multiplication patterns. **6-8 Divide by 6**—pp. 202–203 Objective(s): To divide by 6. **6-9 Divide by 7**—pp. 204–205 Objective(s): To divide by 7. **6-10 Divide by 8**—pp. 206–207 Objective(s): To divide by 8. **6-11 Divide by 9**—pp. 208–209 Objective(s): To divide by 9. **6-12 Operation Patterns**—pp. 210–211 Objective(s): To identify and extend number patterns. **10-1 Multiplication Patterns**—pp. 336–337 Objective(s): To use basic facts and patterns of zero to multiply tens, hundreds, and thousands mentally. ***10-1A Multiply with Multiples**—Online Objective(s): To multiply 1-digit numbers by multiples of 10 in the range of 10-90. To use strategies based on the properties of operations and place value to multiply 1-digit numbers and multiples of 10. **10-2 Estimate Products**—pp. 338–339 Objective(s): To estimate products by rounding and front-end estimation. **13-8 Problem Solving Strategy: Find a Pattern**—pp. 430–431 Objective(s): To find and use numerical patterns to solve problems. **14-1 Divisibility**—pp. 440–441 Objective(s): To explore divisibility rules for 2, 5, and 10.
3.OA.D.12	• Know that even numbers end in 0, 2, 4, 6, or 8; name a whole number quantity that can be shared in two equal groups or grouped into pairs with no remainders; recognize even numbers as multiples of 2. Know that odd numbers end in 1, 3, 5, 7, or 9, and work with patterns involving even and odd numbers.	**Skills Update: Count by 2s, 5s, 10s** (even numbers, odd numbers)—p. 2 **14-1 Divisibility**—pp. 440–441 Objective(s): To explore divisibility rules for 2, 5, and 10.

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Number and Operations in Base Ten

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Use place value understanding and properties of operations to perform multi-digit arithmetic.		
3.NBT.A.1	• Use place value understanding to round whole numbers to the nearest 10, 100 or 1000.	**1-9 Round Numbers**—pp. 46–47 Objective(s): To round numbers to the nearest ten, hundred, or thousand. **2-4 Estimate Sums** (estimate by rounding)—pp. 70–71 Objective(s): To use rounding to estimate sums to the nearest ten or hundred and to the nearest ten cents or dollar. **3-3 Estimate Differences** (estimate by rounding)—pp. 104–105 Objective(s): To estimate differences to the nearest ten or hundred and to the nearest ten cents or dollar. **10-2 Estimate Products**—pp. 338–339 Objective(s): To estimate products by rounding and front-end estimation. **11-6 Estimate Quotients**—pp. 374–375 Objective(s): To use rounding to estimate quotients. To estimate quotients by using compatible numbers.
3.NBT.A.2	• Fluently add and subtract within 9,999 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction with and without regrouping. (Formerly composing and decomposing numbers)	**Skills Update: Addition Facts Through 18**—p. 4 **Skills Update: Subtraction Facts Through 18**—p. 5 **2-3 Add No Regrouping**—pp. 68–69 Objective(s): To estimate sums using front-end estimation. To add 2- and 3-digit numbers with no regrouping. **2-5 Add with Regrouping**—pp. 72–73 Objective(s): To add 2-digit numbers and money amounts with regrouping. **2-6 Regroup Tens**—p. 74 Objective(s): To explore regrouping tens as hundreds and tens using models. **2-7 Add Regroup Tens**—p. 75 Objective(s): To add 2-digit numbers and money amounts, regrouping tens (dimes). **2-8 Add Regroup Twice**—pp. 76–77 Objective(s): To add 2-digit numbers, regrouping twice, using both models and the algorithm. ***2-8A Addition Properties**—Online Objective(s): To use the Commutative Property to find sums. To use the Associative Property to find sums. To apply Addition Properties and use compatible numbers to find sums. To use compensation strategies to find sums. **2-9 Three-Digit Addition**—pp. 78–79 Objective(s): To add 3-digit numbers and money amounts, regrouping ones (pennies) or tens (dimes). **2-10 More Regrouping in Addition**—pp. 80–81 Objective(s): To add 3-digit numbers and money amounts, regrouping ones (pennies) and tens (dimes). **2-11 Mental Math**—pp. 82–83 Objective(s): To add numbers mentally. **3-2 Subtract: No Regrouping**—pp. 102–103 Objective(s): To estimate differences using front-end estimation. To subtract 2- and 3-digit whole numbers and money amounts with no regrouping. **3-3 Estimate Differences**—pp. 104–105 Objective(s): To estimate differences to the nearest ten or hundred and to the nearest ten cents or dollar.

