

# Mathematics 2–5

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**Subject: Mathematics**  
**Goal Strand: Number Sense and Operations**  
**RIT Score Range: Below 161**

Skills and Concepts to Develop Below 161	Skills and Concepts to Introduce 161 - 170
<b>Number Systems: Whole Number and Decimal</b>	<b>Number Systems: Whole Number and Decimal</b>
<ul style="list-style-type: none"> <li>• Counts numbers 0-20*</li> </ul>	<ul style="list-style-type: none"> <li>• Counts 1 to 10 objects</li> <li>• Counts numbers 0-20*</li> <li>• Orders whole numbers less than 10*</li> </ul>
<b>Formulate, Represent, and Use Algorithms</b>	<b>Formulate, Represent, and Use Algorithms</b>
<ul style="list-style-type: none"> <li>• Uses models to construct whole number addition facts with addends through 10*</li> <li>• Uses models to calculate whole number sums through 99*</li> <li>• Adds two 1-digit numbers with sums to 10 in horizontal format</li> </ul>	<ul style="list-style-type: none"> <li>• 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>• Uses models to calculate whole number sums through 999*</li> <li>• Adds two 1-digit numbers with sums to 10 in horizontal format</li> <li>• Adds two 1-digit numbers with sums to 10 in vertical format</li> <li>• Adds two 1-digit numbers with sums between 10 and 19 in horizontal format</li> <li>• Adds two 1-digit numbers with sums between 10 and 19 in vertical format*</li> <li>• Adds multiple 1-digit numbers</li> <li>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)</li> <li>• Adds 1-digit to multiple-digit number with no regrouping*</li> <li>• Adds 2-digit numbers with no regrouping</li> <li>• Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000*</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Uses models to construct subtraction facts with differences through 10 (whole numbers)*</li> <li>• Uses models to calculate differences through 100 (whole numbers)*</li> <li>• Subtracts two 1-digit numbers horizontally</li> <li>• Subtracts a 1-digit number from a 2-digit number that</li> </ul>

	<ul style="list-style-type: none"> <li>is less than 20 (whole numbers only)</li> <li>• Subtracts two 1-digit numbers vertically</li> <li>• Uses strategies for subtraction facts (e.g., counting back, one less, two less)*</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> </ul>
<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>
	<ul style="list-style-type: none"> <li>• Writes whole numbers in standard and expanded form through the tens</li> <li>• Adds money vertically with no regrouping*</li> </ul>
<i>New Vocabulary: none</i>	<i>New Vocabulary: none</i>
<i>New Signs and Symbols: none</i>	<i>New Signs and Symbols: + addition, \$ dollar sign, = is equal to, × multiplication, – subtraction, □ variable</i>

**Subject: Mathematics**  
**Goal Strand: Number Sense and Operations**  
**RIT Score Range: 161 - 170**

Skills and Concepts to Enhance Below 161	Skills and Concepts to Develop 161 - 170	Skills and Concepts to Introduce 171 - 180
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Counts numbers 0-20*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Counts 1 to 10 objects</li> <li>Counts numbers 0-20*</li> <li>Orders whole numbers less than 10*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Counts numbers 0-100</li> <li>Counts numbers 0-1000*</li> <li>Counts backwards from a given number (given number greater than 10)*</li> <li>Identifies a whole number that comes between 2 given numbers (20 to 100)*</li> <li>Compares whole numbers through 100*</li> <li>Compares whole numbers through 999</li> <li>Counts objects that are grouped into tens and ones</li> <li>Identifies the place value and value of each digit in whole numbers through the tens place*</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>Uses models to construct whole number addition facts with addends through 10*</li> <li>Uses models to calculate whole number sums through 99*</li> <li>Adds two 1-digit numbers with sums to 10 in horizontal format</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></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 99*</li> <li>Uses models to calculate whole number sums through 999*</li> <li>Adds two 1-digit numbers with sums to 10 in horizontal format</li> <li>Adds two 1-digit numbers with sums to 10 in vertical format</li> <li>Adds two 1-digit numbers with sums between 10 and 19 in horizontal format</li> <li>Adds two 1-digit numbers with sums between 10 and 19 in vertical format*</li> <li>Adds multiple 1-digit numbers</li> <li>Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)</li> <li>Adds 1-digit to multiple-digit number with no regrouping*</li> <li>Adds 2-digit numbers with no regrouping</li> <li>Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000*</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></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 2-digit to 3-digit number, with no regrouping, with sums under 1000*</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>Adds multiple-digit numbers, with no regrouping, with sums over 1000*</li> <li>Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>Solves real-world whole number addition problems with sums to 20 (change unknown)*</li> <li>Solves real-world whole number addition problems with sums to 1000</li> <li>Uses models to calculate differences through 100</li> </ul>

	<ul style="list-style-type: none"> <li>Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>Uses models to construct subtraction facts with differences through 10 (whole numbers)*</li> <li>Uses models to calculate differences through 100 (whole numbers)*</li> <li>Subtracts two 1-digit numbers horizontally</li> <li>Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>Subtracts two 1-digit numbers vertically</li> <li>Uses strategies for subtraction facts (e.g., counting back, one less, two less)*</li> <li>Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> </ul>	<ul style="list-style-type: none"> <li>(whole numbers)*</li> <li>Uses models to calculate differences through 1000 (whole numbers)*</li> <li>Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>Uses strategies for subtraction facts (e.g., counting back, one less, two less)*</li> <li>Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically</li> <li>Subtracts a 1-digit number from a multiple-digit number*</li> <li>Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>Subtracts a 2- and/or 3-digit numbers with no regrouping</li> <li>Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>Multiplies basic facts to 10 x 10 vertically</li> <li>Adds 1-digit numbers with sums to 18 (with parentheses)</li> </ul>
<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>
	<ul style="list-style-type: none"> <li>Writes whole numbers in standard and expanded form through the tens</li> <li>Adds money vertically with no regrouping*</li> </ul>	<ul style="list-style-type: none"> <li>Represents <math>\frac{1}{2}</math> with a diagram or model</li> <li>Identifies equivalent fractions using visual representations*</li> <li>Adds money vertically with no regrouping*</li> <li>Identifies the value of a collection of coins to \$1.00 (with pictures of coins)</li> <li>Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> </ul>
<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> between, largest
<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> + addition, \$ dollar sign, = is equal to, × multiplication, – subtraction, □ variable	<i>New Signs and Symbols:</i> ( ) order of operations, ¢ cent sign, lb pound

