

Skills and Concepts to Develop (50% Probability*) < 161	Skills and Concepts to Introduce (27% Probability*) 161 - 170
Ratios and Proportional Relationships	Ratios and Proportional Relationships
	<ul style="list-style-type: none"> <li>• Completes a growing arithmetic pattern by naming missing members</li> </ul>
Perform Operations	Perform Operations
<ul style="list-style-type: none"> <li>• Adds 1-digit to multiple-digit number with regrouping</li> <li>• Adds 1-digit to multiple-digit number with no regrouping</li> <li>• Uses models to construct whole number addition facts with addends through 10</li> <li>• Uses models to calculate whole number sums through 99</li> <li>• Adds two 1-digit numbers with sums to 10 in horizontal format</li> </ul>	<ul style="list-style-type: none"> <li>• Adds 1-digit to multiple-digit number with regrouping</li> <li>• Adds 2-digit numbers with no regrouping</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Subtracts two 1-digit numbers horizontally</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>• Subtracts two 1-digit numbers vertically</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Tells time to the nearest hour</li> <li>• Tells time to the nearest half hour</li> <li>• Uses a number line to construct addition facts with sums through 20 (whole numbers)</li> <li>• Uses models to calculate whole number sums through 99</li> <li>• Adds two 1-digit numbers with sums to 10 in horizontal format</li> <li>• Adds two 1-digit numbers with sums between 10 and 19 in horizontal format</li> <li>• Adds two 1-digit numbers with sums between 10 and 19 in vertical format</li> <li>• Adds multiple 1-digit numbers</li> <li>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)</li> <li>• Adds 1-digit to multiple-digit number with no regrouping</li> </ul>
Extend and Use Properties	Extend and Use Properties
<ul style="list-style-type: none"> <li>• Identifies whole numbers under 100 using base-10 blocks</li> <li>• Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)</li> </ul>	<ul style="list-style-type: none"> <li>• Identifies missing numbers in a series through 100</li> <li>• Writes whole numbers in standard and expanded form through the tens</li> <li>• Orders whole numbers less than 10</li> <li>• Identifies whole numbers under 100 using base-10 blocks</li> <li>• Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)</li> <li>• Counts 1 to 10 objects</li> <li>• Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20</li> </ul>
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> + addition, = is equal to, × multiplication, - subtraction, : used with time, variable

#### Explanatory Notes

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Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
Ratios and Proportional Relationships	Ratios and Proportional Relationships <ul style="list-style-type: none"> <li>• Completes a growing arithmetic pattern by naming missing members</li> </ul>	Ratios and Proportional Relationships <ul style="list-style-type: none"> <li>• Completes a growing arithmetic pattern by naming missing members</li> <li>• Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)</li> </ul>
Perform Operations <ul style="list-style-type: none"> <li>• Adds 1-digit to multiple-digit number with regrouping</li> <li>• Adds 1-digit to multiple-digit number with no regrouping</li> <li>• Uses models to construct whole number addition facts with addends through 10</li> <li>• Uses models to calculate whole number sums through 99</li> <li>• Adds two 1-digit numbers with sums to 10 in horizontal format</li> </ul>	Perform Operations <ul style="list-style-type: none"> <li>• Adds 1-digit to multiple-digit number with regrouping</li> <li>• Adds 2-digit numbers with no regrouping</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Subtracts two 1-digit numbers horizontally</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>• Subtracts two 1-digit numbers vertically</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Tells time to the nearest hour</li> <li>• Tells time to the nearest half hour</li> <li>• Uses a number line to construct addition facts with sums through 20 (whole numbers)</li> <li>• Uses models to calculate whole number sums through 99</li> <li>• Adds two 1-digit numbers with sums to 10 in horizontal format</li> <li>• Adds two 1-digit numbers with sums between 10 and 19 in horizontal format</li> <li>• Adds two 1-digit numbers with sums between 10 and 19 in vertical format</li> <li>• Adds multiple 1-digit numbers</li> <li>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)</li> <li>• Adds 1-digit to multiple-digit number with no regrouping</li> </ul>	Perform Operations <ul style="list-style-type: none"> <li>• Adds 3-digit numbers with no regrouping</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Subtracts 2- and/or 3-digit numbers with no regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Adds 1-digit numbers with sums to 18 (with parentheses)</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Identifies the value of a collection of coins to \$1.00 (with pictures of coins)</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>• Tells time to the nearest hour</li> <li>• Tells time to the nearest half hour</li> <li>• Tells time to the nearest 5 minutes</li> <li>• Connects money with place value</li> <li>• Determines the operation needed from a simple problem</li> <li>• Uses a number line to construct addition facts with sums through 20 (whole numbers)</li> <li>• Uses models to calculate whole number sums through 999</li> <li>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)</li> <li>• Adds two or three 2-digit number with regrouping</li> <li>• Adds 1- and/or 2-digit numbers with sums under 100</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Solves real-world whole number addition problems with sums to 20 (start unknown)</li> <li>• Solves real-world whole number addition problems with sums to 100 (result unknown)</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> </ul>

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Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
Perform Operations	Perform Operations	Perform Operations
		<ul style="list-style-type: none"> <li>Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically</li> </ul>
Extend and Use Properties	Extend and Use Properties	Extend and Use Properties
<ul style="list-style-type: none"> <li>Identifies whole numbers under 100 using base-10 blocks</li> <li>Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)</li> </ul>	<ul style="list-style-type: none"> <li>Identifies missing numbers in a series through 100</li> <li>Writes whole numbers in standard and expanded form through the tens</li> <li>Orders whole numbers less than 10</li> <li>Identifies whole numbers under 100 using base-10 blocks</li> <li>Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)</li> <li>Counts 1 to 10 objects</li> <li>Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20</li> </ul>	<ul style="list-style-type: none"> <li>Represents <math>\frac{1}{2}</math> with a diagram or model</li> <li>Identifies the place value and value of each digit in whole numbers through the tens place</li> <li>Compares whole numbers through 999</li> <li>Counts objects that are grouped into tens and ones</li> <li>Represents <math>\frac{1}{4}</math> with a diagram or model</li> <li>Identifies whole numbers 100 - 999 using base-10 blocks</li> <li>Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)</li> <li>Identifies one-half from a region or set</li> <li>Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>Identifies missing numbers in a series through 100</li> <li>Counts by 2's to 100</li> <li>Counts backwards from a given number (given number greater than 10)</li> <li>Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20</li> <li>Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)</li> </ul>
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> fact family, fourth, hundred, morning, thirds, thousand
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> + addition, = is equal to, x multiplication, - subtraction, : used with time, variable	<i>New Signs and Symbols:</i> ( ) order of operations, a.m., ¢ cent sign, \$ dollar sign, p.m.,   tally mark

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Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>• Completes a growing arithmetic pattern by naming missing members</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>• Completes a growing arithmetic pattern by naming missing members</li> <li>• Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>• Completes arithmetic growth patterns in number tables by identifying the missing elements</li> <li>• Computes simple conversions among units of time (days, weeks)</li> </ul>
<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Adds 1-digit to multiple-digit number with regrouping</li> <li>• Adds 2-digit numbers with no regrouping</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Subtracts two 1-digit numbers horizontally</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>• Subtracts two 1-digit numbers vertically</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Tells time to the nearest hour</li> <li>• Tells time to the nearest half hour</li> <li>• Uses a number line to construct addition facts with sums through 20 (whole numbers)</li> <li>• Uses models to calculate whole number sums through 99</li> <li>• Adds two 1-digit numbers with sums to 10 in horizontal format</li> <li>• Adds two 1-digit numbers with sums between 10 and 19 in horizontal format</li> <li>• Adds two 1-digit numbers with sums between 10 and 19 in vertical format</li> <li>• Adds multiple 1-digit numbers</li> <li>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)</li> <li>• Adds 1-digit to multiple-digit number with no regrouping</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Adds 3-digit numbers with no regrouping</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Subtracts 2- and/or 3-digit numbers with no regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Adds 1-digit numbers with sums to 18 (with parentheses)</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Identifies the value of a collection of coins to \$1.00 (with pictures of coins)</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>• Tells time to the nearest hour</li> <li>• Tells time to the nearest half hour</li> <li>• Tells time to the nearest 5 minutes</li> <li>• Connects money with place value</li> <li>• Determines the operation needed from a simple problem</li> <li>• Uses a number line to construct addition facts with sums through 20 (whole numbers)</li> <li>• Uses models to calculate whole number sums through 999</li> <li>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)</li> <li>• Adds two or three 2-digit number with regrouping</li> <li>• Adds 1- and/or 2-digit numbers with sums under 100</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Solves real-world whole number addition problems with sums to 20 (start unknown)</li> <li>• Solves real-world whole number addition problems with sums to 100 (result unknown)</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Performs mental subtraction with numbers under 1000</li> <li>• Solves problems using the inverse relationship between addition and subtraction</li> <li>• Uses counting by multiples for multiplication</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>• Multiplies a 2-digit number by a 2-digit number with no regrouping</li> <li>• Solves word problems involving basic whole number multiplication facts to 10 x 10</li> <li>• Uses manipulatives to divide a small set of objects into groups of equal size</li> <li>• Uses sharing for division</li> <li>• Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)</li> <li>• Models multiplication and division algorithms using arrays (whole numbers)</li> <li>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Solves real-world whole number problems involving addition and subtraction</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Demonstrates an understanding of the inverse relationship between multiplication and division</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>• Finds equivalent combinations of coins with the same value</li> <li>• Combines a collection of coins and identifies the correct notation</li> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Perform Operations	Perform Operations <ul style="list-style-type: none"> <li>Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically</li> </ul>	Perform Operations <ul style="list-style-type: none"> <li>Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00</li> <li>Identifies the correct time, given the words, and vice versa</li> <li>Determines elapsed clock time</li> <li>Determines elapsed time under 1 hour or to the hour</li> <li>Determines elapsed time involving whole hours, whole days, whole years</li> <li>Tells time to the nearest 5 minutes</li> <li>Determines the operation needed from a simple problem</li> <li>Identifies the number that is "1 less than" a given number</li> <li>Distinguishes between odd and even numbers</li> <li>Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)</li> <li>Instantly recalls basic addition facts with sums to 18 in a table</li> <li>Adds two or three 2-digit number with regrouping</li> <li>Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>Performs mental computation with 2, 3, or 4 addends</li> <li>Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>Solves real-world whole number addition problems with sums to 100 (result unknown)</li> <li>Uses models to calculate differences through 100 (whole numbers)</li> <li>Instantly recalls basic subtraction facts with minuend less than 10</li> <li>Subtracts a 2-digit number from a 2-digit number, with regrouping</li> <li>Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)</li> <li>Subtracts 2- and/or 3-digit numbers with no regrouping</li> <li>Subtracts 3- or 4-digit numbers with regrouping</li> <li>Subtracts multiple-digit numbers with no regrouping</li> <li>Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>Solves real-world whole number problems involving subtraction with numbers 100 and under</li> </ul>
Extend and Use Properties <ul style="list-style-type: none"> <li>Identifies missing numbers in a series through 100</li> <li>Writes whole numbers in standard and expanded form through the tens</li> <li>Orders whole numbers less than 10</li> </ul>	Extend and Use Properties <ul style="list-style-type: none"> <li>Represents <math>\frac{1}{2}</math> with a diagram or model</li> <li>Identifies the place value and value of each digit in whole numbers through the tens place</li> </ul>	Extend and Use Properties <ul style="list-style-type: none"> <li>Counts objects that are grouped into tens and ones</li> <li>Compares and orders decimals to the hundredths place (same number of digits after decimal)</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Identifies whole numbers under 100 using base-10 blocks</li> <li>Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)</li> <li>Counts 1 to 10 objects</li> <li>Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Compares whole numbers through 999</li> <li>Counts objects that are grouped into tens and ones</li> <li>Represents <math>\frac{1}{4}</math> with a diagram or model</li> <li>Identifies whole numbers 100 - 999 using base-10 blocks</li> <li>Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)</li> <li>Identifies one-half from a region or set</li> <li>Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>Identifies missing numbers in a series through 100</li> <li>Counts by 2's to 100</li> <li>Counts backwards from a given number (given number greater than 10)</li> <li>Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20</li> <li>Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa)</li> <li>Identifies the numeral and written name for whole numbers 10,000 to 100,000</li> <li>Compares whole numbers through 999</li> <li>Compares whole numbers through 9999</li> <li>Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>Rounds 3-digit whole numbers to the nearest hundred</li> <li>Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)</li> <li>Identifies the place value and value of each digit in whole numbers through the tens place</li> <li>Identifies the place value and value of each digit in whole numbers through the hundreds place</li> <li>Identifies the place value and value of each digit in whole numbers through the thousands</li> <li>Identifies the place value and value of each digit in whole numbers through the hundred thousands</li> <li>Represents <math>\frac{3}{4}</math> with a diagram or model</li> <li>Identifies equal parts by using models</li> <li>Identifies <math>\frac{1}{2}</math> from a region or set</li> <li>Identifies one-half from a region or set</li> <li>Identifies <math>\frac{1}{4}</math> from a region or set</li> <li>Identifies <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math>, or <math>\frac{4}{4}</math> from a region or set</li> <li>Identifies <math>\frac{2}{3}</math> or <math>\frac{3}{3}</math> from a region or set</li> <li>Identifies tenths from a region or set</li> <li>Identifies eighths from a region or set</li> <li>Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> </ul>
<p><i>New Vocabulary:</i> None</p>	<p><i>New Vocabulary:</i> fact family, fourth, hundred, morning, thirds, thousand</p>	<p><i>New Vocabulary:</i> changed, clock, closest, digit, fourths, gave, half past, how much time, hundreds, left, left over, million, nearest, noon, o'clock, one, pennies, quarter past, quarter to, row, ten thousand, unix cubes, what time</p>
<p><i>New Signs and Symbols:</i> + addition, = is equal to, × multiplication, - subtraction, : used with time, variable</p>	<p><i>New Signs and Symbols:</i> ( ) order of operations, a.m., ¢ cent sign, \$ dollar sign, p.m.,   tally mark</p>	<p><i>New Signs and Symbols:</i> { } set notation, ÷ division, long division symbol, : used with time, : used with time</p>

