

SADLIER

Progress in Mathematics

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Common Core Progress Mathematics

Common Core State Standards for Mathematics

Grade 5 Crosswalk

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Skills Update—Review of Grade 4 Skills

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COMMON CORE PROGRESS MATHEMATICS, GRADE 5

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

Chapter 1 Place Value, Addition, and Subtraction

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1-1 What Is a Billion? —pp. 30–31	Lesson 4 Understand Place Value —pp. 40–47	5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
1-2 Place Value to Billions —pp. 32–33		
1-3 Expanded Form —pp. 34–35		
1-4 Thousandths —pp. 36–37	Lesson 4 Understand Place Value —pp. 40–47	5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
*1-4A Decimals and Expanded Form —Online		
1-5 Decimals Greater Than One —pp. 38–39		
	Lesson 6 Read and Write Decimals to Thousandths —pp. 56–63	5.NBT.3a Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
1-6 Compare and Order Numbers —pp. 40–41	Lesson 7 Compare Decimals to Thousandths —pp. 64–71	5.NBT.3b Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
1-7 Rounding Numbers —pp. 42–43	Lesson 8 Round Decimals: Use Place Value —pp. 72–79	5.NBT.4 Use place value understanding to round decimals to any place.
1-8 Addition Properties/Subtraction Rules —pp. 44–45		
1-9 Estimate Sums and Differences —pp. 46–47		
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2-1 Factors and Products —pp. 66–67		
2-2 Properties of Multiplication —pp. 68–69	Lesson 1 Use Grouping Symbols and Evaluate Numerical Expressions —pp. 10–17	5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
	Lesson 2 Write and Interpret Numerical Expressions —pp. 18–25	5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</i>
2-3 Mental Math Special Factors —pp. 70–71	Lesson 5 Powers of 10: Use Patterns and Whole-Number Exponents —pp. 48–55	5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
2-4 Patterns in Multiplication —pp. 72–73		5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
2-5 Estimate Products —pp. 74–75		
2-6 Zeros in the Multiplicand —pp. 76–77	Lesson 5 Powers of 10: Use Patterns and Whole-Number Exponents —pp. 48–55	5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
2-7 Multiply Two Digits —pp. 78–79		
2-8 Multiply Three Digits —pp. 80–81		
2-9 Zeros in the Multiplier —pp. 82–83		
2-10 Multiplication with Money —pp. 84–85		
2-12 Problem Solving Applications: Mixed Review —pp. 88–89	Lesson 5 Powers of 10: Use Patterns and Whole-Number Exponents —pp. 48–55	5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a <i>– continued on next page –</i>

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decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Chapter 3 Division

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Lesson 10 Divide Whole Numbers: Use Place Value Strategies—pp. 88–95

Lesson 11 Divide Whole Numbers: Use Properties of Operations—pp. 96–103

Lesson 10 Divide Whole Numbers: Use Place Value

5.NBT.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-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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Chapter 3 Division

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3-10 Teens as Divisors —pp. 114–115	Strategies —pp. 88–95	
*3-10A Use Strategies to Divide —Online	Lesson 11 Divide Whole Numbers: Use Properties of Operations —pp. 96–103	numbers with up to four-digit dividends and two-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.
3-11 Two-Digit Divisors —pp. 116–117		
3-12 Divide Larger Numbers —pp. 118–119		
3-13 Divide Money —pp. 120–121	Lesson 14 Divide Decimals to Hundredths —pp. 120–127	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
3-14 Order of Operations —pp. 122–123	Lesson 1 Use Grouping Symbols and Evaluate Numerical Expressions —pp. 10–17	5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
*3-14A Variables and Expressions —Online	Lesson 2 Write and Interpret Numerical Expressions —pp. 18–25	5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</i>
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- 5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.

