A Grade 4 Crosswalk

## Progress in Mathematics

Aligned to


## Sadlier Math ${ }^{T M}$

And the

# New York State Next Generation Mathematics Learning Standards (2017) 

| Sadlier Math, Grade 4 | Progress in Mathematics, Grade 4 | Next Gen Mathematics Learning Standards |
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| Chapter 1 <br> Place Value <br> - 1-1 Thousands-pp. 2-3 (Read and write numbers to thousands.) | Chapter 1 <br> Place Value <br> - 1-1 Thousands-pp. 36-37 | NY-4.NBT.2a <br> Read and write multi-digit whole numbers using baseten numerals, number names, and expanded form. |
| - 1-2 What Is One Million?-pp. 4-5 (Use place value to understand millions.) <br> - 1-3 Millions-pp. 6-7 (Read and write numbers in millions using numerals and number names.) | - 1-2 What is One Million?-pp. 38-39 <br> - 1-3 Millions-pp. 40-41 | NY-4.NBT. 1 <br> 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. <br> NY-4.NBT.2a <br> Read and write multi-digit whole numbers using baseten numerals, number names, and expanded form. |
| - 1-4 Expanded Form—pp. 8-9 (Read and write numbers in expanded form.) | - 1-4 Place Value-pp. 42-43 | NY-4.NBT.2a <br> Read and write multi-digit whole numbers using baseten numerals, number names, and expanded form. |
| - 1-5 Round Whole Numbers—pp. 12-13 (Use place value to round numbers to any place.) | - 1-10 Rounding-pp. 54-55 | NY-4.NBT. 3 <br> Use place value understanding to round multi-digit whole numbers to any place. |
| - 1-6 Compare and Order Whole Numbers-pp. 14-15 (Use place value to compare numbers.) | - 1-6 Compare and Order Whole Numbers-pp. 46-47 | NY-4.NBT.2b <br> Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. |
| - 1-7 Problem Solving: The Four-Step Processpp. 16-17 (Use the Four-Step Process to solve problems.) | Introduction to Problem Solving <br> - Problem-Solving Model-pp. 28-29 | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 2 Reason abstractly and quantitatively. <br> MP. 4 Model with mathematics. <br> MP. 6 Attend to precision. |


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| Chapter 2 <br> Addition <br> - 2-1 Mathematical Expressions-pp. 24-25 (Represent problems using mathematical expressions.) | Chapter 2 <br> Addition and Subtraction Concepts <br> - 2-4 Expressions and Variables-pp. 74-75 <br> - 2-5 Addition and Subtraction Sentences (use a letter for the unknown quantity)-pp. 76-77 | NY-4.0A. 3 <br> 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. <br> NY-4.OA.3a <br> Represent these problems using equations or expressions with a letter standing for the unknown quantity. <br> NY-4.0A.3b <br> Assess the reasonableness of answers using mental computation and estimation strategies including rounding. |
| - 2-2 Addition Properties-pp. 26-27 (Use addition properties to add numbers.) <br> - 2-3 Estimate Sums-pp. 28-29 (Use estimation to add numbers.) | - 2-1 Addition Properties-pp. 68-69 <br> - 2-7 Estimate Sums and Differences-pp. 80-81 <br> Chapter 3 <br> Addition and Subtraction <br> - 3-1 Front-End Estimation-pp. 96-97 | NY-4.0A. 3 <br> 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. <br> NY-4.0A.3a <br> Represent these problems using equations or expressions with a letter standing for the unknown quantity. <br> NY-4.0A.3b <br> Assess the reasonableness of answers using mental computation and estimation strategies including rounding. <br> NY-4.NBT. 4 <br> Fluently add and subtract multi-digit whole numbers using a standard algorithm. |
| - 2-4 Add Thousands-pp. 30-31 (Add whole numbers in the thousands.) <br> - 2-5 Add Millions-pp. 34-35 (Add whole numbers in the millions.) | - 3-3 Four-Digit Addition-pp. 100-101 <br> - 3-4 Add Larger Numbers-pp. 102-103 <br> - 3-10 Addition and Subtraction Practice-pp. 114-115 | NY-4.NBT. 4 <br> Fluently add and subtract multi-digit whole numbers using a standard algorithm. |


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- 3-5 Zeros in Subtraction-pp. 56-57 (Solve subtraction problems with multi-digit numbers that include zeros.)
- 3-6 Multistep Problems Using Addition and Subtraction-pp. 58-59 (Solve multistep addition and subtraction problems using equations.)
- 3-7 Problem Solving: Use a Model-pp. 60-61 (Solve problems by using a variety of strategies, including using a model.)


