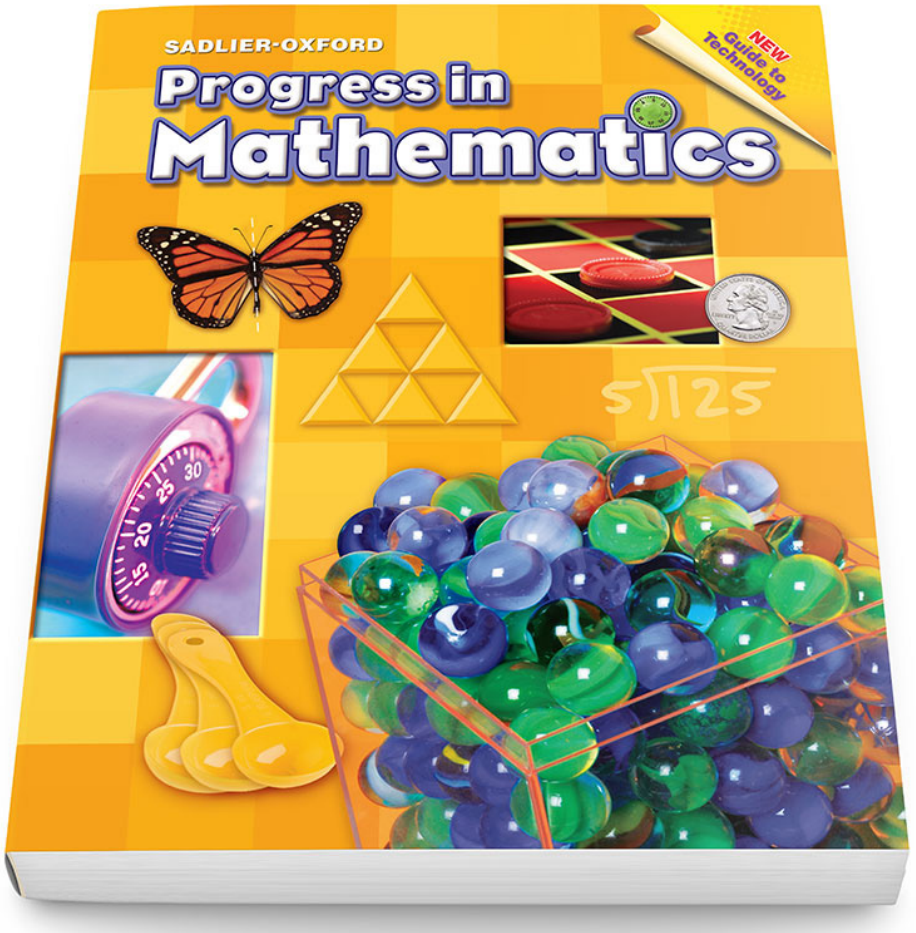
Progress in Mathematics

Correlation to the Archdiocese of Cincinnati
2020 Graded Course of Study for Mathematics