Chapter 5 Fractions: Addition and Subtraction

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***5-1A** **Add Fractions with Unlike Denominators**—Online

5-2 **Add Fractions Unlike Denominators**—pp. 166–167

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5-4 **Add Mixed Numbers**—pp. 170–171

5-5 **Rename Mixed Number Sums**—pp. 172–173

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Lesson 16 **Problem Solving: Add and Subtract Fractions**—pp. 142–149

Lesson 15 **Add and Subtract Fractions with Unlike Denominators**—pp. 134–141

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Lesson 16 **Problem Solving: Add and Subtract Fractions**—pp. 142–149

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5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)

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Chapter 5 Fractions: Addition and Subtraction

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5-6 **Rename Differences: Like Denominators**—pp. 174–175

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Lesson 16 **Problem Solving: Add and Subtract Fractions**—pp. 142–149

Lesson 15 **Add and Subtract Fractions with Unlike Denominators**—pp. 134–141

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Lesson 16 **Problem Solving: Add and Subtract Fractions**—pp. 142–149

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Chapter 5 Fractions: Addition and Subtraction

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***5-8A Subtract Fractions and Whole Numbers from Mixed Numbers**—Online

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***5-9A Use Benchmark Fractions**—Online

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Lesson 15 Add and Subtract Fractions with Unlike Denominators—pp. 134–141

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Chapter 5 Fractions: Addition and Subtraction

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COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

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Chapter 6 Fractions: Multiplication and Division

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6-1 Multiply Fractions —pp. 198–199	Lesson 18 Interpret Products of Fractions —pp. 158–165	5.NF.4a Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.
6-2 Multiply Fractions by Fractions —pp. 200–201		<i>For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)</i>
	Lesson 19 Find Areas of Rectangles: Tile and Multiply —pp. 166–173	5.NF.4b Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
6-3 Multiply Fractions and Whole Numbers —pp. 202–203	Lesson 18 Interpret Products of Fractions —pp. 158–165	5.NF.4a Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.
		<i>For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)</i>
	Lesson 21 Problem Solving: Multiply Fractions and Mixed Numbers —pp. 182–189	5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
6-4 Multiply Fractions Using the GCF —pp. 204–205	Lesson 21 Problem Solving: Multiply Fractions and Mixed Numbers —pp. 182–189	5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
6-5 Rename Mixed Numbers as Fractions —pp. 206–207		

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<p>6-6 Multiply Fractions and Mixed Numbers—pp. 208–209</p>	<p>Lesson 19 Find Areas of Rectangles: Tile and Multiply—pp. 166–173</p>	<p>5.NF.4b Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p>
<p>6-7 Multiply Mixed Numbers—pp. 210–211</p>	<p>Lesson 21 Problem Solving: Multiply Fractions and Mixed Numbers—pp. 182–189</p>	<p>5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p>
<p>*6-7A Interpret the Remainder—Online</p>	<p>Lesson 21 Problem Solving: Multiply Fractions and Mixed Numbers—pp. 182–189</p> <p>Lesson 17 Interpret Fractions as Division—pp. 150–157</p>	<p>5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p> <p>5.NF.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p> <p><i>For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p>

Chapter 6 Fractions: Multiplication and Division

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<p>6-8 Division of Fractions—pp. 212–213</p>	<p>Lesson 23 Divide Whole Numbers by Unit Fractions—pp. 198–205</p>	<p>5.NF.7b Interpret division of a whole number by a unit fraction, and compute such quotients.</p> <p><i>For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.</i></p>
<p>6-9 Reciprocals—pp. 214–215</p>		
<p>6-10 Divide Whole Numbers by Fractions—pp. 216–217</p>	<p>Lesson 23 Divide Whole Numbers by Unit Fractions—pp. 198–205</p>	<p>5.NF.7b Interpret division of a whole number by a unit fraction, and compute such quotients.</p> <p><i>For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.</i></p>
	<p>Lesson 24 Problem Solving: Divide Unit Fractions and Whole Numbers—pp. 206–213</p>	<p>5.NF.7c Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.</p> <p><i>For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$-cup servings are in 2 cups of raisins?</i></p>
<p>6-10 Divide Whole Numbers by Fractions—pp. 216–217</p>	<p>Lesson 22 Divide Unit Fractions by Whole Numbers—pp. 190–197</p>	<p>5.NF.7a Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.</p> <p><i>For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.</i></p>

Chapter 6 Fractions: Multiplication and Division

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***6-10B Word Problems Involving Fractions**—Online

6-11 Divide Fractions by Fractions—pp. 218–219

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Lesson 23 Divide Whole Numbers by Unit Fractions—pp. 198–205

Lesson 24 Problem Solving: Divide Unit Fractions and Whole Numbers—pp. 206–213

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Lesson 24 Problem Solving: Divide Unit Fractions and Whole Numbers—pp. 206–213

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5.NF.7b Interpret division of a whole number by a unit fraction, and compute such quotients.