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## Chapter 4

## Multiplication Concepts

- 4-1 Multiplication Properties-pp. 68-69 (Use multiplication properties to multiply accurately and efficiently.)
- 4-2 Use Place-Value Models-pp. 70-71 (Use place-value models to illustrate and explain multiplication calculations.)
- 4-3 Multiply Tens, Hundreds, and Thousandspp. 74-75 (Understand the patterns of zeros when multiplying by tens, hundreds, and thousands.)


## Chapter 6

## Measurement

- 6-13 Problem Solving Strategy: Use More Than One Step (multistep adding and subtraction problem)-pp. 230-231


## NY-4.0A. 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.

## NY-4.0A.3a

Represent these problems using equations or expressions with a letter standing for the unknown quantity.

## NY-4.0A.3b

Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

## Chapter 11

Perimeter, Area, and Volume

- 11-8 Problem Solving Strategy: Using a Drawing or Model-pp. 372-373

MP.1 Make sense of problems and persevere in solving them.
MP. 4 Model with mathematics
MP. 6 Attend to precision

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## Chapter 4

## Multiply by One and Two Digits

- 4-1 Multiplication Properties-pp. 126-127
- 4-2 Multiplication Models (place value models)pp. 128-129
- 4-3 Special Factors (multiply tens)-pp. 130-131
- 4-10 Patterns in Multiplication (multiply by tens)-pp. 144-145


## NY-4.NBT. 5

Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/ or area models.

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| - 4-4 Estimate Products-pp. 76-77 (Use frontend estimation and rounding to estimate products.) | - 4-5 Products: Front-End Estimation-pp. 134-135 <br> - 4-11 Products: Rounding to Estimate-pp. 146-147 | NY-4.OA. 1 <br> Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations. |
| - 4-5 Multiply to Compare Numbers-pp. 78-79 (Interpret a multiplication equation as a comparison.) | - 4-1B Use Multiplication to Compare NumbersOnline | NY-4.OA. 1 <br> Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations. <br> NY-4.0A. 2 <br> Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison. Use drawings and equations with a symbol for the unknown number to represent the problem. |
| - 4-6 Problem Solving: Make a Model-pp. 80-81 (Solve problems using a variety of strategies, including making a model to represent a situation.) | Chapter 11 <br> Perimeter, Area, and Volume <br> - 11-8 Problem Solving Strategy: Using a Drawing or Model-pp. 372-373 | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 4 Model with mathematics <br> MP. 6 Attend to precision |
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| Chapter 5 <br> Multiply by One-Digit Numbers <br> - 5-1 Multiply with Regrouping-pp. 88-89 (Use regrouping to multiply two numbers.) <br> - 5-2 Use Properties to Multiply by One-Digit Numbers-pp. 90-91 (Use properties to multiply efficiently.) <br> - 5-3 Use Area Models to Multiply by One-Digit Numbers-pp. 92-93 (Multiply by one-digit numbers using area models.) <br> - 5-4 Multiply Three- and Four-Digit Numbers-pp. 96-97 (Multiply three- and four-digit numbers by one-digit numbers.) | Chapter 4 <br> Multiply by One and Two Digits <br> - 4-4 Multiply by One-Digit Numbers-pp. 132-133 <br> - 4-6 Multiply with Regrouping-pp. 136-137 <br> - 4-5A Multiply with Models (use place value to model multiplication of a 2-digit number by a 1-digit number)—Online <br> - 4-6A Use Mental Math to Multiply (multiply using area models and properties of operations)-Online <br> - 4-7 Multiply Three-Digit Numbers-pp. 138-139 <br> - 4-8 Multiply Money-pp. 140-141 <br> - 4-9 Multiply Four-Digit Numbers-pp. 142-143 | NY-4.NBT. 5 <br> Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/ or area models. |