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Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
		3-4 Subtract with Regrouping—pp. 106–107 Objective(s): To subtract 2-digit numbers or money amounts, regrouping once. **3-5 Regroup Hundreds and Dollars**—pp. 108–109 Objective(s): To explore regrouping hundreds and dollars using manipulatives. **3-6 Regroup Once in Subtraction**—pp. 110–111 Objective(s): To subtract 3-digit numbers and money amounts, regrouping once. **3-7 Regroup Twice in Subtraction**—pp. 112–113 Objective(s): To subtract 3-digit numbers and money amounts, regrouping twice. **3-8 Regroup with Zeros**—pp. 114–115 Objective(s): To explore subtraction involving regrouping across zeros, using manipulatives. ***3-12A Missing Operands**—Online Objective(s): To use bar diagrams to solve problems that involve addition or subtraction, including separating (result, start, or change unknown) and comparison (difference or referent unknown).
3.NBT.A.3	• Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	**10-1 Multiplication Patterns—pp. 336–337** Objective(s): To use basic facts and patterns of zero to multiply tens, hundreds, and thousands mentally. ***10-1A Multiply with Multiples—Online** Objective(s): To multiply 1-digit numbers by multiples of 10 in the range of 10-90. To use strategies based on the properties of operations and place value to multiply 1-digit numbers and multiples of 10. **10-2 Estimate Products—pp. 338–339** Objective(s): To estimate products by rounding and front-end estimation.
3.NBT.A.3	• Read and write numbers to 100,000 in both numerals and words, and relate them to the quantities they represent	**1-5 What Is One Thousand**?—pp. 38–39 Objective(s): To explore the magnitude of 1000. **1-6 Thousands**—pp. 40–41 Objective(s): To introduce place value in 4-digit numbers. To read and write 4-digit numbers in standard, expanded, and word name form. **1-7 Ten Thousands and Hundred Thousands**—pp. 42–43 Objective(s): To introduce place value in 5- and 6-digit numbers. To read and write 5- and 6-digit numbers in standard, expanded, and word name form.
3.NBT.A.4	• Identify the place value of a digit in a number and write in expanded notation	**Skills Update: Expanded Form**—p. 1 **1-1 Hundreds**—pp. 30–31 Objective(s): To understand place value in 3-digit numbers. To read and write 3-digit numbers in standard, expanded, and word name form. **1-6 Thousands**—pp. 40–41 Objective(s): To introduce place value in 4-digit numbers. To read and write 4-digit numbers in standard, expanded, and word name form. **1-7 Ten Thousands and Hundred Thousands**—pp. 42–43 Objective(s): To introduce place value in 5- and 6-digit numbers. To read and write 5- and 6-digit numbers in standard, expanded, and word name form.

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3.NBT.A.5	• Compare and order numbers up to 100,000	**1-2 Compare Numbers**—pp. 32–33 Objective(s): To compare 2- and 3-digit numbers. **1-3 Order Numbers**—pp. 34–35 Objective(s): To order 2- and 3-digit numbers from least to greatest and greatest to least. **1-8 Compare and Order Larger Numbers**—pp. 44–45 Objective(s): To compare and order larger numbers.
3.NBT.A.6	• Use mental strategies to fluently add and subtract two-digit numbers	**Skills Update: Mental Math Strategies**—p. 6 **2-11 Mental Math**—pp. 82–83 Objective(s): To add numbers mentally. **3-11 Choose a Computation Method** (use mental math to subtract)—pp. 120–121 Objective(s): To identify criteria for choosing a method of computation. To determine whether an exact answer or an estimate is needed.

