

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>• 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 1-digit to multiple-digit number with no regrouping</li> </ul>	<ul style="list-style-type: none"> <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> <li>• Adds 1-digit to multiple-digit number with regrouping</li> <li>• Adds 2-digit numbers with no regrouping</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>• 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>• Orders whole numbers less than 10</li> <li>• Identifies missing numbers in a series through 100</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>• Counts 1 to 10 objects</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> </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 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>• Writes whole numbers in standard and expanded form through the tens</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, 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>• Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)</li> <li>• Completes a growing arithmetic pattern by naming missing members</li> </ul>
Perform Operations <ul style="list-style-type: none"> <li>• Adds 1-digit to multiple-digit number with regrouping</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 1-digit to multiple-digit number with no regrouping</li> </ul>	Perform Operations <ul style="list-style-type: none"> <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> <li>• Adds 1-digit to multiple-digit number with regrouping</li> <li>• Adds 2-digit numbers with no regrouping</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>• 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>• Orders whole numbers less than 10</li> <li>• Identifies missing numbers in a series through 100</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>• Counts 1 to 10 objects</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> </ul>	Perform Operations <ul style="list-style-type: none"> <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 no regrouping</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</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>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Identifies missing numbers in a series through 100</li> <li>• Counts backwards from a given number (given number greater than 10)</li> </ul>
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>	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> <li>• Writes whole numbers in standard and expanded form through the tens</li> </ul>	Extend and Use Properties <ul style="list-style-type: none"> <li>• Counts objects that are grouped into tens and ones</li> <li>• Represents 1/4 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>• Represents 1/2 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 the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>• Counts by 2's to 100</li> </ul>

### 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
Extend and Use Properties	Extend and Use Properties	Extend and Use Properties
		<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> <li>• Compares whole numbers through 999</li> <li>• Orders sets of objects 0-10</li> <li>• Identifies one-half from a region or set</li> </ul>
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> fact family, fourth, hundred, thirds, thousand
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> + addition, = is equal to, x multiplication, variable	<i>New Signs and Symbols:</i> - subtraction

### Explanatory Notes

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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>• Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)</li> <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>• Determines more capacity or less capacity</li> <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>• 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> <li>• Adds 1-digit to multiple-digit number with regrouping</li> <li>• Adds 2-digit numbers with no regrouping</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>• 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>• Orders whole numbers less than 10</li> <li>• Identifies missing numbers in a series through 100</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>• Counts 1 to 10 objects</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> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <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 no regrouping</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</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>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Identifies missing numbers in a series through 100</li> <li>• Counts backwards from a given number (given number greater than 10)</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <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>• Uses models to calculate differences through 100 (whole numbers)</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>• Performs mental subtraction with numbers under 1000</li> <li>• Subtracts multiple-digit numbers with no regrouping</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>• 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>• Recognizes addition and subtraction fact families through 18</li> <li>• Demonstrates an understanding of the zero property of multiplication</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Adds money with regrouping</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	Perform Operations
		<ul style="list-style-type: none"> <li>Identifies the number that is "1 less than" a given number</li> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)</li> <li>Compares whole numbers through 9999</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> <li>Writes whole numbers in standard and expanded form through the tens</li> </ul>	<ul style="list-style-type: none"> <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 the place value and value of each digit in whole numbers through the tens place</li> <li>Represents <math>\frac{1}{2}</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 the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>Counts by 2's to 100</li> <li>Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)</li> <li>Compares whole numbers through 999</li> <li>Orders sets of objects 0-10</li> <li>Identifies one-half from a region or set</li> </ul>	<ul style="list-style-type: none"> <li>Reads data in a line graph - no calculations</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>Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>Rounds 3-digit whole numbers to the nearest hundred</li> <li>Counts objects that are grouped into tens and ones</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> <li>Distinguishes between odd and even numbers</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
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> fact family, fourth, hundred, thirds, thousand	<i>New Vocabulary:</i> closest, digit, fourths, hundreds, millimeter, million, nearest, one, ten thousand
<i>New Signs and Symbols:</i> + addition, = is equal to, × multiplication, variable	<i>New Signs and Symbols:</i> - subtraction	<i>New Signs and Symbols:</i> { } set notation, \$ dollar sign, long division symbol