Grade 4



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STANDARD 1 – OPERATIONS AND ALGEBRAIC THINKING (OA)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.OA.4.1 Use the four operations with whole numbers to solve problems.	
M.OA.4.1.1 Interpret a multiplication equation as a comparison, for example, interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.	**Chapter 4 Multiplication by One and Two Digits** 4-1B Use Multiplication to Compare Numbers—Online
M.OA.4.1.2 Represent verbal statements of multiplicative comparisons as multiplication equations.	**Chapter 4 Multiplication by One and Two Digits** 4-1B Use Multiplication to Compare Numbers—Online
M.OA.4.1.3 Multiply or divide to solve word problems involving multiplicative comparison, for example, by using drawings and equations with a symbol for the unknown number to represent the problem distinguishing multiplicative comparison from additive comparison.	**Chapter 4 Multiplication by One and Two Digits** 4-1B Use Multiplication to Compare Numbers—Online **Chapter 5 Divide by One Digit** 5-4A Use Bar Diagrams—Online 5-17 Problem Solving Strategy: Interpret the Remainder—pp. 196–197 5-18 Problem Solving Applications: Mixed Review—pp. 198–199 **Chapter 12 Divide by Two Digits** 12-11 Problem Solving Strategy: Use More Than One Step—pp. 402–403 12-12 Problem Solving Applications: Mixed Review—pp. 404–405 **Chapter 14 Get Ready for Algebra** 14-1 Equations—pp. 442–443
M.OA.4.1.4 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.	**Introduction to Problem Solving** Use More Than One Step—p. 32 **Chapter 2 Addition and Subtraction Concepts** 2-4 Expressions and Variables—pp. 74–75 2-5 Addition and Subtraction Sentences (use a letter for the unknown quantity)—pp. 76–77 2-6 Mental Math—pp. 78–79 2-7 Estimate Sums and Differences—pp. 80–81 2-10 Problem Solving Strategy: Logical Reasoning—pp. 86–87 **Chapter 3 Addition and Subtraction** 3-1 Front-End Estimation—pp. 96–97 3-5 Three or More Addends—pp. 104–105 3-9 Zeros in Subtraction—pp. 112–113

continued

STANDARD 2 – NUMBERS AND OPERATION IN BASE TEN (NBT)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.OA.4.1 Use the four operations with whole numbers to solve problems.	
	Chapter 4 Multiplication by One and Two Digits 4-1B Use Multiplication to Compare Numbers—Online 4-5 Products: Front-End Estimation—pp. 134–135 4-6A Use Mental Math to Multiply—Online 4-7 Multiply Three-Digit Numbers—pp. 138–139 4-11 Products: Rounding to Estimate—pp. 146–147 4-15 Problem Solving Strategy: Work Backward—pp. 154–155 **Chapter 5 Divide by One Digit** 5-3 Missing Numbers—pp. 168–169 5-4A Use Bar Diagrams—Online 5-5 Estimate in Division—pp. 172–173 5-5A Use Models to Divide—Online 5-13A Multistep Problems & Bar Diagrams—Online 5-17 Problem Solving Strategy: Interpret the Remainder—pp. 196–197 5-18 Problem Solving Applications: Mixed Review—pp. 198–199 **Chapter 6 Measurement** 6-13 Problem Solving Strategy: Use More Than One Step—pp. 230–231 **Chapter 12 Divide by Two Digits** 12-3 Estimate Quotients—pp. 386–387 12-11 Problem Solving Strategy: Use More Than One Step—pp. 402–403 12-12 Problem Solving Applications: Mixed Review—pp. 404–405 **Chapter 14 Get Ready for Algebra** 14-1 Equations—pp. 442–443 14-2 Find Missing Numbers—pp. 444–445 14-6 Use Parentheses—pp. 452–453
M.OA.4.1.5 Represent these problems using equations with a letter standing for the unknown quantity.	**Chapter 2 Addition and Subtraction Concepts** 2-4 Expressions and Variables—pp. 74–75 2-5 Addition and Subtraction Sentences (use a letter for the unknown quantity)—pp. 76–77 **Chapter 5 Divide by One Digit** 5-3 Missing Numbers (use a letter for the unknown quantity)—pp. 168–169