**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: 171 - 180**

Skills and Concepts to Enhance 161 - 170	Skills and Concepts to Develop 171 - 180	Skills and Concepts to Introduce 181 - 190
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Counts 1 to 10 objects</li> <li>Counts numbers 0-20*</li> <li>Orders whole numbers less than 10*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Counts numbers 0-100</li> <li>Counts numbers 0-1000*</li> <li>Counts backwards from a given number (given number greater than 10)*</li> <li>Identifies a whole number that comes between 2 given numbers (20 to 100)*</li> <li>Compares whole numbers through 100*</li> <li>Compares whole numbers through 999</li> <li>Counts objects that are grouped into tens and ones</li> <li>Identifies the place value and value of each digit in whole numbers through the tens place*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Counts numbers 0-1000*</li> <li>Counts and converts to dozens with models*</li> <li>Compares whole numbers through 999</li> <li>Compares whole numbers through 9999</li> <li>Orders whole numbers less than 100</li> <li>Orders whole numbers less than 1000*</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> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></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 99*</li> <li>Uses models to calculate whole number sums through 999*</li> <li>Adds two 1-digit numbers with sums to 10 in horizontal format</li> <li>Adds two 1-digit numbers with sums to 10 in vertical format</li> <li>Adds two 1-digit numbers with sums between 10 and 19 in horizontal format</li> <li>Adds two 1-digit numbers with sums between 10 and 19 in vertical format*</li> <li>Adds multiple 1-digit numbers</li> <li>Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></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 2-digit to 3-digit number, with no regrouping, with sums under 1000*</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>Adds multiple-digit numbers, with no regrouping, with sums over 1000*</li> <li>Solves real-world whole number addition problems</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>Identifies the number that is "1 more than" a given number*</li> <li>Identifies the number that is "1 less than" a given number</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>Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)</li> <li>Adds 1-digit to multiple-digit number with regrouping*</li> <li>Adds two or three 2-digit number with regrouping</li> <li>Adds 2-digit to 3-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> </ul>

<p>tens)</p> <ul style="list-style-type: none"> <li>• Adds 1-digit to multiple-digit number with no regrouping*</li> <li>• Adds 2-digit numbers with no regrouping</li> <li>• Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000*</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Uses models to construct subtraction facts with differences through 10 (whole numbers)*</li> <li>• Uses models to calculate differences through 100 (whole numbers)*</li> <li>• Subtracts two 1-digit numbers horizontally</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>• Subtracts two 1-digit numbers vertically</li> <li>• Uses strategies for subtraction facts (e.g., counting back, one less, two less)*</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> </ul>	<p>with sums to 20 (result unknown)</p> <ul style="list-style-type: none"> <li>• Solves real-world whole number addition problems with sums to 20 (change unknown)*</li> <li>• Solves real-world whole number addition problems with sums to 1000</li> <li>• Uses models to calculate differences through 100 (whole numbers)*</li> <li>• Uses models to calculate differences through 1000 (whole numbers)*</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>• Uses strategies for subtraction facts (e.g., counting back, one less, two less)*</li> <li>• Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically</li> <li>• Subtracts a 1-digit number from a multiple-digit number*</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Subtracts a 2- and/or 3-digit numbers with no regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Adds 1-digit numbers with sums to 18 (with parentheses)</li> </ul>	<ul style="list-style-type: none"> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves real-world whole number addition problems with sums to 1000</li> <li>• Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)*</li> <li>• Uses models to calculate differences through 1000 (whole numbers)*</li> <li>• Instantly recalls basic subtraction facts with minuend less than 10*</li> <li>• Subtracts a 1-digit number from a multiple-digit number*</li> <li>• Subtracts a 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- 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 real-world whole number problems involving subtraction with numbers under 20</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 1000</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>• Solves word problems involving basic whole number multiplication facts to 10 x 10</li> <li>• Uses sharing for division</li> <li>• Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated</li> </ul>
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		addition and division as repeated subtraction) <ul style="list-style-type: none"> <li>Models multiplication and division algorithms using arrays (whole numbers)</li> <li>Instantly recalls division facts with dividend and divisors less than 10</li> <li>Solves word problems with whole number division facts with dividend and divisors less than 11 involving money</li> <li>Solves real-world whole number problems involving addition and subtraction</li> </ul>
<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>
<ul style="list-style-type: none"> <li>Writes whole numbers in standard and expanded form through the tens</li> <li>Adds money vertically with no regrouping*</li> </ul>	<ul style="list-style-type: none"> <li>Represents <math>\frac{1}{2}</math> with a diagram or model</li> <li>Identifies equivalent fractions using visual representations*</li> <li>Adds money vertically with no regrouping*</li> <li>Identifies the value of a collection of coins to \$1.00 (with pictures of coins)</li> <li>Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> </ul>	<ul style="list-style-type: none"> <li>Represents <math>\frac{1}{4}</math> with a diagram or model*</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 <math>\frac{1}{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>Applies base ten place value concepts to solve problems using decimals*</li> <li>Adds decimals to the hundredths place (same number of digits)</li> <li>Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>Adds money with regrouping</li> <li>Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>Identifies the value of a collection of coins and bills to \$100.00 by "counting on"*</li> <li>Finds equivalent combinations of coins with the same value*</li> <li>Combines a collection of coins and identifies the correct notation</li> <li>Subtracts decimals to the hundredths place (same number of digits) without regrouping</li> <li>Makes change to \$1.00 by "counting on" or subtracting</li> <li>Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00</li> </ul>

<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> between, largest	<i>New Vocabulary:</i> changed, closest, digit, fourths, gave, left, million, nearest, one, pennies, round, row, smallest, ten, ten thousand, thirds, unifix cubes
<i>New Signs and Symbols:</i> + addition, \$ dollar sign, = is equal to, × multiplication, – subtraction, □ variable	<i>New Signs and Symbols:</i> ( ) order of operations, ¢ cent sign, lb pound	<i>New Signs and Symbols:</i> { } set notation, long division symbol