### 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>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>• Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)</li> <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>• Determines more capacity or less capacity</li> <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 problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> <li>• Computes basic operations with units of weight/mass</li> <li>• Converts between cups and pints</li> <li>• Converts between cups, pints, and quarts</li> <li>• Computes simple conversions among units of time (minutes, hours)</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>Perform Operations</p> <ul style="list-style-type: none"> <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 no regrouping</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</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>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Identifies missing numbers in a series through 100</li> <li>• Counts backwards from a given number (given number greater than 10)</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <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>• Uses models to calculate differences through 100 (whole numbers)</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>• Performs mental subtraction with numbers under 1000</li> <li>• Subtracts multiple-digit numbers with no regrouping</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>• 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> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Performs mental computation with multiplication</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>• 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 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>• 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>• Demonstrates an understanding of the zero property of multiplication</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>Perform Operations</p>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Recognizes addition and subtraction fact families through 18</li> <li>• Demonstrates an understanding of the zero property of multiplication</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Adds money with regrouping</li> <li>• Identifies the number that is "1 less than" a given number</li> <li>• Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)</li> <li>• Compares whole numbers through 9999</li> </ul>	<p>Perform Operations</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>• 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>• Adds money with regrouping</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Multiplies a decimal by whole number</li> <li>• Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)</li> <li>• Identifies numbers as composite</li> </ul>
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <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 the place value and value of each digit in whole numbers through the tens place</li> <li>• Represents <math>\frac{1}{2}</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 the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)</li> <li>• Counts by 2's to 100</li> <li>• Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)</li> <li>• Compares whole numbers through 999</li> <li>• Orders sets of objects 0-10</li> <li>• Identifies one-half from a region or set</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Reads data in a line graph - no calculations</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>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Counts objects that are grouped into tens and ones</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> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Reads data in a line graph - no calculations</li> <li>• Identifies whole numbers over 999 using base-10 blocks</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 the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</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>• 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> </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
Extend and Use Properties	Extend and Use Properties <ul style="list-style-type: none"> <li>Identifies equal parts by using models</li> <li>Identifies 1/2 from a region or set</li> <li>Identifies one-half from a region or set</li> <li>Identifies 1/4 from a region or set</li> <li>Identifies 2/4, 3/4, or 4/4 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> <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> <li>Distinguishes between odd and even numbers</li> </ul>	Extend and Use Properties <ul style="list-style-type: none"> <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> <li>Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> <li>Identifies equivalent fractions using visual representations</li> <li>Matches numeric and visual representation of equivalent fractions</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>Distinguishes between odd and even numbers</li> <li>Rounds 3-digit whole numbers to the nearest hundred</li> </ul>
<i>New Vocabulary:</i> fact family, fourth, hundred, thirds, thousand	<i>New Vocabulary:</i> closest, digit, fourths, hundreds, millimeter, million, nearest, one, ten thousand	<i>New Vocabulary:</i> billion, composite number, decade, grid, hundred million, miles per hour, prime number, quintillion, standard numeral, trillion
<i>New Signs and Symbols:</i> - subtraction	<i>New Signs and Symbols:</i> { } set notation, \$ dollar sign, long division symbol	<i>New Signs and Symbols:</i> ( ) ordered pair, °F degrees Fahrenheit, > greater than, < less than, mph miles per hour, % percent, • point, R remainder