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| - 5-5 Multiplicative and Additive Comparisonspp. 98-99 (Solve problems that involve multiplicative and additive comparisons.) | Chapter 5 <br> Divide by One Digit <br> - 5-4A Use Bar Diagrams (use bar diagrams to solve problems with additive or multiplicative comparisons)-Online | NY-4.OA. 1 <br> Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations. <br> NY-4.0A. 2 <br> Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison. Use drawings and equations with a symbol for the unknown number to represent the problem. <br> NY-4.NBT. 5 <br> Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/ or area models. |
| - 5-6 Problem Solving: Guess and Test-pp. 100-101 (Solve problems by using a variety of strategies, including guess and test.) | Introduction to Problem Solving <br> - Guess and Test-p. 31 | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 3 Construct viable arguments and critique the reasoning of others. <br> MP. 6 Attend to precision |
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| Chapter 6 <br> Multiply by Two-Digit Numbers <br> - 6-1 Use Area Models to Multiply by Two-Digit Numbers-pp. 108-109 (Use area models to multiply by two-digit numbers.) <br> - 6-2 Break Apart Numbers to Multiply-pp. 110-111 (Break apart numbers by place value to multiply.) <br> - 6-3 Multiply by Two-Digit Numbers: No Regrouping-pp. 114-115 (Find the product of two 2-digit numbers.) continued on next page | Chapter 4 <br> Multiply by One and Two Digits <br> - 4-10 Patterns in Multiplication-pp. 144-145 <br> - 4-11A Multiply with Area Models-Online <br> - 4-11B Break Apart Numbers to Multiply-Online <br> - 4-12 Multiply by Two-Digit Numbers-pp. 148149 <br> - 4-13 More Multiplying by Two-Digit Numberspp. 150-151 <br> - 4-14 Multiply with Three-Digit Numbers-pp. 152-153 | NY-4.NBT. 5 <br> Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/ or area models. |

- 6-4 Multiply by Two-Digit Numbers: Regrouping-pp. 116-117 (Find the product of a two-, three-, or four-digit number and a twodigit number.)
- 6-5 Multiplication Patterns-pp. 118-119 (Use patterns to multiply by multiples of 10,100 , or 1000.)
- 6-6 Problem Solving: Write and Solve an Equation-pp. 120-121 (Solve problems by using a variety of strategies, including writing and solving an equation.)


## Introduction to Problem Solving

- Write a Number Sentence-p. 33


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## Chapter 7

## Division Concepts

- 7-1 Division Rules-pp. 128-129 (Find wholenumber quotients using strategies and properties of operations.)
- 7-2 Relate Multiplication and Division-pp 130-131 (Understand the relationship between multiplication and division.)
- 7-3 Estimate Quotients-pp. 132-133 (Use estimation strategies to find and assess the solutions for division problems.)


## Chapter 5

## Divide by One Digit

- 5-1 Division Rules-pp. 164-165
- 5-2 Relate Multiplication and Division-pp. 166-167
- 5-3 Missing Numbers-pp. 168-169
- 5-5 Estimate in Division-pp. 172-173

MP. 1 Make sense of problems and persevere in solving them.
MP. 2 Reason abstractly and quantitatively.
MP. 4 Model with mathematics
MP. 6 Attend to precision

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| Chapter 7 <br> Division Concepts <br> - 7-1 Division Rules-pp. 128-129 (Find wholenumber quotients using strategies and properties of operations.) <br> - 7-2 Relate Multiplication and Division-pp. 130-131 (Understand the relationship between multiplication and division.) | Chapter 5 <br> Divide by One Digit <br> - 5-1 Division Rules-pp. 164-165 <br> - 5-2 Relate Multiplication and Division-pp. 166-167 <br> - 5-3 Missing Numbers-pp. 168-169 | NY-4.NBT. 6 <br> 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. |
| - 7-3 Estimate Quotients-pp. 132-133 (Use estimation strategies to find and assess the solutions for division problems.) | - 5-5 Estimate in Division-pp. 172-173 | NY-4.0A. 3 <br> 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. <br> NY-4.0A.3a <br> Represent these problems using equations or expressions with a letter standing for the unknown quantity. <br> NY-4.0A.3b <br> Assess the reasonableness of answers using mental computation and estimation strategies including rounding. |


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|  |  | continued from previous page <br> NY-4.NBT. 6 <br> 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. |
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| - 8-2 Divisibility—pp. 150-151 (Use divisibility rules to tell whether one number is divisible by another.) | - 5-7 Divisibility-pp. 176-177 | NY-4.NBT. 6 <br> 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. |
| - 8-3 Two-Digit Quotients-pp. 152-153 (Divide to find two-digit quotients.) | - 5-8 Two-Digit Quotients-pp. 178-179 | NY-4.0A. 3 <br> 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. <br> NY-4.0A.3a <br> Represent these problems using equations or expressions with a letter standing for the unknown quantity. <br> NY-4.0A.3b <br> Assess the reasonableness of answers using mental computation and estimation strategies including rounding. <br> NY-4.NBT. 6 <br> 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. |

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- 8-4 Zeros in Quotients-pp. 154-155 (Find quotients that include zeros.)
- 8-5 More Quotients-pp. 158-159 (Find whole number quotients and remainders.)
- 8-6 Order of Operations-pp. 160-161 (Solve problems using the order of operations.)
- 8-7 Multistep Problems Using Multiplication and Division-pp. 162-163 (Solve multistep problems that involve multiplication and division.)
- 8-8 Problem Solving: Use a Model—pp. 164-165 (Solve problems by using various strategies, including using a model.)
- 5-11 More Quotients-pp. 184-185
- 5-12 Zeros in the Quotient-pp. 186-187
- 5-13A Multistep Problems \& Bar Diagrams (use bar diagrams to solve problems with more than one step)-Online
- 5-15 Order of Operations-pp. 192-193


## Chapter 11

## Perimeter, Area, and Volume

- 11-8 Problem Solving Strategy: Using a Drawing or Model-pp. 372-373


## NY-4.NBT. 6

Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/ or area models.