continued

STANDARD 1 – OPERATIONS AND ALGEBRAIC THINKING (OA)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.OA.4.1 Use the four operations with whole numbers to solve problems.	
	Chapter 14 Get Ready for Algebra 14-1 Equations—pp. 442–443 14-2 Find Missing Numbers—pp. 444–445 14-6 Use Parentheses—pp. 452–453
M.OA.4.1.6 Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**Chapter 1 Place Value** 1-10 Rounding—pp. 54–55 **Chapter 2 Addition and Subtraction Concepts** 2-4 Expressions and Variables—pp. 74–75 2-5 Addition and Subtraction Sentences—pp. 76–77 2-6 Mental Math—pp. 78–79 2-7 Estimate Sums and Differences—pp. 80–81 **Chapter 3 Addition and Subtraction** 3-1 Front-End Estimation—pp. 96–97 3-2 Add with Regrouping (rounding)—pp. 98–99 3-3 Four-Digit Addition (estimate)—pp. 100–101 3-6 Mental Math—p. 78 **Chapter 4 Multiplication by One and Two Digits** 4-5 Products: Front-End Estimation—pp. 134–135 4-6A Use Mental Math to Multiply—Online 4-11 Products: Rounding to Estimate—pp. 146–147 **Chapter 5 Divide by One Digit** 5-5 Estimate in Division—pp. 172–173
M.OA.4.2 Gain familiarity with factors and multiples.	
M.OA.4.2.1 Find all factor pairs for a whole number in the range 1 – 100.	**Chapter 5 Divide by One Digit** Enrichment: Factor Trees—p. 201 **Chapter 8 Fraction Concepts** 8-6 Factors—pp. 276–277 **Chapter 9 Fractions: Addition and Subtraction** 9-6 Multiples—pp. 306–307 9-6A Factor Pairs—Online 9-6B Prime and Composite Numbers—Online 9-6 Multiples—pp. 306–307
M.OA.4.2.2 Recognize that a whole number is a multiple of each of its factors.	**Chapter 9 Fractions: Addition and Subtraction** 9-6 Multiples—pp. 306–307 9-6A Factor Pairs—Online

STANDARD 1 – OPERATIONS AND ALGEBRAIC THINKING (OA)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.OA.4.2 Gain familiarity with factors and multiples.	
M.OA.4.2.3 Determine whether a given whole number in the range 1 – 100 is a multiple of a given one – digit number.	**Chapter 9 Fractions: Addition and Subtraction** 9-6 Multiples—pp. 306–307 9-6A Factor Pairs—Online
M.OA.4.2.4 Determine whether a given whole number in the range 1 – 100 is prime or composite.	**Chapter 9 Fractions: Addition and Subtraction** 9-6B Prime and Composite Numbers—Online
M.OA.4.3 Generate and analyze patterns.	
M.OA.4.3.1 Generate a number or shape pattern that follows a given rule.	**Chapter 4 Multiplication by One and Two Digits** 4-1A Number Patterns—Online **Chapter 5 Divide by One Digit** 5-4 Number Patterns—pp. 170–171 **Chapter 10 Geometry** 10-12 Problem Solving Strategy: Find a Pattern—pp. 348–349 **Chapter 14 Get Ready for Algebra** 14-3 Functions—pp. 446–447
M.OA.4.3.2 Identify apparent features of the pattern that was 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 term appear to alternate between odd and even numbers.	**Chapter 4 Multiplication by One and Two Digits** 4-1A Number Patterns—Online **Chapter 5 Divide by One Digit** 5-4 Number Patterns—pp. 170–171 **Chapter 10 Geometry** 10-12 Problem Solving Strategy: Find a Pattern—pp. 348–349