For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.

5.NF.7c Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.

For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ -cup servings are in 2 cups of raisins?

5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

5.NF.7c Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.

For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ -cup servings are in 2 cups of raisins?

Chapter 6 Fractions: Multiplication and Division

PROGRESS IN MATHEMATICS, GRADE 5

6-12 **Divide Fractions by Whole Numbers**—pp. 220–221

6-13 **Divide Mixed Numbers by Fractions**—pp. 222–223

6-14 **Divide Mixed Numbers**—pp. 224–225

6-15 **Estimate Products and Quotients with Mixed Numbers**—pp. 226–227

6-16 **Problem Solving Strategy: Use Simpler Numbers**—pp. 228–229

6-17 **Problem Solving Applications: Mixed Review**—pp. 230–231

COMMON CORE PROGRESS MATHEMATICS, GRADE 5

Lesson 22 **Divide Unit Fractions by Whole Numbers**—pp. 190–197

Lesson 24 **Problem Solving: Divide Unit Fractions and Whole Numbers**—pp. 206–213

Lesson 21 **Problem Solving: Multiply Fractions and Mixed Numbers**—pp. 182–189

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5.NF.7a Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.

For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.

5.NF.7c Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.

For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ -cup servings are in 2 cups of raisins?

5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Chapter 7 Statistics and Probability

PROGRESS IN MATHEMATICS, GRADE 5

7-1	Probability —pp. 238–239
7-2	Tree Diagrams —pp. 240–241
7-3	Independent and Dependent Events —pp. 242–243
7-4	Collect and Organize Data —pp. 244–245
7-5	Range, Median, Mean and Mode —pp. 246–247
7-6	Graphing Sense —pp. 248–249
6-17	Problem Solving Applications: Mixed Review —pp. 230–231
7-8	Histograms —pp. 252–253
7-9	Make Line Graphs —pp. 254–255
7-10	Interpret Circle Graphs —pp. 256–257
7-11	Problem Solving Strategy: Use a Model/Diagram —pp. 258–259
7-12	Problem Solving Applications: Mixed Review —pp. 260–261

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Lesson 27	Problem Solving: Use Line Plots —pp. 242–249
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5.MD.2	<p>Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots.</p> <p><i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i></p>
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Chapter 8 Decimals: Addition and Subtraction

PROGRESS IN MATHEMATICS, GRADE 5	COMMON CORE PROGRESS MATHEMATICS, GRADE 5	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5
8-1 Decimal Sense —pp. 268–269	Lesson 7 Compare Decimals to Thousandths —pp. 64–71	5.NBT.3b Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
8-2 Decimals and Place Value —pp. 270–271	Lesson 4 Understand Place Value —pp. 40–47	5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.
*8-2A Use Models to Add Decimals —Online	Lesson 6 Read and Write Decimals to Thousandths —pp. 56–63	5.NBT.3a Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
*8-2B Mental Math Add Decimals —Online	Lesson 12 Add and Subtract Decimals to Hundredths —pp. 104–111	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
8-3 Add Decimals —pp. 272–273	Lesson 8 Round Decimals: Use Place Value —pp. 72–79	5.NBT.4 Use place value understanding to round decimals to any place.
8-4 Estimate Decimal Sums —pp. 274–275	Lesson 12 Add and Subtract Decimals to Hundredths —pp. 104–111	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
8-5 Add More Decimals —pp. 276–277	Lesson 12 Add and Subtract Decimals to Hundredths —pp. 104–111	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
*8-5A Use Models to Subtract Decimals —Online		
8-6 Subtract Decimals —pp. 278–279		5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Chapter 8 Decimals: Addition and Subtraction