MP. 1 Make sense of problems and persevere in solving them.
MP. 4 Model with mathematics
MP. 6 Attend to precision

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## Chapter 9

## Factors and Multiples

- 9-1 Factors-pp. 172-173 (Use arrays and division to find whole number factors.)
- 9-2 Factor Pairs-pp. 174-175 (Use area models to find factor pairs of whole numbers.)
- 9-3 Prime and Composite Numbers-pp. 176-177 (Use factors to determine whether a number is prime or composite.)
- 9-4 Multiples-pp. 180-181 (Use factors to determine multiples of a whole number.)
- 9-5 Common Multiples-pp. 182-183 (Find common multiples of two or more numbers.)
- 9-6 Problem Solving: Make an Organized List-pp. 184-185 (Make an organized list to solve problems involving factors and common multiples.)


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## Chapter 8

## Fraction Concepts

- 8-6 Factors-pp. 276-277


## Chapter 9

## Fractions: Addition and Subtraction

- 9-6 Multiples (common multiples)-pp. 306-307
- 9-6A Factor Pairs-Online
- 9-6B Prime and Composite Numbers-Online


## Chapter 1

## Place Value

- 1-12: Problem Solving Strategy: Make a Table or List-pp. 58-59


## NY-4.0A. 4

Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

MP. 1 Make sense of problems and persevere in solving them.
MP. 6 Attend to precision
MP. 7 Look for and make use of structure.

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| Chapter 10 <br> Fraction Concepts <br> - 10-1 Fractions of a Set-pp. 192-193 (Find a fraction of a set.) <br> - 10-2 Equivalent Fractions: Number Line Diagrams-pp. 194-195 (Use a number line to find equivalent fractions.) <br> - 10-3 Write Equivalent Fractions: Use Modelspp. 196-197 (Use models to find equivalent fractions.) <br> - 10-4 Write Equivalent Fractions: Use Multiplication and Division-pp. 198-199 (Use multiplication and division to find equivalent fractions.) <br> - 10-5 Fractions: Lowest Terms-pp. 200-201 (Write fractions in lowest terms.) | Skills Update <br> - Identify Fractions (fraction of a set)-p. 13 <br> Chapter 8 <br> Fraction Concepts <br> - 8-3A Model Equivalent Fractions-Online <br> - 8-4 Equivalent Fractions-pp. 272-273 <br> - 8-5 Write Equivalent Fractions-pp. 274-275 <br> - 8-7 Fractions: Lowest Terms-pp. 278-279 | NY-4.NF. 1 <br> Explain why a fraction $\mathrm{a} / \mathrm{b}$ is equivalent to a fraction $(n \times a) /(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. |
| - 10-6 Compare Fractions: Use Benchmarks-pp. 204-205 (Use benchmark fractions to compare fractions.) <br> - 10-7 Compare Fractions with the Same Denominator-pp. 206-207 (Compare fractions with the same denominator.) <br> - 10-8 Compare Fractions-pp. 208-209 (Compare fractions with different denominators.) | - 8-8A Compare Fractions Using BenchmarksOnline <br> - 8-9 Compare Fractions (compare fractions with the same/different denominators)-pp. 282-283 <br> - 8-10 Order Fractions (compare and order fractions)-pp. 284-285 | NY-4.NF. 2 <br> Compare two fractions with different numerators and different denominators. 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. |
| - 10-9 Mixed Numbers-pp. 210-211 (Read and write mixed numbers.) | - 8-8 Mixed Numbers-pp. 280-281 | NY-4.NF. 2 <br> Compare two fractions with different numerators and different denominators. 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. <br> NY-4.NF.3c <br> Add and subtract mixed numbers with like denominators. |