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Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>• Completes a growing arithmetic pattern by naming missing members</li> <li>• Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>• Completes arithmetic growth patterns in number tables by identifying the missing elements</li> <li>• Computes simple conversions among units of time (days, weeks)</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>• Solves simple problems involving miles/kilometers per hour</li> <li>• Converts between cups, pints, and quarts</li> <li>• Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> <li>• Computes simple conversions among units of time (minutes, hours)</li> <li>• Converts between cups and pints</li> <li>• Writes the missing number in a proportion using basic facts</li> </ul>
<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Adds 3-digit numbers with no regrouping</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Subtracts 2- and/or 3-digit numbers with no regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Adds 1-digit numbers with sums to 18 (with parentheses)</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Identifies the value of a collection of coins to \$1.00 (with pictures of coins)</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>• Tells time to the nearest hour</li> <li>• Tells time to the nearest half hour</li> <li>• Tells time to the nearest 5 minutes</li> <li>• Connects money with place value</li> <li>• Determines the operation needed from a simple problem</li> <li>• Uses a number line to construct addition facts with sums through 20 (whole numbers)</li> <li>• Uses models to calculate whole number sums through 999</li> <li>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)</li> <li>• Adds two or three 2-digit number with regrouping</li> <li>• Adds 1- and/or 2-digit numbers with sums under 100</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Solves real-world whole number addition problems with sums to 20 (start unknown)</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Performs mental subtraction with numbers under 1000</li> <li>• Solves problems using the inverse relationship between addition and subtraction</li> <li>• Uses counting by multiples for multiplication</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>• Multiplies a 2-digit number by a 2-digit number with no regrouping</li> <li>• Solves word problems involving basic whole number multiplication facts to 10 x 10</li> <li>• Uses manipulatives to divide a small set of objects into groups of equal size</li> <li>• Uses sharing for division</li> <li>• Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)</li> <li>• Models multiplication and division algorithms using arrays (whole numbers)</li> <li>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Solves real-world whole number problems involving addition and subtraction</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Demonstrates an understanding of the inverse relationship between multiplication and division</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>• Finds equivalent combinations of coins with the same value</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Determines elapsed time involving whole hours, whole days, whole years</li> <li>• Multiplies a decimal by whole number</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only)</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves real-world whole number addition problems with sums to 20 (change unknown)</li> <li>• Solves whole number addition word problems with sums over 1000</li> <li>• Subtracts 1-digit number from a 2-digit number with regrouping</li> <li>• Subtracts a 2-digit number from a 2-digit number, with regrouping</li> <li>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)</li> <li>• Subtracts a 2-digit number from a 3-digit number with a single regrouping</li> <li>• Subtracts 3- or 4-digit numbers with regrouping</li> <li>• Performs mental subtraction with numbers under 1000</li> <li>• Subtracts multiple-digit numbers with no regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves problems using the inverse relationship between addition and subtraction</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12</li> <li>• Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Solves real-world whole number addition problems with sums to 100 (result unknown)</li> <li>Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Combines a collection of coins and identifies the correct notation</li> <li>Makes change to \$1.00 by "counting on" or subtracting</li> <li>Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00</li> <li>Identifies the correct time, given the words, and vice versa</li> <li>Determines elapsed clock time</li> <li>Determines elapsed time under 1 hour or to the hour</li> <li>Determines elapsed time involving whole hours, whole days, whole years</li> <li>Tells time to the nearest 5 minutes</li> <li>Determines the operation needed from a simple problem</li> <li>Identifies the number that is "1 less than" a given number</li> <li>Distinguishes between odd and even numbers</li> <li>Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)</li> <li>Instantly recalls basic addition facts with sums to 18 in a table</li> <li>Adds two or three 2-digit number with regrouping</li> <li>Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>Performs mental computation with 2, 3, or 4 addends</li> <li>Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>Solves real-world whole number addition problems with sums to 100 (result unknown)</li> <li>Uses models to calculate differences through 100 (whole numbers)</li> <li>Instantly recalls basic subtraction facts with minuend less than 10</li> <li>Subtracts a 2-digit number from a 2-digit number, with regrouping</li> <li>Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)</li> <li>Subtracts 2- and/or 3-digit numbers with no regrouping</li> <li>Subtracts 3- or 4-digit numbers with regrouping</li> <li>Subtracts multiple-digit numbers with no regrouping</li> <li>Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>Solves real-world whole number problems involving subtraction with numbers 100 and under</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>Multiplies a 3- or 4-digit number by a 1-digit number</li> <li>Multiplies a 2-digit number by a 2-digit number with no regrouping</li> <li>Performs mental computation with multiplication</li> <li>Solves word problems involving basic whole number multiplication facts to 10 x 10</li> <li>Solves word problems involving whole number multiplication with numbers greater than 10 x 10</li> <li>Uses manipulatives to divide a small set of objects into groups of equal size</li> <li>Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)</li> <li>Instantly recalls division facts with dividend and divisors less than 10</li> <li>Instantly recalls division facts with dividend and divisors less than 13</li> <li>Divides a 2-digit number by a 1-digit number with no remainder</li> <li>Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)</li> <li>Uses models to add and subtract fractions and connect the actions to algorithms</li> <li>Subtracts fractions with like denominators without reducing</li> <li>Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction</li> <li>Adds decimals to the hundredths place (same number of digits)</li> <li>Adds decimals to the hundredths place in vertical format (not same number of digits)</li> <li>Adds decimals to the thousandths place vertically with and without regrouping</li> <li>Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>Adds money with regrouping</li> <li>Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money)</li> <li>Finds equivalent combinations of coins with the same value</li> <li>Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Perform Operations	Perform Operations	Perform Operations <ul style="list-style-type: none"> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Solves real-world problems involving decimals (not money) using addition and subtraction</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>• Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division)</li> <li>• Computes basic operations with units of weight/mass</li> <li>• Identifies the correct time, given the words, and vice versa</li> <li>• Determines elapsed clock time</li> <li>• Tells time to the nearest quarter hour</li> <li>• Tells time to the nearest 1 minute</li> <li>• Solves simple problems involving elapsed time, with the conversion of hours</li> <li>• Determines the operation needed from a simple problem</li> <li>• Solves problems using tables</li> <li>• Distinguishes between odd and even numbers</li> <li>• Identifies numbers as composite</li> </ul>
Extend and Use Properties <ul style="list-style-type: none"> <li>• Represents <math>\frac{1}{2}</math> with a diagram or model</li> <li>• Identifies the place value and value of each digit in whole numbers through the tens place</li> <li>• Compares whole numbers through 999</li> <li>• Counts objects that are grouped into tens and ones</li> <li>• Represents <math>\frac{1}{4}</math> with a diagram or model</li> <li>• Identifies whole numbers 100 - 999 using base-10 blocks</li> <li>• Identifies the numerical and written name for whole numbers 21 to 300 (e.g., 62 is sixty-two, and vice versa)</li> <li>• Identifies one-half from a region or set</li> <li>• Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>• Identifies missing numbers in a series through 100</li> <li>• Counts by 2's to 100</li> <li>• Counts backwards from a given number (given number greater than 10)</li> <li>• Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20</li> </ul>	Extend and Use Properties <ul style="list-style-type: none"> <li>• Counts objects that are grouped into tens and ones</li> <li>• Compares and orders decimals to the hundredths place (same number of digits after decimal)</li> <li>• Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>• Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa)</li> <li>• Identifies the numeral and written name for whole numbers 10,000 to 100,000</li> <li>• Compares whole numbers through 999</li> <li>• Compares whole numbers through 9999</li> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)</li> <li>• Identifies the place value and value of each digit in whole numbers through the tens place</li> </ul>	Extend and Use Properties <ul style="list-style-type: none"> <li>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>• Identifies equivalent fractions using visual representations</li> <li>• Matches numeric and visual representation of equivalent fractions</li> <li>• Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)</li> <li>• Identifies whole numbers over 999 using base-10 blocks</li> <li>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> <li>• Identifies the numeral and written name for whole numbers 10,000 to 100,000</li> <li>• Identifies the numeral and written name for whole numbers over 100,000</li> <li>• Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (&lt;, =, &gt;)</li> <li>• Compares whole numbers through the thousands using the symbols &lt;, &gt;, or =</li> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Identifies the place value and value of each digit in whole numbers through the hundreds place</li> <li>Identifies the place value and value of each digit in whole numbers through the thousands</li> <li>Identifies the place value and value of each digit in whole numbers through the hundred thousands</li> <li>Represents <math>\frac{3}{4}</math> with a diagram or model</li> <li>Identifies equal parts by using models</li> <li>Identifies <math>\frac{1}{2}</math> from a region or set</li> <li>Identifies one-half from a region or set</li> <li>Identifies <math>\frac{1}{4}</math> from a region or set</li> <li>Identifies <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math>, or <math>\frac{4}{4}</math> from a region or set</li> <li>Identifies <math>\frac{2}{3}</math> or <math>\frac{3}{3}</math> from a region or set</li> <li>Identifies tenths from a region or set</li> <li>Identifies eighths from a region or set</li> <li>Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Rounds 3-digit whole numbers to the nearest hundred</li> <li>Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)</li> <li>Identifies the place value and value of each digit in whole numbers through the thousands</li> <li>Identifies the place value and value of each digit in whole numbers through the hundred thousands</li> <li>Writes whole numbers in standard and expanded form through the hundreds</li> <li>Writes whole numbers in standard and expanded form through the thousands</li> <li>Represents <math>\frac{1}{3}</math> with a diagram or model</li> <li>Represents fractions with denominators other than 2, 3, 4 with a diagram or model</li> <li>Identifies <math>\frac{1}{4}</math> from a region or set</li> <li>Identifies <math>\frac{1}{3}</math> from a region or set</li> <li>Identifies <math>\frac{2}{3}</math> or <math>\frac{3}{3}</math> from a region or set</li> <li>Identifies tenths from a region or set</li> <li>Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> </ul>
<p><i>New Vocabulary:</i> fact family, fourth, hundred, morning, thirds, thousand</p>	<p><i>New Vocabulary:</i> changed, clock, closest, digit, fourths, gave, half past, how much time, hundreds, left, left over, million, nearest, noon, o'clock, one, pennies, quarter past, quarter to, row, ten thousand, unifix cubes, what time</p>	<p><i>New Vocabulary:</i> billion, composite number, decade, deposit, each, grid, hundred million, miles per hour, prime number, quintillion, standard numeral, trillion</p>
<p><i>New Signs and Symbols:</i> ( ) order of operations, a.m., ¢ cent sign, \$ dollar sign, p.m.,   tally mark</p>	<p><i>New Signs and Symbols:</i> { } set notation, ÷ division, long division symbol, : used with time, : used with time</p>	<p><i>New Signs and Symbols:</i> ( ) ordered pair, °F degrees Fahrenheit, g gram, &gt; greater than, lb pound, &lt; less than, min minute, mph miles per hour, % percent, • point, R remainder</p>