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Number and Operations – Fractions

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Develop understanding of fractions as numbers.		
3.NF.A.1	• Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a/b* as the quantity formed by *a* parts of size 1/*b*.	**12-1 Fractions**—pp. 386–387 Objective(s): To identify fractions as parts of a whole or parts of a set. To write the word name for a fraction and a fraction for the word name. ***12-1B Unit Fractions on a Number Line**—Online Objective(s): To identify unit fractions on a number line. ***12-1C Fractions on a Number Line**—Online Objective(s): To identify non-unit fractions on a number line. **12-4 Compare Fractions**—pp. 392–393 Objective(s): To explore comparing fractions with like and unlike denominators. **12-5 Order Fractions**—pp. 394–395 Objective(s): To compare and order fractions with like and unlike denominators.
3.NF.A.2	• Understand a fraction as a number on the number line; represent fractions on a number line diagram.	
3.NF.A.2a	• Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.	***12-1B Unit Fractions on a Number Line**—Online Objective(s): To identify unit fractions on a number line.
3.NF.A.2b	• Represent a fraction *a/b* on a number line diagram by marking off a lengths 1/*b* from 0. Recognize that the resulting interval has size *a/b* and that its endpoint locates the number *a/b* on the number line.	***12-1C Fractions on a Number Line**—Online Objective(s): To identify non-unit fractions on a number line. **12-4 Compare Fractions**—pp. 392–393 Objective(s): To explore comparing fractions with like and unlike denominators.
3.NF.A.3	• Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	
3.NF.A.3a	• Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	**12-2 Equivalent Fractions—pp. 388–389** Objective(s): To identify and write equivalent fractions. ***12-2A Model Equivalent Fractions—Online** Objective(s): To express whole numbers as fractions and vice versa To identify and generate equivalent fractions. To identify equivalent fractions on a number line.
3.NF.A.3b	• Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model.	**12-2 Equivalent Fractions—pp. 388–389** Objective(s): To identify and write equivalent fractions. ***12-2A Model Equivalent Fractions—Online** Objective(s): To express whole numbers as fractions and vice versa To identify and generate equivalent fractions. To identify equivalent fractions on a number line.
3.NF.A.3c	• Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*	***12-2A Model Equivalent Fractions—Online** Objective(s): To express whole numbers as fractions and vice versa To identify and generate equivalent fractions. To identify equivalent fractions on a number line.

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Number and Operations – Fractions

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
3.NF.A.3d	• Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	**12-2 Equivalent Fractions**—pp. 388–389 Objective(s): To identify and write equivalent fractions. ***12-3A Compare Like Fractions Using Models**—Online Objective(s): To compare fractions with like denominators using models (fraction strips and number lines). To compare fractions with like denominators to 0, 1/2, and 1/4. To justify comparisons using visual models. **12-4 Compare Fractions**—pp. 392–393 Objective(s): To explore comparing fractions with like and unlike denominators. ***12-4A Compare Unlike Fractions Using Fraction Strips**—Online Objective(s): To compare fractions with unlike denominators using models (fraction strips); to compare unit fractions (like 1/4 and 1/5). To compare multiples of unit fractions with the same numerator (like 3/5 and 3/4). ***12-4B Fraction Sense**—Online Objective(s): To identify how the relationship between a fraction's numerator and denominator determines whether the fraction is less than 1/2, between 1/2 and 1, or greater than 1.
3.NF.A.3e	• Understand and relate decimals to fractional parts of a dollar	Related content— **13-1 Fractions and Decimals**—pp. 416–417 Objective(s): To read and write fractions and decimals expressed as tenths. **13-2 Hundredths**—pp. 418–419 Objective(s): To read and write decimals expressed as hundredths.