### 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>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Determines more capacity or less capacity</li> <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 problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> <li>Computes basic operations with units of weight/mass</li> <li>Converts between cups and pints</li> <li>Converts between cups, pints, and quarts</li> <li>Computes simple conversions among units of time (minutes, hours)</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>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Identifies the percent represented in a 2-D region</li> <li>Knows the approximate size of a yard</li> <li>Converts between inches and feet</li> <li>Solves simple problems involving measurement of length</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>Identifies the percent represented in a given model</li> <li>Determines unit price</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>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>Uses models to calculate differences through 100 (whole numbers)</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>Performs mental subtraction with numbers under 1000</li> <li>Subtracts multiple-digit numbers with no regrouping</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> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>Performs mental computation with multiplication</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>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 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> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>Subtracts numbers with 5 digits or more with regrouping</li> <li>Performs mental computation with multiplication</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>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>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>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> <li>Performs mental computation with division</li> <li>Divides a 3-digit number by a 1-digit number with no remainder</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>• 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>• Recognizes addition and subtraction fact families through 18</li> <li>• Demonstrates an understanding of the zero property of multiplication</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Adds money with regrouping</li> <li>• Identifies the number that is "1 less than" a given number</li> <li>• Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)</li> <li>• Compares whole numbers through 9999</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <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>• Demonstrates an understanding of the zero property of multiplication</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 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>• Adds money with regrouping</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Multiplies a decimal by whole number</li> <li>• Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)</li> <li>• Identifies numbers as composite</li> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <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>• 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>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</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 through the hundred-thousandths place, vertically</li> <li>• Multiplies a decimal by whole number</li> <li>• Divides decimal by a whole number</li> <li>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> </ul>
<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Reads data in a line graph - no calculations</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>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Counts objects that are grouped into tens and ones</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>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Reads data in a line graph - no calculations</li> <li>• Identifies whole numbers over 999 using base-10 blocks</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 the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</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> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</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>• Locates the origin on a coordinate grid</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 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> </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>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> <li>Distinguishes between odd and even numbers</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Compares whole numbers through the thousands using the symbols <math>&lt;</math>, <math>&gt;</math>, or <math>=</math></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> <li>Identifies equivalent fractions using visual representations</li> <li>Matches numeric and visual representation of equivalent fractions</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>Distinguishes between odd and even numbers</li> <li>Rounds 3-digit whole numbers to the nearest hundred</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <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 whole numbers to the nearest billion</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>Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</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>Compares integers on a number line</li> <li>Writes a terminating decimal as a fraction or mixed number</li> </ul>
<p><i>New Vocabulary:</i> closest, digit, fourths, hundreds, millimeter, million, nearest, one, ten thousand</p>	<p><i>New Vocabulary:</i> billion, composite number, decade, 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, \$ dollar sign, long division symbol</p>	<p><i>New Signs and Symbols:</i> ( ) ordered pair, °F degrees Fahrenheit, &gt; greater than, &lt; less than, mph miles per hour, % percent, • point, R remainder</p>	<p><i>New Signs and Symbols:</i> ¢ cent sign, ft feet, in. inch, min minute, mpg miles per gallon, - negative number</p>

