

A Correlation of

# Indiana Academic Standards Mathematics (2014)

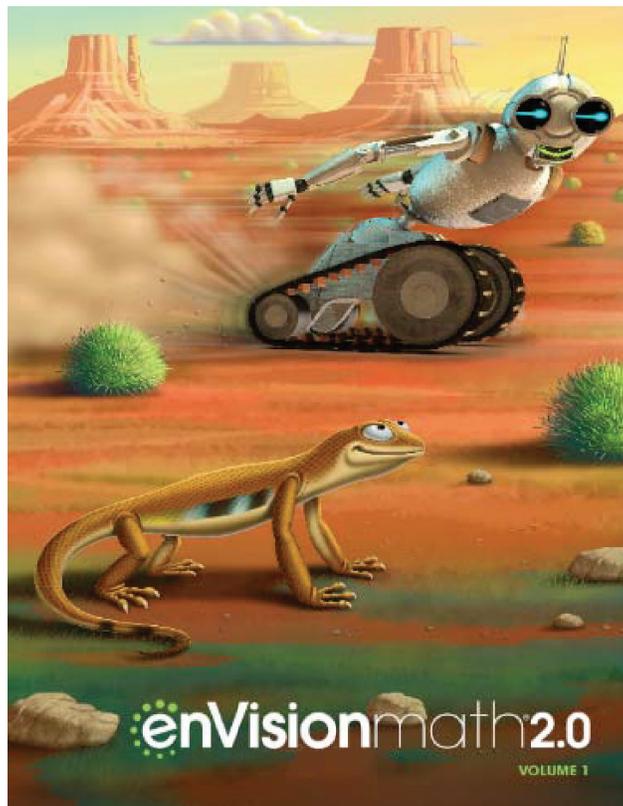
Grade 4

To the Lessons of

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Grade 4



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**Table of Contents**

TOPIC 1 Generalize Place Value Understanding.....	1
TOPIC 2 Fluently Add and Subtract Multi-Digit Whole Numbers.....	1
TOPIC 3 Use Strategies and Properties to Multiply by 1-Digit Numbers.....	3
TOPIC 4 Use Strategies and Properties to Multiply by 2-Digit Numbers.....	6
TOPIC 5 Use Strategies and Properties to Divide by 1-Digit Numbers.....	10
TOPIC 6 Use Operations with Whole Numbers to Solve Problems .....	14
TOPIC 7 Factors and Multiples.....	17
TOPIC 8 Extend Understanding of Fraction Equivalence and Ordering .....	18
TOPIC 9 Understand Addition and Subtraction of Fractions.....	21
TOPIC 10 Extend Multiplication Concepts to Fractions.....	26
TOPIC 11 Represent and Interpret Data on Line Plots.....	28
TOPIC 12 Understand and Compare Decimals .....	29
TOPIC 13 Measurement: Find Equivalence in Units of Measure.....	31
TOPIC 14 Algebra: Generate and Analyze Patterns.....	35
TOPIC 15 Geometric Measurement .....	36

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enVisionmath2.0 Lessons Grade 4	Indiana Academic Standards Mathematics
<b>TOPIC 1 Generalize Place Value Understanding</b>	
1-1 Numbers Through One Million	<b>4.NS.1</b> Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000.
1-2 Place Value Relationships	<b>4.NS.1</b> Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000.
1-3 Compare Whole Numbers	<b>4.NS.1</b> Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000. <b>4.NS.2</b> Compare two whole numbers up to 1,000,000 using $>$ , $=$ , and $<$ symbols.
1-4 Round Whole Numbers	<b>4.NS.1</b> Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000. <b>4.NS.9</b> Use place value understanding to round multi-digit whole numbers to any given place value.
1-5 Math Practices and Problem Solving: Construct Arguments	<b>4.NS.1</b> Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000. <b>4.NS.2</b> Compare two whole numbers up to 1,000,000 using $>$ , $=$ , and $<$ symbols.
<b>TOPIC 2 Fluently Add and Subtract Multi-Digit Whole Numbers</b>	
2-1 Mental Math: Find Sums and Differences	<b>4.C.1</b> Add and subtract multi-digit whole numbers fluently using a standard algorithmic approach.
2-2 Mental Math: Estimate Sums and Differences	<b>4.NS.9</b> Use place value understanding to round multi-digit whole numbers to any given place value. <b>4.C.1</b> Add and subtract multi-digit whole numbers fluently using a standard algorithmic approach.