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Measurement and Data

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
Solve problems involving measurement and estimation.		
3.MD.A.1	• Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	**Skills Update: Hour, Half Hour**—p. 14 **8-15 Minutes**—pp. 288–289 Objective(s): To tell time to the minute, and to estimate time to the nearest half hour and nearest hour. **8-16 Elapsed Time**—pp. 290–291 Objective(s): To find the elapsed time between two given times. To tell what time it will be in a given number of minutes or hours. ***8-16A Time on a Number Line**—Online Objective(s): To use a number line to solve problems about elapsed time.
3.MD.A.2	• Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	**Skills Update: Cup, Pint, Quart**—p. 12 **Skills Update: Liter**—p. 13 **8-9 Milliliter, Liter**—pp. 276–277 Objective(s): To use the metric units of milliliter and liter to estimate capacity. To compare metric units of capacity. **8-10 Gram, Kilogram**—pp. 278–279 Objective(s): To use the metric units gram and kilogram to measure mass. To compare metric units of mass. ***8-10A Estimate and Measure Masses**—Online Objective(s): To measure masses of objects using grams and kilograms. To estimate masses of objects using grams and kilograms. **8-11 Rename Units of Measure**—pp. 280–281 Objective(s): To rename customary units of length and capacity. To rename metric units of length. **9-12 Volume**—pp. 324–325 Objective(s): To find the volume of a solid figure. ***9-12A Estimate and Measure Volume**—Online Objective(s): To measure liquid volumes of objects using standard units of liters. To estimate liquid volumes of objects using standard units of liters. ***9-12B Measurement Problems**—Online Objective(s): To solve one-step measurement problems involving volume and mass and addition, subtraction, multiplication, and division. To solve measurement problems using drawings.
3.MD.A.3	• Know benchmark temperatures such as freezing, boiling and compare temperatures to these.	**8-13 Temperature**—pp. 284–285 Objective(s): To read a Fahrenheit thermometer. To read a Celsius thermometer.
3.MD.A.4	• Add and subtract money in dollars and cents.	**2-5 Add with Regrouping**—pp. 72–73 Objective(s): To add 2-digit numbers and money amounts with regrouping. **2-7 Add Regroup Tens**—p. 75 Objective(s): To add 2-digit numbers and money amounts, regrouping tens (dimes). **2-9 Three-Digit Addition**—pp. 78–79 Objective(s): To add 3-digit numbers and money amounts, regrouping ones (pennies) or tens (dimes).

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Measurement and Data

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
		2-10 More Regrouping in Addition—pp. 80–81 Objective(s): To add 3-digit numbers and money amounts, regrouping ones (pennies) and tens (dimes). **2-13 Three or More Addends**—pp. 86–87 Objective(s): To add three or more 3-digit addends, including money amounts, with multiple regroupings. **2-14 Add Larger Numbers**—pp. 88–89 Objective(s): To add 4-digit numbers and money amounts, with regrouping. **3-2 Subtract: No Regrouping**—pp. 102–103 Objective(s): To estimate differences using front-end estimation. To subtract 2- and 3-digit whole numbers and money amounts with no regrouping. **3-3 Estimate Differences**—pp. 104–105 Objective(s): To estimate differences to the nearest ten or hundred and to the nearest ten cents or dollar. **3-4 Subtract with Regrouping**—pp. 106–107 Objective(s): To subtract 2-digit numbers or money amounts, regrouping once. **3-5 Regroup Hundreds and Dollars**—pp. 108–109 Objective(s): To explore regrouping hundreds and dollars using manipulatives. **3-6 Regroup Once in Subtraction**—pp. 110–111 Objective(s): To subtract 3-digit numbers and money amounts, regrouping once. **3-7 Regroup Twice in Subtraction**—pp. 112–113 Objective(s): To subtract 3-digit numbers and money amounts. To regroup twice.
3.MD.A.5	• Solve applied problems involving money.	**Introduction to Problem Solving: Problem-Solving Strategy: More Than One Step** (money)—p. 25 **1-10 Coins and Bills**—pp. 48–49 Objective(s): To determine the value of sets of coins and bills. **1-11 Make and Count Change**—pp. 50–51 Objective(s): To make and count change correctly. **1-12 Compare and Round Money**—pp. 52–53 Objective(s): To compare money amounts. To round money amounts to the nearest dollar. **2-4 Estimate Sums**—pp. 70–71 Objective(s): To use rounding to estimate sums to the nearest ten or hundred and to the nearest ten cents or dollar. **2-5 Add with Regrouping**—pp. 72–73 Objective(s): To add 2-digit numbers and money amounts with regrouping. **2-7 Add Regroup Tens**—p. 75 Objective(s): To add 2-digit numbers and money amounts, regrouping tens (dimes). **2-9 Three-Digit Addition**—pp. 78–79 Objective(s): To add 3-digit numbers and money amounts, regrouping ones (pennies) or tens (dimes). **2-10 More Regrouping in Addition**—pp. 80–81 Objective(s): To add 3-digit numbers and money amounts, regrouping ones (pennies) and tens (dimes). **2-13 Three or More Addends**—pp. 86–87 Objective(s): To add three or more 3-digit addends, including money amounts, with multiple regroupings.

