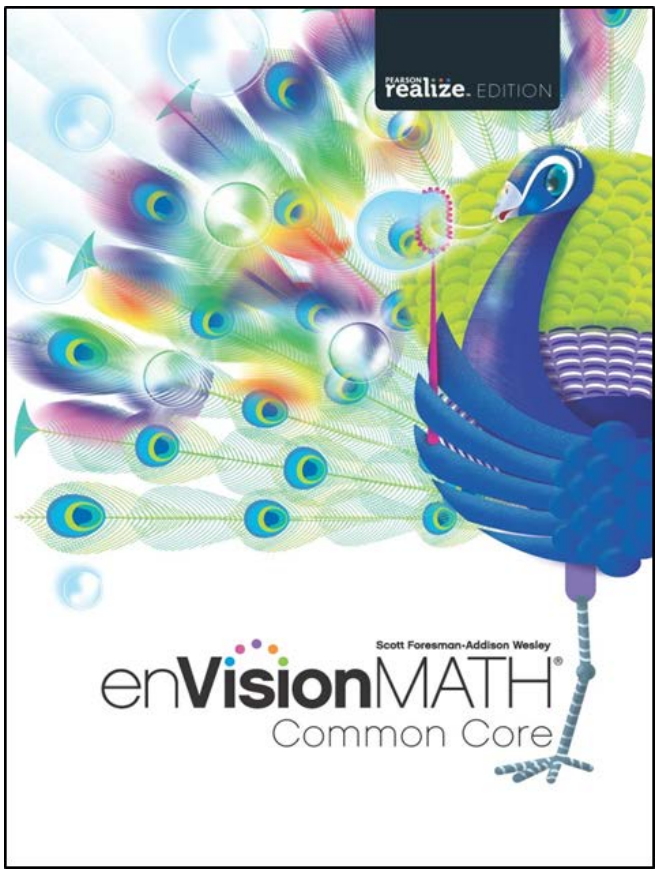
An Alignment of

Minnesota Academic Standards for Mathematics 2007

Minnesota Department of Education



To the Lessons of

enVisionMATH Common Core

©2015

Grade 5

ALWAYS LEARNING PEARSON

An Alignment of the Minnesota Academic Standards for Mathematics 2007 to *enVisionMATH Common Core*, ©2015

Table of Contents

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An Alignment of the Minnesota Academic Standards for Mathematics 2007 to *enVisionMATH Common Core,* ©2015

enVisionMATH Common Core, ©2015 Grade 5	**Minnesota Mathematics K-12 Academic Standards**
Number and Operations in Base Ten	
Topic 1: Place Value	
Lesson 1-1: Place Value Relationships	**5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **4.1.2.4** Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths.
Lesson 1-2: Tenths and Hundredths	**5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **5.1.2.4** Recognize and generate equivalent decimals, fractions, mixed numbers and improper fractions in various contexts. **4.1.2.4** Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths. **6.1.1.4** Determine equivalences among fractions, decimals and percents; select among these representations to solve problems.
Lesson 1-3: Thousandths	**5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **5.1.2.4** Recognize and generate equivalent decimals, fractions, mixed numbers and improper fractions in various contexts.

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(Continued) Lesson 1-3: Thousandths	**4.1.2.4** Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths. **6.1.1.4** Determine equivalences among fractions, decimals and percents; select among these representations to solve problems.
Lesson 1-4: Decimal Place Value	**5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **4.1.2.4** Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths. **6.1.1.4** Determine equivalences among fractions, decimals and percents; select among these representations to solve problems.
Lesson 1-5: Comparing Decimals	**5.1.2.2** Find 0.1 more than a number and 0.1 less than a number. Find 0.01 more than a number and 0.01 less than a number. Find 0.001 more than a number and 0.001 less than a number. **5.1.2.3** Order fractions and decimals, including mixed numbers and improper fractions, and locate on a number line. **4.1.2.4** Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths.