**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: 181 - 190**

<b>Skills and Concepts to Enhance 171 - 180</b>	<b>Skills and Concepts to Develop 181 - 190</b>	<b>Skills and Concepts to Introduce 191 - 200</b>
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Counts numbers 0-100</li> <li>• Counts numbers 0-1000*</li> <li>• Counts backwards from a given number (given number greater than 10)*</li> <li>• Identifies a whole number that comes between 2 given numbers (20 to 100)*</li> <li>• Compares whole numbers through 100*</li> <li>• Compares whole numbers through 999</li> <li>• Counts objects that are grouped into tens and ones</li> <li>• Identifies the place value and value of each digit in whole numbers through the tens place*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Counts numbers 0-1000*</li> <li>• Counts and converts to dozens with models*</li> <li>• Compares whole numbers through 999</li> <li>• Compares whole numbers through 9999</li> <li>• Orders whole numbers less than 100</li> <li>• Orders whole numbers less than 1000*</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> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Counts and converts to dozens with models*</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 999,999</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>• Orders whole numbers less than 1000*</li> <li>• Orders whole numbers less than 10,000</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>• Identifies a decimal on a number line to the tenths place*</li> <li>• Identifies numbers as composite</li> <li>• Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>• Demonstrates an understanding of the multiplicative property of 1 (identity)</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></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 2-digit to 3-digit number, with no regrouping, with sums under 1000*</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> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Identifies the number that is "1 more than" a given number*</li> <li>• Identifies the number that is "1 less than" a given number</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>• Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)</li> <li>• Adds 1-digit to multiple-digit number with</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of simple problems*</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>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only)*</li> <li>• Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)*</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> </ul>

<ul style="list-style-type: none"> <li>• Adds 3-digit numbers with no regrouping</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Adds multiple-digit numbers, with no regrouping, with sums over 1000*</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown)</li> <li>• Solves real-world whole number addition problems with sums to 20 (change unknown)*</li> <li>• Solves real-world whole number addition problems with sums to 1000</li> <li>• Uses models to calculate differences through 100 (whole numbers)*</li> <li>• Uses models to calculate differences through 1000 (whole numbers)*</li> <li>• Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)</li> <li>• Uses strategies for subtraction facts (e.g., counting back, one less, two less)*</li> <li>• Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically</li> <li>• Subtracts a 1-digit number from a multiple-digit number*</li> <li>• Subtracts a 2-digit number from a 2-digit number, with no regrouping</li> <li>• Subtracts a 2- and/or 3-digit numbers with no regrouping</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Adds 1-digit numbers with sums to 18 (with parentheses)</li> </ul>	<p>regrouping*</p> <ul style="list-style-type: none"> <li>• Adds two or three 2-digit number with regrouping</li> <li>• Adds 2-digit to 3-digit number with regrouping</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Performs mental computation with 2, 3, or 4 addends</li> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves real-world whole number addition problems with sums to 1000</li> <li>• Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)*</li> <li>• Uses models to calculate differences through 1000 (whole numbers)*</li> <li>• Instantly recalls basic subtraction facts with minuend less than 10*</li> <li>• Subtracts a 1-digit number from a multiple-digit number*</li> <li>• Subtracts a 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- 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 real-world whole number problems involving subtraction with numbers under 20</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 1000</li> <li>• Multiplies basic facts to 10 x 10 vertically</li> <li>• Multiplies a 2-digit number by a 1-digit number with</li> </ul>	<ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to 1-step problems involving answers less than \$1 (whole numbers only, e.g., 10 cents + 10 cents)*</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers less than \$20 (decimals only, e.g., \$1.20 + \$2.75)</li> <li>• Adds 2-digit to 3-digit number with regrouping</li> <li>• Uses number sense strategies to determine the correct answer for an addition computation*</li> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves whole number addition word problems with sums over 1000</li> <li>• Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)*</li> <li>• Adds and subtracts whole numbers using place value</li> <li>• Subtracts a 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>• Performs mental subtraction with numbers 1000 and over</li> <li>• Subtracts multiple-digit numbers with no regrouping*</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 1000</li> <li>• Solves whole number subtraction word problems with numbers over 1000</li> <li>• Instantly recalls basic multiplication facts where one</li> </ul>
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	<p>regrouping</p> <ul style="list-style-type: none"> <li>• Solves word problems involving basic whole number multiplication facts to <math>10 \times 10</math></li> <li>• Uses sharing for division</li> <li>• Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)</li> <li>• Models multiplication and division algorithms using arrays (whole numbers)</li> <li>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11 involving money</li> <li>• Solves real-world whole number problems involving addition and subtraction</li> </ul>	<p>factor is 6-12 and the other factor is 0-12*</p> <ul style="list-style-type: none"> <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>• Multiplies a 3-digit number by a 2-digit number with no regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Solves word problems involving basic whole number multiplication facts to <math>10 \times 10</math></li> <li>• Solves word problems involving whole number multiplication with numbers greater than <math>10 \times 10</math></li> <li>• Uses repeated subtraction 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>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 2-digit number by a 1-digit number with no remainder</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)*</li> <li>• Evaluates numerical expressions using grouping symbols (whole numbers only)</li> </ul>
<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>
<ul style="list-style-type: none"> <li>• Represents <math>\frac{1}{2}</math> with a diagram or model</li> <li>• Identifies equivalent fractions using visual representations*</li> <li>• Adds money vertically with no regrouping*</li> <li>• Identifies the value of a collection of coins to \$1.00 (with pictures of coins)</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> </ul>	<ul style="list-style-type: none"> <li>• Represents <math>\frac{1}{4}</math> with a diagram or model*</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 <math>\frac{1}{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>• Applies base ten place value concepts to solve problems using decimals*</li> </ul>	<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 <math>\frac{1}{3}</math> with a diagram or model</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{1}{3}</math> from a region or set</li> <li>• Identifies <math>\frac{2}{3}</math> or <math>\frac{3}{3}</math> from a region or set*</li> <li>• Identifies tenths from a region or set*</li> <li>• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set</li> </ul>