STANDARD 2 – NUMBERS AND OPERATION IN BASE TEN (NBT)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.NBT.4.1 Generalize place value understanding for multi – digit whole numbers.	
M.NBT.4.1.1 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 by applying concepts of place value, multiplication or division.	**Skills Update** Hundreds—p. 1 **Chapter 1 Place Value** 1-1 Thousands—pp. 36-37 1-2 What is One Million?—pp. 38–39 1-3 Millions—pp. 40–41 1-4 Place Value—pp. 42–43
M.NBT.4.1.2 Read and write multi-digit whole numbers using standard form, word form, and expanded from. Compare two multi-digit numbers based on meanings of the digits in each place, using ≥, =, and ≤ symbols to record the results of comparison. Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.	**Skills Update** Hundreds—p. 1 Compare Whole Numbers—p. 2 **Chapter 1 Place Value** 1-1 Thousands—pp. 36-37 1-2 What is One Million?—pp. 38–39 1-3 Millions—pp. 40–41 1-4 Place Value—pp. 42–43 1-6 Compare and Order Whole Numbers—pp. 46–47 1-13 Problem Solving Applications: Mixed Review—pp. 60–61
M.NBT.4.1.3 Use place value understanding to round multi-digit whole numbers to any place through 1,000,000.	**Chapter 1 Place Value** 1-10 Rounding—pp. 54–55 **Chapter 2 Addition and Subtraction Concepts** 2-7 Estimate Sums and Differences (rounding)—pp. 80–81 **Chapter 3 Addition and Subtraction** 3-2 Add with Regrouping (rounding)—pp. 98–99 3-4 Add Larger Numbers (rounding)—pp. 102–103
M.NBT.4.2 Use place value understanding and properties of operations to perform multi-digit arithmetic with whole numbers less than or equal to 1,000,000.	
M.NBT.4.2.1 Use place value understanding and properties of operations to perform multi-digit arithmetic with whole numbers less than or equal to 1,000,000.	**Chapter 3 Addition and Subtraction** 3-2 Add with Regrouping—pp. 98–99 3-3 Four-Digit Addition—pp. 100–101 3-4 Add Larger Numbers—pp. 102–103 3-5 Three or More Addends—pp. 104–105

STANDARD 2 – NUMBERS AND OPERATION IN BASE TEN (NBT)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.NBT.4.2 Use place value understanding and properties of operations to perform multi-digit arithmetic with whole numbers less than or equal to 1,000,000.	
M.NBT.4.2.2 Fluently add and subtract multi-digit whole numbers using a standard algorithm.	**Chapter 3 Addition and Subtraction** 3-2 Add with Regrouping—pp. 98–99 3-3 Four-Digit Addition—pp. 100–101 3-4 Add Larger Numbers—pp. 102–103 3-5 Three or More Addends—pp. 104–105 3-6 Subtract with Regrouping—pp. 106–107 3-7 Subtraction: Regroup Twice—pp. 108–109 3-8 Subtract Larger Numbers—pp. 110–111 3-9 Zeros in Subtraction—pp. 112–113 3-10 Addition and Subtraction Practice—pp. 114–115 3-12 Problem Solving Applications: Mixed Review—pp. 118–119
M.NBT.4.2.3 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculations by using equations.	**Chapter 4 Multiplication by One and Two Digits** 4-1 Multiplication Properties—pp. 126–127 4-2 Multiplication Models—pp. 128–129 4-3 Special Factors—pp. 130–131 4-4 Multiply by One-Digit Numbers—pp. 132–133 4-5A Multiply with Models—Online 4-6 Multiply with Regrouping—pp. 136–137 4-6A Use Mental Math to Multiply—Online 4-7 Multiply Three-Digit Numbers—pp. 138–139 4-9 Multiply Four-Digit Numbers—pp. 142–143 4-10 Patterns in Multiplication—pp. 144–145 4-11A Multiply with Area Models—Online 4-11B Break Apart Numbers to Multiply—Online 4-12 Multiply by Two-Digit Numbers—pp. 148–149 4-13 More Multiplying by Two-Digit Numbers—pp. 150–151
M.NBT.4.2.4 Find whole-number quotients and remainders with up to four digit dividends and one=digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays and/or area models.	**Chapter 5 Divide by One Digit** 5-2 Relate Multiplication and Division—pp. 166–167 5-5A Use Models to Divide—Online 5-6 One-Digit Quotients—pp. 174–175 5-8 Two-Digit Quotients—pp. 178–179 5-9 More Two-Digit Quotients—pp. 180–181 5-10 Three-Digit Quotients—pp. 182–183 5-11 More Quotients—pp. 184–18 5-12 Zeros in the Quotient—pp. 186–187 5-13 Larger Numbers in Division—pp. 188–189 5-13A Multistep Problems & Bar Diagrams—Online