PROGRESS IN MATHEMATICS, GRADE 5	COMMON CORE PROGRESS MATHEMATICS, GRADE 5	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5
8-7 Estimate Decimal Differences—pp. 280–281	Lesson 8 Round Decimals: Use Place Value—pp. 72–79	5.NBT.4 Use place value understanding to round decimals to any place.
8-8 Subtract More Decimals—pp. 282–283	Lesson 12 Add and Subtract Decimals to Hundredths—pp. 104–111	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
8-9 Problem Solving Strategy: Use More Than One Step—pp. 284–285		
8-10 Problem Solving Applications: Mixed Review—pp. 286–287	Lesson 12 Add and Subtract Decimals to Hundredths—pp. 104–111	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Chapter 9 Decimals: Multiplication and Division

PROGRESS IN MATHEMATICS, GRADE 5	COMMON CORE PROGRESS MATHEMATICS, GRADE 5	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5
9-1 Multiply by 10, 100, and 1000—pp. 294–295	Lesson 5 Powers of 10: Use Patterns and Whole-Number Exponents—pp. 48–55	5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
	Lesson 13 Multiply Decimals to Hundredths—pp. 112–119	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the

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Chapter 9 Decimals: Multiplication and Division

PROGRESS IN MATHEMATICS, GRADE 5

9-2 Estimate Decimal Products—pp. 296–297

***9-2A Multiply Decimals**—Online

9-3 Multiply Decimals by Whole Numbers—pp. 298–299

***9-3A Model Multiplying Two Decimals**—Online

9-4 Multiply Decimals by Decimals—pp. 300–301

9-5 Zeros in the Product—pp. 302–303

9-6 Divide by 10, 100, and 1000—pp. 304–305

COMMON CORE PROGRESS MATHEMATICS, GRADE 5

Lesson 8 Round Decimals: Use Place Value—pp. 72–79

Lesson 13 Multiply Decimals to Hundredths—pp. 112–119

Lesson 5 Powers of 10: Use Patterns and Whole-Number Exponents—pp. 48–55

Lesson 13 Multiply Decimals to Hundredths—pp. 112–119

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

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relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

5.NBT.4 Use place value understanding to round decimals to any place.

5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Chapter 9 Decimals: Multiplication and Division

PROGRESS IN MATHEMATICS, GRADE 5	COMMON CORE PROGRESS MATHEMATICS, GRADE 5	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5
*9-6A Model Dividing a Decimal by a Whole Number —Online	Lesson 13 Multiply Decimals to Hundredths —pp. 112–119	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
9-7 Divide Decimals by Whole Numbers —pp. 306–307	Lesson 14 Divide Decimals to Hundredths —pp. 120–127	
9-8 Zeros in Division —pp. 308–309		
*9-8A Model Dividing a Decimal by a Decimal —Online		
*9-8B Divide Decimals —Online		
9-9 Estimate Decimal Quotients —pp. 310–311		
9-10 Estimate with Money: Rounding to the Nearest Cent —p. 313	Lesson 8 Round Decimals: Use Place Value —pp. 72–79	5.NBT.4 Use place value understanding to round decimals to any place.
9-11 Problem Solving Strategy: Write a Number Sentence —pp. 314–315		
9-12 Problem Solving Applications: Mixed Review —pp. 316–317	Lesson 13 Multiply Decimals to Hundredths —pp. 112–119	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
	Lesson 14 Divide Decimals to Hundredths —pp. 120–127	

Chapter 10 Geometry

PROGRESS IN MATHEMATICS, GRADE 5	COMMON CORE PROGRESS MATHEMATICS, GRADE 5	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5
10-1 Measure and Draw Angles —pp. 324–325		
10-2 Identify Angles —pp. 326–327		
10-3 Polygons —pp. 328–329		
10-4 Congruent and Similar Figures —pp. 330–331		

Chapter 10 Geometry

PROGRESS IN MATHEMATICS, GRADE 5

10-5 Triangles—pp. 332–333

10-6 Quadrilaterals—pp. 334–335

***10-6A Classify Quadrilaterals**—Online

10-7 Perimeter—pp. 336–337

10-8 Circles—pp. 338–339

10-9 Circumference—pp. 340–341

10-10 Lines of Symmetry—pp. 342–343

10-11 Transformations—pp. 344–345

10-12 Tessellations—pp. 346–347

10-13 Problem Solving Strategy: Use a Diagram/Model—pp. 348–349

10-14 Problem Solving Applications: Mixed Review—pp. 350–351

COMMON CORE PROGRESS MATHEMATICS, GRADE 5

Lesson 36 Analyze Properties to Classify Two-Dimensional Figures—pp. 320–327

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.