	<ul style="list-style-type: none"> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>• Identifies the value of a collection of coins and bills to \$100.00 by "counting on"*</li> <li>• Finds equivalent combinations of coins with the same value*</li> <li>• Combines a collection of coins and identifies the correct notation</li> <li>• Subtracts decimals to the hundredths place (same number of digits) without regrouping</li> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>• Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00</li> </ul>	<ul style="list-style-type: none"> <li>• Matches numeric and visual representation of equivalent fractions</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms*</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction*</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Adds decimals to the hundredths place in vertical format (not same number of digits)*</li> <li>• Adds decimals to the thousandths place vertically with and without regrouping</li> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money)</li> <li>• Identifies the value of a collection of coins and bills to \$100.00 by "counting on"*</li> <li>• Finds equivalent combinations of coins with the same value*</li> <li>• Finds equivalent combinations of dollars and cents with the same value*</li> <li>• Subtracts decimals to the hundredths place (same number of digits) without regrouping</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Solves real-world problems involving decimals (not money) using addition and subtraction</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>• Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>• Multiplies a decimal by whole number</li> </ul>
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		<ul style="list-style-type: none"> <li>Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> </ul>
<i>New Vocabulary:</i> between, largest	<i>New Vocabulary:</i> changed, closest, digit, fourths, gave, left, million, nearest, one, pennies, round, row, smallest, ten, ten thousand, thirds, unifix cubes	<i>New Vocabulary:</i> billion, capacity, composite number, deposit, each, longer, prime number, symbol, thousands
<i>New Signs and Symbols:</i> ( ) order of operations, ¢ cent sign, lb pound	<i>New Signs and Symbols:</i> { } set notation, long division symbol	<i>New Signs and Symbols:</i> ft feet, > greater than, ≥ greater than or equal to, < less than, ≤ less than or equal to, % percent, R remainder

**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: 191 - 200**

<b>Skills and Concepts to Enhance 181 - 190</b>	<b>Skills and Concepts to Develop 191 - 200</b>	<b>Skills and Concepts to Introduce 201 - 210</b>
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Counts numbers 0-1000*</li> <li>• Counts and converts to dozens with models*</li> <li>• Compares whole numbers through 999</li> <li>• Compares whole numbers through 9999</li> <li>• Orders whole numbers less than 100</li> <li>• Orders whole numbers less than 1000*</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> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Counts and converts to dozens with models*</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 999,999</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>• Orders whole numbers less than 1000*</li> <li>• Orders whole numbers less than 10,000</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>• Identifies a decimal on a number line to the tenths place*</li> <li>• Identifies numbers as composite</li> <li>• Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>• Demonstrates an understanding of the multiplicative property of 1 (identity)</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Identifies a whole number that comes before and/or after a given number (over 100)*</li> <li>• Compares whole numbers through 999,999</li> <li>• Compares whole numbers through the billions using the symbols &lt;, &gt;, or =*</li> <li>• Orders whole numbers less than 10,000</li> <li>• Orders whole numbers a million or greater</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>• 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 the place value and value of each digit to the tenths*</li> <li>• Determines multiples of a whole number*</li> <li>• Determines common multiples of whole numbers*</li> <li>• Applies rules of divisibility by 5's*</li> <li>• Applies rules of divisibility by 2's</li> <li>• Writes a number "squared" in factored form*</li> <li>• Demonstrates an understanding of the associative property of addition*</li> <li>• Demonstrates an understanding of the commutative property of addition</li> <li>• Demonstrates an understanding of the zero property of addition (identity)</li> <li>• Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>• Uses the commutative property of addition with rational numbers*</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Identifies the number that is "1 more than" a given number*</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of simple problems*</li> <li>• Rounds 2- and 3- digit whole numbers to the nearest</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of simple problems*</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the</li> </ul>