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(Continued) Lesson 1-5: Comparing Decimals	**4.1.2.5** Compare and order decimals and whole numbers using place value, a number line and models such as grids and base 10 blocks. **6.1.1.2** Compare positive rational numbers represented in various forms. Use the symbols < , = and >.
Lesson 1-6: Problem Solving: Look for a Pattern	**5.2.1.1** Create and use rules, tables, spreadsheets and graphs to describe patterns of change and solve problems. **5.1.2.3** Order fractions and decimals, including mixed numbers and improper fractions, and locate on a number line. **4.2.1.1** Create and use input-output rules involving addition, subtraction, multiplication and division to solve problems in various contexts. Record the inputs and outputs in a chart or table.
Topic 2: Adding and Subtracting Decimals	
Lesson 2-1: Mental Math	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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(Continued) Lesson 2-1: Mental Math	**6.2.2.1** Apply the associative, commutative and distributive properties and order of operations to generate equivalent expressions and to solve problems involving positive rational numbers.
Lesson 2-2: Rounding Decimals	**5.1.2.5** Round numbers to the nearest 0.1, 0.01 and 0.001. **4.1.2.4** Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths. **4.1.2.7** Round decimals to the nearest tenth.
Lesson 2-3: Estimating Sums and Differences	**5.1.3.3** Estimate sums and differences of decimals and fractions to assess the reasonableness of results. **6.1.3.5** Estimate solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem.
Lesson 2-4: Modeling Addition and Subtraction of Decimals	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 2-5: Adding Decimals	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.1.3.4** Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 2-6: Subtracting Decimals	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.1.3.4** Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 2-7: Problem Solving: Multiple-Step Problems	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.1.3.4** Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Topic 3: Multiplying Whole Numbers	
Lesson 3-1: Multiplication Properties	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers. **3.1.2.5** Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties.

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(Continued) Lesson 3-1: Multiplication Properties	**6.2.2.1** Apply the associative, commutative and distributive properties and order of operations to generate equivalent expressions and to solve problems involving positive rational numbers.
Lesson 3-2: Multiplying by Powers of 10	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.5** Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties. **4.1.1.1** Demonstrate fluency with multiplication and division facts.
Lesson 3-3: Multiplying 2-Digit Numbers by Multiples of 10	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.5** Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties.

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(Continued) Lesson 3-3: Multiplying 2-Digit Numbers by Multiples of 10	**4.1.1.2** Use an understanding of place value to multiply a number by 10, 100 and 1000. **4.1.1.3** Multiply multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms.
Lesson 3-4: Multiplying 2-Digit by 2-Digit Numbers	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.5** Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties. **4.1.1.3** Multiply multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms.
Lesson 3-5: Multiplying Greater Numbers	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results.

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(Continued) Lesson 3-5: Multiplying Greater Numbers	**3.1.2.5** Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties. **4.1.1.3** Multiply multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms.
Lesson 3-6: Problem Solving: Draw a Picture and Write an Equation	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.5** Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties. **4.1.1.5** Solve multi-step real-world and mathematical problems requiring the use of addition, subtraction and multiplication of multi-digit whole numbers. Use various strategies, including the relationship between operations, the use of technology, and the context of the problem to assess the reasonableness of results.

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Topic 4: Dividing by 1-Digit Divisors	
Lesson 4-1: Dividing Multiples of 10 and 100	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.3** Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division. **4.1.1.2** Use an understanding of place value to multiply a number by 10, 100 and 1000.
Lesson 4-2: Estimating Quotients	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.3** Estimate solutions to arithmetic problems in order to assess the reasonableness of results.

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(Continued) Lesson 4-2: Estimating Quotients	**4.1.1.4** Estimate products and quotients of multi-digit whole numbers by using rounding, benchmarks and place value to assess the reasonableness of results.
Lesson 4-3: Problem Solving: Reasonableness	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.2** Consider the context in which a problem is situated to select the most useful form of the quotient for the solution and use the context to interpret the quotient appropriately. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.3** Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division. **4.1.1.1** Demonstrate fluency with multiplication and division facts.

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Lesson 4-4: Dividing by 1-Digit Divisors	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.2** Consider the context in which a problem is situated to select the most useful form of the quotient for the solution and use the context to interpret the quotient appropriately. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.3** Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division. **4.1.1.1** Demonstrate fluency with multiplication and division facts.
Lesson 4-5: Zeroes in the Quotient	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal.