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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 problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> <li>Computes basic operations with units of weight/mass</li> <li>Converts between cups and pints</li> <li>Converts between cups, pints, and quarts</li> <li>Computes simple conversions among units of time (minutes, hours)</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>Identifies the percent represented in a 2-D region</li> <li>Knows the approximate size of a yard</li> <li>Converts between inches and feet</li> <li>Solves simple problems involving measurement of length</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>Identifies the percent represented in a given model</li> <li>Determines unit price</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>Knows the approximate size of a millimeter</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>Relates years, decades, centuries, and millenniums</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> <li>Identifies the percent represented in a given model</li> </ul>
<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Performs mental computation with multiplication</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>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> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Subtracts numbers with 5 digits or more with regrouping</li> <li>Performs mental computation with multiplication</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>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> </ul>	<p><b>Perform Operations</b></p> <ul style="list-style-type: none"> <li>Performs mental computation with multiplication</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>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>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>Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</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> <ul style="list-style-type: none"> <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>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>Demonstrates an understanding of the zero property of multiplication</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 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>Adds money with regrouping</li> <li>Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>Multiplies a decimal by whole number</li> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)</li> <li>Identifies numbers as composite</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <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>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> <li>Performs mental computation with division</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>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>Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</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 through the hundred-thousandths place, vertically</li> <li>Multiplies a decimal by whole number</li> <li>Divides decimal by a whole number</li> <li>Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <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>Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>Demonstrates an understanding of the associative property of multiplication</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 like denominators with no regrouping</li> <li>Subtracts mixed fractions with unlike denominators with no regrouping</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>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>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>Adds integers with like signs</li> <li>Uses models to add and subtract integers and connect the actions to algorithms</li> <li>Multiplies integers with unlike signs</li> <li>Divides integers with unlike signs</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>Perform Operations</p>	<p>Perform Operations</p>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Divides integers with like signs</li> <li>• Demonstrates an understanding that division by 0 is undefined</li> <li>• Writes a simple mixed fraction 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>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Reads data in a line graph - no calculations</li> <li>• Identifies whole numbers over 999 using base-10 blocks</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 the numeral and written name for whole numbers with a zero between digits to the ten thousands place</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</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>• 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> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</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>• Locates the origin on a coordinate grid</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 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>• 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> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Predicts the relative size of the answer when computing with 10's, 100's, 1000's</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>• Converts fractions to lowest terms</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>• 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> </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 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> <li>Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> <li>Identifies equivalent fractions using visual representations</li> <li>Matches numeric and visual representation of equivalent fractions</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>Distinguishes between odd and even numbers</li> <li>Rounds 3-digit whole numbers to the nearest hundred</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <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>Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</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>Compares integers on a number line</li> <li>Writes a terminating decimal as a fraction or mixed number</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>Orders integers on a number line</li> <li>Defines "integers"</li> <li>Expresses a simple fraction as a decimal</li> <li>Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> </ul>
<p><i>New Vocabulary:</i> billion, composite number, decade, 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 Vocabulary:</i> century, common factor, decimal form, greatest common factor, integer, lowest term, lowest terms, reduce</p>