<ul style="list-style-type: none"> <li>• Identifies the number that is "1 less than" a given number</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>• Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)</li> <li>• Adds 1-digit to multiple-digit number with regrouping*</li> <li>• Adds two or three 2-digit number with regrouping</li> <li>• Adds 2-digit to 3-digit number with regrouping</li> <li>• Adds 3-digit numbers, with regrouping, with sums under 1000</li> <li>• Performs mental computation with 2, 3, or 4 addends</li> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves real-world whole number addition problems with sums to 1000</li> <li>• Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)*</li> <li>• Uses models to calculate differences through 1000 (whole numbers)*</li> <li>• Instantly recalls basic subtraction facts with minuend less than 10*</li> <li>• Subtracts a 1-digit number from a multiple-digit number*</li> <li>• Subtracts a 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- 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> </ul>	<p>ten</p> <ul style="list-style-type: none"> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only)*</li> <li>• Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)*</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers less than \$1 (whole numbers only, e.g., 10 cents + 10 cents)*</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers less than \$20 (decimals only, e.g., \$1.20 + \$2.75)</li> <li>• Adds 2-digit to 3-digit number with regrouping</li> <li>• Uses number sense strategies to determine the correct answer for an addition computation*</li> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves whole number addition word problems with sums over 1000</li> <li>• Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)*</li> <li>• Adds and subtracts whole numbers using place value</li> <li>• Subtracts a 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>• Performs mental subtraction with numbers 1000 and</li> </ul>	<p>nearest ten</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>• Explains the rules for rounding*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)*</li> <li>• Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)*</li> <li>• Uses front end estimation for multiplication and division computations (whole numbers only)*</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to simple multiplication and division problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (whole numbers only)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (using decimals)</li> <li>• Instantly recalls basic addition facts with sums to 18 in a table*</li> <li>• Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only)</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Performs mental computation with more than 4 addends</li> <li>• Adds and subtracts whole numbers using place value</li> <li>• Subtracts 3- or 4-digit numbers with regrouping</li> <li>• Performs mental subtraction with numbers 1000 and over</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Uses strategies to determine 2 or more missing digits (addition/subtraction only)</li> <li>• Solves real-world whole number problems involving</li> </ul>
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<ul style="list-style-type: none"> <li>• Subtracts multiple-digit numbers with no regrouping*</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 20</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 1000</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>• Solves word problems involving basic whole number multiplication facts to 10 x 10</li> <li>• Uses sharing for division</li> <li>• Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)</li> <li>• Models multiplication and division algorithms using arrays (whole numbers)</li> <li>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11 involving money</li> <li>• Solves real-world whole number problems involving addition and subtraction</li> </ul>	<p>over</p> <ul style="list-style-type: none"> <li>• Subtracts multiple-digit numbers with no regrouping*</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 1000</li> <li>• Solves whole number subtraction word problems with numbers over 1000</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>• Multiplies a 3-digit number by a 2-digit number with no regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Solves word problems involving basic whole number multiplication facts to 10 x 10</li> <li>• Solves word problems involving whole number multiplication with numbers greater than 10 x 10</li> <li>• Uses repeated subtraction 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>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 2-digit number by a 1-digit number with no remainder</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)*</li> <li>• Evaluates numerical expressions using grouping symbols (whole numbers only)</li> </ul>	<p>subtraction with numbers 100 and under (analysis)</p> <ul style="list-style-type: none"> <li>• Solves whole number subtraction word problems with numbers over 1000</li> <li>• Uses a number line to model multiplication (whole numbers)*</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12*</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 no regrouping*</li> <li>• Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>• Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Multiplies a 2- or 3-digit number by multiples of 10 or 100</li> <li>• Solves word problems involving whole number multiplication with numbers greater than 10 x 10</li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)*</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 1-digit number by a 1-digit number with a remainder*</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 4-digit number by a 1-digit number with a remainder*</li> <li>• Divides a 2-digit number by a 2-digit number with a remainder</li> </ul>
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		<ul style="list-style-type: none"> <li>• Divides a 3-digit number by a multiple of 10</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)*</li> <li>• Solves whole number word problems with division over 10 x 10</li> <li>• Evaluates numerical expressions using grouping symbols (whole numbers only)</li> <li>• Evaluates a numerical expression involving more than one operation*</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> </ul>
<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>
<ul style="list-style-type: none"> <li>• Represents <math>\frac{1}{4}</math> with a diagram or model*</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 <math>\frac{1}{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>• Applies base ten place value concepts to solve problems using decimals*</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)</li> <li>• Identifies the value of a collection of coins and bills to \$100.00 by "counting on"*</li> <li>• Finds equivalent combinations of coins with the same value*</li> <li>• Combines a collection of coins and identifies the correct notation</li> <li>• Subtracts decimals to the hundredths place (same number of digits) without regrouping</li> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Computes with dollars and cents up to and including</li> </ul>	<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 <math>\frac{1}{3}</math> with a diagram or model</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{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>• Matches numeric and visual representation of equivalent fractions</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms*</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction*</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Adds decimals to the hundredths place in vertical format (not same number of digits)*</li> <li>• Adds decimals to the thousandths place vertically with and without regrouping</li> </ul>	<ul style="list-style-type: none"> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Identifies halves of a region using nonadjacent parts</li> <li>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)*</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</li> <li>• Writes a terminating decimal as a fraction or mixed number</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)*</li> <li>• Adds whole numbers and fractions</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms*</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Subtracts mixed fractions with like denominators with no regrouping</li> <li>• Subtracts whole numbers, fractions, and mixed fractions*</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</li> <li>• Adds decimals to the hundredths place in vertical</li> </ul>

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\* Both data from test items and review by NWEA curriculum specialists are used to place learning continuum statements into appropriate RIT ranges.

Blank cells indicate data are limited or unavailable for this range or document version.

<p>\$5.00 and converts to decimals (addition/subtraction only)</p> <ul style="list-style-type: none"> <li>• Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00</li> </ul>	<ul style="list-style-type: none"> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money)</li> <li>• Identifies the value of a collection of coins and bills to \$100.00 by "counting on"*</li> <li>• Finds equivalent combinations of coins with the same value*</li> <li>• Finds equivalent combinations of dollars and cents with the same value*</li> <li>• Subtracts decimals to the hundredths place (same number of digits) without regrouping</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Solves real-world problems involving decimals (not money) using addition and subtraction</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>• Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>• Multiplies a decimal by whole number</li> <li>• Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> </ul>	<p>format (not same number of digits)*</p> <ul style="list-style-type: none"> <li>• Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>• Finds equivalent combinations of dollars and cents with the same value*</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, vertically*</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)*</li> <li>• Multiplies a decimal by whole number</li> <li>• Determines unit price*</li> </ul>
<p><i>New Vocabulary:</i> changed, closest, digit, fourths, gave, left, million, nearest, one, pennies, round, row, smallest, ten, ten thousand, thirds, unifix cubes</p>	<p><i>New Vocabulary:</i> billion, capacity, composite number, deposit, each, longer, prime number, symbol, thousands</p>	<p><i>New Vocabulary:</i> biggest, common multiple, compatible numbers, divisible, expanded numeral, hundredth, magic square, mixed number, multiple, place value, plus, twice</p>
<p><i>New Signs and Symbols:</i> { } set notation, long division symbol</p>	<p><i>New Signs and Symbols:</i> ft feet, &gt; greater than, ≥ greater than or equal to, &lt; less than, ≤ less than or equal to, % percent, R remainder</p>	<p><i>New Signs and Symbols:</i> none</p>

**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: 201 - 210**

Skills and Concepts to Enhance 191 - 200	Skills and Concepts to Develop 201 - 210	Skills and Concepts to Introduce 211 - 220
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Counts and converts to dozens with models*</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 999,999</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>Orders whole numbers less than 1000*</li> <li>Orders whole numbers less than 10,000</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>Identifies a decimal on a number line to the tenths place*</li> <li>Identifies numbers as composite</li> <li>Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>Demonstrates an understanding of the multiplicative property of 1 (identity)</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Identifies a whole number that comes before and/or after a given number (over 100)*</li> <li>Compares whole numbers through 999,999</li> <li>Compares whole numbers through the billions using the symbols &lt;, &gt;, or =*</li> <li>Orders whole numbers less than 10,000</li> <li>Orders whole numbers a million or greater</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>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 the place value and value of each digit to the tenths*</li> <li>Determines multiples of a whole number*</li> <li>Determines common multiples of whole numbers*</li> <li>Applies rules of divisibility by 5's*</li> <li>Applies rules of divisibility by 2's</li> <li>Writes a number "squared" in factored form*</li> <li>Demonstrates an understanding of the associative property of addition*</li> <li>Demonstrates an understanding of the commutative property of addition</li> <li>Demonstrates an understanding of the zero property of addition (identity)</li> <li>Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>Uses the commutative property of addition with rational numbers*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Represents a decimal to the hundredths place (e.g., three hundredths = 0.03)</li> <li>Writes a decimal for a shaded region to the tenths place*</li> <li>Identifies the place value and value of each digit to the tenths*</li> <li>Determines factors of whole numbers</li> <li>Completes a factor tree for a number (prime factorization)*</li> <li>Determines multiples of a whole number*</li> <li>Determines common multiples 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> <li>Applies rules of divisibility by 5's*</li> <li>Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>Demonstrates an understanding of the associative property of multiplication</li> <li>Demonstrates an understanding of the distributive property of multiplication by decomposing a term*</li> <li>Uses the commutative property of addition with rational numbers*</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>Verifies reasonableness of results of simple problems*</li> <li>Rounds 2- and 3- digit whole numbers to the nearest</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>Verifies reasonableness of results of simple problems*</li> <li>Rounds 4-, 5-, and 6-digit whole numbers to the</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> </ul>