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<b>enVisionmath2.0 Lessons Grade 4</b>	<b>Indiana Academic Standards Mathematics</b>
(Continued) 2-2 Mental Math: Estimate Sums and Differences	<b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).
2-3 Add Whole Numbers	<b>4.C.1</b> Add and subtract multi-digit whole numbers fluently using a standard algorithmic approach. <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).
2-4 Subtract Whole Numbers	<b>4.C.1</b> Add and subtract multi-digit whole numbers fluently using a standard algorithmic approach. <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).
2-5 Subtract Across Zeros	<b>4.C.1</b> Add and subtract multi-digit whole numbers fluently using a standard algorithmic approach. <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).
2-6 Math Practices and Problem Solving: Reasoning	<b>4.NS.2</b> Compare two whole numbers up to 1,000,000 using $>$ , $=$ , and $<$ symbols. <b>4.C.1</b> Add and subtract multi-digit whole numbers fluently using a standard algorithmic approach. <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).

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<b>TOPIC 3 Use Strategies and Properties to Multiply by 1-Digit Numbers</b>	
3-1 Mental Math: Multiply by Multiples of 10, 100, and 1,000	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.3</b> Interpret a multiplication equation as a comparison (e.g., interpret <math>35 = 5 \times 7</math> as a statement that 35 is 5 times as many as 7, and 7 times as many as 5). Represent verbal statements of multiplicative comparisons as multiplication equations.</p> <p><b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>
3-2 Mental Math: Round to Estimate Products	<p><b>4.NS.2</b> Compare two whole numbers up to 1,000,000 using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols.</p> <p><b>4.NS.9</b> Use place value understanding to round multi-digit whole numbers to any given place value.</p> <p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>3-3 The Distributive Property</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p>
<p>3-4 Mental Math Strategies for Multiplication</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p>
<p>3-5 Arrays and Partial Products</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p>

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<p>3-6 Use Partial Products to Multiply by 1-Digit Numbers.</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p>
<p>3-7 Multiply 2- and 3-Digit Numbers by 1-Digit Numbers</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>
<p>3-8 Multiply 4-Digit by 1-Digit Numbers</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p>
<p>3-9 Multiply by 1-Digit Numbers</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison.</p>

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<p>3-10 Math Practices and Problem Solving: Model with Math</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>
<p align="center"><b>TOPIC 4 Use Strategies and Properties to Multiply by 2-Digit Numbers</b></p>	
<p>4-1 Mental Math: Multiply Multiples of 10</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).</p>
<p>4-2 Use Models to Multiply 2-Digit Numbers by Multiples of 10.</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).</p>

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>4-3 Estimate: Use Rounding</p>	<p><b>4.NS.9</b> Use place value understanding to round multi-digit whole numbers to any given place value.</p> <p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p> <p><b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).</p>
<p>4-4 Estimate: Use Compatible Numbers</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p> <p><b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).</p>

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<p>4-5    Arrays and Partial Products</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p>
<p>4-6    Multiply Using the Distributive Property</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p>
<p>4-7    Use Partial Products to Multiply by 2-Digit Numbers</p>	<p><b>4.NS.2</b> Compare two whole numbers up to 1,000,000 using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols.  <b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.</p>

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<p>4-8 Multiply 2-Digit Numbers by Multiples of 10.</p>	<p><b>4.NS.1</b> Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000. <b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>
<p>4-9 Multiply 2-Digit by 2-Digit Numbers</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.M.4</b> Apply the area and perimeter formulas for rectangles to solve real-world problems and other mathematical problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve real-world problems and other mathematical problems.</p>
<p>4-10 Continue to Multiply by 2-Digit Numbers</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p>

