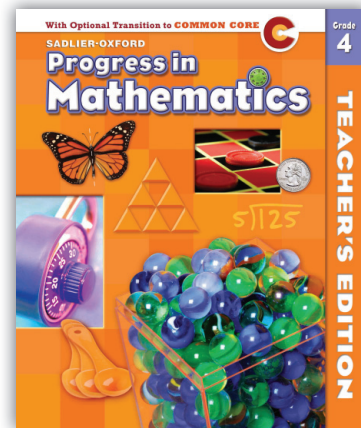




SADLIER
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Correlated to the
**Common Core
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GRADE 4



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Operations and Algebraic Thinking

4.OA

Use the four operations with whole numbers to solve problems.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

1. Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.¹
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. Gain familiarity with factors and multiples.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction

*4-1B Use Multiplication to Compare Numbers—Online

Instruction

*4-1B Use Multiplication to Compare Numbers—Online

*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

12-11 Problem Solving Strategy: Use More Than One Step—pp. 402–403

12-12 Problem Solving Applications: Mixed Review—pp. 404–405

14-1 Equations—pp. 442–443

Instruction

4-4 Multiply by One-Digit Numbers—pp. 132–133

4-7 Multiply Three-Digit Numbers—pp. 138–139

4-11 Products: Rounding to Estimate—pp. 146–147

5-5 Estimate in Division—pp. 172–173

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. 184–185

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

5-17 Problem Solving Strategy: Interpret the Remainder—pp. 196–197

6-13 Problem Solving Strategy: Use More Than One Step—pp. 230–231

12-2 Divisors: Multiples of Ten—pp. 384–385

12-3 Estimate Quotients—pp. 386–387

12-4 Two-Digit Dividends—pp. 388–389

12-5 Three-Digit Dividends—pp. 390–391

12-6 Trial Quotients—pp. 392–393

12-7 Greater Quotients—pp. 394–395

12-8 Four-Digit Dividends—pp. 396–397

12-10 Greater Dividends—pp. 400–401

12-11 Problem Solving Strategy: Use More Than One Step—pp.

*Online at progressinmathematics.com.

Use the four operations with whole numbers to solve problems.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

- 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.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

402–403
14-1 Equations—pp. 442–443

Application

5-18 Problem Solving Applications: Mixed Review—pp. 198–199
12-12 Problem Solving Applications: Mixed Review—pp. 404–405

Instruction

8-6 Factors—pp. 276–277
*9-6A Factor Pairs—Online
*9-6B Prime and Composite Numbers—Online

Generate and analyze patterns.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

- Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.

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Instruction

*4-1A Number Patterns—Online
5-4 Number Patterns—pp. 170–171
10-12 Problem Solving Strategy: Find a Pattern—pp. 348–349
14-3 Functions—pp. 446–447

Teacher's Edition

English Language Learners: Number Patterns—TE p. 163I

Number and Operations in Base Ten

4.NBT

Generalize place value understanding for multi-digit whole numbers.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.

For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.

- Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction

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

Instruction

1-1 Thousands—pp. 36-37
1-4 Place Value—pp. 42–43
1-6 Compare and Order Whole Numbers—pp. 46–47

*Online at progressinmathematics.com.

Generalize place value understanding for multi-digit whole numbers.

COMMON CORE STATE STANDARDS FOR MATHEMATICS	SADLIER PROGRESS IN MATHEMATICS, GRADE 4
<p>of comparisons.</p>	<p>Application 1-13 Problem Solving Applications: Mixed Review—pp. 60–61</p>
<p>3. Use place value understanding to round multi-digit whole numbers to any place.</p>	<p>Instruction 1-10 Rounding—pp. 54–55</p> <p>Application 1-5 Estimation—pp. 44–45 2-6 Mental Math—p. 79 2-7 Estimate Sums and Differences—pp. 80–81 2-8 Add and Subtract Money—pp. 82–83</p>

Use place value understanding and properties of operations to perform multi-digit arithmetic.