<p>ten</p> <ul style="list-style-type: none"> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only)*</li> <li>• Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)*</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers less than \$1 (whole numbers only, e.g., 10 cents + 10 cents)*</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers less than \$20 (decimals only, e.g., \$1.20 + \$2.75)</li> <li>• Adds 2-digit to 3-digit number with regrouping</li> <li>• Uses number sense strategies to determine the correct answer for an addition computation*</li> <li>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given</li> <li>• Solves whole number addition word problems with sums over 1000</li> <li>• Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)*</li> <li>• Adds and subtracts whole numbers using place value</li> <li>• Subtracts a 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>• Performs mental subtraction with numbers 1000 and</li> </ul>	<p>nearest ten</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>• Explains the rules for rounding*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)*</li> <li>• Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)*</li> <li>• Uses front end estimation for multiplication and division computations (whole numbers only)*</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to simple multiplication and division problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (whole numbers only)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (using decimals)</li> <li>• Instantly recalls basic addition facts with sums to 18 in a table*</li> <li>• Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only)</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Performs mental computation with more than 4 addends</li> <li>• Adds and subtracts whole numbers using place value</li> <li>• Subtracts 3- or 4-digit numbers with regrouping</li> <li>• Performs mental subtraction with numbers 1000 and over</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Uses strategies to determine 2 or more missing digits (addition/subtraction only)</li> <li>• Solves real-world whole number problems involving</li> </ul>	<ul style="list-style-type: none"> <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>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (using decimals)</li> <li>• Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only)</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Uses strategies to determine 2 or more missing digits (addition/subtraction only)</li> <li>• Instantly recalls basic multiplication and division facts in a table</li> <li>• Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>• Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Multiplies multiple-digit numbers</li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)*</li> <li>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> <li>• Performs mental computation with division</li> <li>• Divides a 4-digit number by a 1-digit number with no remainder</li> <li>• Divides a 4-digit number by a 1-digit number with a remainder*</li> </ul>
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<p>over</p> <ul style="list-style-type: none"> <li>• Subtracts multiple-digit numbers with no regrouping*</li> <li>• Solves real-world whole number problems involving subtraction with numbers 100 and under</li> <li>• Solves real-world whole number problems involving subtraction with numbers under 1000</li> <li>• Solves whole number subtraction word problems with numbers over 1000</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>• Multiplies a 3-digit number by a 2-digit number with no regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Solves word problems involving basic whole number multiplication facts to <math>10 \times 10</math></li> <li>• Solves word problems involving whole number multiplication with numbers greater than <math>10 \times 10</math></li> <li>• Uses repeated subtraction 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>• Instantly recalls division facts with dividend and divisors less than 10</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 2-digit number by a 1-digit number with no remainder</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)*</li> <li>• Evaluates numerical expressions using grouping symbols (whole numbers only)</li> </ul>	<p>subtraction with numbers 100 and under (analysis)</p> <ul style="list-style-type: none"> <li>• Solves whole number subtraction word problems with numbers over 1000</li> <li>• Uses a number line to model multiplication (whole numbers)*</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12*</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 no regrouping*</li> <li>• Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>• Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Multiplies a 2- or 3-digit number by multiples of 10 or 100</li> <li>• Solves word problems involving whole number multiplication with numbers greater than <math>10 \times 10</math></li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)*</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 1-digit number by a 1-digit number with a remainder*</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 4-digit number by a 1-digit number with a remainder*</li> <li>• Divides a 2-digit number by a 2-digit number with a remainder</li> </ul>	<ul style="list-style-type: none"> <li>• Divides a 3-digit number by a 2-digit number</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves whole number word problems with division over <math>10 \times 10</math></li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Evaluates a numerical expression involving more than one operation*</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>• Solves real-world multiple-step problems involving whole numbers*</li> </ul>
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	<ul style="list-style-type: none"> <li>• Divides a 3-digit number by a multiple of 10</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)*</li> <li>• Solves whole number word problems with division over <math>10 \times 10</math></li> <li>• Evaluates numerical expressions using grouping symbols (whole numbers only)</li> <li>• Evaluates a numerical expression involving more than one operation*</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> </ul>	
<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>
<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 <math>\frac{1}{3}</math> with a diagram or model</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{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>• Matches numeric and visual representation of equivalent fractions</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms*</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction*</li> <li>• Adds decimals to the hundredths place (same number of digits)</li> <li>• Adds decimals to the hundredths place in vertical format (not same number of digits)*</li> <li>• Adds decimals to the thousandths place vertically with and without regrouping</li> </ul>	<ul style="list-style-type: none"> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Identifies halves of a region using nonadjacent parts</li> <li>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)*</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</li> <li>• Writes a terminating decimal as a fraction or mixed number</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)*</li> <li>• Adds whole numbers and fractions</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms*</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Subtracts mixed fractions with like denominators with no regrouping</li> <li>• Subtracts whole numbers, fractions, and mixed fractions*</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</li> <li>• Adds decimals to the hundredths place in vertical</li> </ul>	<ul style="list-style-type: none"> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Writes improper fractions and mixed numbers from a visual representation*</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>• Expresses "1" in many different ways (e.g., <math>\frac{3}{3}</math>, <math>\frac{4}{4}</math>)*</li> <li>• Expresses improper fractions as whole numbers (e.g., <math>\frac{4}{2}=2</math>)*</li> <li>• Determines simple equivalent fractions using multiples</li> <li>• Converts fractions to lowest terms</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions on a number line</li> <li>• Compares fractions greater than or less than a given fraction using visual representations</li> <li>• Compares fractions and mixed numbers</li> <li>• Compares fractions and mixed numbers using symbols</li> <li>• 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>• Applies base ten place value concepts to solve problems using decimals (analysis)*</li> <li>• Expresses a simple fraction as a decimal</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when</li> </ul>