#### Explanatory Notes

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Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>• Completes arithmetic growth patterns in number tables by identifying the missing elements</li> <li>• Computes simple conversions among units of time (days, weeks)</li> </ul>	<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>• Solves simple problems involving miles/kilometers per hour</li> <li>• Converts between cups, pints, and quarts</li> <li>• Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> <li>• Computes simple conversions among units of time (minutes, hours)</li> <li>• Converts between cups and pints</li> <li>• Writes the missing number in a proportion using basic facts</li> </ul>	<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>• Determines unit price</li> <li>• Identifies the percent represented in a 2-D region</li> <li>• Converts between inches and feet</li> <li>• Solves simple problems involving measurement of length</li> <li>• Estimates simple conversions involving length between the customary and metric system</li> <li>• Converts between cups and pints</li> <li>• Converts between cups, pints, and quarts</li> <li>• Computes simple conversions among units of time (hours, days)</li> <li>• Computes more difficult conversions among units of time</li> <li>• Applies dimensional analysis to simple real-world problems (time)</li> <li>• Solves simple problems involving miles per gallon</li> <li>• Solves simple problems involving miles/kilometers per hour</li> <li>• Writes the missing number in a proportion using basic facts</li> </ul>
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Performs mental subtraction with numbers under 1000</li> <li>• Solves problems using the inverse relationship between addition and subtraction</li> <li>• Uses counting by multiples for multiplication</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>• Multiplies a 2-digit number by a 2-digit number with no regrouping</li> <li>• Solves word problems involving basic whole number multiplication facts to 10 x 10</li> <li>• Uses manipulatives to divide a small set of objects into groups of equal size</li> <li>• Uses sharing for division</li> <li>• Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)</li> <li>• Models multiplication and division algorithms using arrays (whole numbers)</li> <li>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Solves real-world whole number problems involving addition and subtraction</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Demonstrates an understanding of the inverse relationship between multiplication and division</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Determines elapsed time involving whole hours, whole days, whole years</li> <li>• Multiplies a decimal by whole number</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only)</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves real-world whole number addition problems with sums to 20 (change unknown)</li> <li>• Solves whole number addition word problems with sums over 1000</li> <li>• Subtracts 1-digit number from a 2-digit number with regrouping</li> <li>• Subtracts a 2-digit number from a 2-digit number, with regrouping</li> <li>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)</li> <li>• Subtracts a 2-digit number from a 3-digit number with a single regrouping</li> <li>• Subtracts 3- or 4-digit numbers with regrouping</li> <li>• Performs mental subtraction with numbers under 1000</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</li> <li>• Divides a 3-digit number by a 1-digit number with no remainder</li> <li>• Divides a 4-digit number by a 1-digit number with no remainder</li> <li>• Divides a 3-digit number by a multiple of 10</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)</li> <li>• Performs mental computation with division</li> <li>• Solves whole number word problems with division over 10 x 10</li> <li>• Determines the remainder in a real-world problem (whole numbers)</li> <li>• Uses division for multiple-step real-world problems (whole numbers)</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds whole numbers and fractions</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Subtracts mixed fractions with like denominators with no regrouping</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>• Finds equivalent combinations of coins with the same value</li> <li>• Combines a collection of coins and identifies the correct notation</li> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>• Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00</li> <li>• Identifies the correct time, given the words, and vice versa</li> <li>• Determines elapsed clock time</li> <li>• Determines elapsed time under 1 hour or to the hour</li> <li>• Determines elapsed time involving whole hours, whole days, whole years</li> <li>• Tells time to the nearest 5 minutes</li> <li>• Determines the operation needed from a simple problem</li> <li>• Identifies the number that is "1 less than" a given number</li> <li>• Distinguishes between odd and even numbers</li> <li>• Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)</li> <li>• Instantly recalls basic addition facts with sums to 18 in a table</li> <li>• Adds two or three 2-digit number with regrouping</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Performs mental computation with 2, 3, or 4 addends</li> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves real-world whole number addition problems with sums to 100 (result unknown)</li> <li>• Uses models to calculate differences through 100 (whole numbers)</li> <li>• Instantly recalls basic subtraction facts with minuend less than 10</li> <li>• Subtracts a 2-digit number from a 2-digit number, with regrouping</li> <li>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Subtracts multiple-digit numbers with no regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves problems using the inverse relationship between addition and subtraction</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12</li> <li>• Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping</li> <li>• Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>• Multiplies a 3- or 4-digit number by a 1-digit number</li> <li>• Multiplies a 2-digit number by a 2-digit number with no regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Solves word problems involving basic whole number multiplication facts to <math>10 \times 10</math></li> <li>• Solves word problems involving whole number multiplication with numbers greater than <math>10 \times 10</math></li> <li>• Uses manipulatives to divide a small set of objects into groups of equal size</li> <li>• Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)</li> <li>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 2-digit number by a 1-digit number with no remainder</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Adds decimals to the hundredths place in vertical format (not same number of digits)</li> <li>• Adds decimals to the thousandths place vertically with and without regrouping</li> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, vertically</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)</li> <li>• Multiplies a decimal by whole number</li> <li>• Divides decimal by a whole number</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes addition and subtraction on multiple-step real-world problems involving money</li> <li>• Computes money problems with multiple operations (addition/subtraction only)</li> <li>• Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money</li> <li>• Solves real-world problems involving addition and subtraction of integers</li> <li>• Solves problems involving measurement of time</li> <li>• Solves simple problems involving elapsed time, with the conversion of hours</li> <li>• Solves problems using tables</li> <li>• Writes a terminating decimal as a fraction or mixed number</li> <li>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Performs mental computation with more than 4 addends</li> <li>• Subtracts 3- or 4-digit numbers with regrouping</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis)</li> <li>• Solves problems using the inverse relationship between addition and subtraction</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Subtracts 2- and/or 3-digit numbers with no regrouping</li> <li>Subtracts 3- or 4-digit numbers with regrouping</li> <li>Subtracts multiple-digit numbers with no regrouping</li> <li>Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>Solves real-world whole number problems involving subtraction with numbers 100 and under</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Adds money with regrouping</li> <li>Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money)</li> <li>Finds equivalent combinations of coins with the same value</li> <li>Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>Makes change to \$1.00 by "counting on" or subtracting</li> <li>Solves real-world problems involving decimals (not money) using addition and subtraction</li> <li>Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division)</li> <li>Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division)</li> <li>Computes basic operations with units of weight/mass</li> <li>Identifies the correct time, given the words, and vice versa</li> <li>Determines elapsed clock time</li> <li>Tells time to the nearest quarter hour</li> <li>Tells time to the nearest 1 minute</li> <li>Solves simple problems involving elapsed time, with the conversion of hours</li> <li>Determines the operation needed from a simple problem</li> <li>Solves problems using tables</li> <li>Distinguishes between odd and even numbers</li> <li>Identifies numbers as composite</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Instantly recalls basic multiplication and division facts in a table</li> <li>Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>Multiplies a 3- or 4-digit number by a 1-digit number</li> <li>Multiplies multiple 1-digit numbers</li> <li>Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>Performs mental computation with multiplication</li> <li>Multiplies a 2- or 3-digit number by multiples of 10 or 100</li> <li>Multiplies a 3-digit number by a 3-digit number</li> <li>Solves word problems involving whole number multiplication with numbers greater than <math>10 \times 10</math></li> <li>Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)</li> <li>Instantly recalls division facts with dividend and divisors less than 13</li> <li>Divides a 2-digit number by a 1-digit number with no remainder</li> <li>Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> </ul>
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Counts objects that are grouped into tens and ones</li> <li>Compares and orders decimals to the hundredths place (same number of digits after decimal)</li> <li>Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa)</li> <li>Identifies the numeral and written name for whole numbers 10,000 to 100,000</li> <li>Compares whole numbers through 999</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>Identifies equivalent fractions using visual representations</li> <li>Matches numeric and visual representation of equivalent fractions</li> <li>Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)</li> <li>Identifies whole numbers over 999 using base-10 blocks</li> <li>Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Identifies the numeral and written name for whole numbers over 100,000</li> <li>Compares whole numbers through the billions using the symbols <math>&lt;</math>, <math>&gt;</math>, or <math>=</math></li> <li>Orders whole numbers a million or greater using <math>&lt;</math> or <math>&gt;</math> symbols</li> <li>Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten</li> <li>Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> <li>Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand</li> <li>Rounds whole numbers to the nearest hundred thousand</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Compares whole numbers through 9999</li> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)</li> <li>• Identifies the place value and value of each digit in whole numbers through the tens place</li> <li>• Identifies the place value and value of each digit in whole numbers through the hundreds place</li> <li>• Identifies the place value and value of each digit in whole numbers through the thousands</li> <li>• Identifies the place value and value of each digit in whole numbers through the hundred thousands</li> <li>• Represents <math>\frac{3}{4}</math> with a diagram or model</li> <li>• Identifies equal parts by using models</li> <li>• Identifies <math>\frac{1}{2}</math> from a region or set</li> <li>• Identifies one-half from a region or set</li> <li>• Identifies <math>\frac{1}{4}</math> from a region or set</li> <li>• Identifies <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math>, or <math>\frac{4}{4}</math> from a region or set</li> <li>• Identifies <math>\frac{2}{3}</math> or <math>\frac{3}{3}</math> from a region or set</li> <li>• Identifies tenths from a region or set</li> <li>• Identifies eighths from a region or set</li> <li>• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Identifies the numeral and written name for whole numbers 10,000 to 100,000</li> <li>• Identifies the numeral and written name for whole numbers over 100,000</li> <li>• Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (&lt;, =, &gt;)</li> <li>• Compares whole numbers through the thousands using the symbols &lt;, &gt;, or =</li> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)</li> <li>• Identifies the place value and value of each digit in whole numbers through the thousands</li> <li>• Identifies the place value and value of each digit in whole numbers through the hundred thousands</li> <li>• Writes whole numbers in standard and expanded form through the hundreds</li> <li>• Writes whole numbers in standard and expanded form through the thousands</li> <li>• Represents <math>\frac{1}{3}</math> with a diagram or model</li> <li>• Represents fractions with denominators other than 2, 3, 4 with a diagram or model</li> <li>• Identifies <math>\frac{1}{4}</math> from a region or set</li> <li>• Identifies <math>\frac{1}{3}</math> from a region or set</li> <li>• Identifies <math>\frac{2}{3}</math> or <math>\frac{3}{3}</math> from a region or set</li> <li>• Identifies tenths from a region or set</li> <li>• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Rounds wholes numbers to the nearest billion</li> <li>• Compares integers on a number line</li> <li>• Explains the rules for rounding</li> <li>• Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones)</li> <li>• Identifies the place value and value of each digit in whole numbers through the billions</li> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Applies base ten place value concepts with whole numbers to solve problems</li> <li>• Writes whole numbers using place value terms and vice versa</li> <li>• Identifies halves of a region using nonadjacent parts</li> <li>• Identifies equivalent fractions using visual representations</li> <li>• Expresses "1" in many different ways (e.g., <math>\frac{3}{3}</math>, <math>\frac{4}{4}</math>)</li> <li>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</li> <li>• Identifies whole numbers over 999 using base-10 blocks</li> <li>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> <li>• Orders fractions on a number line</li> <li>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>• Identifies a decimal on a number line to the tenths place</li> <li>• Rounds decimals to the nearest whole number</li> <li>• Graphs ordered pairs in the first quadrant</li> <li>• Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)</li> <li>• Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system</li> <li>• Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks)</li> <li>• Locates the origin on a coordinate grid</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
<p><i>New Vocabulary:</i> changed, clock, closest, digit, fourths, gave, half past, how much time, hundreds, left, left over, million, nearest, noon, o'clock, one, pennies, quarter past, quarter to, row, ten thousand, unifix cubes, what time</p>	<p><i>New Vocabulary:</i> billion, composite number, decade, deposit, each, grid, hundred million, miles per hour, prime number, quintillion, standard numeral, trillion</p>	<p><i>New Vocabulary:</i> biggest, coordinate, coordinate point, expanded numeral, larger, miles per gallon, origin</p>
<p><i>New Signs and Symbols:</i> { } set notation, ÷ division, long division symbol, : used with time, : used with time</p>	<p><i>New Signs and Symbols:</i> ( ) ordered pair, °F degrees Fahrenheit, g gram, &gt; greater than, lb pound, &lt; less than, min minute, mph miles per hour, % percent, • point, R remainder</p>	<p><i>New Signs and Symbols:</i> ft feet, in. inch, mpg miles per gallon, - negative number</p>