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<p>(Continued) 4-10 Continue to Multiply by 2-Digit Numbers</p>	<p><b>4.M.4</b> Apply the area and perimeter formulas for rectangles to solve real-world problems and other mathematical problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve real-world problems and other mathematical problems.</p>
<p>4-11 Math Practices and Problem Solving: Make Sense and Persevere</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning. <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).</p>
<p align="center"><b>TOPIC 5 Use Strategies and Properties to Divide by 1-Digit Numbers</b></p>	
<p>5-1 Mental Math: Find Quotients</p>	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.</p>
<p>5-2 Mental Math: Estimate Quotients</p>	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning. <b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p>

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>5-3 Mental Math: Estimate Quotients for Greater Dividends</p>	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.  <b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p>
<p>5-4 Interpret Remainders</p>	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.  <b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p>
<p>5-5 Division as Sharing</p>	<p><b>4.NS.1</b> Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000.  <b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.  <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).</p>

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<p>(Continued) 5-5 Division as Sharing</p>	<p><b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p>
<p>5-6 Use Partial Quotients to Divide</p>	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p> <p><b>4.M.4</b> Apply the area and perimeter formulas for rectangles to solve real-world problems and other mathematical problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve real-world problems and other mathematical problems.</p>
<p>5-7 Use Partial Quotients to Divide: Greater Dividends</p>	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p>

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<b>enVisionmath2.0 Lessons Grade 4</b>	<b>Indiana Academic Standards Mathematics</b>
5-8 Divide with 1-Digit Numbers	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p>
5-9 Continue to Divide with 1-Digit Numbers	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p>
5-10 Math Practices and Problem Solving: Model With Math	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.2</b> Recognize and apply the relationships between addition and multiplication, between subtraction and division, and the inverse relationship between multiplication and division to solve real-world and other mathematical problems.</p>

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<b>TOPIC 6 Use Operations with Whole Numbers to Solve Problems</b>	
6-1 Solve Comparison Situations	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.3</b> Interpret a multiplication equation as a comparison (e.g., interpret <math>35 = 5 \times 7</math> as a statement that 35 is 5 times as many as 7, and 7 times as many as 5). Represent verbal statements of multiplicative comparisons as multiplication equations.</p> <p><b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>
6-2 Continue to Solve Comparison Situations	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.3</b> Interpret a multiplication equation as a comparison (e.g., interpret <math>35 = 5 \times 7</math> as a statement that 35 is 5 times as many as 7, and 7 times as many as 5). Represent verbal statements of multiplicative comparisons as multiplication equations.</p>

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>(Continued) 6-2 Continue to Solve Comparison Situations</p>	<p><b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>
<p>6-3 Solve Multi-Step Problems</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p> <p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.</p> <p><b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).</p> <p><b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>
<p>6-4 Solve More Multi-Step Problems</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.</p>

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>(Continued) 6-4 Solve More Multi-Step Problems</p>	<p><b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.  <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).  <b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>
<p>6-5 Math Practices and Problem Solving: Make Sense and Persevere</p>	<p><b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.  <b>4.C.3</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning.  <b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).  <b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>

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enVisionmath2.0 Lessons Grade 4	Indiana Academic Standards Mathematics
(Continued) 6-5 Math Practices and Problem Solving: Make Sense and Persevere	<b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
<b>TOPIC 7 Factors and Multiples</b>	
7-1 Understand Factors	<b>4.NS.8</b> Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.
7-2 Factors	<p><b>4.NS.1</b> Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000.</p> <p><b>4.NS.8</b> Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.</p> <p><b>4.AT.1</b> Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).</p> <p><b>4.AT.3</b> Interpret a multiplication equation as a comparison (e.g., interpret <math>35 = 5 \times 7</math> as a statement that 35 is 5 times as many as 7, and 7 times as many as 5). Represent verbal statements of multiplicative comparisons as multiplication equations.</p> <p><b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p>