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(Continued) Lesson 4-5: Zeroes in the Quotient	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.3** Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division. **4.1.1.1** Demonstrate fluency with multiplication and division facts.
Lesson 4-6: More Dividing by 1-Digit Divisors	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results.

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(Continued) Lesson 4-6: More Dividing by 1-Digit Divisors	**3.1.2.3** Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division. **4.1.1.1** Demonstrate fluency with multiplication and division facts.
Lesson 4-7: Problem Solving: Draw a Picture and Write an Equation	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.4** Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems. **4.1.1.1** Demonstrate fluency with multiplication and division facts.

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Topic 5: Dividing by 2-Digit Divisors	
Lesson 5-1: Using Patterns to Divide	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.3** Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division. **4.1.1.1** Demonstrate fluency with multiplication and division facts.
Lesson 5-2: Estimating Quotients with 2-Digit Divisors	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.3** Estimate solutions to arithmetic problems in order to assess the reasonableness of results.

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(Continued) Lesson 5-2: Estimating Quotients with 2-Digit Divisors	**4.1.1.4** Estimate products and quotients of multi-digit whole numbers by using rounding, benchmarks and place value to assess the reasonableness of results. **4.1.1.1** Demonstrate fluency with multiplication and division facts.
Lesson 5-3: Connecting Models and Symbols	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **3.1.2.4** Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems. **4.1.1.1** Demonstrate fluency with multiplication and division facts.
Lesson 5-4: Dividing by Multiples of 10	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal.

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(Continued) Lesson 5-4: Dividing by Multiples of 10	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **4.1.1.2** Use an understanding of place value to multiply a number by 10, 100 and 1000. **3.1.2.4** Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems.
Lesson 5-5: 1-Digit Quotients	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.2** Consider the context in which a problem is situated to select the most useful form of the quotient for the solution and use the context to interpret the quotient appropriately. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **4.1.1.1** Demonstrate fluency with multiplication and division facts. **3.1.2.4** Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems.

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Lesson 5-6: 2-Digit Quotients	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.2** Consider the context in which a problem is situated to select the most useful form of the quotient for the solution and use the context to interpret the quotient appropriately. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **4.1.1.1** Demonstrate fluency with multiplication and division facts. **3.1.2.4** Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems.
Lesson 5-7: Dividing with Greater Numbers	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.2** Consider the context in which a problem is situated to select the most useful form of the quotient for the solution and use the context to interpret the quotient appropriately.

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(Continued) Lesson 5-7: Dividing with Greater Numbers	**5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **4.1.1.1** Demonstrate fluency with multiplication and division facts. **3.1.2.4** Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems.
Lesson 5-8: Problem Solving: Missing or Extra Information	**5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.2** Consider the context in which a problem is situated to select the most useful form of the quotient for the solution and use the context to interpret the quotient appropriately. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **4.1.1.1** Demonstrate fluency with multiplication and division facts. **3.1.2.4** Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems.

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Topic 6: Multiplying Decimals	
Lesson 6-1: Multiplying Decimals by 10, 100, or 1,000	**5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 6-2: Estimating the Product of a Decimal and a Whole Number	For related content, please see: **5.1.1.3** Estimate solutions to arithmetic problems in order to assess the reasonableness of results. **6.1.3.5** Estimate solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem.
Lesson 6-3: Number Sense: Decimal Multiplication	For related content, please see: **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 6-4: Models for Multiplying Decimals	For related content, please see: **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 6-5: Multiplying a Decimal by a Whole Number	For related content, please see: **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 6-6: Multiplying Two Decimals	For related content, please see: **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 6-7: Problem Solving: Multiple-Step Problems	For related content, please see: **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Topic 7: Dividing Decimals	
Lesson 7-1: Dividing Decimals by 10, 100, or 1,000	**5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 7-2: Estimating Decimal Quotients	For related content, please see: **5.1.1.3** Estimate solutions to arithmetic problems in order to assess the reasonableness of results. **6.1.3.5** Estimate solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem.
Lesson 7-3: Number Sense: Decimal Division	For related content, please see: **5.1.1.2** Consider the context in which a problem is situated to select the most useful form of the quotient for the solution and use the context to interpret the quotient appropriately. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions.