COMMON CORE STATE STANDARDS FOR MATHEMATICS	SADLIER PROGRESS IN MATHEMATICS, GRADE 4
<p>4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.</p>	<p>Instruction 2-9 Check Addition and Subtraction—pp. 84–85</p> <p>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</p> <p>Application 2-11 Problem Solving Applications: Mixed Review—pp. 88–89 3-12 Problem Solving Applications: Mixed Review—pp. 118–119</p>
<p>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.</p>	<p>Instruction 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</p> <p>*5-13A Multistep Problems & Bar Diagrams—Online</p>

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Use place value understanding and properties of operations to perform multi-digit arithmetic.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

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.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction

- 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. 184–185
- 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

Number and Operations—Fractions

4.NF

Extend understanding of fraction equivalence and ordering.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction

- *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

Application

- 8-12 Problem Solving Applications: Mixed Review—pp. 288–289

2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Instruction

- 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

Application

- 8-12 Problem Solving Applications: Mixed Review—pp. 288–289

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.
 - a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction

- *9-1A Use Models to Add Fractions—Online
- *9-1C Use Models to Subtract Fractions—Online

*Online at progressinmathematics.com.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

- b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model.

Examples: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.

- c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

- d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

- a. Understand a fraction a/b as a multiple of $1/b$.

For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.

- b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number.

For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)

- c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.

For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction

*9-1B Decompose Fractions—Online

Instruction

*9-4A Add Mixed Numbers—Online

*9-4B Subtract Mixed Numbers—Online

9-5 Add and Subtract Mixed Numbers—pp. 304–305

Instruction

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

Application

9-12 Problem Solving Applications: Mixed Review—pp. 318–319

Instruction

*9-8A Multiply with Fractions—Online

Instruction

*9-8A Multiply with Fractions—Online

Instruction

*9-8A Multiply with Fractions—Online

9-10 Find Part of a Number—pp. 314–315

Application

9-12 Problem Solving Applications: Mixed Review—pp. 318–319

*Online at progressinmathematics.com.

Understand decimal notation for fractions, and compare decimal fractions.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

- Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.
- Use decimal notation for fractions with denominators 10 or 100.
For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.
- Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

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

Instruction
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

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

Measurement and Data

4.MD

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

- Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.
For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...
- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction
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

Instruction
2-8 Add and Subtract Money—pp. 82–83

4-8 Multiply Money—pp. 140–141
4-12 Multiply by Two-Digit Numbers—pp. 148–149

5-14 Divide Money—pp. 190–191

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

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Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

- 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 Represent Measures on a Number Line—Online
- 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
- 13-10 Divide with Money—pp. 430–431

Readiness

- Skills Update: Perimeter—p. 20
- Skills Update: Area—p. 24

Instruction

- 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

Application

- 11-9 Problem Solving Applications: Mixed Review—pp. 374–375

Represent and interpret data.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

4. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots.

For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction

- 7-4 Surveys and Line Plots—pp. 246–247
- *9-5A Organize Measurement Data—Online

Geometric measurement: understand concepts of angle and measure angles.

COMMON CORE STATE STANDARDS FOR MATHEMATICS

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

- a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a

SADLIER PROGRESS IN MATHEMATICS, GRADE 4

Instruction

- *10-1A Angle Measure—Online
- 10-2 Rays and Angles—pp. 328–329

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Geometric measurement: understand concepts of angle and measure angles.

COMMON CORE STATE STANDARDS FOR MATHEMATICS	SADLIER PROGRESS IN MATHEMATICS, GRADE 4
circle is called a “one-degree angle,” and can be used to measure angles.	
b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.	Instruction *10-1A Angle Measure—Online
6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	Instruction 10-2 Rays and Angles—pp. 328–329 *10-2A Measure Angles—Online
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, e.g., by using an equation with a symbol for the unknown angle measure.	Instruction *10-2B Unknown Angle Measures—Online

Geometry **4.G**

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

COMMON CORE STATE STANDARDS FOR MATHEMATICS	SADLIER PROGRESS IN MATHEMATICS, GRADE 4
1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	Instruction 10-1 Points, Lines, and Line Segments—pp. 326–327 10-2 Rays and Angles—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 Application 10-13 Problem Solving Applications: Mixed Review—pp. 350–351
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.	Readiness 10-2 Rays and Angles—pp. 328–329 10-3 Parallel and Perpendicular Lines—pp. 330–331 Instruction 10-6 Quadrilaterals—pp. 336–337 10-7 Triangles—pp. 338–339
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.	Instruction *10-7A Symmetry—Online Application 10-12 Problem Solving Strategy: Find a Pattern—pp. 348–349

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