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<b>enVisionmath2.0 Lessons Grade 4</b>	<b>Indiana Academic Standards Mathematics</b>
7-3 Math Practices and Problem Solving: Repeated Reasoning	<b>4.C.2</b> Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning. <b>4.NS.8</b> Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.
7-4 Prime and Composite Numbers	<b>4.NS.8</b> Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.
7-5 Multiples	<b>4.NS.8</b> Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.
<b>TOPIC 8 Extend Understanding of Fraction Equivalence and Ordering</b>	
8-1 Equivalent Fractions: Area Models	<b>4.NS.4</b> Explain why a fraction, $a/b$ , is equivalent to a fraction, $(n \times a)/(n \times b)$ , by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]
8-2 Equivalent Fractions: Number Lines	<b>4.NS.4</b> Explain why a fraction, $a/b$ , is equivalent to a fraction, $(n \times a)/(n \times b)$ , by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>8-3 Generate Equivalent Fractions: Multiplication</p>	<p><b>4.NS.4</b> Explain why a fraction, <math>a/b</math>, is equivalent to a fraction, <math>(n \times a)/(n \times b)</math>, by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]</p>
<p>8-4 Generate Equivalent Fractions: Division</p>	<p><b>4.NS.4</b> Explain why a fraction, <math>a/b</math>, is equivalent to a fraction, <math>(n \times a)/(n \times b)</math>, by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]</p>
<p>8-5 Use Benchmarks to Compare Fractions</p>	<p><b>4.NS.4</b> Explain why a fraction, <math>a/b</math>, is equivalent to a fraction, <math>(n \times a)/(n \times b)</math>, by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]</p> <p><b>4.NS.5</b> Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators, or by comparing to a benchmark, such as 0, <math>1/2</math>, and 1). Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions (e.g., by using a visual fraction model).</p>

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>8-6 Compare Fractions</p>	<p><b>4.NS.4</b> Explain why a fraction, <math>a/b</math>, is equivalent to a fraction, <math>(n \times a)/(n \times b)</math>, by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]</p> <p><b>4.NS.5</b> Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators, or by comparing to a benchmark, such as 0, <math>1/2</math>, and 1). Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions (e.g., by using a visual fraction model).</p>
<p>8-7 Math Practices and Problem Solving: Construct Arguments</p>	<p><b>4.NS.4</b> Explain why a fraction, <math>a/b</math>, is equivalent to a fraction, <math>(n \times a)/(n \times b)</math>, by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]</p> <p><b>4.NS.5</b> Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators, or by comparing to a benchmark, such as 0, <math>1/2</math>, and 1). Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions (e.g., by using a visual fraction model).</p>

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enVisionmath2.0 Lessons Grade 4	Indiana Academic Standards Mathematics
<b>TOPIC 9 Understand Addition and Subtraction of Fractions</b>	
9-1 Model Addition of Fractions	<b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.
9-2 Decompose Fractions	<b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.
9-3 Add Fractions with Like Denominators	<b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole. <b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).
9-4 Model Subtraction of Fractions	<b>4.NS.3</b> Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures. <b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole. <b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>9-5 Subtract Fractions with Like Denominators</p>	<p><b>4.NS.3</b> Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures.</p> <p><b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.</p> <p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>9-6 Add and Subtract Fractions with Like Denominators</p>	<p><b>4.NS.3</b> Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures.</p> <p><b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.</p> <p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p>

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>(Continued) 9-6 Add and Subtract Fractions with Like Denominators</p>	<p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>9-7 Estimate Fraction Sums and Differences</p>	<p><b>4.NS.5</b> Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators, or by comparing to a benchmark, such as 0, <math>\frac{1}{2}</math>, and 1). Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions (e.g., by using a visual fraction model).</p> <p><b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.</p> <p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p>
<p>9-8 Model Addition and Subtraction of Mixed Numbers</p>	<p><b>4.NS.3</b> Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures.</p> <p><b>4.C.6</b> Add and subtract mixed numbers with common denominators (e.g. by replacing each mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction).</p>

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<p align="center"><b>enVisionmath2.0 Lessons Grade 4</b></p>	<p align="center"><b>Indiana Academic Standards Mathematics</b></p>
<p>(Continued) 9-8 Model Addition and Subtraction of Mixed Numbers</p>	<p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>9-9 Add Mixed Numbers</p>	<p><b>4.NS.3</b> Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures.</p> <p><b>4.C.6</b> Add and subtract mixed numbers with common denominators (e.g. by replacing each mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction).</p> <p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>