<p><i>New Signs and Symbols:</i> ( ) ordered pair, °F degrees Fahrenheit, &gt; greater than, &lt; less than, mph miles per hour, % percent, • point, R remainder</p>	<p><i>New Signs and Symbols:</i> ¢ cent sign, ft feet, in. inch, min minute, mpg miles per gallon, - negative number</p>	<p><i>New Signs and Symbols:</i> ( ) order of operations, ( ) parenthesis around an integer, ÷ division, 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>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> <li>Identifies the percent represented in a 2-D region</li> <li>Knows the approximate size of a yard</li> <li>Converts between inches and feet</li> <li>Solves simple problems involving measurement of length</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>Identifies the percent represented in a given model</li> <li>Determines unit price</li> <li>Writes the missing number in a proportion using basic facts</li> </ul>	<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>Knows the approximate size of a millimeter</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>Relates years, decades, centuries, and millenniums</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> <li>Identifies the percent represented in a given model</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 real-world problems involving rate of pay</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>Measures length to the nearest millimeter</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>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 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>Relates years, decades, centuries, and millenniums</li> <li>Computes 2-step conversions between units of time</li> <li>Applies dimensional analysis to simple real-world problems (time)</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>Uses alternative algorithms to explain the meaning of "fraction"</li> <li>Writes a ratio as a decimal and vice versa</li> <li>Expresses a percent as a fraction and vice versa</li> <li>Writes a ratio as a percent and vice versa</li> <li>Uses concrete and pictorial models to represent ratios</li> <li>Writes the missing number in a proportion with numbers other than basic facts (e.g., <math>5/13 = ?/117</math>)</li> </ul>
<p>Perform Operations</p> <ul style="list-style-type: none"> <li>Subtracts numbers with 5 digits or more with regrouping</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>Performs mental computation with multiplication</li> </ul>	<p>Perform Operations</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>Perform Operations</p> <ul style="list-style-type: none"> <li>• Performs mental computation with multiplication</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>• 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>• 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>• 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> <li>• Performs mental computation with division</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>• 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>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</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 through the hundred-thousandths place, vertically</li> <li>• Multiplies a decimal by whole number</li> <li>• Divides decimal by a whole number</li> <li>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (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>• 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>• 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>• Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>• Demonstrates an understanding of the associative property of multiplication</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 like denominators with no regrouping</li> <li>• Subtracts mixed fractions with unlike denominators with no regrouping</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>• Adds decimals to the hundredths place in horizontal format (not same number of digits)</li> </ul>	<p>Perform Operations</p> <ul style="list-style-type: none"> <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>• 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>• 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> <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> </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>• 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>• 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>• Adds integers with like signs</li> <li>• Uses models to add and subtract integers and connect the actions to algorithms</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>• Writes a simple mixed fraction 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>• 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>• Divides a decimal by a decimal</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>• 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> <li>• Interprets data given in tables to solve problems</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</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>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</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>• Locates the origin on a coordinate grid</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 over 100,000</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Predicts the relative size of the answer when computing with 10's, 100's, 1000's</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>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Graphs ordered pairs in all quadrants</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>• Rounds whole numbers to the nearest million</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>• 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>• Writes a decimal for a shaded region to the hundredths place</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>• 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>• 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> <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>3/3</math>, <math>4/4</math>)</li> <li>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)</li> <li>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</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>• Compares integers on a number line</li> <li>• Writes a terminating decimal as a fraction or mixed number</li> </ul>	<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>• Converts fractions to lowest terms</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>• 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> <li>• Expresses a simple fraction as a decimal</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Rounds decimals to the nearest hundredth</li> <li>• Rounds decimals to nearest thousandth</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 <math>a/b</math> form</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• Orders fractions and decimals to the hundred thousandths</li> </ul>
<p><i>New Vocabulary:</i> biggest, coordinate, coordinate point, expanded numeral, larger, miles per gallon, origin</p> <p><i>New Signs and Symbols:</i> ¢ cent sign, ft feet, in. inch, min minute, mpg miles per gallon, - negative number</p>	<p><i>New Vocabulary:</i> century, common factor, decimal form, greatest common factor, integer, lowest term, lowest terms, reduce</p> <p><i>New Signs and Symbols:</i> ( ) order of operations, ( ) parenthesis around an integer, ÷ division, kg kilogram, - negative sign, ≠ not equal to, yd yard</p>	<p><i>New Vocabulary:</i> real number, ten million</p> <p><i>New Signs and Symbols:</i> cm centimeter/centimetre, °C degrees Celsius, hr hour, km kilometer/kilometre, lb pound, ↔ line symbol, m meter/metre, mL milliliter/millilitre, mm millimeter/millimetre, # number, / per, + positive number, : ratio, segment overbar</p>