Measurement and Data

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
		2-14 Add Larger Numbers—pp. 88–89 Objective(s): To add 4-digit numbers and money amounts, with regrouping. **3-2 Subtract: No Regrouping**—pp. 102–103 Objective(s): To estimate differences using front-end estimation. To subtract 2- and 3-digit whole numbers and money amounts with no regrouping. **3-3 Estimate Differences**—pp. 104–105 Objective(s): To estimate differences to the nearest ten or hundred and to the nearest ten cents or dollar. **3-4 Subtract with Regrouping**—pp. 106–107 Objective(s): To subtract 2-digit numbers or money amounts, regrouping once. **3-5 Regroup Hundreds and Dollars**—pp. 108–109 Objective(s): To explore regrouping hundreds and dollars using manipulatives. **3-6 Regroup Once in Subtraction**—pp. 110–111 Objective(s): To subtract 3-digit numbers and money amounts, regrouping once. **3-7 Regroup Twice in Subtraction**—pp. 112–113 Objective(s): To subtract 3-digit numbers and money amounts. To regroup twice. **4-7 Multiply Cents**—pp. 144–145 Objective(s): To multiply from 2 to 5 cents. **5-8 Divide Cents**—pp. 176–177 Objective(s): To divide cents by 2 through 5. **10-5 Multiply with Regrouping**—pp. 344–345 Objective(s): To multiply a 2-digit number by a 1-digit number, with regrouping in the ones place. **11-6 Estimate Quotients** (estimate cost)—pp. 374–375 Objective(s): To use rounding to estimate quotients. To estimate quotients by using compatible numbers. **13-6 Multiply Money**—pp. 426–427 Objective(s): To estimate, then multiply, money amounts using a 1-digit multiplier. **13-7 Divide Money**—pp. 428–429 Objective(s): To divide 2- and 3-digit money amounts by a 1-digit divisor, with no remainders.
3.MD.A.6	• Solve applied problems involving length width, height, and weight.	**8-1 Quarter Inch, Half Inch, Inch—pp. 260–261** Objective(s): To estimate and measure length to the nearest inch, half inch, and quarter inch. **8-2 Foot, Yard—pp. 262–263** Objective(s): To choose the appropriate customary unit to measure length. To compare customary units of length. **8-3 Mile—pp. 264–265** Objective(s): To identify the mile as a customary unit for measuring distance. To use a map to find and estimate distances. **8-4 Customary Units of Capacity—pp. 266–267** Objective(s): To use customary units to measure liquid capacity. To compare customary units of capacity. **8-5 Ounce, Pound—pp. 268–269** Objective(s): To choose the appropriate customary unit of weight. To compare customary units of weight.