#### Explanatory Notes

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Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>Solves simple problems involving miles/kilometers per hour</li> <li>Converts between cups, pints, and quarts</li> <li>Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> <li>Computes simple conversions among units of time (minutes, hours)</li> <li>Converts between cups and pints</li> <li>Writes the missing number in a proportion using basic facts</li> </ul>	<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>Determines unit price</li> <li>Identifies the percent represented in a 2-D region</li> <li>Converts between inches and feet</li> <li>Solves simple problems involving measurement of length</li> <li>Estimates simple conversions involving length between the customary and metric system</li> <li>Converts between cups and pints</li> <li>Converts between cups, pints, and quarts</li> <li>Computes simple conversions among units of time (hours, days)</li> <li>Computes more difficult conversions among units of time</li> <li>Applies dimensional analysis to simple real-world problems (time)</li> <li>Solves simple problems involving miles per gallon</li> <li>Solves simple problems involving miles/kilometers per hour</li> <li>Writes the missing number in a proportion using basic facts</li> </ul>	<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>Solves problems involving equivalent fractions</li> <li>Solves 1-step problems involving proportions</li> <li>Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)</li> <li>Converts between inches and feet</li> <li>Converts between inches, feet, and yards</li> <li>Solves simple problems involving measurement of length</li> <li>Converts between cups, pints, quarts, and gallons</li> <li>Apply dimensional analysis to simple real-world problems (capacity)</li> <li>Computes more difficult conversions among units of time</li> <li>Applies dimensional analysis to simple real-world problems (time)</li> <li>Solves simple problems involving miles per gallon</li> <li>Determines unit price</li> <li>Solves problems involving rates</li> <li>Writes a basic percent as a fraction and vice versa (e.g., 10%, 25%, 50%, 100%)</li> <li>Expresses a percent as a fraction with 100 as the denominator and vice versa</li> <li>Recognizes and writes proportions</li> <li>Identifies the percent represented in a 2-D region</li> </ul>
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Determines elapsed time involving whole hours, whole days, whole years</li> <li>Multiplies a decimal by whole number</li> <li>Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only)</li> <li>Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>Adds multiple-digit numbers with sums under 1000</li> <li>Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>Solves real-world whole number addition problems with sums to 20 (change unknown)</li> <li>Solves whole number addition word problems with sums over 1000</li> <li>Subtracts 1-digit number from a 2-digit number with regrouping</li> <li>Subtracts a 2-digit number from a 2-digit number, with regrouping</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</li> <li>Divides a 3-digit number by a 1-digit number with no remainder</li> <li>Divides a 4-digit number by a 1-digit number with no remainder</li> <li>Divides a 3-digit number by a multiple of 10</li> <li>Divides a 4-digit number by a 2-digit number</li> <li>Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)</li> <li>Performs mental computation with division</li> <li>Solves whole number word problems with division over <math>10 \times 10</math></li> <li>Determines the remainder in a real-world problem (whole numbers)</li> <li>Uses division for multiple-step real-world problems (whole numbers)</li> <li>Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>Adds fractions with like denominators without reducing</li> <li>Adds whole numbers and fractions</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Subtracts mixed fractions with like denominators with no regrouping</li> <li>Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)</li> <li>Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)</li> <li>Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)</li> <li>Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)</li> <li>Subtracts numbers with 5 digits or more with regrouping</li> <li>Instantly recalls basic multiplication and division facts in a table</li> <li>Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>Performs mental computation with multiplication</li> <li>Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)</li> <li>• Subtracts a 2-digit number from a 3-digit number with a single regrouping</li> <li>• Subtracts 3- or 4-digit numbers with regrouping</li> <li>• Performs mental subtraction with numbers under 1000</li> <li>• Subtracts multiple-digit numbers with no regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves problems using the inverse relationship between addition and subtraction</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12</li> <li>• Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping</li> <li>• Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>• Multiplies a 3- or 4-digit number by a 1-digit number</li> <li>• Multiplies a 2-digit number by a 2-digit number with no regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Solves word problems involving basic whole number multiplication facts to <math>10 \times 10</math></li> <li>• Solves word problems involving whole number multiplication with numbers greater than <math>10 \times 10</math></li> <li>• Uses manipulatives to divide a small set of objects into groups of equal size</li> <li>• Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)</li> <li>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 2-digit number by a 1-digit number with no remainder</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Uses models to add and subtract fractions and connect the actions to algorithms</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Subtracts mixed fractions with like denominators with no regrouping</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, vertically</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)</li> <li>• Multiplies a decimal by whole number</li> <li>• Divides decimal by a whole number</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes addition and subtraction on multiple-step real-world problems involving money</li> <li>• Computes money problems with multiple operations (addition/subtraction only)</li> <li>• Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money</li> <li>• Solves real-world problems involving addition and subtraction of integers</li> <li>• Solves problems involving measurement of time</li> <li>• Solves simple problems involving elapsed time, with the conversion of hours</li> <li>• Solves problems using tables</li> <li>• Writes a terminating decimal as a fraction or mixed number</li> <li>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Performs mental computation with more than 4 addends</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Multiplies a 3-digit number by a 3-digit number</li> <li>• Multiplies a 4- or more digit number by multiples of 100 or 1000</li> <li>• Multiplies multiple-digit numbers</li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)</li> <li>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> <li>• Performs mental computation with division</li> <li>• Divides a 4-digit number by a 1-digit number with no remainder</li> <li>• Divides a 3-digit number by a 2-digit number</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves whole number word problems with division over <math>10 \times 10</math></li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>• Solves real-world multiple-step problems involving whole numbers</li> <li>• Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> <li>• Adds fractions with unlike denominators without reducing</li> <li>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>• Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)</li> <li>• Subtracts fractions with unlike denominators without reducing</li> <li>• Subtracts mixed fractions with unlike denominators with no regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary</li> <li>• Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>• Multiplies a fraction by a fraction where reducing to simplest form is necessary</li> <li>• Multiplies a fraction by a whole number</li> <li>• Solves 1-step real-world problems involving fractions with multiplication and division</li> <li>• Adds decimals to the hundredths place in horizontal format (not same number of digits)</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Adds decimals to the hundredths place in vertical format (not same number of digits)</li> <li>• Adds decimals to the thousandths place vertically with and without regrouping</li> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money)</li> <li>• Finds equivalent combinations of coins with the same value</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Solves real-world problems involving decimals (not money) using addition and subtraction</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>• Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division)</li> <li>• Computes basic operations with units of weight/mass</li> <li>• Identifies the correct time, given the words, and vice versa</li> <li>• Determines elapsed clock time</li> <li>• Tells time to the nearest quarter hour</li> <li>• Tells time to the nearest 1 minute</li> <li>• Solves simple problems involving elapsed time, with the conversion of hours</li> <li>• Determines the operation needed from a simple problem</li> <li>• Solves problems using tables</li> <li>• Distinguishes between odd and even numbers</li> <li>• Identifies numbers as composite</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Subtracts 3- or 4-digit numbers with regrouping</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis)</li> <li>• Solves problems using the inverse relationship between addition and subtraction</li> <li>• Instantly recalls basic multiplication and division facts in a table</li> <li>• Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>• Multiplies a 3- or 4-digit number by a 1-digit number</li> <li>• Multiplies multiple 1-digit numbers</li> <li>• Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>• Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Multiplies a 2- or 3-digit number by multiples of 10 or 100</li> <li>• Multiplies a 3-digit number by a 3-digit number</li> <li>• Solves word problems involving whole number multiplication with numbers greater than 10 x 10</li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 2-digit number by a 1-digit number with no remainder</li> <li>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>• Adds decimals through the hundred-thousandths place</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)</li> <li>• Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)</li> <li>• Multiplies a decimal by a decimal (factors to hundredths)</li> <li>• Divides decimal by a whole number</li> <li>• Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division)</li> <li>• Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes addition and subtraction on multiple-step real-world problems involving money</li> <li>• Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money</li> <li>• Adds integers with like signs</li> <li>• Uses models to add and subtract integers and connect the actions to algorithms</li> <li>• Solves real-world problems involving addition and subtraction of integers</li> <li>• Multiplies integers with unlike signs</li> <li>• Divides integers with unlike signs</li> <li>• Divides integers with like signs</li> <li>• Demonstrates an understanding that division by 0 is undefined</li> <li>• Solves difficult problems involving elapsed time, with the conversion of hours</li> <li>• Selects and uses the appropriate units depending on degree of accuracy required to solve problems</li> <li>• Expresses a simple fraction as a decimal</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• Expresses a percent as a decimal and vice versa</li> <li>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
<p>Perform Operations</p>	<p>Perform Operations</p>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Determines factors of whole numbers</li> <li>• Identifies numbers as prime</li> <li>• Identifies common factors of two or more numbers</li> <li>• Identifies the greatest common factor of whole numbers</li> </ul>
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>• Identifies equivalent fractions using visual representations</li> <li>• Matches numeric and visual representation of equivalent fractions</li> <li>• Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)</li> <li>• Identifies whole numbers over 999 using base-10 blocks</li> <li>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> <li>• Identifies the numeral and written name for whole numbers 10,000 to 100,000</li> <li>• Identifies the numeral and written name for whole numbers over 100,000</li> <li>• Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (&lt;, =, &gt;)</li> <li>• Compares whole numbers through the thousands using the symbols &lt;, &gt;, or =</li> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)</li> <li>• Identifies the place value and value of each digit in whole numbers through the thousands</li> <li>• Identifies the place value and value of each digit in whole numbers through the hundred thousands</li> <li>• Writes whole numbers in standard and expanded form through the hundreds</li> <li>• Writes whole numbers in standard and expanded form through the thousands</li> <li>• Represents 1/3 with a diagram or model</li> <li>• Represents fractions with denominators other than 2, 3, 4 with a diagram or model</li> <li>• Identifies 1/4 from a region or set</li> <li>• Identifies 1/3 from a region or set</li> <li>• Identifies 2/3 or 3/3 from a region or set</li> <li>• Identifies tenths from a region or set</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Identifies the numeral and written name for whole numbers over 100,000</li> <li>• Compares whole numbers through the billions using the symbols &lt;, &gt;, or =</li> <li>• Orders whole numbers a million or greater using &lt; or &gt; symbols</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand</li> <li>• Rounds whole numbers to the nearest hundred thousand</li> <li>• Rounds wholes numbers to the nearest billion</li> <li>• Compares integers on a number line</li> <li>• Explains the rules for rounding</li> <li>• Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones)</li> <li>• Identifies the place value and value of each digit in whole numbers through the billions</li> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Applies base ten place value concepts with whole numbers to solve problems</li> <li>• Writes whole numbers using place value terms and vice versa</li> <li>• Identifies halves of a region using nonadjacent parts</li> <li>• Identifies equivalent fractions using visual representations</li> <li>• Expresses "1" in many different ways (e.g., 3/3, 4/4)</li> <li>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</li> <li>• Identifies whole numbers over 999 using base-10 blocks</li> <li>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> <li>• Orders fractions on a number line</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Converts fractions to lowest terms</li> <li>• Predicts the relative size of the answer when computing with 10's, 100's, 1000's</li> <li>• Predicts the relative size of the answer when multiplying whole numbers</li> <li>• Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system</li> <li>• Locates the origin on a coordinate grid</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand</li> <li>• Rounds wholes numbers to the nearest billion</li> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Identifies equivalent fractions using visual representations</li> <li>• Identifies a fractions in lowest terms from a region or set</li> <li>• Identifies eighths, reduced to lowest terms, from a region or set</li> <li>• Determines simple equivalent fractions using multiples</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions on a number line</li> <li>• Compares fractions greater than or less than a given fraction using visual representations</li> <li>• Compares fractions and mixed numbers</li> <li>• Compares fractions and mixed numbers using symbols</li> <li>• Orders fractions on a number line</li> <li>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>• Represents a decimal to the hundredths place (e.g., three hundredths = 0.03)</li> <li>• Compares and orders decimals past the thousandths place</li> <li>• Rounds decimals to the nearest whole number</li> <li>• Rounds decimals to the nearest tenth</li> <li>• Applies base ten place value concepts to solve problems using decimals</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>Identifies a decimal on a number line to the tenths place</li> <li>Rounds decimals to the nearest whole number</li> <li>Graphs ordered pairs in the first quadrant</li> <li>Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)</li> <li>Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system</li> <li>Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks)</li> <li>Locates the origin on a coordinate grid</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>Identifies an integer from a number line</li> <li>Compares two integers</li> <li>Orders integers on a number line</li> <li>Defines "integers"</li> </ul>
<p><i>New Vocabulary:</i> billion, composite number, decade, deposit, each, grid, hundred million, miles per hour, prime number, quintillion, standard numeral, trillion</p> <p><i>New Signs and Symbols:</i> ( ) ordered pair, °F degrees Fahrenheit, g gram, &gt; greater than, lb pound, &lt; less than, min minute, mph miles per hour, % percent, • point, R remainder</p>	<p><i>New Vocabulary:</i> biggest, coordinate, coordinate point, expanded numeral, larger, miles per gallon, origin</p> <p><i>New Signs and Symbols:</i> ft feet, in. inch, mpg miles per gallon, - negative number</p>	<p><i>New Vocabulary:</i> century, coin, common factor, decimal form, greatest common factor, how long, lowest term, lowest terms, reduce, triple</p> <p><i>New Signs and Symbols:</i> \$ dollar sign, hr hour, kg kilogram, - negative sign, ≠ not equal to, yd yard</p>