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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>Knows the approximate size of a millimeter</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>Relates years, decades, centuries, and millenniums</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> <li>Identifies the percent represented in a given model</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 real-world problems involving rate of pay</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>Measures length to the nearest millimeter</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>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 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>Relates years, decades, centuries, and millenniums</li> <li>Computes 2-step conversions between units of time</li> <li>Applies dimensional analysis to simple real-world problems (time)</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>Uses alternative algorithms to explain the meaning of "fraction"</li> <li>Writes a ratio as a decimal and vice versa</li> <li>Expresses a percent as a fraction and vice versa</li> <li>Writes a ratio as a percent and vice versa</li> <li>Uses concrete and pictorial models to represent ratios</li> <li>Writes the missing number in a proportion with numbers other than basic facts (e.g., <math>5/13 = ?/117</math>)</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 real-world problems involving rate of pay</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>Measures length to the nearest millimeter</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 problems involving capacity in the metric 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>Writes a ratio as a decimal and vice versa</li> <li>Expresses a percent as a fraction and vice versa</li> <li>Writes a ratio as a percent 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
Ratios and Proportional Relationships	Ratios and Proportional Relationships	Ratios and Proportional Relationships
		<ul style="list-style-type: none"> <li>Identifies the ratio from a given real-world situation</li> </ul>
Perform Operations	Perform Operations	Perform Operations
<ul style="list-style-type: none"> <li>Performs mental computation with multiplication</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>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>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>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>Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>Demonstrates an understanding of the associative property of multiplication</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 like denominators with no regrouping</li> <li>Subtracts mixed fractions with unlike denominators with no regrouping</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> </ul>	<ul style="list-style-type: none"> <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>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>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> <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> </ul>	<ul style="list-style-type: none"> <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>Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>Multiplies mixed fractions</li> <li>Divides a whole number by a fraction</li> <li>Divides a fraction by a mixed fraction</li> <li>Divides a mixed fraction by a mixed fraction</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>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>Identifies the additive inverse property</li> <li>Performs basic operations on matrices</li> <li>Interprets data given in tables to solve problems</li> <li>Writes a fraction as a mixed decimal 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>• Multiplies a fraction by a whole number</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>• 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>• Adds integers with like signs</li> <li>• Uses models to add and subtract integers and connect the actions to algorithms</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>• Writes a simple mixed fraction 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>• 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>• Divides a decimal by a decimal</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>• 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> <li>• Interprets data given in tables to solve problems</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</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>• Predicts the relative size of the answer when computing with 10's, 100's, 1000's</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> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Graphs ordered pairs in all quadrants</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>• Rounds whole numbers to the nearest million</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>• Determines simple equivalent fractions using multiples</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>• Predicts the relative size of the answer when dividing a smaller whole number by a larger whole number</li> <li>• Applies rules for multiplying and dividing powers</li> <li>• Simplifies rational expressions with absolute value</li> <li>• Graphs ordered pairs in all quadrants</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> </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>Extend and Use Properties</p> <ul style="list-style-type: none"> <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>Converts fractions to lowest terms</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>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> <li>Expresses a simple fraction as a decimal</li> <li>Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>Determines equivalent fractions using multiples</li> <li>Compares fractions (e.g., comparing numerators and denominators)</li> <li>Writes a decimal for a shaded region to the hundredths place</li> <li>Rounds decimals to the nearest hundredth</li> <li>Rounds decimals to nearest thousandth</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>Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>Orders fractions and decimals to the hundred thousandths</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <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>Writes a fraction as a decimal and vice versa</li> <li>Compares and orders decimal and fractional coordinates on a number line</li> </ul>
<p><i>New Vocabulary:</i> century, common factor, decimal form, greatest common factor, integer, lowest term, lowest terms, reduce</p>	<p><i>New Vocabulary:</i> real number, ten million</p>	<p><i>New Vocabulary:</i> equality, matrix</p>
<p><i>New Signs and Symbols:</i> ( ) order of operations, ( ) parenthesis around an integer, ÷ division, kg kilogram, - negative sign, ≠ not equal to, yd yard</p>	<p><i>New Signs and Symbols:</i> cm centimeter/centimetre, °C degrees Celsius, hr hour, km kilometer/kilometre, lb pound, ↔ line symbol, m meter/etre, mL milliliter/millilitre, mm millimeter/millimetre, # number, / per, + positive number, : ratio, segment overbar</p>	<p><i>New Signs and Symbols:</i>    absolute value, g gram, oz ounce</p>