STANDARD 3 – NUMBERS AND OPERATIONS – FRACTIONS (NF)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.NF.4.1 Extend understanding of fraction equivalence and ordering limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100.	
M.NF.4.1.1 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 through the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	**Chapter 8 Fraction Concepts** 8-3A Model Equivalent Fractions—Online 8-4 Equivalent Fractions—pp. 272–273 8-5 Write Equivalent Fractions—pp. 274–275 8-7 Fractions: Lowest Terms—pp. 278–279
M.NF.4.1.2 Compare two fractions with different numerators and different denominators, for examples, by creating common denominators a numerators, or by comparing to a benchmark fraction such as ½.	**Chapter 8 Fraction Concepts** 8-2 Fractions on a Number Line—pp. 268–269 8-3 Estimate Fractions—pp. 270–271 8-4 Equivalent Fractions—pp. 272–273 8-8A Compare Fractions Using Benchmarks—Online 8-9 Compare Fractions—pp. 282–283 8-10 Order Fractions—pp. 284–285
M.NF.4.1.3 Recognize that comparisons of two fractions are valued only when the two fractions refer to the same whole.	**Chapter 8 Fraction Concepts** 8-8A Compare Fractions Using Benchmarks—Online 8-9 Compare Fractions—pp. 282–283
M.NF.4.1.4 Record the results of comparisons with symbols ≥, =, or ≤, and justify the conclusion, for example, by using a visual fraction model.	**Chapter 8 Fraction Concepts** 8-8A Compare Fractions Using Benchmarks—Online 8-9 Compare Fractions—pp. 282–283 8-10 Order Fractions—pp. 284–285
M.NF.4.2 Build fractions from unit fractions by applying and extending previous understanding of operations on whole number limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 (Fractions need not be simplified.)	
M.NF.4.2.1 Understand a fraction a/b with a ≥ 1 as a sum of fractions $1/b$.	**Chapter 9 Fractions: Addition and Subtraction** 9-1 Add Fractions: Like Denominators—pp. 296–297 9-1A Use Models to Add Fractions—Online
M.NF.4.2.2 Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	**Chapter 9 Fractions: Addition and Subtraction** 9-1A Use Models to Add Fractions—Online 9-1C Use Models to Subtract Fractions—Online

STANDARD 3 – NUMBERS AND OPERATIONS – FRACTIONS (NF)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.NF.4.2 Build fractions from unit fractions by applying and extending previous understanding of operations on whole number limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 (Fractions need not be simplified.)	
M.NF.4.2.3 Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation.	**Chapter 9 Fractions: Addition and Subtraction** 9-1B Decompose Fractions—Online
M.NF.4.2.4 Justify decompositions, for example, 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.	**Chapter 9 Fractions: Addition and Subtraction** 9-1B Decompose Fractions—Online
M.NF.4.2.5 Add and subtract mixed numbers with like denominators, for example, by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.	**Chapter 9 Fractions: Addition and Subtraction** 9-4A Add Mixed Numbers—Online 9-4B Subtract Mixed Numbers—Online 9-5 Add and Subtract Mixed Numbers—pp. 304–305
M.NF.4.2.6 Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. For example, by using visual fraction models and equations to represent the problem.	**Chapter 9 Fractions: Addition and Subtraction** 9-1 Add Fractions: Like Denominators—pp. 296–297 9-2 Subtract Fractions: Like Denominators—pp. 298–299 9-2A Word Problems Involving Fractions—Online 9-12 Problem Solving Applications: Mixed Review—pp. 318–319
M.NF.4.2.7 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	**Chapter 9 Fractions: Addition and Subtraction** 9-8A Multiply with Fractions—Online
M.NF.4.2.8 Understand a fraction *a*/*b* as a multiple of 1/*b*.	**Chapter 9 Fractions: Addition and Subtraction** 9-8A Multiply with Fractions—Online 9-10 Find Part of a Number—pp. 314–315