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(Continued) Lesson 7-3: Number Sense: Decimal Division	**6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 7-4: Dividing by a Whole Number	For related content, please see: **5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 7-5: Dividing a Whole Number by a Decimal	For related content, please see: **5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 7-6: Dividing a Decimal by a Decimal	For related content, please see: **5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results.

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(Continued) Lesson 7-6: Dividing a Decimal by a Decimal	**5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 7-7: Problem Solving: Multiple-Step Problems	For related content, please see: **5.1.1.1** Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal. **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.1.2.1** Read and write decimals using place value to describe decimals in terms of groups from millionths to millions. **6.1.3.1** Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Operations and Algebraic Thinking	
Topic 8: Numerical Expressions, Patterns, and Relationships	
Lesson 8-1: Variables and Expressions	**5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers. **6.2.1.1** Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts.
Lesson 8-2: Order of Operations	**5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers. **6.2.1.1** Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts.
Lesson 8-3: Evaluating Expressions	**5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers. **6.2.1.1** Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts.
Lesson 8-4: Addition and Subtraction Expressions	**5.2.1.1** Create and use rules, tables, spreadsheets and graphs to describe patterns of change and solve problems. **5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers.

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(Continued) Lesson 8-4: Addition and Subtraction Expressions	**5.2.3.2** Represent real-world situations using equations and inequalities involving variables. Create real-world situations corresponding to equations and inequalities. **6.2.1.2** Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts. **6.2.2.1** Apply the associative, commutative and distributive properties and order of operations to generate equivalent expressions and to solve problems involving positive rational numbers.
Lesson 8-5: Multiplication and Division Expressions	**5.2.1.1** Create and use rules, tables, spreadsheets and graphs to describe patterns of change and solve problems. **5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers. **5.2.3.2** Represent real-world situations using equations and inequalities involving variables. Create real-world situations corresponding to equations and inequalities. **6.2.1.2** Represent the relationship between two varying quantities with function rules, graphs and tables; translate between any two of these representations. **6.2.2.1** Apply the associative, commutative and distributive properties and order of operations to generate equivalent expressions and to solve problems involving positive rational numbers.

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Lesson 8-6: Patterns: Extending Tables	**5.2.1.1** Create and use rules, tables, spreadsheets and graphs to describe patterns of change and solve problems. **5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers. **5.2.3.2** Represent real-world situations using equations and inequalities involving variables. Create real-world situations corresponding to equations and inequalities. **6.2.1.2** Represent the relationship between two varying quantities with function rules, graphs and tables; translate between any two of these representations.
Lesson 8-7: Problem Solving: Use Reasoning	**5.2.1.1** Create and use rules, tables, spreadsheets and graphs to describe patterns of change and solve problems. **5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers. **5.2.3.2** Represent real-world situations using equations and inequalities involving variables. Create real-world situations corresponding to equations and inequalities.

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Number and Operations-Fractions	
Topic 9: Adding and Subtracting Fractions	
Lesson 9-1: Problem Solving: Writing to Explain	**5.1.2.3** Order fractions and decimals, including mixed numbers and improper fractions, and locate on a number line. **5.1.2.4** Recognize and generate equivalent decimals, fractions, mixed numbers and improper fractions in various contexts. **6.1.3.5** Estimate solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem.
Lesson 9-2: Estimating Sums and Differences of Fractions	**5.1.1.3** Estimate solutions to arithmetic problems in order to assess the reasonableness of results. **5.1.3.3** Estimate sums and differences of decimals and fractions to assess the reasonableness of results. **6.1.1.6** Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions.
Lesson 9-3: Adding Fractions with Unlike Denominators	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.1.3.4** Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data.

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(Continued) Lesson 9-3: Adding Fractions with Unlike Denominators	**6.1.1.6** Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 9-4: Subtracting Fractions with Unlike Denominators	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.1.3.4** Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data. **6.1.1.6** Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 9-5: More Adding and Subtracting Fractions	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations.