Measurement and Data

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
		8-6 Metric Units of Length—pp. 270–271 Objective(s): To choose the appropriate metric unit of length. To measure length in centimeters and decimeters. To compare metric units of length. **8-7 Meter—pp. 272–273** Objective(s): To choose the appropriate metric unit to measure length; to compare metric units of length. **8-8 Kilometer—pp. 274–275** Objective(s): To identify the kilometer as a metric unit for measuring distance. To find distances in kilometers on a map. **8-9 Milliliter, Liter—pp. 276–277** Objective(s): To use the metric units of milliliter and liter to estimate capacity. To compare metric units of capacity. **8-10 Gram, Kilogram—pp. 278–279** Objective(s): To use the metric units gram and kilogram to measure mass. To compare metric units of mass.
3.MD.A.7	• Solve applied problems involving time.	**8-14 Quarter Hour**—pp. 286–287 Objective(s): To tell and write time to the hour, half hour, and quarter hour. To write times that include A.M. and P.M. **8-15 Minutes**—pp. 288–289 Objective(s): To tell time to the minute, and to estimate time to the nearest half hour and nearest hour. **8-16 Elapsed Time**—pp. 290–291 Objective(s): To find the elapsed time between two given times; to tell what time it will be in a given number of minutes or hours. ***8-16A Time on a Number Line**—Online Objective(s): To use a number line to solve problems about elapsed time. **8-17 Calendar**—pp. 292–293 Objective(s): To read and interpret a calendar.
Represent and interpret data.		
3.MD.B.8	• Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*	**7-1 Pictographs**—pp. 226–227 Objective(s): To read, interpret, and make pictographs. **7-2 Bar Graphs**—pp. 228–229 Objective(s): To read, interpret, and make bar graphs. ***7-2A Data and Two-Step Problems**—Online Objective(s): To solve two-step problems using information presented in bar graphs. **7-3 Surveys**—pp. 230–231 Objective(s): To learn how to conduct a survey. To organize and record data in a tally chart. To make a graph from data in a tally chart. **7-8 Compare Data**—pp. 240–241 Objective(s): To compare sets of data displayed in bar graphs, line plots, and pictographs. **7-13 Problem Solving Strategy: Use a Graph**—pp. 250–251 Objective(s): To use a bar graph or pictograph to solve problems. **7-14 Problem Solving Applications: Mixed Review**—pp. 252–253

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Measurement and Data

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
3.MD.B.9	• Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	**7-5 Line Plots**—pp. 234–235 Objective(s): To make, read, and interpret line plots. To use line plots to find the mode and range of a set of data. **8-1 Quarter Inch, Half Inch, Inch**—pp. 260–261 Objective(s): To estimate and measure length to the nearest inch, half inch, and quarter inch. ***8-12A Collect and Represent Data**—Online Objective(s): To use measurement and data representation to solve problems. To use line plots to record measurement data in fractional units.
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.		
3.MD.C.10	• Recognize area as an attribute of plane figures and understand concepts of area measurement.	
3.MD.C.10a	• A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.	**9-11 Area**—pp. 322–323 Objective(s): To find the area of a given shape. ***9-11A Area of a Rectangle**—Online Objective(s): To find the area of a rectangle by tiling it. To find the area of a rectangle by multiplication.
3.MD.C.10b	• A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.	**9-11 Area**—pp. 322–323 Objective(s): To find the area of a given shape. ***9-11A Area of a Rectangle**—Online Objective(s): To find the area of a rectangle by tiling it. To find the area of a rectangle by multiplication.
3.MD.C.11	• Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	**9-11 Area**—pp. 322–323 Objective(s): To find the area of a given shape. ***9-11A Area of a Rectangle**—Online Objective(s): To find the area of a rectangle by tiling it. To find the area of a rectangle by multiplication.
3.MD.C.12	• Relate area to the operations of multiplication and addition.	
3.MD.C.12a	• Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.	**9-11 Area**—pp. 322–323 Objective(s): To find the area of a given shape. ***9-11A Area of a Rectangle**—Online Objective(s): To find the area of a rectangle by tiling it. To find the area of a rectangle by multiplication.
3.MD.C.12b	• Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	***9-11A Area of a Rectangle**—Online Objective(s): To find the area of a rectangle by tiling it. To find the area of a rectangle by multiplication. ***9-11B Area of Composite Shapes—Online** Objective(s): To find the area of composite rectilinear shapes by adding areas. To find the area of a rectangle by using the distributive property.