STANDARD 3 – NUMBERS AND OPERATIONS – FRACTIONS (NF)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.NF.4.2 Build fractions from unit fractions by applying and extending previous understanding of operations on whole number limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100 (Fractions need not be simplified.)	
M.NF.4.2.9 Understand a multiple of *a*/*b* and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express 3 x (2/5) as 6 x (1/5), recognizing this product as 6/5. (In general, *n* x (*a*/*b*) = (*n* x *a*)/*b*).	**Chapter 9 Fractions: Addition and Subtraction** 9-8A Multiply with Fractions—Online
M.NF.4.2.10 Solve word problems involving multiplication of a fraction by a whole number, for example, by using visual fraction models and equations to represent the problem.	**Chapter 9 Fractions: Addition and Subtraction** 9-8A Multiply with Fractions—Online 9-10 Find Part of a Number—pp. 314–315 9-12 Problem Solving Applications: Mixed Review—pp. 318–319
M.NF.4.3 Understand decimal notation for fractions, and compare decimal fractions.	
M.NF.4.3.1 Express a fraction with denominator 10 as an equivalent fraction with denominator 100.	**Chapter 9 Fractions: Addition and Subtraction** 9-6C Add Fractions with Denominators of 10 and 100—Online
M.NF.4.3.2 Use this technique to add two fractions with respective denominator 10 and 100. For example, express 3/100, and add 3/10 + 4/100 = 34/100.	**Chapter 9 Fractions: Addition and Subtraction** 9-6C Add Fractions with Denominators of 10 and 100—Online
M.NF.4.3.3 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.	**Chapter 13 Decimals** 13-1 Tenths and Hundredths—pp. 412–413 13-2 Decimals Greater Than One—pp. 414–415 13-3 Decimal Place Value—pp. 416–417
M.NF.4.3.4 Compare two decimals to hundredths by reasoning about their size.	**Chapter 13 Decimals** 13-3A Compare Decimals with Models and Symbols—Online 13-4 Compare Decimals—pp. 418–419 13-5 Order Decimals—pp. 420–421

STANDARD 3 – NUMBERS AND OPERATIONS – FRACTIONS (NF)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.NF.4.3 Understand decimal notation for fractions, and compare decimal fractions.	
M.NF.4.3.5 Recognize that comparisons are valued only when the two decimals refer to the same whole.	**Chapter 13 Decimals** 13-3A Compare Decimals with Models and Symbols—Online 13-4 Compare Decimals—pp. 418–419 13-5 Order Decimals—pp. 420–421
M.NF.4.3.6 Record the results of comparisons with symbols ≥, =, or ≤, and justify the conclusions. For example, by using a visual model.	**Chapter 13 Decimals** 13-3A Compare Decimals with Models and Symbols—Online 13-4 Compare Decimals—pp. 418–419 13-5 Order Decimals—pp. 420–421

STANDARD 4 – MEASUREMENT AND DATA (MD)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.MD.4.1 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	
M.MD.4.1.1 Know relative sizes of measurement units within one system of units including kilometers, meters, centimeter, kilogram, gram, pound, ounce, liter, millimeter, hour, minute, second.	**Chapter 6 Measurement** 6-1 Measure with Inches—pp. 206–207 6-2 Rename Units of Length—pp. 208–209 6-3 Compute Customary Units—pp. 210–211 6-4 Customary Units of Capacity—pp. 212–213 6-5 Customary Units of Weight—pp. 214–215 6-6 Measure with Metric Units—pp. 216–217 6-7 Work with Metric Units—pp. 218–219 6-8 Metric Units of Capacity—pp. 220–221 6-9 Metric Units of Mass—pp. 222–223 6-11 Time—pp. 226–227 6-12 Elapsed Time—pp. 228–229
M.MD.4.1.2 Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.	**Chapter 6 Measurement** 6-3 Compute Customary Units—pp. 210–211 6-4 Customary Units of Capacity—pp. 212–213 6-5 Customary Units of Weight—pp. 214–215 6-7 Work with Metric Units—pp. 218–219 6-8 Metric Units of Capacity—pp. 220–221 6-9 Metric Units of Mass—pp. 222–223