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(Continued) Lesson 9-5: More Adding and Subtracting Fractions	**5.1.3.4** Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data. **6.1.1.6** Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 9-6: Solving Problems with Fractions	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.1.3.4** Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data. **6.1.1.6** Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 9-7: Problem Solving: Draw a Picture and Write an Equation	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.2.3.3** Evaluate expressions and solve equations involving variables when values for the variables are given. **6.1.1.6** Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Topic 10: Adding and Subtracting Mixed Number	
Lesson 10-1: Estimating Sums and Differences of Mixed Numbers	**5.1.1.3** Estimate solutions to arithmetic problems in order to assess the reasonableness of results. **5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.3** Estimate sums and differences of decimals and fractions to assess the reasonableness of results. **6.1.3.5** Estimate solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem.

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Lesson 10-2: Modeling Addition and Subtraction of Mixed Numbers	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **6.1.1.7** Convert between equivalent representations of positive rational numbers. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 10-3: Adding Mixed Numbers	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **6.1.1.7** Convert between equivalent representations of positive rational numbers. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 10-4: Subtracting Mixed Numbers	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **6.1.1.7** Convert between equivalent representations of positive rational numbers.

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(Continued) Lesson 10-4: Subtracting Mixed Numbers	**6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 10-5: More Adding and Subtracting Mixed Numbers	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **6.1.1.7** Convert between equivalent representations of positive rational numbers. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 10-6: Problem Solving: Draw a Picture and Write an Equation	**5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.1.3.2** Model addition and subtraction of fractions and decimals using a variety of representations. **5.1.3.4** Solve real-world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Topic 11: Multiplying and Dividing Fractions and Mixed Numbers	
Lesson 11-1: Multiplying Fractions and Whole Numbers	For related content, please see: **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 11-2: Multiplication as Scaling	For related content, please see: **5.2.3.1** Determine whether an equation or inequality involving a variable is true or false for a given value of the variable. **5.2.3.2** Represent real-world situations using equations and inequalities involving variables. Create real-world situations corresponding to equations and inequalities. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 11-3: Estimating Products	**5.1.1.3** Estimate solutions to arithmetic problems in order to assess the reasonableness of results. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers. **6.1.3.5** Estimate solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem.
Lesson 11-4: Multiplying Two Fractions	For related content, please see: **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 11-5: Area Models	For related content, please see: **5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 11-6: Multiplying Mixed Numbers	For related content, please see: **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.1.3.1** Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Lesson 11-7: Problem Solving: Multiple-Step Problems	For related content, please see: **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.2.3.3** Evaluate expressions and solve equations involving variables when values for the variables are given. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 11-8: Fractions and Division	For related content, please see: **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.2.3.3** Evaluate expressions and solve equations involving variables when values for the variables are given. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions.

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(Continued) Lesson 11-8: Fractions and Division	**6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 11-9: Fractions, Mixed Numbers, and Decimals as Quotients	For related content, please see: **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.2.3.3** Evaluate expressions and solve equations involving variables when values for the variables are given. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 11-10: Dividing Whole Numbers by Unit Fractions	For related content, please see: **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.2.3.3** Evaluate expressions and solve equations involving variables when values for the variables are given.

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(Continued) Lesson 11-10: Dividing Whole Numbers by Unit Fractions	**6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 11-11: Dividing Unit Fractions by Non-Zero Whole Numbers	For related content, please see: **5.1.1.4** Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results. **5.2.3.3** Evaluate expressions and solve equations involving variables when values for the variables are given. **6.1.3.2** Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.
Lesson 11-12: Problem Solving: Draw a Picture and Write an Equation	**5.2.3.3** Evaluate expressions and solve equations involving variables when values for the variables are given. **6.1.3.4** Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.