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Measurement and Data

Archdiocese of Detroit: Third Grade Mathematics Standards	Sadlier *Progress in Mathematics*, Grade 3
3.MD.C.12c • Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.	***9-11B Area of Composite Shapes—Online** Objective(s): To find the area of composite rectilinear shapes by adding areas. To find the area of a rectangle by using the distributive property.
3.MD.C.12d • Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	***9-11B Area of Composite Shapes—Online** Objective(s): To find the area of composite rectilinear shapes by adding areas. To find the area of a rectangle by using the distributive property. **9-13 Problem Solving Strategy: Solve a Simpler Problem**—pp. 326–327 Objective(s): To solve problems by solving a similar, but simpler, problem first.
Geometric measurement: recognize perimeter.	
3.MD.C.13 • Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**9-10 Perimeter**—pp. 320–321 Objective(s): To estimate and find perimeter. **9-11 Area**—pp. 322–323 Objective(s): To find the area of a given shape. ***9-11A Area of a Rectangle**—Online Objective(s): To find the area of a rectangle by tiling it. To find the area of a rectangle by multiplication. ***9-11B Area of Composite Shapes—Online** Objective(s): To find the area of composite rectilinear shapes by adding areas. To find the area of a rectangle by using the distributive property. ***9-11C Perimeter and Area—Online** Objective(s): To show there is no relation between perimeter and area. To understand that figures with the same perimeter can have different areas. To understand that figures with the same area can have different perimeters. ***9-11D Missing Dimensions—Online** Objective(s): To solve real world problems involving perimeter and area. To solve perimeter problems with missing lengths or widths. **14-7 Problem Solving Strategy: Use More Than One Step**—p. 453

Geometry

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
Reason with shapes and their attributes.		
3.G.A.1	• Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	**9-3 Polygons and Circles**—pp. 308–309 Objective(s): To explore and classify polygons; to distinguish polygons from circles. **9-4 Triangles**—pp. 310–311 Objective(s): To identify right isosceles, equilateral, and scalene triangles. ***9-4A Quadrilaterals**—Online Objective(s): To identify and classify quadrilaterals. To draw examples of quadrilaterals that do not belong to any subcategory. **9-14 Problem Solving Applications: Mixed Review**—pp. 328–329
3.G.A.2	• Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*	**Skills Update: Fractions: Part of a Whole**—p. 8 **9-7 Symmetry**—p. 316 Objective(s): To recognize lines of symmetry. To draw the matching half of a symmetrical figure. **12-1 Fractions**—pp. 386–387 Objective(s): To identify fractions as parts of a whole or parts of a set. To write the word name for a fraction and a fraction for the word name. ***12-1A Use Fractions**—Online Objective(s): To identify fractions as part of a whole. To partition plane shapes into equal parts and express the area of each as a fraction.
3.G.A.3	• Identify points, line segments, ray, lines, and distance.	**9-1 Lines**—pp. 304–305 Objective(s): To identify and draw lines, line segments, and rays, as well as parallel, intersecting, and perpendicular lines.
3.G.A.4	• Identify perpendicular lines and parallel lines in familiar shapes in the classroom.	**9-1 Lines**—pp. 304–305 Objective(s): To identify and draw lines, line segments, and rays, as well as parallel, intersecting, and perpendicular lines.
3.G.A.5	• Identify parallel faces of rectangular prisms in familiar shapes in the classroom.	**9-9 Solid Figures**—pp. 318–319 Objective(s): To identify solid figures and attributes of solid figures. To recognize and use nets for solid figures.
3.G.A.6	• Identify, describe, compare, and classify two-dimensional shapes (parallelogram, trapezoid, circle, rectangle, square, rhombus) based on their component parts (angles, sides, vertices, line segment).	**9-3 Polygons and Circles**—pp. 308–309 Objective(s): To explore and classify polygons. To distinguish polygons from circles. **9-4 Triangles**—pp. 310–311 Objective(s): To identify right isosceles, equilateral, and scalene triangles. ***9-4A Quadrilaterals**—Online Objective(s): To identify and classify quadrilaterals. To draw examples of quadrilaterals that do not belong to any subcategory.
3.G.A.7	• Compose and decompose triangles and rectangles to form other familiar two-dimensional shapes (form a rectangle using two congruent right triangles, or decompose a parallelogram into a rectangle and two right triangles.	Related content— **9-13 Problem Solving Strategy: Solve a Simpler Problem**—pp. 326–327 Objective(s): To solve problems by solving a similar, but simpler, problem first.