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<p>9-10 Subtract Mixed Numbers</p>	<p><b>4.NS.3</b> Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures.</p> <p><b>4.C.6</b> Add and subtract mixed numbers with common denominators (e.g. by replacing each mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction).</p> <p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>9-11 Math Practices and Problem Solving: Model with Math</p>	<p><b>4.NS.3</b> Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures.</p> <p><b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.</p> <p><b>4.C.6</b> Add and subtract mixed numbers with common denominators (e.g. by replacing each mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction).</p>

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<p>(Continued) 9-11 Math Practices and Problem Solving: Model with Math</p>	<p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p align="center"><b>TOPIC 10 Extend Multiplication Concepts to Fractions</b></p>	
<p>10-1 Fractions as Multiples of Unit Fractions: Use Models</p>	<p><b>4.NS.4</b> Explain why a fraction, <math>a/b</math>, is equivalent to a fraction, <math>(n \times a)/(n \times b)</math>, by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.]</p>
<p>10-2 Multiply a Fraction by a Whole Number: Use Models</p>	<p>5<sup>th</sup> Grade Indiana Standard</p> <p><b>5.C.5</b> Use visual fraction models and numbers to multiply a fraction by a fraction or a whole number.</p> <p>Also for related content, please see: 4<sup>th</sup> Grade Indiana Standards</p> <p><b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.</p> <p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p>

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<p>10-3 Multiply a Fraction by a Whole Number: Use Symbols</p>	<p>5<sup>th</sup> Grade Indiana Standard  <b>5.C.5</b> Use visual fraction models and numbers to multiply a fraction by a fraction or a whole number.</p> <p>Also for related content, please see:            4<sup>th</sup> Grade Indiana Standards  <b>4.C.7</b> Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Understand and use the distributive property.  <b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>10-4 Multiply a Whole Number and a Mixed Number</p>	<p>5<sup>th</sup> Grade Indiana Standards  <b>5.C.5</b> Use visual fraction models and numbers to multiply a fraction by a fraction or a whole number.  <b>5.C.6:</b> Explain why multiplying a positive number by a fraction greater than 1 results in a product greater than the given number. Explain why multiplying a positive number by a fraction less than 1 results in a product smaller than the given number. Relate the principle of fraction equivalence, <math>a/b = (n \cdot a)/(n \cdot b)</math>, to the effect of multiplying <math>a/b</math> by 1.</p> <p>Also for related content, please see:            4<sup>th</sup> Grade Indiana Standards  <b>4.NS.3</b> Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures.</p>

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<b>enVisionmath2.0 Lessons Grade 4</b>	<b>Indiana Academic Standards Mathematics</b>
(Continued) 10-4 Multiply a Whole Number and a Mixed Number	<b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
10-5 Solve Time Problems	<b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
10-6 Math Practices and Problem Solving: Model With Math	<b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem). <b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
<b>TOPIC 11 Represent and Interpret Data on Line Plots</b>	
11-1 Read Line Plots	<b>4.DA.2</b> Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{8}$ ). Solve problems involving addition and subtraction of fractions by using data displayed in line plots.

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<b>enVisionmath2.0 Lessons Grade 4</b>	<b>Indiana Academic Standards Mathematics</b>
11-2 Make Line Plots	<p><b>4.DA.1</b> Formulate questions that can be addressed with data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, and bar graphs.</p> <p><b>4.DA.2</b> Make a line plot to display a data set of measurements in fractions of a unit (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>). Solve problems involving addition and subtraction of fractions by using data displayed in line plots.</p>
11-3 Use Line Plots to Solve Problems	<p><b>4.DA.1</b> Formulate questions that can be addressed with data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, and bar graphs.</p> <p><b>4.DA.2</b> Make a line plot to display a data set of measurements in fractions of a unit (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>). Solve problems involving addition and subtraction of fractions by using data displayed in line plots.</p>
11-4 Math Practices and Problem Solving: Critique Reasoning	<p><b>4.DA.1</b> Formulate questions that can be addressed with data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, and bar graphs.</p> <p><b>4.DA.2</b> Make a line plot to display a data set of measurements in fractions of a unit (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>). Solve problems involving addition and subtraction of fractions by using data displayed in line plots.</p>
<b>TOPIC 12 Understand and Compare Decimals</b>	
12-1 Fractions and Decimals	<p><b>4.NS.6</b> Write tenths and hundredths in decimal and fraction notations. Use words, models, standard form and expanded form to represent decimal numbers to hundredths. Know the fraction and decimal equivalents for halves and fourths (e.g., <math>\frac{1}{2} = 0.5 = 0.50</math>, <math>\frac{7}{4} = 1 \frac{3}{4} = 1.75</math>).</p>