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Measurement and Data	
Topic 12: Volume of Solids	
Lesson 12-1: Models and Volume	**5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **5.3.2.3** Understand that the volume of a three-dimensional figure can be found by counting the total number of same-sized cubic units that fill a shape without gaps or overlaps. Use cubic units to label volume measurements. **6.3.1.1** Calculate the surface area and volume of prisms and use appropriate units, such as cm2 and cm3. Justify the formulas used. Justification may involve decomposition, nets or other models.
Lesson 12-2: Volume	**5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **5.3.2.3** Understand that the volume of a three-dimensional figure can be found by counting the total number of same-sized cubic units that fill a shape without gaps or overlaps. Use cubic units to label volume measurements. **5.3.2.4** Develop and use the formulas V = lwh and V = Bh to determine the volume of rectangular prisms. Justify why base area B and height h are multiplied to find the volume of a rectangular prism by breaking the prism into layers of unit cubes. **6.3.1.1** Calculate the surface area and volume of prisms and use appropriate units, such as cm2 and cm3. Justify the formulas used. Justification may involve decomposition, nets or other models.

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Lesson 12-3: Combining Volumes	**5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **5.3.2.3** Understand that the volume of a three-dimensional figure can be found by counting the total number of same-sized cubic units that fill a shape without gaps or overlaps. Use cubic units to label volume measurements. **5.3.2.4** Develop and use the formulas V = lwh and V = Bh to determine the volume of rectangular prisms. Justify why base area B and height h are multiplied to find the volume of a rectangular prism by breaking the prism into layers of unit cubes. **6.3.1.1** Calculate the surface area and volume of prisms and use appropriate units, such as cm2 and cm3. Justify the formulas used. Justification may involve decomposition, nets or other models.
Lesson 12-4: Problem Solving: Use Objects and Reasoning	**5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **5.3.2.3** Understand that the volume of a three-dimensional figure can be found by counting the total number of same-sized cubic units that fill a shape without gaps or overlaps. Use cubic units to label volume measurements. **5.3.2.4** Develop and use the formulas V = lwh and V = Bh to determine the volume of rectangular prisms. Justify why base area B and height h are multiplied to find the volume of a rectangular prism by breaking the prism into layers of unit cubes.

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(Continued) Lesson 12-4: Problem Solving: Use Objects and Reasoning	**6.3.1.1** Calculate the surface area and volume of prisms and use appropriate units, such as cm2 and cm3. Justify the formulas used. Justification may involve decomposition, nets or other models.
Topic 13: Units of Measure	
Lesson 13-1: Converting Customary Units of Length	For related content, please see: **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **6.3.3.1** Solve problems in various contexts involving conversion of weights, capacities, geometric measurements and times within measurement systems using appropriate units. **6.3.3.2** Estimate weights, capacities and geometric measurements using benchmarks in measurement systems with appropriate units.
Lesson 13-2: Converting Customary Units of Capacity	For related content, please see: **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **6.3.3.1** Solve problems in various contexts involving conversion of weights, capacities, geometric measurements and times within measurement systems using appropriate units.

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Lesson 13-3: Converting Customary Units of Weight	For related content, please see: **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **6.3.3.1** Solve problems in various contexts involving conversion of weights, capacities, geometric measurements and times within measurement systems using appropriate units.
Lesson 13-4: Converting Metric Units of Length	For related content, please see: **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **6.3.3.1** Solve problems in various contexts involving conversion of weights, capacities, geometric measurements and times within measurement systems using appropriate units.
Lesson 13-5: Converting Metric Units of Capacity	For related content, please see: **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **6.3.3.1** Solve problems in various contexts involving conversion of weights, capacities, geometric measurements and times within measurement systems using appropriate units.

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Lesson 13-6: Converting Metric Units of Mass	For related content, please see: **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **5.3.2.2** Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms. **6.3.3.1** Solve problems in various contexts involving conversion of weights, capacities, geometric measurements and times within measurement systems using appropriate units.
Lesson 13-7: Problem Solving: Multiple-Step Problems	**5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **5.3.2.4** Develop and use the formulas V = lwh and V = Bh to determine the volume of rectangular prisms. Justify why base area B and height h are multiplied to find the volume of a rectangular prism by breaking the prism into layers of unit cubes. **6.3.1.1** Calculate the surface area and volume of prisms and use appropriate units, such as cm2 and cm3. Justify the formulas used. Justification may involve decomposition, nets or other models.
Topic 14: Data	
Lesson 14-1: Line Plots	**5.4.1.2** Create and analyze double-bar graphs and line graphs by applying understanding of whole numbers, fractions and decimals. Know how to create spreadsheet tables and graphs to display data.

