

SADLIER

New York Progress Mathematics

SADLIER

Progress in Mathematics

Common Core State Standards for Mathematics

Crosswalk

Grade 4

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*4-1B Use Multiplication to Compare Numbers—Online**4.OA.1**
4.OA.A.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.**Lesson 2 Problem Solving: Use Multiplication and Division to Make Comparisons—pp. 18–25****Instruction**
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*5-13A Multistep Problems & Bar Diagrams—Online**4.OA.3**
4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

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Instruction

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*9-6A Factor Pairs—Online

*9-6B Prime and Composite Numbers—Online

4.OA.4

4.OA.B.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.

Lesson 5 Generate and Analyze Number and Shape Patterns—pp. 42–49

Instruction

*4-1A Number Patterns—Online

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4.OA.5

4.OA.C.5

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

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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.

Unit 2: Focus on Number and Operations in Base Ten

Lesson 6 Understand Place Value of Whole Numbers—pp. 56–63

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

**4.NBT.1
4.NBT.A.1**

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

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

Lesson 7 Read, Write, and Compare Whole Numbers—pp. 64–71

Instruction

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

**4.NBT.2
4.NBT.A.2**

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 of comparisons.

Lesson 8 Apply Place Value to Round Whole Numbers—pp. 72–79

Instruction

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2-7 Estimate Sums and Differences—pp. 80–81
2-8 Add and Subtract Money—pp. 82–83

**4.NBT.3
4.NBT.A.3**

Use place value understanding to round multi-digit whole numbers to any place.

Lesson 9 Add and Subtract Fluently with Whole Numbers—pp. 80–87

Instruction

2-9 Check Addition and Subtraction—pp. 84–85
3-2 Add with Regrouping—pp. 98–99

**4.NBT.4
4.NBT.B.4**

Fluently add and subtract multi-digit whole numbers using the standard algorithm.

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- 4-13 More Multiplying by Two-Digit Numbers—pp. 150–151
- *5-13A Multistep Problems & Bar Diagrams—Online

**4.NBT.5
4.NBT.B.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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Lesson 13 Divide Whole Numbers: Use Properties of Operations—pp. 112–119

Instruction

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- 5-9 More Two-Digit Quotients—pp. 180–181
- 5-10 Three-Digit Quotients—pp. 182–183
- 5-11 More Quotients—pp. 184–185

**4.NBT.6
4.NBT.B.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.

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Application

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

Instruction

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

Instruction

*9-1B Decompose Fractions—Online

**4.NF.1
 4.NF.A.1**

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

**4.NF.2
 4.NF.A.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.

**4.NF.3a
 4.NF.B.3a**

Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

**4.NF.3b
 4.NF.B.3b**

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

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

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<p>Lesson 20 Problem Solving: Add and Subtract Fractions—pp. 174–181</p>	<p>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</p> <p>Application 9-12 Problem Solving Applications: Mixed Review—pp. 318–319</p>	<p>4.NF.3d 4.NF.B.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.</p>
<p>Lesson 21 Multiply Unit Fractions by Whole Numbers—pp. 182–189</p>	<p>Instruction *9-8A Multiply with Fractions—Online</p>	<p>4.NF.4a 4.NF.B.4a Understand a fraction a/b as a multiple of $1/b$.</p> <p><i>For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.</i></p>
<p>Lesson 22 Multiply Fractions by Whole Numbers—pp. 190–197</p>	<p>Instruction *9-8A Multiply with Fractions—Online</p>	<p>4.NF.4b 4.NF.B.4b Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number.</p> <p><i>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, $n \times (a/b) = (n \times a)/b$.)</i></p>
<p>Lesson 23 Problem Solving: Multiply Fractions by Whole Numbers—pp. 198–205</p>	<p>Instruction *9-8A Multiply with Fractions—Online 9-10 Find Part of a Number—pp. 314–315</p>	<p>4.NF.4c 4.NF.B.4c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.</p>

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

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For example, if each person at a party will eat $\frac{3}{8}$ 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?

Lesson 24 Add Fractions: Denominators of 10 and 100—pp. 206–213

Instruction

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

4.NF.5
4.NF.C.5

Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.2

For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.

Lesson 25 Write and Compare Decimal Fractions—pp. 214–221

Instruction

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13-2 Decimals Greater Than One—pp. 414–415
13-3 Decimal Place Value—pp. 416–417

4.NF.6
4.NF.C.6

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.

Instruction

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

4.NF.7
4.NF.C.7

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

Unit 4: Focus on Measurement and Data

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4.MD.1
4.MD.A.1

Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a

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 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), ...

4.MD.1
4.MD.A.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...

4.MD.2
4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

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 *9-5A Organize Measurement Data—Online

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

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.

4.MD.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.
4.MD.B.4

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

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Lesson 32 Use a Protractor to Measure Angles—pp. 282–289

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Unit 5: Focus on Geometry

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10-2 Rays and Angles—pp. 328–329

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

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Readiness
10-2 Rays and Angles—pp. 328–329
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4.MD.5a **4.MD.C.5a** Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

4.MD.5b **4.MD.C.5b** An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

4.MD.6 **4.MD.C.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

4.MD.7 **4.MD.C.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.

4.G.1 **4.G.A.1** Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.2 **4.G.A.2** Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or

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Lesson 36 Identify Lines of Symmetry—pp. 320–327

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 10-6 Quadrilaterals—pp. 336–337
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 absence of angles of a specified size.
 Recognize right triangles as a category, and identify right triangles.

Instruction
 *10-7A Symmetry—Online

4.G.3
4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Application
 10-12 Problem Solving Strategy: Find a Pattern—pp. 348–349