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<p>12-2 Fractions and Decimals on the Number Line</p>	<p><b>4.NS.6</b> Write tenths and hundredths in decimal and fraction notations. Use words, models, standard form and expanded form to represent decimal numbers to hundredths. Know the fraction and decimal equivalents for halves and fourths (e.g., <math>\frac{1}{2} = 0.5 = 0.50</math>, <math>\frac{7}{4} = 1 \frac{3}{4} = 1.75</math>).</p>
<p>12-3 Compare Decimals</p>	<p><b>4.NS.6</b> Write tenths and hundredths in decimal and fraction notations. Use words, models, standard form and expanded form to represent decimal numbers to hundredths. Know the fraction and decimal equivalents for halves and fourths (e.g., <math>\frac{1}{2} = 0.5 = 0.50</math>, <math>\frac{7}{4} = 1 \frac{3}{4} = 1.75</math>).</p> <p><b>4.NS.7</b> Compare two decimals to hundredths by reasoning about their size based on the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions (e.g., by using a visual model).</p>
<p>12-4 Add Fractions with Denominators of 10 and 100</p>	<p><b>4.C.5</b> Add and subtract fractions with common denominators. Decompose a fraction into a sum of fractions with common denominators. Understand addition and subtraction of fractions as combining and separating parts referring to the same whole.</p> <p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>

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12-5 Solve Word Problems Involving Money	<p><b>4.NS.6</b> Write tenths and hundredths in decimal and fraction notations. Use words, models, standard form and expanded form to represent decimal numbers to hundredths. Know the fraction and decimal equivalents for halves and fourths (e.g., <math>1/2 = 0.5 = 0.50</math>, <math>7/4 = 1\ 3/4 = 1.75</math>)</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
12-6 Math Practices and Problem Solving: Look For and Use Structure	<p><b>4.NS.6</b> Write tenths and hundredths in decimal and fraction notations. Use words, models, standard form and expanded form to represent decimal numbers to hundredths. Know the fraction and decimal equivalents for halves and fourths (e.g., <math>1/2 = 0.5 = 0.50</math>, <math>7/4 = 1\ 3/4 = 1.75</math>)</p> <p><b>4.NS.7</b> Compare two decimals to hundredths by reasoning about their size based on the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions (e.g., by using a visual model).</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<b>TOPIC 13 Measurement: Find Equivalence in Units of Measure</b>	
13-1 Equivalence with Customary Units of Length	<p><b>4.M.2</b> Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Express measurements in a larger unit in terms of a smaller unit within a single system of measurement. Record measurement equivalents in a two-column table.</p>

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<p>(Continued) 13-1 Equivalence with Customary Units of Length</p>	<p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>13-2 Equivalence with Customary Units of Capacity</p>	<p><b>4.M.2</b> Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Express measurements in a larger unit in terms of a smaller unit within a single system of measurement. Record measurement equivalents in a two-column table.</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>13-3 Equivalence with Customary Units of Weight</p>	<p><b>4.C.6</b> Add and subtract mixed numbers with common denominators (e.g. by replacing each mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction).</p> <p><b>4.AT.5</b> Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having common denominators (e.g., by using visual fraction models and equations to represent the problem).</p> <p><b>4.M.2</b> Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Express measurements in a larger unit in terms of a smaller unit within a single system of measurement. Record measurement equivalents in a two-column table.</p>