<ul style="list-style-type: none"> <li>• Identifies the value of a collection of coins to \$1.00 (without picture of coins)</li> <li>• Adds money with regrouping</li> <li>• Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money)</li> <li>• Identifies the value of a collection of coins and bills to \$100.00 by "counting on"*</li> <li>• Finds equivalent combinations of coins with the same value*</li> <li>• Finds equivalent combinations of dollars and cents with the same value*</li> <li>• Subtracts decimals to the hundredths place (same number of digits) without regrouping</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Makes change to \$1.00 by "counting on" or subtracting</li> <li>• Solves real-world problems involving decimals (not money) using addition and subtraction</li> <li>• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)</li> <li>• Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)</li> <li>• Multiplies a decimal by whole number</li> <li>• Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%)</li> </ul>	<p>format (not same number of digits)*</p> <ul style="list-style-type: none"> <li>• Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>• Finds equivalent combinations of dollars and cents with the same value*</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, vertically*</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)*</li> <li>• Multiplies a decimal by whole number</li> <li>• Determines unit price*</li> </ul>	<p>the denominator is a multiple of 10</p> <ul style="list-style-type: none"> <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>• Writes a basic percent as a decimal and vice versa*</li> <li>• Expresses a percent as a decimal and vice versa</li> <li>• Writes a power as a product of multiplied numbers and vice versa (e.g., <math>2^4 = 2 \times 2 \times 2 \times 2</math>)</li> <li>• Uses referent numbers to estimate answers when adding and subtracting fractions and mixed numbers*</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> <li>• Adds fractions with unlike denominators without reducing</li> <li>• Adds mixed fractions with like denominators</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>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator 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, vertically, with the zero missing in the ones place*</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)*</li> </ul>
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<i>New Vocabulary:</i> billion, capacity, composite number, deposit, each, longer, prime number, symbol, thousands	<i>New Vocabulary:</i> biggest, common multiple, compatible numbers, divisible, expanded numeral, hundredth, magic square, mixed number, multiple, place value, plus, twice	<i>New Vocabulary:</i> coin, common factor, decimal form, decimal point, factor tree, greatest common factor, lowest term
<i>New Signs and Symbols:</i> ft feet, > greater than, $\geq$ greater than or equal to, < less than, $\leq$ less than or equal to, % percent, R remainder	<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> ( ) parenthesis around an integer, \$ dollar sign, $\div$ division, $\neq$ not equal to

**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: 211 - 220**

Skills and Concepts to Enhance 201 - 210	Skills and Concepts to Develop 211 - 220	Skills and Concepts to Introduce 221 - 230
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Identifies a whole number that comes before and/or after a given number (over 100)*</li> <li>Compares whole numbers through 999,999</li> <li>Compares whole numbers through the billions using the symbols <math>&lt;</math>, <math>&gt;</math>, or <math>=</math>*</li> <li>Orders whole numbers less than 10,000</li> <li>Orders whole numbers a million or greater</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>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 the place value and value of each digit to the tenths*</li> <li>Determines multiples of a whole number*</li> <li>Determines common multiples of whole numbers*</li> <li>Applies rules of divisibility by 5's*</li> <li>Applies rules of divisibility by 2's</li> <li>Writes a number "squared" in factored form*</li> <li>Demonstrates an understanding of the associative property of addition*</li> <li>Demonstrates an understanding of the commutative property of addition</li> <li>Demonstrates an understanding of the zero property of addition (identity)</li> <li>Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>Uses the commutative property of addition with rational numbers*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Represents a decimal to the hundredths place (e.g., three hundredths = 0.03)</li> <li>Writes a decimal for a shaded region to the tenths place*</li> <li>Identifies the place value and value of each digit to the tenths*</li> <li>Determines factors of whole numbers</li> <li>Completes a factor tree for a number (prime factorization)*</li> <li>Determines multiples of a whole number*</li> <li>Determines common multiples 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> <li>Applies rules of divisibility by 5's*</li> <li>Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>Demonstrates an understanding of the associative property of multiplication</li> <li>Demonstrates an understanding of the distributive property of multiplication by decomposing a term*</li> <li>Uses the commutative property of addition with rational numbers*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>Determines the relative magnitude of whole numbers*</li> <li>Orders whole numbers a million or greater using <math>&lt;</math> or <math>&gt;</math> symbols*</li> <li>Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., <math>253 = 2</math> hundreds, 5 tens, and 3 ones)</li> <li>Represents a decimal to thousandths place (e.g., three thousandths = 0.003)</li> <li>Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)*</li> <li>Writes a decimal for a shaded region to the hundredths place</li> <li>Identifies the place value and value of each digit to the hundredths and thousandths</li> <li>Identifies the place value and value of each digit in numbers through the ten thousandths and beyond</li> <li>Determines factors of whole numbers</li> <li>Completes a factor tree for a number (prime factorization)*</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> <li>Uses divisibility concepts to solve problems*</li> <li>Demonstrates an understanding of the commutative property of multiplication with complex problems (e.g., parenthesis, 3 factors)</li> <li>Uses the distributive property</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>Verifies reasonableness of results of simple problems*</li> <li>Rounds 4-, 5-, and 6-digit whole numbers to the</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>Rounds whole numbers to the nearest million*</li> <li>Rounds wholes numbers to the nearest billion*</li> </ul>