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Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>• Determines unit price</li> <li>• Identifies the percent represented in a 2-D region</li> <li>• Converts between inches and feet</li> <li>• Solves simple problems involving measurement of length</li> <li>• Estimates simple conversions involving length between the customary and metric system</li> <li>• Converts between cups and pints</li> <li>• Converts between cups, pints, and quarts</li> <li>• Computes simple conversions among units of time (hours, days)</li> <li>• Computes more difficult conversions among units of time</li> <li>• Applies dimensional analysis to simple real-world problems (time)</li> <li>• Solves simple problems involving miles per gallon</li> <li>• Solves simple problems involving miles/kilometers per hour</li> <li>• Writes the missing number in a proportion using basic facts</li> </ul>	<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>• Solves problems involving equivalent fractions</li> <li>• Solves 1-step problems involving proportions</li> <li>• Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)</li> <li>• Converts between inches and feet</li> <li>• Converts between inches, feet, and yards</li> <li>• Solves simple problems involving measurement of length</li> <li>• Converts between cups, pints, quarts, and gallons</li> <li>• Apply dimensional analysis to simple real-world problems (capacity)</li> <li>• Computes more difficult conversions among units of time</li> <li>• Applies dimensional analysis to simple real-world problems (time)</li> <li>• Solves simple problems involving miles per gallon</li> <li>• Determines unit price</li> <li>• Solves problems involving rates</li> <li>• Writes a basic percent as a fraction and vice versa (e.g., 10%, 25%, 50%, 100%)</li> <li>• Expresses a percent as a fraction with 100 as the denominator and vice versa</li> <li>• Recognizes and writes proportions</li> <li>• Identifies the percent represented in a 2-D region</li> </ul>	<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>• Solves real-world problems involving decimals (not money) using multiplication</li> <li>• Solves problems involving ratios</li> <li>• Solves 1-step problems involving proportions</li> <li>• Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)</li> <li>• Calculates a percent of a number (e.g., 6% of 30)</li> <li>• Calculates a number from a percent (e.g., 4 is 9% of what)</li> <li>• Solves problems involving percents</li> <li>• Solves problems involving tax and tips</li> <li>• Converts between inches, feet, and yards</li> <li>• Converts between millimeters, centimeters, meters, and kilometers</li> <li>• Uses dimensional analysis for unit conversions (length)</li> <li>• Uses concrete and pictorial models to represent ratios</li> <li>• Solves problems involving length in the customary system and converts to larger or smaller units</li> <li>• Converts between ounces and pounds</li> <li>• Converts between ounces, pounds, and tons</li> <li>• Converts between cups, pints, quarts, and gallons</li> <li>• Converts within the metric system</li> <li>• Apply dimensional analysis to simple real-world problems (capacity)</li> <li>• Solves problems involving capacity in the customary system and converts to larger or smaller units</li> <li>• Computes 2-step conversions between units of time</li> <li>• Applies dimensional analysis to simple real-world problems (time)</li> <li>• Writes the missing number in a proportion with numbers other than basic facts (e.g., <math>5/13 = ?/117</math>)</li> <li>• Solves complex problems involving miles per gallon</li> <li>• Solves complex problems involving miles/kilometers per hour</li> <li>• Solves problems involving rates</li> <li>• Solves problems involving perimeter and converts to larger or smaller units</li> <li>• Expresses a percent as a fraction and vice versa</li> <li>• Interprets data given in circle graphs to solve complex problems (with percents)</li> <li>• Writes a ratio as a percent and vice versa</li> </ul>
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Subtracts mixed fractions with like denominators with no regrouping</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Divides a decimal by a decimal</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Divides a 3-digit number by a 1-digit number with no remainder</li> <li>• Divides a 4-digit number by a 1-digit number with no remainder</li> <li>• Divides a 3-digit number by a multiple of 10</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)</li> <li>• Performs mental computation with division</li> <li>• Solves whole number word problems with division over <math>10 \times 10</math></li> <li>• Determines the remainder in a real-world problem (whole numbers)</li> <li>• Uses division for multiple-step real-world problems (whole numbers)</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds whole numbers and fractions</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Subtracts mixed fractions with like denominators with no regrouping</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, vertically</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)</li> <li>• Multiplies a decimal by whole number</li> <li>• Divides decimal by a whole number</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes addition and subtraction on multiple-step real-world problems involving money</li> <li>• Computes money problems with multiple operations (addition/subtraction only)</li> <li>• Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)</li> <li>• Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Instantly recalls basic multiplication and division facts in a table</li> <li>• Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>• Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)</li> <li>• Multiplies a 3-digit number by a 3-digit number</li> <li>• Multiplies a 4- or more digit number by multiples of 100 or 1000</li> <li>• Multiplies multiple-digit numbers</li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)</li> <li>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> <li>• Performs mental computation with division</li> <li>• Divides a 4-digit number by a 1-digit number with no remainder</li> <li>• Divides a 3-digit number by a 2-digit number</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves whole number word problems with division over <math>10 \times 10</math></li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>• Solves real-world multiple-step problems involving whole numbers</li> <li>• Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)</li> <li>• Multiplies multiple-digit numbers</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Solves real-world multiple-step problems involving whole numbers</li> <li>• Demonstrates an understanding of multiple properties</li> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> <li>• Adds fractions with unlike denominators without reducing</li> <li>• Adds fractions with unlike denominators with reducing or converting to a mixed fraction</li> <li>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>• Adds mixed fractions where converting from improper fractions is necessary</li> <li>• Subtracts fractions with like denominators with reducing</li> <li>• Subtracts fractions with unlike denominators without reducing</li> <li>• Subtracts fractions with unlike denominators with reducing</li> <li>• Subtracts mixed fractions with unlike denominators with no regrouping</li> <li>• Subtracts whole numbers, fractions, and mixed fractions</li> <li>• Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary</li> <li>• Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>• Multiplies a fraction by a fraction without reducing to simplest form (complex problem)</li> <li>• Multiplies a fraction by a fraction where reducing to simplest form is necessary</li> <li>• Multiplies a fraction by a whole number</li> <li>• Multiplies mixed fractions</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Solves real-world problems involving addition and subtraction of integers</li> <li>Solves problems involving measurement of time</li> <li>Solves simple problems involving elapsed time, with the conversion of hours</li> <li>Solves problems using tables</li> <li>Writes a terminating decimal as a fraction or mixed number</li> <li>Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> <li>Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)</li> <li>Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>Adds multiple-digit numbers with sums under 1000</li> <li>Performs mental computation with more than 4 addends</li> <li>Subtracts 3- or 4-digit numbers with regrouping</li> <li>Subtracts numbers with 5 digits or more with regrouping</li> <li>Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis)</li> <li>Solves problems using the inverse relationship between addition and subtraction</li> <li>Instantly recalls basic multiplication and division facts in a table</li> <li>Multiplies a 2-digit number by a 1-digit number with regrouping</li> <li>Multiplies a 3- or 4-digit number by a 1-digit number</li> <li>Multiplies multiple 1-digit numbers</li> <li>Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>Performs mental computation with multiplication</li> <li>Multiplies a 2- or 3-digit number by multiples of 10 or 100</li> <li>Multiplies a 3-digit number by a 3-digit number</li> <li>Solves word problems involving whole number multiplication with numbers greater than <math>10 \times 10</math></li> <li>Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)</li> <li>Instantly recalls division facts with dividend and divisors less than 13</li> <li>Divides a 2-digit number by a 1-digit number with no remainder</li> <li>Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Adds fractions with unlike denominators without reducing</li> <li>Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)</li> <li>Subtracts fractions with unlike denominators without reducing</li> <li>Subtracts mixed fractions with unlike denominators with no regrouping</li> <li>Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary</li> <li>Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>Multiplies a fraction by a fraction where reducing to simplest form is necessary</li> <li>Multiplies a fraction by a whole number</li> <li>Solves 1-step real-world problems involving fractions with multiplication and division</li> <li>Adds decimals to the hundredths place in horizontal format (not same number of digits)</li> <li>Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>Adds decimals through the hundred-thousandths place</li> <li>Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>Computes the value of multiple bills and coins (addition/subtraction only)</li> <li>Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)</li> <li>Multiplies a decimal by a decimal (factors to hundredths)</li> <li>Divides decimal by a whole number</li> <li>Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division)</li> <li>Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division)</li> <li>Computes addition and subtraction on multiple-step real-world problems involving money</li> <li>Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money</li> <li>Adds integers with like signs</li> <li>Uses models to add and subtract integers and connect the actions to algorithms</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Divides a fraction by a fraction</li> <li>Divides a mixed fraction by a fraction</li> <li>Solves 1-step real-world problems involving fractions with multiplication and division</li> <li>Solves 2- or more step real-world problems involving fractions with multiplication and division</li> <li>Solves problems involving fractions (e.g., multiple operations, conversions)</li> <li>Adds decimals to the hundredths place in horizontal format (not same number of digits)</li> <li>Adds decimals through the hundred-thousandths place</li> <li>Subtracts decimals to the hundredths place (not same number of digits)</li> <li>Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>Subtracts decimals through the hundred-thousandths place, horizontally</li> <li>Subtracts a decimal from a whole number, horizontally</li> <li>Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)</li> <li>Multiplies a decimal by a decimal (factors to hundredths)</li> <li>Multiplies a decimal by 10, 100, 1000</li> <li>Multiplies a decimal by a decimal (factors to thousandths)</li> <li>Divides a decimal by 10, 100, 1000</li> <li>Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division)</li> <li>Computes the value of multiple bills and coins (multiplication/division)</li> <li>Calculate the sum of integers using a number line</li> <li>Adds integers with unlike signs</li> <li>Adds several positive and negative integers</li> <li>Uses models to add and subtract integers and connect the actions to algorithms</li> <li>Subtracts integers</li> <li>Solves real-world problems involving addition and subtraction of integers</li> <li>Solves problems involving addition and subtraction of integers</li> <li>Multiplies integers with unlike signs</li> <li>Divides integers with unlike signs</li> <li>Divides integers with like signs</li> <li>Adds rational expressions in decimal form</li> <li>Identifies the additive inverse property</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
<p>Perform Operations</p>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Solves real-world problems involving addition and subtraction of integers</li> <li>• Multiplies integers with unlike signs</li> <li>• Divides integers with unlike signs</li> <li>• Divides integers with like signs</li> <li>• Demonstrates an understanding that division by 0 is undefined</li> <li>• Solves difficult problems involving elapsed time, with the conversion of hours</li> <li>• Selects and uses the appropriate units depending on degree of accuracy required to solve problems</li> <li>• Expresses a simple fraction as a decimal</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• Expresses a percent as a decimal and vice versa</li> <li>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> <li>• Determines factors of whole numbers</li> <li>• Identifies numbers as prime</li> <li>• Identifies common factors of two or more numbers</li> <li>• Identifies the greatest common factor of whole numbers</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Solves difficult problems involving elapsed time, with the conversion of hours</li> <li>• Interprets data given in tables to solve problems</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• Determines factors of whole numbers</li> <li>• Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility)</li> <li>• Uses factor and multiple concepts to solve simple problems</li> <li>• Identifies common factors of two or more numbers</li> <li>• Identifies the greatest common factor of whole numbers</li> </ul>
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Identifies the numeral and written name for whole numbers over 100,000</li> <li>• Compares whole numbers through the billions using the symbols <math>&lt;</math>, <math>&gt;</math>, or <math>=</math></li> <li>• Orders whole numbers a million or greater using <math>&lt;</math> or <math>&gt;</math> symbols</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand</li> <li>• Rounds whole numbers to the nearest hundred thousand</li> <li>• Rounds wholes numbers to the nearest billion</li> <li>• Compares integers on a number line</li> <li>• Explains the rules for rounding</li> <li>• Writes equivalent forms of whole numbers using place value (e.g., <math>54 = 4</math> tens and 14 ones)</li> <li>• Identifies the place value and value of each digit in whole numbers through the billions</li> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Converts fractions to lowest terms</li> <li>• Predicts the relative size of the answer when computing with 10's, 100's, 1000's</li> <li>• Predicts the relative size of the answer when multiplying whole numbers</li> <li>• Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system</li> <li>• Locates the origin on a coordinate grid</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand</li> <li>• Rounds wholes numbers to the nearest billion</li> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Identifies equivalent fractions using visual representations</li> <li>• Identifies a fractions in lowest terms from a region or set</li> <li>• Identifies eighths, reduced to lowest terms, from a region or set</li> <li>• Determines simple equivalent fractions using multiples</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Graphs ordered pairs in all quadrants</li> <li>• Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., <math>253 = 2</math> hundreds, 5 tens, and 3 ones)</li> <li>• Writes whole numbers in standard and exponential form</li> <li>• Identifies a fractions in lowest terms from a region or set</li> <li>• Rounds decimals to nearest thousandth</li> <li>• Determines simple equivalent fractions using multiples</li> <li>• Determines equivalent fractions using multiples</li> <li>• Compares fractions (e.g., comparing numerators and denominators)</li> <li>• Uses alternative algorithms to explain the meaning of "fraction"</li> <li>• Represents a decimal to thousandths place (e.g., three thousandths = 0.003)</li> <li>• Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)</li> <li>• Writes a decimal for a shaded region to the hundredths place</li> <li>• Compares and orders decimals to the hundredths place (not same number of digits after decimal)</li> </ul>

**Explanatory Notes**

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Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Applies base ten place value concepts with whole numbers to solve problems</li> <li>• Writes whole numbers using place value terms and vice versa</li> <li>• Identifies halves of a region using nonadjacent parts</li> <li>• Identifies equivalent fractions using visual representations</li> <li>• Expresses "1" in many different ways (e.g., 3/3, 4/4)</li> <li>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</li> <li>• Identifies whole numbers over 999 using base-10 blocks</li> <li>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> <li>• Orders fractions on a number line</li> <li>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>• Identifies a decimal on a number line to the tenths place</li> <li>• Rounds decimals to the nearest whole number</li> <li>• Graphs ordered pairs in the first quadrant</li> <li>• Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)</li> <li>• Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system</li> <li>• Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks)</li> <li>• Locates the origin on a coordinate grid</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions on a number line</li> <li>• Compares fractions greater than or less than a given fraction using visual representations</li> <li>• Compares fractions and mixed numbers</li> <li>• Compares fractions and mixed numbers using symbols</li> <li>• Orders fractions on a number line</li> <li>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>• Represents a decimal to the hundredths place (e.g., three hundredths = 0.03)</li> <li>• Compares and orders decimals past the thousandths place</li> <li>• Rounds decimals to the nearest whole number</li> <li>• Rounds decimals to the nearest tenth</li> <li>• Applies base ten place value concepts to solve problems using decimals</li> <li>• Identifies an integer from a number line</li> <li>• Compares two integers</li> <li>• Orders integers on a number line</li> <li>• Defines "integers"</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Compares and orders decimals to the thousandths place (not same number of digits after decimal)</li> <li>• Compares and orders decimals past the thousandths place</li> <li>• Rounds decimals to the nearest hundredth</li> <li>• Identifies the place value and value of each digit to the hundredths and thousandths</li> <li>• Applies base ten place value concepts to solve problems using decimals</li> <li>• Compares two integers</li> <li>• Orders integers on a number line</li> <li>• Orders integers</li> <li>• Locates rational numbers on a number line</li> <li>• Orders rational numbers, in a/b form</li> <li>• Orders fractions and decimals to the hundred thousandths</li> <li>• Determines the relative magnitude of whole numbers</li> <li>• Rounds whole numbers to the nearest million</li> <li>• Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> </ul>
<p><i>New Vocabulary:</i> biggest, coordinate, coordinate point, expanded numeral, larger, miles per gallon, origin</p>	<p><i>New Vocabulary:</i> century, coin, common factor, decimal form, greatest common factor, how long, lowest term, lowest terms, reduce, triple</p>	<p><i>New Vocabulary:</i> real number, ten million</p>
<p><i>New Signs and Symbols:</i> ft feet, in. inch, mpg miles per gallon, - negative number</p>	<p><i>New Signs and Symbols:</i> \$ dollar sign, hr hour, kg kilogram, - negative sign, not equal to, yd yard</p>	<p><i>New Signs and Symbols:</i> ( ) parenthesis around an integer, cm centimeter/centimetre, °C degrees Celsius, km kilometer/kilometre, mL milliliter/millilitre, # number, / per, + positive number, : ratio</p>