For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

Chapter 11 Measurement Topics

PROGRESS IN MATHEMATICS, GRADE 5

11-1 Relate Customary Units of Length—pp. 358–359

11-2 Relate Customary Units of Capacity—pp. 360–361

11-3 Relate Customary Units of Weight—pp. 362–363

COMMON CORE PROGRESS MATHEMATICS, GRADE 5

Lesson 25 Convert Customary Measurement Units—pp. 226–233

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

5.MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Chapter 11 Measurement Topics

PROGRESS IN MATHEMATICS, GRADE 5	
11-4	Temperature —pp. 364–365
11-5	Units of Time —pp. 366–367
11-6	Time Zones —pp. 368–369
11-7	Compute with Customary Units —pp. 370–371
11-8	Problem Solving Strategy: Use More Than Step —pp. 372–373
11-9	Problem Solving Applications: Mixed Review —pp. 374–375

COMMON CORE PROGRESS MATHEMATICS, GRADE 5	
Lesson 25	Convert Customary Measurement Units —pp. 226–233

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5	
5.MD.1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Chapter 12 Metric Measurement, Area, and Volume

PROGRESS IN MATHEMATICS, GRADE 5	
12-1	Metric Measurement —pp. 382–383
12-2	Relate Metric Units of Length —pp. 384–385
12-3	Relate Metric Units of Capacity —pp. 386–387
12-4	Relate Metric Units of Mass —pp. 388–389
12-5	Square Measure —pp. 390–391
*12-5A	Find Areas of Rectangles and Squares —Online

COMMON CORE PROGRESS MATHEMATICS, GRADE 5	
Lesson 26	Convert Metric Measurement Units —pp. 234–241
Lesson 19	Find Areas of Rectangles: Tile and Multiply —pp. 166–173

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5	
5.MD.1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
5.NF.4b	Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

Chapter 12 Metric Measurement, Area, and Volume

PROGRESS IN MATHEMATICS, GRADE 5	COMMON CORE PROGRESS MATHEMATICS, GRADE 5	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5
12-6 12-6 Areas of Rectangles and Squares —pp. 392–393		
12-7 12-7 Areas of Parallelograms and Triangles —pp. 394–395		
12-8 12-8 Solid Figures —pp. 396–397		
12-9 12-9 Surface Area —pp. 398–399		
12-10 12-10 Cubic Measure —pp. 400–401		
12-11 Volume —pp. 402–403	Lesson 28 Understand Concepts of Volume Measurement —pp. 250–257	5.MD.3a A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.
	Lesson 28 Understand Concepts of Volume Measurement —pp. 250–257	5.MD.3b A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
	Lesson 29 Measure Volume —pp. 258–265	5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
	Lesson 30 Find Volume: Relate Packing of Unit Cubes to Multiplying —pp. 266–273	5.MD.5a Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
	Lesson 31 Find Volume: Use the Associate Property —pp. 274–281	
	Lesson 32 Problem Solving: Apply Volume Formulas for Prisms —pp. 282–289	5.MD.5b Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

Chapter 12 Metric Measurement, Area, and Volume

PROGRESS IN MATHEMATICS, GRADE 5

***12-11A Find Volume**—Online

***12-11B Separate Solid Figures**—Online

12-12 Estimate Volume—pp. 404–405

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Lesson 30 Find Volume: Relate Packing of Unit Cubes to Multiplying—pp. 266–273

Lesson 31 Find Volume: Use the Associate Property—pp. 274–281

Lesson 32 Problem Solving: Apply Volume Formulas for Prisms—pp. 282–289

Lesson 33 Problem Solving: Decompose Figures to Find Volume—pp. 290–297

Lesson 28 Understand Concepts of Volume Measurement—pp. 250–257

Lesson 28 Understand Concepts of Volume Measurement—pp. 250–257

Lesson 29 Measure Volume—pp. 258–265

Lesson 30 Find Volume: Relate Packing of Unit Cubes to Multiplying—pp. 266–273

Lesson 31 Find Volume: Use the Associate Property—pp. 274–281

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

5.MD.5a Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

5.MD.5b Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

5.MD.5c Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

5.MD.3a A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.