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Geometry

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
3.G.A.8	• Identify, describe, build and classify familiar three-dimensional solids (cube, faces, surfaces, bases, edges, vertices).	**9-9 Solid Figures**—pp. 318–319 Objective(s): To identify solid figures and attributes of solid figures. To recognize and use nets for solid figures.
3.G.A.9	• Represent front, top, and side views of solids built with cubes.	Related content— **9-9 Solid Figures** (views/cross sections)—pp. 318–319 Objective(s): To identify solid figures and attributes of solid figures. To recognize and use nets for solid figures.

Data and Probability

Archdiocese of Detroit: Third Grade Mathematics Standards		Sadlier *Progress in Mathematics*, Grade 3
Use Bar Graphs		
3.DP.1	• Read and interpret bar graphs in both horizontal and vertical forms.	**Skills Update: Read a Bar Graph—**p. 20 **7-2 Bar Graphs**—pp. 228–229 Objective(s): To read, interpret, and make bar graphs. **7-3 Surveys**—pp. 230–231 Objective(s): To learn how to conduct a survey; to organize and record data in a tally chart. To make a graph from data in a tally chart. ***7-2A Data and Two-Step Problems**—Online Objective(s): To solve two-step problems using information presented in bar graphs. **7-8 Compare Data**—pp. 240–241 Objective(s): To compare sets of data displayed in bar graphs, line plots, and pictographs. **7-13 Problem Solving Strategy: Use a Graph**—pp. 250–251 Objective(s): To use a bar graph or pictograph to solve problems. **7-14 Problem Solving Applications: Mixed Review**—pp. 252–253
3.DP.2	• Read scales on the axis and identify the maximum, minimum and range of values in a bar graph.	**Skills Update: Read a Bar Graph—**p. 20 **7-2 Bar Graphs**—pp. 228–229 Objective(s): To read, interpret, and make bar graphs. **7-3 Surveys**—pp. 230–231 Objective(s): To learn how to conduct a survey; to organize and record data in a tally chart. To make a graph from data in a tally chart. ***7-2A Data and Two-Step Problems**—Online Objective(s): To solve two-step problems using information presented in bar graphs. **7-8 Compare Data**—pp. 240–241 Objective(s): To compare sets of data displayed in bar graphs, line plots, and pictographs. **7-13 Problem Solving Strategy: Use a Graph**—pp. 250–251 Objective(s): To use a bar graph or pictograph to solve problems. **7-14 Problem Solving Applications: Mixed Review**—pp. 252–253
3.DP.3	• Solve problems using information in bar graphs, including comparison of bar graphs.	**Skills Update: Read a Bar Graph—**p. 20 **7-2 Bar Graphs**—pp. 228–229 Objective(s): To read, interpret, and make bar graphs. **7-3 Surveys**—pp. 230–231 Objective(s): To learn how to conduct a survey; to organize and record data in a tally chart. To make a graph from data in a tally chart. ***7-2A Data and Two-Step Problems**—Online Objective(s): To solve two-step problems using information presented in bar graphs. **7-8 Compare Data**—pp. 240–241 Objective(s): To compare sets of data displayed in bar graphs, line plots, and pictographs. **7-13 Problem Solving Strategy: Use a Graph**—pp. 250–251 Objective(s): To use a bar graph or pictograph to solve problems. **7-14 Problem Solving Applications: Mixed Review**—pp. 252–253

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