STANDARD 4 – MEASUREMENT AND DATA (MD)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.MD.4.1 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	
M.MD.4.1.3 Record measurement equivalents in a two-column table. For example, know that 1 ft. is 12 times as long as 1 inch. Express the length of a 4 ft. snake as 48 inches.	**Skills Update** Customary Units of Length—p. 14 **Chapter 6 Measurement** 6-2 Rename Units of Length—pp. 208–209 6-3 Compute Customary Units—pp. 210–211 6-4 Customary Units of Capacity—pp. 212–213 6-5 Customary Units of Weight—pp. 214–215 6-6 Measure with Metric Units—pp. 216–217 6-7 Work with Metric Units—pp. 218–219 6-8 Metric Units of Capacity—pp. 220–221 6-9 Metric Units of Mass—pp. 222–223 6-9A Rename Measures—Online
M.MD.4.1.4 Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36) etc.	**Skills Update** Customary Units of Length—p. 14 **Chapter 6 Measurement** 6-2 Rename Units of Length—pp. 208–209 6-3 Compute Customary Units—pp. 210–211 6-9A Rename Measures—Online
M.MD.4.1.5 Use the four operations to solve word problems involving distances intervals of time, liquid volumes, masses of objects, and money.	**Skills Update** Customary Units of Length—p. 14 **Chapter 2 Addition and Subtraction Concepts** 2-8 Add and Subtract Money—pp. 82–83 **Chapter 4 Multiplication by One and Two Digits** 4-8 Multiply Money—pp. 140–141 4-12 Multiply by Two-Digit Numbers—pp. 148–149 **Chapter 5 Divide by One Digit** 5-14 Divide Money—pp. 190–191 **Chapter 6 Measurement** 6-1 Measure with Inches—pp. 206–207 6-2 Rename Units of Length—pp. 208–209 6-3 Compute Customary Units—pp. 210–211 6-4 Customary Units of Capacity—pp. 212–213 6-5 Customary Units of Weight—pp. 214–215 6-6 Measure with Metric Units—pp. 216–217 6-7 Work with Metric Units—pp. 218–219 6-8 Metric Units of Capacity—pp. 220–221 *continued*

STANDARD 4 – MEASUREMENT AND DATA (MD)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.MD.4.1 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	
	6-9 Metric Units of Mass—pp. 222–223 6-9A Rename Measures—Online 6-10 Temperature—pp. 224–225 6-12 Elapsed Time—pp. 228–229 6-13 Problem Solving Strategy: Use More Than One Step—pp. 230–231 6-14 Problem Solving Applications: Mixed Review—pp. 232–233 **Chapter 13 Decimals** 13-10 Divide with Money—pp. 430–431
M.MD.4.1.6 Include problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.	**Chapter 6 Measurement** 6-1 Measure with Inches—pp. 206–207 6-2 Rename Units of Length—pp. 208–209 6-3 Compute Customary Units—pp. 210–211 6-4 Customary Units of Capacity—pp. 212–213 6-5 Customary Units of Weight—pp. 214–215 6-6 Measure with Metric Units—pp. 216–217 6-7 Work with Metric Units—pp. 218–219
M.MD.4.1.7 Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	**Chapter 6 Measurement** 6-1 Measure with Inches—pp. 206–207 6-6 Measure with Metric Units—pp. 216–217 6-7 Work with Metric Units—pp. 218–219 6-9A Rename Measures (number line)—Online 6-10 Temperature—pp. 224–225 6-11 Time—pp. 226–227
M.MD.4.1.8 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 Area—p. 24 **Chapter 11 Perimeter, Area, and Volume** 11-1 Use Perimeter Formulas—pp. 358–359 11-2 Use Area Formulas—pp. 360–361 11-3 Perimeter and Area—pp. 362–363 11-3A Perimeter and Area Formulas—Online 11-9 Problem Solving Applications: Mixed Review—pp. 374–375