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(Continued) Lesson 14-1: Line Plots	For related content, please see: **5.4.1.1** Know and use the definitions of the mean, median and range of a set of data. Know how to use a spreadsheet to find the mean, median and range of a data set. Understand that the mean is a "leveling out" of data. **3.4.1.1** Collect, display and interpret data using frequency tables, bar graphs, picture graphs and number line plots having a variety of scales. Use appropriate titles, labels and units. **4.4.1.1** Use tables, bar graphs, timelines and Venn diagrams to display data sets. The data may include fractions or decimals. Understand that spreadsheet tables and graphs can be used to display data.
Lesson 14-2: Data from Surveys	**5.4.1.2** Create and analyze double-bar graphs and line graphs by applying understanding of whole numbers, fractions and decimals. Know how to create spreadsheet tables and graphs to display data. **3.4.1.1** Collect, display and interpret data using frequency tables, bar graphs, picture graphs and number line plots having a variety of scales. Use appropriate titles, labels and units. **4.4.1.1** Use tables, bar graphs, timelines and Venn diagrams to display data sets. The data may include fractions or decimals. Understand that spreadsheet tables and graphs can be used to display data.

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Lesson 14-3: Making Line Plots	**5.4.1.2** Create and analyze double-bar graphs and line graphs by applying understanding of whole numbers, fractions and decimals. Know how to create spreadsheet tables and graphs to display data. For related content, please see: **5.4.1.1** Know and use the definitions of the mean, median and range of a set of data. Know how to use a spreadsheet to find the mean, median and range of a data set. Understand that the mean is a "leveling out" of data. **3.4.1.1** Collect, display and interpret data using frequency tables, bar graphs, picture graphs and number line plots having a variety of scales. Use appropriate titles, labels and units. **4.4.1.1** Use tables, bar graphs, timelines and Venn diagrams to display data sets. The data may include fractions or decimals. Understand that spreadsheet tables and graphs can be used to display data.
Lesson 14-4: Measurement Data	**5.4.1.2** Create and analyze double-bar graphs and line graphs by applying understanding of whole numbers, fractions and decimals. Know how to create spreadsheet tables and graphs to display data. **3.4.1.1** Collect, display and interpret data using frequency tables, bar graphs, picture graphs and number line plots having a variety of scales. Use appropriate titles, labels and units. **4.4.1.1** Use tables, bar graphs, timelines and Venn diagrams to display data sets. The data may include fractions or decimals. Understand that spreadsheet tables and graphs can be used to display data.

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Lesson 14-5: Problem Solving: Writing to Explain	**5.4.1.2** Create and analyze double-bar graphs and line graphs by applying understanding of whole numbers, fractions and decimals. Know how to create spreadsheet tables and graphs to display data. **3.4.1.1** Collect, display and interpret data using frequency tables, bar graphs, picture graphs and number line plots having a variety of scales. Use appropriate titles, labels and units. **4.4.1.1** Use tables, bar graphs, timelines and Venn diagrams to display data sets. The data may include fractions or decimals. Understand that spreadsheet tables and graphs can be used to display data.
Geometry	
Topic 15: Classifying Plane Figures	
Lesson 15-1: Polygons	For related content, please see: **5.3.1.1** Describe and classify three-dimensional figures including cubes, prisms and pyramids by the number of edges, faces or vertices as well as the types of faces. **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **4.3.1.1** Describe, classify and sketch triangles, including equilateral, right, obtuse and acute triangles. Recognize triangles in various contexts. **4.3.1.2** Describe, classify and draw quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms and kites. Recognize quadrilaterals in various contexts.

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(Continued) Lesson 15-1: Polygons	**6.3.1.2** Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids and kites. When formulas are used, be able to explain why they are valid.
Lesson 15-2: Triangles	For related content, please see: **5.3.1.1** Describe and classify three-dimensional figures including cubes, prisms and pyramids by the number of edges, faces or vertices as well as the types of faces. **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **4.3.1.1** Describe, classify and sketch triangles, including equilateral, right, obtuse and acute triangles. Recognize triangles in various contexts. **4.3.1.2** Describe, classify and draw quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms and kites. Recognize quadrilaterals in various contexts. **6.3.1.2** Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids and kites. When formulas are used, be able to explain why they are valid.
Lesson 15-3: Attributes of Quadrilaterals	For related content, please see: **5.3.1.1** Describe and classify three-dimensional figures including cubes, prisms and pyramids by the number of edges, faces or vertices as well as the types of faces. **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles.