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<p>(Continued) 13-3 Equivalence with Customary Units of Weight</p>	<p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>13-4 Equivalence with Metric Units of Length</p>	<p><b>4.NS.2</b> Compare two whole numbers up to 1,000,000 using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols.  <b>4.NS.7</b> Compare two decimals to hundredths by reasoning about their size based on the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions (e.g., by using a visual model).  <b>4.M.1</b> Measure length to the nearest quarter-inch, eighth-inch, and millimeter.  <b>4.M.2</b> Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Express measurements in a larger unit in terms of a smaller unit within a single system of measurement. Record measurement equivalents in a two-column table.  <b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>13-5 Equivalence with Metric Units of Capacity and Mass</p>	<p><b>4.M.2</b> Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Express measurements in a larger unit in terms of a smaller unit within a single system of measurement. Record measurement equivalents in a two-column table.</p>

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<p>(Continued) 13-5 Equivalence with Metric Units of Capacity and Mass</p>	<p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>
<p>13-6 Solve Perimeter and Area Problems</p>	<p><b>4.NS.2</b> Compare two whole numbers up to 1,000,000 using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols.</p> <p><b>4.AT.4</b> Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem), distinguishing multiplicative comparison from additive comparison. [In grade 4, division problems should not include a remainder.]</p> <p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p> <p><b>4.M.4</b> Apply the area and perimeter formulas for rectangles to solve real-world problems and other mathematical problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve real-world problems and other mathematical problems.</p>
<p>13-7 Math Practices and Problem Solving: Precision</p>	<p><b>4.M.2</b> Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Express measurements in a larger unit in terms of a smaller unit within a single system of measurement. Record measurement equivalents in a two-column table.</p>

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<b>enVisionmath2.0 Lessons Grade 4</b>	<b>Indiana Academic Standards Mathematics</b>
(Continued) 13-7 Math Practices and Problem Solving: Precision	<p><b>4.M.3</b> Use the four operations (addition, subtraction, multiplication and division) to solve real-world problems involving distances, intervals of time, volumes, masses of objects, and money. Include addition and subtraction problems involving simple fractions and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p> <p><b>4.M.4</b> Apply the area and perimeter formulas for rectangles to solve real-world problems and other mathematical problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve real-world problems and other mathematical problems.</p>
<b>TOPIC 14 Algebra: Generate and Analyze Patterns</b>	
14-1 Number Sequences	<b>4.AT.6</b> Understand that an equation, such as $y = 3x + 5$ , is a rule to describe a relationship between two variables and can be used to find a second number when a first number is given. Generate a number pattern that follows a given rule.
14-2 Patterns: Number Rules	<b>4.AT.6</b> Understand that an equation, such as $y = 3x + 5$ , is a rule to describe a relationship between two variables and can be used to find a second number when a first number is given. Generate a number pattern that follows a given rule.
14-3 Patterns: Repeating Shapes	<p><b>4.AT.6</b> Understand that an equation, such as <math>y = 3x + 5</math>, is a rule to describe a relationship between two variables and can be used to find a second number when a first number is given. Generate a number pattern that follows a given rule.</p> <p><b>4.G.1</b> Identify, describe, and draw parallelograms, rhombuses, and trapezoids using appropriate tools (e.g., ruler, straightedge and technology).</p>

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<p>14-4 Math Practices and Problem Solving: Look For and Use Structure</p>	<p><b>4.AT.6</b> Understand that an equation, such as <math>y = 3x + 5</math>, is a rule to describe a relationship between two variables and can be used to find a second number when a first number is given. Generate a number pattern that follows a given rule.</p> <p><b>4.M.4</b> Apply the area and perimeter formulas for rectangles to solve real-world problems and other mathematical problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve real-world problems and other mathematical problems.</p>
<p><b>TOPIC 15 Geometric Measurement: Understand Concepts of Angles and Angle Measurement</b></p>	
<p>15-1 Lines, Rays, and Angles</p>	<p><b>4.G.3</b> Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint.</p> <p><b>4.G.4</b> Identify, describe, and draw rays, angles (right, acute, obtuse), and perpendicular and parallel lines using appropriate tools (e.g., ruler, straightedge and technology). Identify these in two-dimensional figures.</p>
<p>15-2 Understand Angles and Unit Angles</p>	<p><b>4.M.5</b> Understand that an angle is measured with reference to a circle, with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. Understand an angle that turns through <math>1/360</math> of a circle is called a "one-degree angle," and can be used to measure other angles. Understand an angle that turns through <math>n</math> one-degree angles is said to have an angle measure of <math>n</math> degrees.</p>