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| - 10-10 Compare Mixed Numbers-pp. 212-213 (Compare mixed numbers.) <br> - 10-1 1 Order Fractions and Mixed Numbers-pp. 214-215 (Compare and order fractions and mixed numbers.) | - 8-9 Compare Fractions (compare mixed numbers)-pp. 282-283 | NY-4.NF. 2 <br> Compare two fractions with different numerators and different denominators. 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. |
| - 10-12 Problem Solving: Use a Model-pp. 216-217 (Use a model to solve problems.) | Chapter 11 <br> Perimeter, Area, and Volume <br> - 11-8 Problem Solving Strategy: Using a Drawing or Model-pp. 372-373 | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 4 Model with mathematics <br> MP. 6 Attend to precision |
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| Chapter 11 <br> Fractions: Addition and Subtraction <br> - 11-1 Use Models to Add Fractions-pp. 224-225 (Add fractions using models.) | Fractions: Addition and Subtraction <br> - 9-1A Use Models to Add Fractions-Online | NY-4.NF.3a <br> Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. <br> NY-4.NF.3d <br> Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. |
| - 11-2 Add Fractions: Like Denominatorspp. 226-227 (Add fractions with the same denominators.) <br> - 11-3 Decompose Fractions as Sums of Unit Fractions-pp. 228-229 (Decompose fractions into other fractions, including unit fractions.) <br> - 11-4 Use Models to Subtract Fractions-pp. 230-231 (Subtract fractions using fraction strips and number lines.) | - 9-1 Add Fractions: Like Denominators-pp. 296-297 <br> - 9-1B Decompose Fractions-Online <br> - 9-1C Use Models to Subtract Fractions-Online <br> - 9-2A Word Problems Involving Fractions-Online | NY-4.NF.3a <br> Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. <br> NY-4.NF.3b <br> 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. <br> NY-4.NF.3d <br> Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. |


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| - 11-5 Subtract Fractions: Like Denominatorspp. 232-233 (Subtract fractions with like denominators.) | - 9-2 Subtract Fractions: Like Denominators-pp. 298-299 <br> - 9-2A Word Problems Involving Fractions-Online | NY-4.NF.3a <br> Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. <br> NY-4.NF.3d <br> Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. |
| - 11-6 Write Mixed Numbers as Equivalent Fractions-pp. 236-237 (Write mixed numbers as improper fractions and improper fractions as mixed numbers.) <br> - 11-7 Add Mixed Numbers: Like Denominatorspp. 238-239 (Add mixed numbers with like denominators) <br> - 11-8 Subtract Mixed Numbers: Like Denominators-pp. 240-241 (Subtract mixed numbers with like denominators) | - 9-3 Improper Fractions-pp. 300-301 <br> - 9-4 Estimate with Mixed Numbers-pp. 302-303 <br> - 9-4A Add Mixed Numbers-Online <br> - 9-4B Subtract Mixed Numbers-Online <br> - 9-5 Add and Subtract Mixed Numbers-pp. 304-305 | NY-4.NF.3c <br> Add and subtract mixed numbers with like denominators. |
| - 11-9 Problem Solving: More Than One Way-pp. 242-243 (Use more than one way to solve a problem.) | Chapter 14 <br> Get Ready for Algebra <br> - 14-7 Problem Solving Strategy: More Than One Way-pp. 454-455 | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 3 Construct viable arguments and critique the reasoning of others. <br> MP. 6 Attend to precision |
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| Chapter 12 <br> Fractions: Multiply by a Whole Number <br> - 12-1 Add Unit Fractions to Multiply-pp. 250-251 (Add unit fractions to solve multiplication problems.) <br> - 12-2 Model Multiplying a Unit Fraction and a Whole Number-pp. 252-253 (Use models to multiply.) <br> continued on next page | Chapter 9 <br> Fractions: Addition and Subtraction <br> - 9-8A Multiply with Fractions (multiplying a unit fraction/multiplication of a fraction by a whole number)-Online <br> - 9-10 Find Part of a Number-pp. 314-315 | NY-4.NF.4a <br> Understand a fraction $\mathrm{a} / \mathrm{b}$ as a multiple of $1 / \mathrm{b}$. <br> NY-4.NF.4b <br> Understand a multiple of $\mathrm{a} / \mathrm{b}$ as a multiple of $1 / \mathrm{b}$, and use this understanding to multiply a whole number by a fraction. <br> NY-4.NF.4c <br> Solve word problems involving multiplication of a whole number by a fraction. |

- 12-3 Multiply a Unit Fraction and a Whole Number-pp. 254-255 (Solve problems by multiplying a unit fraction and a whole number.)
- 12-4 Model Multiplying a Fraction and a Whole
- Number-pp. 258-259 (Use models to multiply fractions and whole numbers.)
- 12-5 Multiply a Fraction and a Whole Numberpp. 260-261 (Solve problems involving multiplication of a fraction and a whole number.)
- 12-6 Represent Situations Involving Multiplying a Fraction and a Whole Number-pp. 262-263 (Use multiplication of a fraction and a whole number to solve word problems.)
- 12-7 Problem Solving: Write an Equation-pp. 264-265 (Write and solve an equation as a step in solving a problem.)
- 9-8A Multiply with Fractions (multiplication of a fraction by a whole number)-Online


## NY-4.NF.4c

Solve word problems involving multiplication of a whole number by a fraction.