### 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>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 real-world problems involving rate of pay</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>Measures length to the nearest millimeter</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>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 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>Relates years, decades, centuries, and millenniums</li> <li>Computes 2-step conversions between units of time</li> <li>Applies dimensional analysis to simple real-world problems (time)</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>Uses alternative algorithms to explain the meaning of "fraction"</li> <li>Writes a ratio as a decimal and vice versa</li> <li>Expresses a percent as a fraction and vice versa</li> <li>Writes a ratio as a percent and vice versa</li> <li>Uses concrete and pictorial models to represent ratios</li> <li>Writes the missing number in a proportion with numbers other than basic facts (e.g., <math>5/13 = ?/117</math>)</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 real-world problems involving rate of pay</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>Measures length to the nearest millimeter</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 problems involving capacity in the metric 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>Writes a ratio as a decimal and vice versa</li> <li>Expresses a percent as a fraction and vice versa</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>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>Solves problems involving capacity in the metric 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
Ratios and Proportional Relationships	Ratios and Proportional Relationships	Ratios and Proportional Relationships
	<ul style="list-style-type: none"> <li>Identifies the ratio from a given real-world situation</li> </ul>	
Perform Operations	Perform Operations	Perform Operations
<ul style="list-style-type: none"> <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>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>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> <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> </ul>	<ul style="list-style-type: none"> <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>Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>Multiplies mixed fractions</li> <li>Divides a whole number by a fraction</li> <li>Divides a fraction by a mixed fraction</li> <li>Divides a mixed fraction by a mixed fraction</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>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>Identifies the additive inverse property</li> <li>Performs basic operations on matrices</li> <li>Interprets data given in tables to solve problems</li> <li>Writes a fraction as a mixed decimal and vice versa</li> </ul>	<ul style="list-style-type: none"> <li>Uses a number line to determine the distance between a positive and negative number</li> <li>Subtracts integers</li> <li>Performs basic operations on matrices</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><b>Perform Operations</b></p> <ul style="list-style-type: none"> <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>Divides a decimal by a decimal</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>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> <li>Interprets data given in tables to solve problems</li> <li>Writes a simple mixed fraction as a decimal and vice versa</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>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>Rounds whole numbers to the nearest million</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>Determines simple equivalent fractions using multiples</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Predicts the relative size of the answer when dividing a smaller whole number by a larger whole number</li> <li>Applies rules for multiplying and dividing powers</li> <li>Simplifies rational expressions with absolute value</li> <li>Graphs ordered pairs in all quadrants</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> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Evaluates expressions using the order of operations, including exponents (using integers)</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>• Determines equivalent fractions using multiples</li> <li>• Compares fractions (e.g., comparing numerators and denominators)</li> <li>• Writes a decimal for a shaded region to the hundredths place</li> <li>• Rounds decimals to the nearest hundredth</li> <li>• Rounds decimals to nearest thousandth</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>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• Orders fractions and decimals to the hundred thousandths</li> </ul>	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> <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>• Writes a fraction as a decimal and vice versa</li> <li>• Compares and orders decimal and fractional coordinates on a number line</li> </ul>	<p>Extend and Use Properties</p>
<p><i>New Vocabulary:</i> real number, ten million</p>	<p><i>New Vocabulary:</i> equality, matrix</p>	<p><i>New Vocabulary:</i> feet per second, least common multiple</p>
<p><i>New Signs and Symbols:</i> cm centimeter/centimetre, °C degrees Celsius, hr hour, km kilometer/kilometre, lb pound, ↔ line symbol, m meter/etre, mL milliliter/millilitre, mm millimeter/millimetre, # number, / per, + positive number, : ratio, segment overbar</p>	<p><i>New Signs and Symbols:</i>    absolute value, g gram, 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>• Solves real-world problems involving decimals (not money) using multiplication</li> <li>• Solves real-world problems involving rate of pay</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>• Measures length to the nearest millimeter</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 problems involving capacity in the metric 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>• Writes a ratio as a decimal and vice versa</li> <li>• Expresses a percent as a fraction and vice versa</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>• 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>• Solves problems involving capacity in the metric 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 complex percent discounts (e.g., finding percent discount, regular price)</li> <li>• Solves problems involving successive discounts</li> <li>• Uses dimensional analysis for unit conversions (time)</li> <li>• Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</li> </ul>