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<p>15-3 Measure with Unit Angles</p>	<p><b>4.M.5</b> Understand that an angle is measured with reference to a circle, with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. Understand an angle that turns through <math>\frac{1}{360}</math> of a circle is called a “one-degree angle,” and can be used to measure other angles. Understand an angle that turns through <math>n</math> one-degree angles is said to have an angle measure of <math>n</math> degrees.</p> <p><b>4.M.6</b> Measure angles in whole-number degrees using appropriate tools. Sketch angles of specified measure.</p>
<p>15-4 Measure and Draw Angles</p>	<p><b>4.M.5</b> Understand that an angle is measured with reference to a circle, with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. Understand an angle that turns through <math>\frac{1}{360}</math> of a circle is called a “one-degree angle,” and can be used to measure other angles. Understand an angle that turns through <math>n</math> one-degree angles is said to have an angle measure of <math>n</math> degrees.</p> <p><b>4.M.6</b> Measure angles in whole-number degrees using appropriate tools. Sketch angles of specified measure.</p>
<p>15-5 Add and Subtract Angle Measures</p>	<p><b>4.M.5</b> Understand that an angle is measured with reference to a circle, with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. Understand an angle that turns through <math>\frac{1}{360}</math> of a circle is called a “one-degree angle,” and can be used to measure other angles. Understand an angle that turns through <math>n</math> one-degree angles is said to have an angle measure of <math>n</math> degrees.</p> <p><b>4.M.6</b> Measure angles in whole-number degrees using appropriate tools. Sketch angles of specified measure.</p>

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15-6 Math Practices and Problem Solving: Use Appropriate Tools	<p><b>4.M.5</b> Understand that an angle is measured with reference to a circle, with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. Understand an angle that turns through <math>\frac{1}{360}</math> of a circle is called a "one-degree angle," and can be used to measure other angles. Understand an angle that turns through <math>n</math> one-degree angles is said to have an angle measure of <math>n</math> degrees.</p> <p><b>4.M.6</b> Measure angles in whole-number degrees using appropriate tools. Sketch angles of specified measure.</p>
<b>TOPIC 16 Lines, Angles, and Shapes</b>	
16-1 Lines	<b>4.G.4</b> Identify, describe, and draw rays, angles (right, acute, obtuse), and perpendicular and parallel lines using appropriate tools (e.g., ruler, straightedge and technology). Identify these in two-dimensional figures.
16-2 Classify Triangles	<b>4.G.5</b> Classify triangles and quadrilaterals based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles (right, acute, obtuse).
16-3 Classify Quadrilaterals	<p><b>4.G.1</b> Identify, describe, and draw parallelograms, rhombuses, and trapezoids using appropriate tools (e.g., ruler, straightedge and technology).</p> <p><b>4.G.5</b> Classify triangles and quadrilaterals based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles (right, acute, obtuse).</p>
16-4 Line Symmetry	<b>4.G.2</b> Recognize and draw lines of symmetry in two-dimensional figures. Identify figures that have lines of symmetry.
16-5 Draw Shapes with Line Symmetry	<b>4.G.2</b> Recognize and draw lines of symmetry in two-dimensional figures. Identify figures that have lines of symmetry.

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<p>16-6 Math Practices and Problem Solving: Critique Reasoning</p>	<p><b>4.NS.8</b> Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.</p> <p><b>4.G.4</b> Identify, describe, and draw rays, angles (right, acute, obtuse), and perpendicular and parallel lines using appropriate tools (e.g., ruler, straightedge and technology). Identify these in two-dimensional figures.</p> <p><b>4.G.5</b> Classify triangles and quadrilaterals based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles (right, acute, obtuse).</p> <p><b>4.M.4</b> Apply the area and perimeter formulas for rectangles to solve real-world problems and other mathematical problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve real-world problems and other mathematical problems.</p>