Introduction to Problem Solving

- Write a Number Sentence-p. 33

MP. 1 Make sense of problems and persevere in solving them.
MP. 2 Reason abstractly and quantitatively.
MP. 4 Model with mathematics
MP. 6 Attend to precision

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## Chapter 13

## Fractions and Decimals

- 13-1 Equivalent Fractions: Rename Tenths as Hundredths-pp. 272-273 (Express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100.)
- 13-2 Add and Subtract Fractions with Denominators of 10 and 100-pp. 274-275 (Add and subtract fractions with denominators of 10 and 100.)


## Chapter 13

## Decimals

- 13-1 Tenths and Hundredths-pp. 412-413


## Chapter 9

Fractions: Addition and Subtraction

- 9-6C Add Fractions with Denominators of 10 and 100-Online


## NY-4.NF. 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 .

## Sadlier Math, Grade 4

## Progress in Mathematics, Grade 4

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- 13-3 Tenths and Hundredths as Fractions and Decimals-pp. 276-277 (Use decimal notation for fractions with denominators 10 and 100.)
- 13-4 Decimals Greater than One-pp. 278-279 (Use decimal notation for fractions with denominators 10 and 100.)
- 13-5 Decimal Place Value-pp. 280-281 (Use decimal notation for fractions with denominators 10 and 100, and identify the values of the digits.)
- 13-6 Compare Decimals with Models and Symbols-pp. 284-285 (Compare decimals to the hundredths place.)
- 13-7 Order Decimals-pp. 286-287 (Order decimals to hundredths.)
- 13-8 Problem Solving: Find a Pattern-pp. 288-289 (Solve problems by using a variety of strategies, including finding a pattern.)


## Sadlier Math, Grade 4

## Chapter 14

## Measurement

- 14-1 Measure with Inches-pp. 296-297 (Measure length in inches.)
- 14-2 Customary Units of Length-pp. 298-299 (Solve length problems using customary units of measure.)
- 14-3 Customary Units of Capacity-pp. 300-301 (Solve capacity problems using customary units of measure.)
continued on next page


## 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
- 13-3A Compare Decimals with Models and Symbols-Online
- 13-4 Compare Decimals-pp. 418-419
- 13-5 Order Decimals-pp. 420-421


## Chapter 10

## Geometry

- 10-12 Problem Solving Strategy: Find a Patternpp. 348-349


## NY-4.NF. 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.

## NY-4.NF. 6

Use decimal notation for fractions with denominators 10 or 100 .

## NY-4.NF. 7

Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when two decimals refer to the same whole. Record the results of comparisons with the symbols >, $=$, or $<$, and justify the conclusions

MP. 1 Make sense of problems and persevere in solving them.
MP. 6 Attend to precision
MP. 7 Look for and make use of structure.

## Progress in Mathematics, Grade 4

Next Gen Mathematics Learning Standards

## 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


## Chapter 5

Divide by One Digit

- 5-14 Divide Money—pp. 190-191
continued on next page


## NY-4.MD. 1

Know relative sizes of measurement units: ft., in.; km, m, cm . Know the conversion factor and use it to convert measurements in a larger unit in terms of a smaller unit: ft., in.; km, m, cm; hr., min., sec. Given the conversion factor, convert all other measurements within a single system of measurement from a larger unit to a smaller unit. Record measurement equivalents in a two-column table.