5.MD.3b A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

5.MD.5a Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the

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Chapter 12 Metric Measurement, Area, and Volume

PROGRESS IN MATHEMATICS, GRADE 5

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edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

***12-12A Line Plots**—Online

Lesson 27 Problem Solving: Use Line Plots—pp. 242–249

5.MD.2 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots.

For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.

12-13 Problem Solving Strategy: Draw a Picture—pp. 406–407

Lesson 26 Convert Metric Measurement Units—pp. 234–241

5.MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

12-14 Problem Solving Applications: Mixed Review—pp. 408–409

Chapter 13 Ratio, Proportion, and Percent

PROGRESS IN MATHEMATICS, GRADE 5

- 13-1 Ratios as Fractions**—pp. 416–417
- 13-2 Proportions**—pp. 418–419
- 13-3 Scale and Maps**—pp. 420–421
- 13-4 Relate Fractions to Percents**—pp. 422–423
- 13-5 Relate Percents to Decimals**—pp. 424–425
- 13-6 Find the Percent of a Number**—pp. 426–427
- 13-7 Use Percent**—pp. 428–429
- 13-8 Problem Solving Strategy: Combine Strategies**—pp. 430–431
- 13-9 Problem Solving Applications: Mixed Review**—pp. 432–433

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COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

Chapter 14 More Concepts in Algebra

PROGRESS IN MATHEMATICS, GRADE 5

- 14-1 Algebraic Expressions and Equations**—pp. 440–441
- 14-2 Properties of Equality**—pp. 442–443

COMMON CORE PROGRESS MATHEMATICS, GRADE 5

- Lesson 2 Write and Interpret Numerical Expressions**—pp. 18–25

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

- 5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.

Chapter 14 More Concepts in Algebra

PROGRESS IN MATHEMATICS, GRADE 5

- 14-3 Addition and Subtraction Equations**—pp. 444–445

- 14-4 Multiplication and Division Equations**—pp. 446–447

- 14-5 Equations with Fractions**—pp. 448–449

- 14-6 Introduction to Integers**—pp. 450–451

- 14-7 Compare and Order Integers**—pp. 452–453

- 14-8 Add Integers with Like Signs**—pp. 454–455

- 14-9 Add Integers with Unlike Signs**—pp. 456–457

- 14-10 Subtract Integers**—pp. 458–459

- 14-11 Multiply Integers**—pp. 460–461

- 14-12 Divide Integers**—pp. 462–463

- 14-3 Addition and Subtraction Equations**—pp. 444–445

- 14-13 The Coordinate Plane**—pp. 464–465

***14-13A Using Coordinate Graphs**—Online

COMMON CORE PROGRESS MATHEMATICS, GRADE 5

- Lesson 34 Understand Points on the Coordinate Plane**—pp. 304–311

- Lesson 35 Graph Points to Represent Problem Situations**—pp. 312–319

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

- 5.G.1** Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

- 5.G.2** Represent real world and mathematical problems by graphing points in the first

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Chapter 14 More Concepts in Algebra

PROGRESS IN MATHEMATICS, GRADE 5

- *14-13B Sequences—Online
- *14-13C Compare Sequences—Online
- 14-14 Function Tables—pp. 466–467

- 14-15 Functions and Coordinate Graphs—pp. 468–469

COMMON CORE PROGRESS MATHEMATICS, GRADE 5

- Lesson 3 Analyze Numerical Patterns—pp. 26–33

- Lesson 3 Analyze Numerical Patterns—pp. 26–33

- Lesson 35 Graph Points to Represent Problem Situations—pp. 312–319

COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 5

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quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

- 5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.

For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

- 5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.

For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

- 5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Chapter 14 More Concepts in Algebra

PROGRESS IN MATHEMATICS, GRADE 5

14-16 Problem Solving Strategy: Write an Equation—pp. 470–471**14-17 Problem Solving Applications: Mixed Review**—pp. 472–473

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