#### Explanatory Notes

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Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Solves problems involving equivalent fractions</li> <li>Solves 1-step problems involving proportions</li> <li>Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)</li> <li>Converts between inches and feet</li> <li>Converts between inches, feet, and yards</li> <li>Solves simple problems involving measurement of length</li> <li>Converts between cups, pints, quarts, and gallons</li> <li>Apply dimensional analysis to simple real-world problems (capacity)</li> <li>Computes more difficult conversions among units of time</li> <li>Applies dimensional analysis to simple real-world problems (time)</li> <li>Solves simple problems involving miles per gallon</li> <li>Determines unit price</li> <li>Solves problems involving rates</li> <li>Writes a basic percent as a fraction and vice versa (e.g., 10%, 25%, 50%, 100%)</li> <li>Expresses a percent as a fraction with 100 as the denominator and vice versa</li> <li>Recognizes and writes proportions</li> <li>Identifies the percent represented in a 2-D region</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Solves real-world problems involving decimals (not money) using multiplication</li> <li>Solves problems involving ratios</li> <li>Solves 1-step problems involving proportions</li> <li>Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)</li> <li>Calculates a percent of a number (e.g., 6% of 30)</li> <li>Calculates a number from a percent (e.g., 4 is 9% of what)</li> <li>Solves problems involving percents</li> <li>Solves problems involving tax and tips</li> <li>Converts between inches, feet, and yards</li> <li>Converts between millimeters, centimeters, meters, and kilometers</li> <li>Uses dimensional analysis for unit conversions (length)</li> <li>Uses concrete and pictorial models to represent ratios</li> <li>Solves problems involving length in the customary system and converts to larger or smaller units</li> <li>Converts between ounces and pounds</li> <li>Converts between ounces, pounds, and tons</li> <li>Converts between cups, pints, quarts, and gallons</li> <li>Converts within the metric system</li> <li>Apply dimensional analysis to simple real-world problems (capacity)</li> <li>Solves problems involving capacity in the customary system and converts to larger or smaller units</li> <li>Computes 2-step conversions between units of time</li> <li>Applies dimensional analysis to simple real-world problems (time)</li> <li>Writes the missing number in a proportion with numbers other than basic facts (e.g., <math>5/13 = ?/117</math>)</li> <li>Solves complex problems involving miles per gallon</li> <li>Solves complex problems involving miles/kilometers per hour</li> <li>Solves problems involving rates</li> <li>Solves problems involving perimeter and converts to larger or smaller units</li> <li>Expresses a percent as a fraction and vice versa</li> <li>Interprets data given in circle graphs to solve complex problems (with percents)</li> <li>Writes a ratio as a percent and vice versa</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Writes a ratio as a percent and vice versa</li> <li>Identifies the ratio from a given real-world situation</li> <li>Uses estimation to solve problems involving proportional reasoning (decimals only)</li> <li>Solves real-world problems involving decimals (not money) using multiplication</li> <li>Solves problems involving equivalent fractions (analysis)</li> <li>Solves problems involving ratios</li> <li>Solves multiple-step problems involving proportions</li> <li>Calculates a percent of a number (e.g., 6% of 30)</li> <li>Calculates the percent one number is of another (e.g., 20 is what % of 90)</li> <li>Solves problems involving percents</li> <li>Solves problems involving percents (analysis)</li> <li>Solves problems involving simple percent discounts (e.g., finding sale price)</li> <li>Solves problems involving percent increase and decrease</li> <li>Solves problems involving tax and tips</li> <li>Calculates commission/deductions and total pay</li> <li>Converts between millimeters, centimeters, meters, and kilometers</li> <li>Uses dimensional analysis for unit conversions (length)</li> <li>Converts between the customary and metric system given conversion ratios (2-step, length)</li> <li>Apply dimensional analysis to simple real-world problems (length)</li> <li>Solves problems involving length in the customary system and converts to larger or smaller units</li> <li>Converts between grams and kilograms</li> <li>Solves problems involving weight in the customary system and converts to larger or smaller units</li> <li>Converts within the metric system</li> <li>Apply dimensional analysis to simple real-world problems (capacity)</li> <li>Solves problems involving capacity in the customary system and converts to larger or smaller units</li> <li>Solves complex problems involving miles per gallon</li> <li>Solves problems comparing unit prices</li> <li>Solves problems involving rates</li> <li>Interprets data given in circle graphs to solve complex problems (with percents)</li> <li>Expresses a percent as a fraction and vice versa</li> </ul>

#### Explanatory Notes

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Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Subtracts mixed fractions with like denominators with no regrouping</li> <li>Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)</li> <li>Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)</li> <li>Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)</li> <li>Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)</li> <li>Subtracts numbers with 5 digits or more with regrouping</li> <li>Instantly recalls basic multiplication and division facts in a table</li> <li>Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>Performs mental computation with multiplication</li> <li>Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)</li> <li>Multiplies a 3-digit number by a 3-digit number</li> <li>Multiplies a 4- or more digit number by multiples of 100 or 1000</li> <li>Multiplies multiple-digit numbers</li> <li>Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)</li> <li>Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> <li>Performs mental computation with division</li> <li>Divides a 4-digit number by a 1-digit number with no remainder</li> <li>Divides a 3-digit number by a 2-digit number</li> <li>Divides a 4-digit number by a 2-digit number</li> <li>Divides multiple-digit numbers</li> <li>Solves whole number word problems with division over 10 x 10</li> <li>Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>Solves real-world multiple-step problems involving whole numbers</li> <li>Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>Adds fractions with like denominators without reducing</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Divides a decimal by a decimal</li> <li>Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)</li> <li>Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)</li> <li>Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)</li> <li>Multiplies multiple-digit numbers</li> <li>Divides a 4-digit number by a 2-digit number</li> <li>Divides multiple-digit numbers</li> <li>Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>Solves real-world multiple-step problems involving whole numbers</li> <li>Demonstrates an understanding of multiple properties</li> <li>Adds fractions with like denominators with reducing or converting to a mixed fraction</li> <li>Adds fractions with unlike denominators without reducing</li> <li>Adds fractions with unlike denominators with reducing or converting to a mixed fraction</li> <li>Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>Adds mixed fractions where converting from improper fractions is necessary</li> <li>Subtracts fractions with like denominators with reducing</li> <li>Subtracts fractions with unlike denominators without reducing</li> <li>Subtracts fractions with unlike denominators with reducing</li> <li>Subtracts mixed fractions with unlike denominators with no regrouping</li> <li>Subtracts whole numbers, fractions, and mixed fractions</li> <li>Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary</li> <li>Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>Multiplies a fraction by a fraction without reducing to simplest form (complex problem)</li> <li>Multiplies a fraction by a fraction where reducing to simplest form is necessary</li> <li>Multiplies a fraction by a whole number</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Identifies the additive inverse property</li> <li>Divides multiple-digit numbers</li> <li>Divides numbers by powers of 10</li> <li>Adds fractions with unlike denominators with reducing or converting to a mixed fraction</li> <li>Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>Adds mixed fractions where converting from improper fractions is necessary</li> <li>Subtracts whole numbers, fractions, and mixed fractions</li> <li>Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary</li> <li>Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>Multiplies mixed fractions</li> <li>Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms</li> <li>Divides a fraction by a fraction</li> <li>Divides a fraction by a whole number</li> <li>Divides a whole number by a fraction</li> <li>Divides a mixed fraction by a whole number</li> <li>Divides a whole number by a mixed fraction</li> <li>Divides a mixed fraction by a fraction</li> <li>Divides a fraction by a mixed fraction</li> <li>Divides a mixed fraction by a mixed fraction</li> <li>Solves 2- or more step real-world problems involving fractions with multiplication and division</li> <li>Solves problems involving fractions (e.g., multiple operations, conversions)</li> <li>Subtracts a decimal from a whole number, horizontally</li> <li>Multiplies a decimal by 10, 100, 1000</li> <li>Divides a whole number by a decimal</li> <li>Divides a decimal by 10, 100, 1000</li> <li>Divides a decimal by a decimal</li> <li>Adds integers with unlike signs</li> <li>Adds several positive and negative integers</li> <li>Subtracts integers</li> <li>Solves problems involving addition and subtraction of integers</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> <li>• Adds fractions with unlike denominators without reducing</li> <li>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>• Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)</li> <li>• Subtracts fractions with unlike denominators without reducing</li> <li>• Subtracts mixed fractions with unlike denominators with no regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary</li> <li>• Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>• Multiplies a fraction by a fraction where reducing to simplest form is necessary</li> <li>• Multiplies a fraction by a whole number</li> <li>• Solves 1-step real-world problems involving fractions with multiplication and division</li> <li>• Adds decimals to the hundredths place in horizontal format (not same number of digits)</li> <li>• Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>• Adds decimals through the hundred-thousandths place</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)</li> <li>• Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)</li> <li>• Multiplies a decimal by a decimal (factors to hundredths)</li> <li>• Divides decimal by a whole number</li> <li>• Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division)</li> <li>• Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes addition and subtraction on multiple-step real-world problems involving money</li> <li>• Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money</li> <li>• Adds integers with like signs</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Multiplies mixed fractions</li> <li>• Divides a fraction by a fraction</li> <li>• Divides a mixed fraction by a fraction</li> <li>• Solves 1-step real-world problems involving fractions with multiplication and division</li> <li>• Solves 2- or more step real-world problems involving fractions with multiplication and division</li> <li>• Solves problems involving fractions (e.g., multiple operations, conversions)</li> <li>• Adds decimals to the hundredths place in horizontal format (not same number of digits)</li> <li>• Adds decimals through the hundred-thousandths place</li> <li>• Subtracts decimals to the hundredths place (not same number of digits)</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, horizontally</li> <li>• Subtracts a decimal from a whole number, horizontally</li> <li>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)</li> <li>• Multiplies a decimal by a decimal (factors to hundredths)</li> <li>• Multiplies a decimal by 10, 100, 1000</li> <li>• Multiplies a decimal by a decimal (factors to thousandths)</li> <li>• Divides a decimal by 10, 100, 1000</li> <li>• Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes the value of multiple bills and coins (multiplication/division)</li> <li>• Calculate the sum of integers using a number line</li> <li>• Adds integers with unlike signs</li> <li>• Adds several positive and negative integers</li> <li>• Uses models to add and subtract integers and connect the actions to algorithms</li> <li>• Subtracts integers</li> <li>• Solves real-world problems involving addition and subtraction of integers</li> <li>• Solves problems involving addition and subtraction of integers</li> <li>• Multiplies integers with unlike signs</li> <li>• Divides integers with unlike signs</li> <li>• Divides integers with like signs</li> <li>• Adds rational expressions in decimal form</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Multiplies integers with like signs</li> <li>• Divides integers with like signs</li> <li>• Subtracts rational expressions in decimal form</li> <li>• Multiplies rational expressions</li> <li>• Interprets data given in tables to solve problems</li> <li>• Writes a fraction as a decimal and vice versa</li> <li>• Writes a fraction as a mixed decimal and vice versa</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Uses models to add and subtract integers and connect the actions to algorithms</li> <li>• Solves real-world problems involving addition and subtraction of integers</li> <li>• Multiplies integers with unlike signs</li> <li>• Divides integers with unlike signs</li> <li>• Divides integers with like signs</li> <li>• Demonstrates an understanding that division by 0 is undefined</li> <li>• Solves difficult problems involving elapsed time, with the conversion of hours</li> <li>• Selects and uses the appropriate units depending on degree of accuracy required to solve problems</li> <li>• Expresses a simple fraction as a decimal</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• Expresses a percent as a decimal and vice versa</li> <li>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> <li>• Determines factors of whole numbers</li> <li>• Identifies numbers as prime</li> <li>• Identifies common factors of two or more numbers</li> <li>• Identifies the greatest common factor of whole numbers</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Identifies the additive inverse property</li> <li>• Solves difficult problems involving elapsed time, with the conversion of hours</li> <li>• Interprets data given in tables to solve problems</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• Determines factors of whole numbers</li> <li>• Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility)</li> <li>• Uses factor and multiple concepts to solve simple problems</li> <li>• Identifies common factors of two or more numbers</li> <li>• Identifies the greatest common factor of whole numbers</li> </ul>	<p><b>Perform Operations</b></p>
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Converts fractions to lowest terms</li> <li>• Predicts the relative size of the answer when computing with 10's, 100's, 1000's</li> <li>• Predicts the relative size of the answer when multiplying whole numbers</li> <li>• Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system</li> <li>• Locates the origin on a coordinate grid</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand</li> <li>• Rounds wholes numbers to the nearest billion</li> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Identifies equivalent fractions using visual representations</li> <li>• Identifies a fractions in lowest terms from a region or set</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Graphs ordered pairs in all quadrants</li> <li>• Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones)</li> <li>• Writes whole numbers in standard and exponential form</li> <li>• Identifies a fractions in lowest terms from a region or set</li> <li>• Rounds decimals to nearest thousandth</li> <li>• Determines simple equivalent fractions using multiples</li> <li>• Determines equivalent fractions using multiples</li> <li>• Compares fractions (e.g., comparing numerators and denominators)</li> <li>• Uses alternative algorithms to explain the meaning of "fraction"</li> <li>• Represents a decimal to thousandths place (e.g., three thousandths = 0.003)</li> <li>• Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)</li> <li>• Writes a decimal for a shaded region to the hundredths place</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Graphs ordered pairs in all quadrants</li> <li>• Simplifies rational expressions with absolute value</li> <li>• Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> <li>• Determines the relative magnitude of whole numbers</li> <li>• Writes whole numbers in standard and exponential form</li> <li>• Compares fractions (e.g., comparing numerators and denominators)</li> <li>• Rounds decimals to the nearest hundredth</li> <li>• Compares and orders decimal and fractional coordinates on a number line</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Identifies eighths, reduced to lowest terms, from a region or set</li> <li>Determines simple equivalent fractions using multiples</li> <li>Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>Compares fractions on a number line</li> <li>Compares fractions greater than or less than a given fraction using visual representations</li> <li>Compares fractions and mixed numbers</li> <li>Compares fractions and mixed numbers using symbols</li> <li>Orders fractions on a number line</li> <li>Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)</li> <li>Represents a decimal to the hundredths place (e.g., three hundredths = 0.03)</li> <li>Compares and orders decimals past the thousandths place</li> <li>Rounds decimals to the nearest whole number</li> <li>Rounds decimals to the nearest tenth</li> <li>Applies base ten place value concepts to solve problems using decimals</li> <li>Identifies an integer from a number line</li> <li>Compares two integers</li> <li>Orders integers on a number line</li> <li>Defines "integers"</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Compares and orders decimals to the hundredths place (not same number of digits after decimal)</li> <li>Compares and orders decimals to the thousandths place (not same number of digits after decimal)</li> <li>Compares and orders decimals past the thousandths place</li> <li>Rounds decimals to the nearest hundredth</li> <li>Identifies the place value and value of each digit to the hundredths and thousandths</li> <li>Applies base ten place value concepts to solve problems using decimals</li> <li>Compares two integers</li> <li>Orders integers on a number line</li> <li>Orders integers</li> <li>Locates rational numbers on a number line</li> <li>Orders rational numbers, in a/b form</li> <li>Orders fractions and decimals to the hundred thousandths</li> <li>Determines the relative magnitude of whole numbers</li> <li>Rounds whole numbers to the nearest million</li> <li>Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> </ul>	<p><b>Extend and Use Properties</b></p>
<p><i>New Vocabulary:</i> century, coin, common factor, decimal form, greatest common factor, how long, lowest term, lowest terms, reduce, triple</p>	<p><i>New Vocabulary:</i> real number, ten million</p>	<p><i>New Vocabulary:</i> discount, equality</p>
<p><i>New Signs and Symbols:</i> \$ dollar sign, hr hour, kg kilogram, - negative sign, ≠ not equal to, yd yard</p>	<p><i>New Signs and Symbols:</i> ( ) parenthesis around an integer, cm centimeter/centimetre, °C degrees Celsius, km kilometer/kilometre, mL milliliter/millilitre, # number, / per, + positive number, : ratio</p>	<p><i>New Signs and Symbols:</i>    absolute value, oz ounce</p>