## NY-4.MD. 2

Use the four operations to solve word problems i
continued on next page

| Sadlier Math, Grade 4 | Progress in Mathematics, Grade 4 | Next Gen Mathematics Learning Standards |
| :---: | :---: | :---: |
| continued from previous page <br> - 14-4 Customary Units of Weight-pp. 302-303 (Solve weight problems using customary units of measure.) <br> - 14-5 Operations with Customary Units-pp. 304-305 (Solve problems using customary units of measure.) <br> - 14-6 Metric Units of Length-pp. 308-311 (Solve length problems with metric units of measure.) <br> - 14-7 Metric Units of Capacity-pp. 310-313 (Solve capacity problems using metric units of measure.) <br> - 14-8 Metric Units of Mass-pp. 312-313 (Solve mass problems using metric units of measure.) <br> - 14-9 Operations with Metric Units-pp. 314-315 (Solve problems using metric units of measure. Use tables to help solve problems.) | continued from previous page <br> Chapter 6 <br> Measurement <br> - 6-2 Rename Units of Length-pp. 208-209 <br> - 6-3 Compute Customary Units-pp. 210-211 <br> - 6-4 Customary Units of Capacity—pp. 212-213 <br> - 6-5 Customary Units of Weight-pp. 214-215 <br> - 6-6 Measure with Metric Units-pp. 216-217 <br> - 6-7 Work with Metric Units-pp. 218-219 <br> - 6-8 Metric Units of Capacity-pp. 220-221 <br> - 6-9 Metric Units of Mass-pp. 222-223 <br> Chapter 13 <br> Decimals <br> - 13-10 Divide with Money—pp. 430-431 | continued from previous page <br> involving distances, intervals of time, liquid volumes, masses of objects, and money. <br> NY-4.MD.2a <br> Solve problems involving fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. <br> NY-4.MD.2b <br> Represent measurement quantities using diagrams that feature a measurement scale, such as number lines. |
| - 14-10 Problem Solving: Make a Table—pp. 316317 (Use tables to help solve problems.) | Chapter 1 <br> Place Value <br> - 1-12 Problem Solving Strategy: Make a Table or List-pp. 58-59 | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 4 Model with mathematics <br> MP. 6 Attend to precision |
| Sadlier Math, Grade 4 | Progress in Mathematics, Grade 4 | Next Gen Mathematics Learning Standards |
| Chapter 15 <br> Measurement and Data <br> - 15-1 Represent Measures on a Number Linepp. 324-325 (Use a number line to solve measurement problems.) <br> - 15-2 Use Multiplication to Rename Measures-pp. 326-327 (Use multiplication to solve problems that involve renaming measures.) <br> - 15-3 Elapsed Time-pp. 328-329 (Solve problems involving the passage of time.) <br> - 15-4 Temperature-pp. 330-331 (Solve problems involving temperature.) | Chapter 6 <br> Measurement <br> - 6-9A Represent Measures on a Number Line (solve measurement problems involving the four operations using a number line)-Online <br> - 6-10 Temperature-pp. 224-225 <br> - 6-11 Time-pp. 226-227 <br> - 6-11A Rename Measures (rename measures and record the results as number pairs in a table)Online <br> - 6-12 Elapsed Time-pp. 228-229 | NY-4.MD. 2 <br> Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money. <br> NY-4.MD.2a <br> Solve problems involving fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. <br> NY-4.MD.2b <br> Represent measurement quantities using diagrams that feature a measurement scale, such as number lines. |


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| :---: | :---: | :---: |
| - 15-5 Line Graphs-pp. 334-335 (Interpret line graphs to solve problems.) | Chapter 7 <br> Statistics and Probability <br> - 7-3 Line Graphs-pp. 244-245 | Readiness for Grade 6 <br> NY-6.SP. 4 <br> Display quantitative data in plots on a number line, including dot plots and histograms. |
| - 15-6 Line Plots-pp. 336-337 (Solve length problems with metric units of measure.) <br> - 15-7 Surveys and Line Plots-pp. 338-339 (Solve capacity problems using metric units of measure.) | - 7-4 Surveys and Line Plots-pp. 246-247 | NY-4.MD. 4 <br> 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. |
| - 15-8 Choose an Appropriate Display-pp. 340-341 (Choose an appropriate display for a set of data.) | - 7-9 Problem Solving Strategy: Use a Diagram/ Graph-pp. 256-257 | Readiness for Grade 6 <br> NY-6.SP. 4 <br> Display quantitative data in plots on a number line, including dot plots and histograms. |
| - 15-9 Problem Solving: Use Logical Reasoningpp. 342-343 (Solve problems by using a variety of strategies including using logical reasoning.) | Chapter 2 <br> Addition and Subtraction Concepts <br> - 2-10: Problem Solving Strategy: Logical Reasoning-pp. 86-87 <br> Chapter 8 <br> Fraction Concepts <br> - 8-11 Problem Solving Strategy: Logical Reasoning-pp. 286-287 | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 2 Reason abstractly and quantitatively. <br> MP. 3 Construct viable arguments and critique the reasoning of others. <br> MP. 6 Attend to precision |
| Sadlier Math, Grade 4 | Progress in Mathematics, Grade 4 | Next Gen Mathematics Learning Standards |
| Chapter 16 <br> Lines and Angles <br> - 16-1 Points, Lines, Line Segments, Rays, and Angles-pp. 350-351 (Identify and draw points, lines, line segments, rays, and angles.) | Chapter 10 <br> Geometry <br> - 10-2 Rays and Angles-pp. 328-329 | NY-4.MD.5b <br> Recognize an angle that turns through $n$ one-degree angles is said to have an angle measure of $n$ degrees. <br> NY-4.MD. 6 <br> Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. <br> NY-4.G. 1 <br> Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. |

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- 16-2 Angle Measure-pp. 352-353 (Recognize that an angle turns through a fraction of a circle with the vertex of the angle at the center of the circle.)
- 10-1A Angle Measure-Online

NY-4.MD.5a
Recognize 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.