#### Explanatory Notes

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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
<b>Ratios and Proportional Relationships</b>	<b>Ratios and Proportional Relationships</b>	<b>Ratios and Proportional Relationships</b>
<ul style="list-style-type: none"> <li>Identifies the ratio from a given real-world situation</li> </ul>		
<b>Perform Operations</b>	<b>Perform Operations</b>	<b>Perform Operations</b>
<ul style="list-style-type: none"> <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>Uses models to multiply and divide fractions and connect the actions to algorithms</li> <li>Multiplies mixed fractions</li> <li>Divides a whole number by a fraction</li> <li>Divides a fraction by a mixed fraction</li> <li>Divides a mixed fraction by a mixed fraction</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>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>Identifies the additive inverse property</li> <li>Performs basic operations on matrices</li> <li>Interprets data given in tables to solve problems</li> <li>Writes a fraction as a mixed decimal and vice versa</li> </ul>	<ul style="list-style-type: none"> <li>Uses a number line to determine the distance between a positive and negative number</li> <li>Subtracts integers</li> <li>Performs basic operations on matrices</li> <li>Uses factor and multiple concepts to solve difficult problems</li> <li>Identifies the least common multiple of whole numbers</li> </ul>	<ul style="list-style-type: none"> <li>Uses the additive inverse property with rational numbers</li> <li>Performs operations on complex numbers and expresses the results in simplest form</li> <li>Performs basic operations on matrices</li> <li>Uses factor and multiple concepts to solve difficult problems</li> </ul>
<b>Extend and Use Properties</b>	<b>Extend and Use Properties</b>	<b>Extend and Use Properties</b>
<ul style="list-style-type: none"> <li>Predicts the relative size of the answer when dividing a smaller whole number by a larger whole number</li> </ul>	<ul style="list-style-type: none"> <li>Evaluates expressions using the order of operations, including exponents (using integers)</li> </ul>	<ul style="list-style-type: none"> <li>Simplifies rational expressions with exponents</li> <li>Simplifies radical expressions</li> </ul>

### Explanatory Notes

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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>Extend and Use Properties</p> <ul style="list-style-type: none"> <li>• Applies rules for multiplying and dividing powers</li> <li>• Simplifies rational expressions with absolute value</li> <li>• Graphs ordered pairs in all quadrants</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>• Writes a fraction as a decimal and vice versa</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>• 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>• Uses expressions with absolute value to represent situations</li> <li>• Uses fractional and negative exponents as optional ways of representing problem situations (e.g., <math>27^{2/3} = (27^{1/3})^2 = 9</math>)</li> </ul>
<p><i>New Vocabulary:</i> equality, matrix</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, g gram, 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>

### Explanatory Notes

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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>Solves problems involving capacity in the metric 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 complex percent discounts (e.g., finding percent discount, regular price)</li> <li>Solves problems involving successive discounts</li> <li>Uses dimensional analysis for unit conversions (time)</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</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>Uses a number line to determine the distance between a positive and negative number</li> <li>Subtracts integers</li> <li>Performs basic operations on matrices</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>Performs operations on complex numbers and expresses the results in simplest form</li> <li>Performs basic operations on matrices</li> <li>Uses factor and multiple concepts to solve difficult problems</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>Evaluates expressions using the order of operations, including exponents (using integers)</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 rational expressions with exponents</li> <li>Simplifies radical expressions</li> <li>Uses expressions with absolute value to represent situations</li> <li>Uses fractional and negative exponents as optional ways of representing problem situations (e.g., <math>27^{2/3} = (27^{1/3})^2 = 9</math>)</li> </ul>	<p><b>Extend and Use Properties</b></p> <ul style="list-style-type: none"> <li>Simplifies rational expressions with exponents</li> <li>Simplifies rational expressions with negative exponents</li> </ul>

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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
<i>New Vocabulary:</i> feet per second, least common multiple	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> LCM lowest common multiple, sec second, square root symbol	<i>New Signs and Symbols:</i> $i$ square root of $-1$	<i>New Signs and Symbols:</i> None

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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 complex percent discounts (e.g., finding percent discount, regular price)</li> <li>Solves problems involving successive discounts</li> <li>Uses dimensional analysis for unit conversions (time)</li> <li>Solves problems involving rate conversions (e.g., mi/hr to ft/sec)</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>Performs operations on complex numbers and expresses the results in simplest form</li> <li>Performs basic operations on matrices</li> <li>Uses factor and multiple concepts to solve difficult problems</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 rational expressions with exponents</li> <li>Simplifies radical expressions</li> <li>Uses expressions with absolute value to represent situations</li> <li>Uses fractional and negative exponents as optional ways of representing problem situations (e.g., <math>27^{2/3} = (27^{1/3})^2 = 9</math>)</li> </ul>	<ul style="list-style-type: none"> <li>Simplifies rational expressions with exponents</li> <li>Simplifies rational expressions with negative exponents</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

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