STANDARD 4 – MEASUREMENT AND DATA (MD)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.MD.4.2 Represent and interpret data.	
M.MD.4.2.1 Make a line plot to display a data set of measurements in fractions of a unit (½, ¼, ⅛).	**Chapter 7 Statistics and Probability** 7-4 Surveys and Line Plots—pp. 246–247 **Chapter 9 Fractions: Addition and Subtraction** 9-5A Organize Measurement Data—Online
M.MD.4.2.2 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.	**Chapter 7 Statistics and Probability** 7-4 Surveys and Line Plots—pp. 246–247 **Chapter 9 Fractions: Addition and Subtraction** 9-5A Organize Measurement Data—Onlin
M.MD.4.3 Geometric measurement: understand concepts of angle and measurement angles.	
M.MD.4.3.1 Recognize angles as geometric shapes that are formed whenever two rays share a common endpoint, and understand concepts of angle measurement.	**Chapter 10 Geometry** 10-1A Angle Measure—Online 10-2 Rays and Angles—pp. 328–329
M.MD.4.3.2 Understand 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 two rays intersect the circle.	**Chapter 10 Geometry** 10-1A Angle Measure—Online 10-2 Rays and Angles—pp. 328–329
M.MD.4.3.3 An angle that turns through 1/360 of a circle is called "one-degree angle", and can be used to measure angles.	**Chapter 10 Geometry** 10-1A Angle Measure—Online 10-2 Rays and Angles—pp. 328–329
M.MD.4.3.4 Understand an angle that turns through *n* one-degree angles is said to have an angle measurement of *n* degree.	**Chapter 10 Geometry** 10-1A Angle Measure—Online 10-2 Rays and Angles—pp. 328–329
M.MD.4.3.5 Measure angles in whole number degrees using a protractor. Sketch angles of specified measure.	**Chapter 10 Geometry** 10-1A Angle Measure—Online 10-2 Rays and Angles—pp. 328–329 10-2A Measure Angles (sketch and measure angles with a protractor)—Online

STANDARD 4 – MEASUREMENT AND DATA (MD)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.MD.4.3 Geometric measurement: understand concepts of angle and measurement angles.	
M.MD.4.3.6 Recognize angle measure as additive.	**Chapter 10 Geometry** 10-2B Unknown Angle Measures—Online
M.MD.4.3.7 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.	**Chapter 10 Geometry** 10-1A Angle Measure—Online
M.MD.4.3.8 Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems. For example, by using an equation with a symbol for the unknown angle measure.	**Chapter 10 Geometry** 10-2B Unknown Angle Measures—Online

STANDARD 5 – GEOMETRY (G)

Grade 4 Standard & Benchmark Description	*Sadlier Math*, Grade 4
M.G.4.1 Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	
M.G.4.1.1 Draw points, lines, line segments, rays, angles (right, acute and obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	**Chapter 10 Geometry** 10-1 Points, Lines, and Line Segments—pp. 326–327 10-2 Rays and Angles: Measuring Angles (right, acute, straight, obtuse)—pp. 328–329 10-3 Parallel and Perpendicular Lines—pp. 330–331 10-4 Circles—pp. 332–333 10-11 Coordinate Geometry—pp. 346–347
M.G.4.1.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	**Chapter 10 Geometry** 10-3 Parallel and Perpendicular Lines—pp. 330–331 10-6 Quadrilaterals—pp. 336–337 10-7 Triangles—pp. 338–339

STANDARD 4 – GEOMETRY (G)

Grade 4 Standard & Benchmark Description	*Progress in Mathematics*, Grade 4
M.G.4.1 Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	
M.G.4.1.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	**Chapter 10 Geometry** 10-7A Symmetry—Online