## NY-4.MD.5b

Recognize an angle that turns through $n$ one-degree angles is said to have an angle measure of $n$ degrees.

## NY-4.MD. 6

Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

## NY-4.G. 1

Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

- 16-3 Measure Angles-pp. 356-357 (Measure and sketch angles using a protractor.)
- 10-2A Measure Angles (sketch and measure angles with a protractor)-Online


## NY-4.MD. 6

Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

## NY-4.G. 1

Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

- 16-4 Unknown Angle Measures-pp. 358-359
(Find unknown angle measures.)
- 10-2B Unknown Angle Measures-Online


## NY-4.MD. 7

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.

- 16-5 Parallel and Perpendicular Lines-pp. 360361 (Identify and draw parallel and perpendicular lines.)
- 10-3 Parallel and Perpendicular Lines-pp.
330-331 330-331


## NY-4.G. 1

Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

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| :---: | :---: | :---: |
| - 16-6 Problem Solving: Use a Diagram-pp. 362363 (Use problem-solving strategies, including using a diagram ) | Chapter 7 <br> Statistics and Probability <br> - 7-9 Problem Solving Strategy: Use a Diagram/ Graph-pp. 256-257 | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 4 Model with mathematics <br> MP. 6 Attend to precision |
| Sadlier Math, Grade 4 | Progress in Mathematics, Grade 4 | Next Gen Mathematics Learning Standards |
| Chapter 17 <br> Polygons <br> - 17-1 Polygons-pp. 370-371 (Identify and name polygons: triangle, quadrilateral, pentagon, hexagon, and octagon.) <br> - 17-2 Quadrilaterals-pp. 372-373 (Identify and classify quadrilaterals.) <br> - 17-3 Triangles-pp. 374-375 (Identify and classify triangles.) | Chapter 10 <br> Geometry <br> - 10-5 Polygons-pp. 334-335 <br> - 10-6 Quadrilaterals-pp. 336-337 <br> - 10-7 Triangles-pp. 338-339 | NY-4.G.2a <br> Identify and name triangles based on angle size (right, obtuse, acute). <br> NY-4.G.2b <br> Identify and name all quadrilaterals with 2 pairs of parallel sides as parallelograms. <br> NY-4.G.2c <br> Identify and name all quadrilaterals with four right angles as rectangles. |
| - 17-4 Symmetry-pp. 376-377 (Identify line symmetry in figures and draw lines of symmetry) | - 10-7A Symmetry-Online | NY-4.G. 3 <br> 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. |
| - 17-5 Shape Patterns-pp. 380-381 (Identify and generate shape patterns that follow a given rule.) | Chapter 4 <br> Multiply by One and Two Digits <br> - 4-1A Number Patterns (generate and analyze number patterns using rules and tables)-Online | NY-4.0A. 5 <br> Generate a number or shape pattern that follows a given rule. Identify and informally explain apparent features of the pattern that were not explicit in the rule itself. |
| - 17-6 Use Perimeter Formulas-pp. 382-383 (Use formulas to find the perimeters of polygons.) <br> - 17-7 Use Area Formulas-pp. 384-385 (Use formulas to find the areas of rectangles and squares) | Chapter 11 <br> Perimeter, Area, and Volume <br> - 11-1 Use Perimeter Formulas-pp. 358-359 <br> - 11-2 Use Area Formulas-pp. 360-361 <br> - 11-3 Perimeter and Area-pp. 362-363 <br> - 11-3A Perimeter and Area Formulas-Online | NY-4.MD. 3 <br> Apply the area and perimeter formulas for rectangles in real world and mathematical problems. |

A Grade 4 Crosswalk: Progress in Mathematics Aligned to Sadlier Math ${ }^{\text {TM }}$ and the
New York State Next Generation Mathematics Learning Standards (2017)

## Sadlier. School

## Sadlier Math, Grade 4

Progress in Mathematics, Grade 4

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- 17-8 Problem Solving: Draw a Picture—pp. 386387 (Solve problems by drawing a picture.)


## Perimeter, Area, and Volume

- 11-8 Problem Solving Strategy: Using a Drawing or Model-pp. 372-373

MP. 1 Make sense of problems and persevere in solving them.
MP. 4 Model with mathematics
MP. 6 Attend to precision