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(Continued) Lesson 15-3: Attributes of Quadrilaterals	**4.3.1.1** Describe, classify and sketch triangles, including equilateral, right, obtuse and acute triangles. Recognize triangles in various contexts. **4.3.1.2** Describe, classify and draw quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms and kites. Recognize quadrilaterals in various contexts. **6.3.1.2** Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids and kites. When formulas are used, be able to explain why they are valid.
Lesson 15-4: Special Quadrilaterals	For related content, please see: **5.3.1.1** Describe and classify three-dimensional figures including cubes, prisms and pyramids by the number of edges, faces or vertices as well as the types of faces. **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **4.3.1.1** Describe, classify and sketch triangles, including equilateral, right, obtuse and acute triangles. Recognize triangles in various contexts. **4.3.1.2** Describe, classify and draw quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms and kites. Recognize quadrilaterals in various contexts. **6.3.1.2** Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids and kites. When formulas are used, be able to explain why they are valid.

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Lesson 15-5: Classifying Quadrilaterals	For related content, please see: **5.3.1.1** Describe and classify three-dimensional figures including cubes, prisms and pyramids by the number of edges, faces or vertices as well as the types of faces. **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **4.3.1.1** Describe, classify and sketch triangles, including equilateral, right, obtuse and acute triangles. Recognize triangles in various contexts. **4.3.1.2** Describe, classify and draw quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms and kites. Recognize quadrilaterals in various contexts. **6.3.1.2** Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids and kites. When formulas are used, be able to explain why they are valid.
Lesson 15-6: Problem Solving: Make and Test Generalizations	For related content, please see: **5.3.1.1** Describe and classify three-dimensional figures including cubes, prisms and pyramids by the number of edges, faces or vertices as well as the types of faces. **5.3.2.1** Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. **4.3.1.1** Describe, classify and sketch triangles, including equilateral, right, obtuse and acute triangles. Recognize triangles in various contexts.

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(Continued) Lesson 15-6: Problem Solving: Make and Test Generalizations	**4.3.1.2** Describe, classify and draw quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms and kites. Recognize quadrilaterals in various contexts. **6.3.1.2** Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids and kites. When formulas are used, be able to explain why they are valid.
Topic 16: Coordinate Geometry	
Lesson 16-1: Ordered Pairs	**5.2.1.2** Use a rule or table to represent ordered pairs of positive integers and graph these ordered pairs on a coordinate system. **6.1.1.1** Locate positive rational numbers on a number line and plot pairs of positive rational numbers on a coordinate grid.
Lesson 16-2: Patterns and Graphing	**5.2.1.2** Use a rule or table to represent ordered pairs of positive integers and graph these ordered pairs on a coordinate system. **6.1.1.1** Locate positive rational numbers on a number line and plot pairs of positive rational numbers on a coordinate grid.
Lesson 16-3: More Patterns and Graphing	**5.2.1.2** Use a rule or table to represent ordered pairs of positive integers and graph these ordered pairs on a coordinate system. **6.1.1.1** Locate positive rational numbers on a number line and plot pairs of positive rational numbers on a coordinate grid.

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Lesson 16-4: Graphing Number Patterns	**5.2.1.2** Use a rule or table to represent ordered pairs of positive integers and graph these ordered pairs on a coordinate system. **6.1.1.1** Locate positive rational numbers on a number line and plot pairs of positive rational numbers on a coordinate grid.
Lesson 16-5: Problem Solving: Work Backward	**5.2.1.2** Use a rule or table to represent ordered pairs of positive integers and graph these ordered pairs on a coordinate system. **6.1.1.1** Locate positive rational numbers on a number line and plot pairs of positive rational numbers on a coordinate grid.