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Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Solves real-world problems involving decimals (not money) using multiplication</li> <li>Solves problems involving ratios</li> <li>Solves 1-step problems involving proportions</li> <li>Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)</li> <li>Calculates a percent of a number (e.g., 6% of 30)</li> <li>Calculates a number from a percent (e.g., 4 is 9% of what)</li> <li>Solves problems involving percents</li> <li>Solves problems involving tax and tips</li> <li>Converts between inches, feet, and yards</li> <li>Converts between millimeters, centimeters, meters, and kilometers</li> <li>Uses dimensional analysis for unit conversions (length)</li> <li>Uses concrete and pictorial models to represent ratios</li> <li>Solves problems involving length in the customary system and converts to larger or smaller units</li> <li>Converts between ounces and pounds</li> <li>Converts between ounces, pounds, and tons</li> <li>Converts between cups, pints, quarts, and gallons</li> <li>Converts within the metric system</li> <li>Apply dimensional analysis to simple real-world problems (capacity)</li> <li>Solves problems involving capacity in the customary system and converts to larger or smaller units</li> <li>Computes 2-step conversions between units of time</li> <li>Applies dimensional analysis to simple real-world problems (time)</li> <li>Writes the missing number in a proportion with numbers other than basic facts (e.g., <math>5/13 = ?/117</math>)</li> <li>Solves complex problems involving miles per gallon</li> <li>Solves complex problems involving miles/kilometers per hour</li> <li>Solves problems involving rates</li> <li>Solves problems involving perimeter and converts to larger or smaller units</li> <li>Expresses a percent as a fraction and vice versa</li> <li>Interprets data given in circle graphs to solve complex problems (with percents)</li> <li>Writes a ratio as a percent and vice versa</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Writes a ratio as a percent and vice versa</li> <li>Identifies the ratio from a given real-world situation</li> <li>Uses estimation to solve problems involving proportional reasoning (decimals only)</li> <li>Solves real-world problems involving decimals (not money) using multiplication</li> <li>Solves problems involving equivalent fractions (analysis)</li> <li>Solves problems involving ratios</li> <li>Solves multiple-step problems involving proportions</li> <li>Calculates a percent of a number (e.g., 6% of 30)</li> <li>Calculates the percent one number is of another (e.g., 20 is what % of 90)</li> <li>Solves problems involving percents</li> <li>Solves problems involving percents (analysis)</li> <li>Solves problems involving simple percent discounts (e.g., finding sale price)</li> <li>Solves problems involving percent increase and decrease</li> <li>Solves problems involving tax and tips</li> <li>Calculates commission/deductions and total pay</li> <li>Converts between millimeters, centimeters, meters, and kilometers</li> <li>Uses dimensional analysis for unit conversions (length)</li> <li>Converts between the customary and metric system given conversion ratios (2-step, length)</li> <li>Apply dimensional analysis to simple real-world problems (length)</li> <li>Solves problems involving length in the customary system and converts to larger or smaller units</li> <li>Converts between grams and kilograms</li> <li>Solves problems involving weight in the customary system and converts to larger or smaller units</li> <li>Converts within the metric system</li> <li>Apply dimensional analysis to simple real-world problems (capacity)</li> <li>Solves problems involving capacity in the customary system and converts to larger or smaller units</li> <li>Solves complex problems involving miles per gallon</li> <li>Solves problems comparing unit prices</li> <li>Solves problems involving rates</li> <li>Interprets data given in circle graphs to solve complex problems (with percents)</li> <li>Expresses a percent as a fraction and vice versa</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Solves real-world problems involving decimals (not money) using multiplication</li> <li>Solves multiple-step problems involving proportions</li> <li>Solves problems involving a fractional increase</li> <li>Calculates the percent one number is of another (e.g., 20 is what % of 90)</li> <li>Calculates a percent of a rational number (e.g., 6% of 0.78)</li> <li>Solves problems involving percents (analysis)</li> <li>Solves problems involving simple percent discounts (e.g., finding sale price)</li> <li>Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)</li> <li>Calculates commission/deductions and total pay</li> <li>Solves problems involving successive discounts</li> <li>Uses dimensional analysis for unit conversions (length)</li> <li>Apply dimensional analysis to simple real-world problems (length)</li> <li>Solves problems involving weight in the customary system and converts to larger or smaller units</li> <li>Uses dimensional analysis for unit conversions (time)</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> <li>Identifies the ratio from a given real-world situation</li> </ul>

#### Explanatory Notes

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Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Divides a decimal by a decimal</li> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)</li> <li>• Multiplies multiple-digit numbers</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Solves real-world multiple-step problems involving whole numbers</li> <li>• Demonstrates an understanding of multiple properties</li> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> <li>• Adds fractions with unlike denominators without reducing</li> <li>• Adds fractions with unlike denominators with reducing or converting to a mixed fraction</li> <li>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>• Adds mixed fractions where converting from improper fractions is necessary</li> <li>• Subtracts fractions with like denominators with reducing</li> <li>• Subtracts fractions with unlike denominators without reducing</li> <li>• Subtracts fractions with unlike denominators with reducing</li> <li>• Subtracts mixed fractions with unlike denominators with no regrouping</li> <li>• Subtracts whole numbers, fractions, and mixed fractions</li> <li>• Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary</li> <li>• Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>• Multiplies a fraction by a fraction without reducing to simplest form (complex problem)</li> <li>• Multiplies a fraction by a fraction where reducing to simplest form is necessary</li> <li>• Multiplies a fraction by a whole number</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Identifies the additive inverse property</li> <li>• Divides multiple-digit numbers</li> <li>• Divides numbers by powers of 10</li> <li>• Adds fractions with unlike denominators with reducing or converting to a mixed fraction</li> <li>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>• Adds mixed fractions where converting from improper fractions is necessary</li> <li>• Subtracts whole numbers, fractions, and mixed fractions</li> <li>• Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary</li> <li>• Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>• Multiplies mixed fractions</li> <li>• Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms</li> <li>• Divides a fraction by a fraction</li> <li>• Divides a fraction by a whole number</li> <li>• Divides a whole number by a fraction</li> <li>• Divides a mixed fraction by a whole number</li> <li>• Divides a whole number by a mixed fraction</li> <li>• Divides a mixed fraction by a fraction</li> <li>• Divides a fraction by a mixed fraction</li> <li>• Divides a mixed fraction by a mixed fraction</li> <li>• Solves 2- or more step real-world problems involving fractions with multiplication and division</li> <li>• Solves problems involving fractions (e.g., multiple operations, conversions)</li> <li>• Subtracts a decimal from a whole number, horizontally</li> <li>• Multiplies a decimal by 10, 100, 1000</li> <li>• Divides a whole number by a decimal</li> <li>• Divides a decimal by 10, 100, 1000</li> <li>• Divides a decimal by a decimal</li> <li>• Adds integers with unlike signs</li> <li>• Adds several positive and negative integers</li> <li>• Subtracts integers</li> <li>• Solves problems involving addition and subtraction of integers</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>• Subtracts integers</li> <li>• Uses a number line to determine the distance between a positive and negative number</li> <li>• Uses the multiplicative inverse property with rational numbers</li> <li>• Uses factor and multiple concepts to solve difficult problems</li> <li>• Identifies the least common multiple of whole numbers</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Multiplies mixed fractions</li> <li>• Divides a fraction by a fraction</li> <li>• Divides a mixed fraction by a fraction</li> <li>• Solves 1-step real-world problems involving fractions with multiplication and division</li> <li>• Solves 2- or more step real-world problems involving fractions with multiplication and division</li> <li>• Solves problems involving fractions (e.g., multiple operations, conversions)</li> <li>• Adds decimals to the hundredths place in horizontal format (not same number of digits)</li> <li>• Adds decimals through the hundred-thousandths place</li> <li>• Subtracts decimals to the hundredths place (not same number of digits)</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, horizontally</li> <li>• Subtracts a decimal from a whole number, horizontally</li> <li>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)</li> <li>• Multiplies a decimal by a decimal (factors to hundredths)</li> <li>• Multiplies a decimal by 10, 100, 1000</li> <li>• Multiplies a decimal by a decimal (factors to thousandths)</li> <li>• Divides a decimal by 10, 100, 1000</li> <li>• Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division)</li> <li>• Computes the value of multiple bills and coins (multiplication/division)</li> <li>• Calculate the sum of integers using a number line</li> <li>• Adds integers with unlike signs</li> <li>• Adds several positive and negative integers</li> <li>• Uses models to add and subtract integers and connect the actions to algorithms</li> <li>• Subtracts integers</li> <li>• Solves real-world problems involving addition and subtraction of integers</li> <li>• Solves problems involving addition and subtraction of integers</li> <li>• Multiplies integers with unlike signs</li> <li>• Divides integers with unlike signs</li> <li>• Divides integers with like signs</li> <li>• Adds rational expressions in decimal form</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Multiplies integers with like signs</li> <li>• Divides integers with like signs</li> <li>• Subtracts rational expressions in decimal form</li> <li>• Multiplies rational expressions</li> <li>• Interprets data given in tables to solve problems</li> <li>• Writes a fraction as a decimal and vice versa</li> <li>• Writes a fraction as a mixed decimal and vice versa</li> </ul>	<p>Perform Operations</p>

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Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Identifies the additive inverse property</li> <li>Solves difficult problems involving elapsed time, with the conversion of hours</li> <li>Interprets data given in tables to solve problems</li> <li>Writes a simple mixed fraction as a decimal and vice versa</li> <li>Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>Determines factors of whole numbers</li> <li>Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility)</li> <li>Uses factor and multiple concepts to solve simple problems</li> <li>Identifies common factors of two or more numbers</li> <li>Identifies the greatest common factor of whole numbers</li> </ul>	<p><b>Perform Operations</b></p>	<p><b>Perform Operations</b></p>
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Graphs ordered pairs in all quadrants</li> <li>Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones)</li> <li>Writes whole numbers in standard and exponential form</li> <li>Identifies a fractions in lowest terms from a region or set</li> <li>Rounds decimals to nearest thousandth</li> <li>Determines simple equivalent fractions using multiples</li> <li>Determines equivalent fractions using multiples</li> <li>Compares fractions (e.g., comparing numerators and denominators)</li> <li>Uses alternative algorithms to explain the meaning of "fraction"</li> <li>Represents a decimal to thousandths place (e.g., three thousandths = 0.003)</li> <li>Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)</li> <li>Writes a decimal for a shaded region to the hundredths place</li> <li>Compares and orders decimals to the hundredths place (not same number of digits after decimal)</li> <li>Compares and orders decimals to the thousandths place (not same number of digits after decimal)</li> <li>Compares and orders decimals past the thousandths place</li> <li>Rounds decimals to the nearest hundredth</li> <li>Identifies the place value and value of each digit to the hundredths and thousandths</li> <li>Applies base ten place value concepts to solve problems using decimals</li> <li>Compares two integers</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Graphs ordered pairs in all quadrants</li> <li>Simplifies rational expressions with absolute value</li> <li>Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> <li>Determines the relative magnitude of whole numbers</li> <li>Writes whole numbers in standard and exponential form</li> <li>Compares fractions (e.g., comparing numerators and denominators)</li> <li>Rounds decimals to the nearest hundredth</li> <li>Compares and orders decimal and fractional coordinates on a number line</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Simplifies expressions containing square roots</li> <li>Estimates the square roots of numbers</li> <li>Uses expressions with absolute value to represent situations</li> <li>Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Orders integers on a number line</li> <li>• Orders integers</li> <li>• Locates rational numbers on a number line</li> <li>• Orders rational numbers, in a/b form</li> <li>• Orders fractions and decimals to the hundred thousandths</li> <li>• Determines the relative magnitude of whole numbers</li> <li>• Rounds whole numbers to the nearest million</li> <li>• Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> </ul>	<p>Extend and Use Properties</p>	<p>Extend and Use Properties</p>
<p><i>New Vocabulary:</i> real number, ten million</p>	<p><i>New Vocabulary:</i> discount, equality</p>	<p><i>New Vocabulary:</i> feet per second, least common multiple</p>
<p><i>New Signs and Symbols:</i> ( ) parenthesis around an integer, cm centimeter/centimetre, °C degrees Celsius, km kilometer/kilometre, mL milliliter/millilitre, # number, / per, + positive number, : ratio</p>	<p><i>New Signs and Symbols:</i>    absolute value, oz ounce</p>	<p><i>New Signs and Symbols:</i> LCM lowest common multiple, sec second, square root symbol</p>

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Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) 251 - 260
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Writes a ratio as a percent and vice versa</li> <li>Identifies the ratio from a given real-world situation</li> <li>Uses estimation to solve problems involving proportional reasoning (decimals only)</li> <li>Solves real-world problems involving decimals (not money) using multiplication</li> <li>Solves problems involving equivalent fractions (analysis)</li> <li>Solves problems involving ratios</li> <li>Solves multiple-step problems involving proportions</li> <li>Calculates a percent of a number (e.g., 6% of 30)</li> <li>Calculates the percent one number is of another (e.g., 20 is what % of 90)</li> <li>Solves problems involving percents</li> <li>Solves problems involving percents (analysis)</li> <li>Solves problems involving simple percent discounts (e.g., finding sale price)</li> <li>Solves problems involving percent increase and decrease</li> <li>Solves problems involving tax and tips</li> <li>Calculates commission/deductions and total pay</li> <li>Converts between millimeters, centimeters, meters, and kilometers</li> <li>Uses dimensional analysis for unit conversions (length)</li> <li>Converts between the customary and metric system given conversion ratios (2-step, length)</li> <li>Apply dimensional analysis to simple real-world problems (length)</li> <li>Solves problems involving length in the customary system and converts to larger or smaller units</li> <li>Converts between grams and kilograms</li> <li>Solves problems involving weight in the customary system and converts to larger or smaller units</li> <li>Converts within the metric system</li> <li>Apply dimensional analysis to simple real-world problems (capacity)</li> <li>Solves problems involving capacity in the customary system and converts to larger or smaller units</li> <li>Solves complex problems involving miles per gallon</li> <li>Solves problems comparing unit prices</li> <li>Solves problems involving rates</li> <li>Interprets data given in circle graphs to solve complex problems (with percents)</li> <li>Expresses a percent as a fraction and vice versa</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Solves real-world problems involving decimals (not money) using multiplication</li> <li>Solves multiple-step problems involving proportions</li> <li>Solves problems involving a fractional increase</li> <li>Calculates the percent one number is of another (e.g., 20 is what % of 90)</li> <li>Calculates a percent of a rational number (e.g., 6% of 0.78)</li> <li>Solves problems involving percents (analysis)</li> <li>Solves problems involving simple percent discounts (e.g., finding sale price)</li> <li>Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)</li> <li>Calculates commission/deductions and total pay</li> <li>Solves problems involving successive discounts</li> <li>Uses dimensional analysis for unit conversions (length)</li> <li>Apply dimensional analysis to simple real-world problems (length)</li> <li>Solves problems involving weight in the customary system and converts to larger or smaller units</li> <li>Uses dimensional analysis for unit conversions (time)</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> <li>Identifies the ratio from a given real-world situation</li> </ul>	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Solves problems involving successive discounts</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> <li>Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)</li> <li>Uses dimensional analysis for unit conversions (time)</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) 251 - 260
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Identifies the additive inverse property</li> <li>Divides multiple-digit numbers</li> <li>Divides numbers by powers of 10</li> <li>Adds fractions with unlike denominators with reducing or converting to a mixed fraction</li> <li>Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)</li> <li>Adds mixed fractions where converting from improper fractions is necessary</li> <li>Subtracts whole numbers, fractions, and mixed fractions</li> <li>Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary</li> <li>Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>Multiplies mixed fractions</li> <li>Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms</li> <li>Divides a fraction by a fraction</li> <li>Divides a fraction by a whole number</li> <li>Divides a whole number by a fraction</li> <li>Divides a mixed fraction by a whole number</li> <li>Divides a whole number by a mixed fraction</li> <li>Divides a mixed fraction by a fraction</li> <li>Divides a fraction by a mixed fraction</li> <li>Divides a mixed fraction by a mixed fraction</li> <li>Solves 2- or more step real-world problems involving fractions with multiplication and division</li> <li>Solves problems involving fractions (e.g., multiple operations, conversions)</li> <li>Subtracts a decimal from a whole number, horizontally</li> <li>Multiplies a decimal by 10, 100, 1000</li> <li>Divides a whole number by a decimal</li> <li>Divides a decimal by 10, 100, 1000</li> <li>Divides a decimal by a decimal</li> <li>Adds integers with unlike signs</li> <li>Adds several positive and negative integers</li> <li>Subtracts integers</li> <li>Solves problems involving addition and subtraction of integers</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Subtracts integers</li> <li>Uses a number line to determine the distance between a positive and negative number</li> <li>Uses the multiplicative inverse property with rational numbers</li> <li>Uses factor and multiple concepts to solve difficult problems</li> <li>Identifies the least common multiple of whole numbers</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Uses the additive inverse property with rational numbers</li> <li>Uses factor and multiple concepts to solve difficult problems</li> <li>Performs operations on complex numbers and expresses the results in simplest form</li> </ul>

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Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) 251 - 260
<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Multiplies integers with like signs</li> <li>• Divides integers with like signs</li> <li>• Subtracts rational expressions in decimal form</li> <li>• Multiplies rational expressions</li> <li>• Interprets data given in tables to solve problems</li> <li>• Writes a fraction as a decimal and vice versa</li> <li>• Writes a fraction as a mixed decimal and vice versa</li> </ul>	<p>Perform Operations</p>	<p>Perform Operations</p>
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Graphs ordered pairs in all quadrants</li> <li>• Simplifies rational expressions with absolute value</li> <li>• Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> <li>• Determines the relative magnitude of whole numbers</li> <li>• Writes whole numbers in standard and exponential form</li> <li>• Compares fractions (e.g., comparing numerators and denominators)</li> <li>• Rounds decimals to the nearest hundredth</li> <li>• Compares and orders decimal and fractional coordinates on a number line</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Simplifies expressions containing square roots</li> <li>• Estimates the square roots of numbers</li> <li>• Uses expressions with absolute value to represent situations</li> <li>• Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Simplifies expressions containing square roots</li> <li>• Uses expressions with absolute value to represent situations</li> <li>• Simplifies radical expressions</li> </ul>
<p><i>New Vocabulary:</i> discount, equality</p>	<p><i>New Vocabulary:</i> feet per second, least common multiple</p>	<p><i>New Vocabulary:</i> None</p>
<p><i>New Signs and Symbols:</i>    absolute value, oz ounce</p>	<p><i>New Signs and Symbols:</i> LCM lowest common multiple, sec second, square root symbol</p>	<p><i>New Signs and Symbols:</i> i square root of -1</p>

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Skills and concepts to Enhance (73% Probability*) 241 - 250	Skills and Concepts to Develop (50% Probability*) 251 - 260	Skills and Concepts to Introduce (27% Probability*) > 260
<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>Solves real-world problems involving decimals (not money) using multiplication</li> <li>Solves multiple-step problems involving proportions</li> <li>Solves problems involving a fractional increase</li> <li>Calculates the percent one number is of another (e.g., 20 is what % of 90)</li> <li>Calculates a percent of a rational number (e.g., 6% of 0.78)</li> <li>Solves problems involving percents (analysis)</li> <li>Solves problems involving simple percent discounts (e.g., finding sale price)</li> <li>Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)</li> <li>Calculates commission/deductions and total pay</li> <li>Solves problems involving successive discounts</li> <li>Uses dimensional analysis for unit conversions (length)</li> <li>Apply dimensional analysis to simple real-world problems (length)</li> <li>Solves problems involving weight in the customary system and converts to larger or smaller units</li> <li>Uses dimensional analysis for unit conversions (time)</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> <li>Identifies the ratio from a given real-world situation</li> </ul>	<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>Solves problems involving successive discounts</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> <li>Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)</li> <li>Uses dimensional analysis for unit conversions (time)</li> </ul>	<p><b>Ratios and Proportional Relationships</b></p> <ul style="list-style-type: none"> <li>Solves problems involving successive discounts</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> </ul>
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Subtracts integers</li> <li>Uses a number line to determine the distance between a positive and negative number</li> <li>Uses the multiplicative inverse property with rational numbers</li> <li>Uses factor and multiple concepts to solve difficult problems</li> <li>Identifies the least common multiple of whole numbers</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Uses the additive inverse property with rational numbers</li> <li>Uses factor and multiple concepts to solve difficult problems</li> <li>Performs operations on complex numbers and expresses the results in simplest form</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Performs operations on complex numbers and expresses the results in simplest form</li> </ul>
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Simplifies expressions containing square roots</li> <li>Estimates the square roots of numbers</li> <li>Uses expressions with absolute value to represent situations</li> <li>Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines)</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Simplifies expressions containing square roots</li> <li>Uses expressions with absolute value to represent situations</li> <li>Simplifies radical expressions</li> </ul>	<p><b>Extend and Use Properties</b></p>
<p><i>New Vocabulary:</i> feet per second, least common multiple</p>	<p><i>New Vocabulary:</i> None</p>	<p><i>New Vocabulary:</i> None</p>
<p><i>New Signs and Symbols:</i> LCM lowest common multiple, sec second, square root symbol</p>	<p><i>New Signs and Symbols:</i> <math>i</math> square root of -1</p>	<p><i>New Signs and Symbols:</i> None</p>

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Skills and concepts to Enhance (73% Probability*) 251 - 260	Skills and Concepts to Develop (50% Probability*) > 260
<b>Ratios and Proportional Relationships</b>	<b>Ratios and Proportional Relationships</b>
<ul style="list-style-type: none"> <li>Solves problems involving successive discounts</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> <li>Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)</li> <li>Uses dimensional analysis for unit conversions (time)</li> </ul>	<ul style="list-style-type: none"> <li>Solves problems involving successive discounts</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> </ul>
<b>Perform Operations</b>	<b>Perform Operations</b>
<ul style="list-style-type: none"> <li>Uses the additive inverse property with rational numbers</li> <li>Uses factor and multiple concepts to solve difficult problems</li> <li>Performs operations on complex numbers and expresses the results in simplest form</li> </ul>	<ul style="list-style-type: none"> <li>Performs operations on complex numbers and expresses the results in simplest form</li> </ul>
<b>Extend and Use Properties</b>	<b>Extend and Use Properties</b>
<ul style="list-style-type: none"> <li>Simplifies expressions containing square roots</li> <li>Uses expressions with absolute value to represent situations</li> <li>Simplifies radical expressions</li> </ul>	
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> $i$ square root of $-1$	<i>New Signs and Symbols:</i> None

### Explanatory Notes

\* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.