<p>nearest ten</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>• Explains the rules for rounding*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)*</li> <li>• Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)*</li> <li>• Uses front end estimation for multiplication and division computations (whole numbers only)*</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to simple multiplication and division problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (whole numbers only)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (using decimals)</li> <li>• Instantly recalls basic addition facts with sums to 18 in a table*</li> <li>• Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only)</li> <li>• Adds multiple-digit numbers, with regrouping, with sums over 1000</li> <li>• Adds multiple-digit numbers with sums under 1000</li> <li>• Performs mental computation with more than 4 addends</li> <li>• Adds and subtracts whole numbers using place value</li> <li>• Subtracts 3- or 4-digit numbers with regrouping</li> <li>• Performs mental subtraction with numbers 1000 and over</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Uses strategies to determine 2 or more missing digits (addition/subtraction only)</li> <li>• Solves real-world whole number problems involving</li> </ul>	<ul style="list-style-type: none"> <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>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (using decimals)</li> <li>• Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only)</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Uses strategies to determine 2 or more missing digits (addition/subtraction only)</li> <li>• Instantly recalls basic multiplication and division facts in a table</li> <li>• Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>• Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Multiplies multiple-digit numbers</li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)*</li> <li>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> <li>• Performs mental computation with division</li> <li>• Divides a 4-digit number by a 1-digit number with no remainder</li> <li>• Divides a 4-digit number by a 1-digit number with a remainder*</li> </ul>	<ul style="list-style-type: none"> <li>• Uses number sense strategies to judge the reasonableness of given answers (multiplication/division only)</li> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)*</li> <li>• Models algorithms using place value concepts (addition and subtraction with whole numbers)*</li> <li>• Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)*</li> <li>• Multiplies multiple-digit numbers</li> <li>• Models algorithms using place value concepts (multiplication and division with whole numbers)*</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Uses division for multiple-step real-world problems (whole numbers)*</li> <li>• Solves real-world multiple-step problems involving whole numbers*</li> </ul>
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<ul style="list-style-type: none"> <li>subtraction with numbers 100 and under (analysis)</li> <li>• Solves whole number subtraction word problems with numbers over 1000</li> <li>• Uses a number line to model multiplication (whole numbers)*</li> <li>• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12*</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 no regrouping*</li> <li>• Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>• Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Multiplies a 2- or 3-digit number by multiples of 10 or 100</li> <li>• Solves word problems involving whole number multiplication with numbers greater than 10 x 10</li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)*</li> <li>• Instantly recalls division facts with dividend and divisors less than 13</li> <li>• Divides a 1-digit number by a 1-digit number with a remainder*</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 4-digit number by a 1-digit number with a remainder*</li> <li>• Divides a 2-digit number by a 2-digit number with a remainder</li> </ul>	<ul style="list-style-type: none"> <li>• Divides a 3-digit number by a 2-digit number</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves whole number word problems with division over 10 x 10</li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Evaluates a numerical expression involving more than one operation*</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>• Solves real-world multiple-step problems involving whole numbers*</li> </ul>	
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<ul style="list-style-type: none"> <li>• Divides a 3-digit number by a multiple of 10</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Solves word problems with whole number division facts with dividend and divisors less than 11</li> <li>• Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)*</li> <li>• Solves whole number word problems with division over <math>10 \times 10</math></li> <li>• Evaluates numerical expressions using grouping symbols (whole numbers only)</li> <li>• Evaluates a numerical expression involving more than one operation*</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> </ul>		
<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>
<ul style="list-style-type: none"> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Identifies halves of a region using nonadjacent parts</li> <li>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)*</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)</li> <li>• Writes a terminating decimal as a fraction or mixed number</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)*</li> <li>• Adds whole numbers and fractions</li> <li>• Uses models to add and subtract fractions and connect the actions to algorithms*</li> <li>• Subtracts fractions with like denominators without reducing</li> <li>• Subtracts mixed fractions with like denominators with no regrouping</li> <li>• Subtracts whole numbers, fractions, and mixed fractions*</li> <li>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators</li> <li>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)</li> <li>• Adds decimals to the hundredths place in vertical</li> </ul>	<ul style="list-style-type: none"> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Writes improper fractions and mixed numbers from a visual representation*</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>• Expresses "1" in many different ways (e.g., <math>3/3</math>, <math>4/4</math>)*</li> <li>• Expresses improper fractions as whole numbers (e.g., <math>4/2=2</math>)*</li> <li>• Determines simple equivalent fractions using multiples</li> <li>• Converts fractions to lowest terms</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions on a number line</li> <li>• Compares fractions greater than or less than a given fraction using visual representations</li> <li>• Compares fractions and mixed numbers</li> <li>• Compares fractions and mixed numbers using symbols</li> <li>• 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>• Applies base ten place value concepts to solve problems using decimals (analysis)*</li> <li>• Expresses a simple fraction as a decimal</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when</li> </ul>	<ul style="list-style-type: none"> <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>• Orders fractions on a number line*</li> <li>• Uses alternative algorithms to explain the meaning of "fraction"*</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• 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>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)*</li> <li>• Writes a power as a product of multiplied numbers and vice versa (e.g., <math>2^4 = 2 \times 2 \times 2 \times 2</math>)</li> <li>• Uses powers of 10 to represent numbers (e.g., <math>8 \times 10^3 = 8000</math>)</li> <li>• Uses rounding to estimate answers to real-world problems involving fractions and mixed numbers*</li> <li>• Uses estimation to solve problems involving fractions and mixed numbers</li> <li>• Adds fractions with like denominators with reducing</li> </ul>

<p>format (not same number of digits)*</p> <ul style="list-style-type: none"> <li>• Adds decimals to the thousandths place horizontally with and without regrouping</li> <li>• Finds equivalent combinations of dollars and cents with the same value*</li> <li>• Subtracts decimals to the hundredths place (same number of digits) with regrouping</li> <li>• Subtracts decimals to the thousandths place, vertically, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, vertically*</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)*</li> <li>• Multiplies a decimal by whole number</li> <li>• Determines unit price*</li> </ul>	<p>the denominator is a multiple of 10</p> <ul style="list-style-type: none"> <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>• Writes a basic percent as a decimal and vice versa*</li> <li>• Expresses a percent as a decimal and vice versa</li> <li>• Writes a power as a product of multiplied numbers and vice versa (e.g., <math>2^4 = 2 \times 2 \times 2 \times 2</math>)</li> <li>• Uses referent numbers to estimate answers when adding and subtracting fractions and mixed numbers*</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> <li>• Adds fractions with unlike denominators without reducing</li> <li>• Adds mixed fractions with like denominators</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>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator 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, vertically, with the zero missing in the ones place*</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)*</li> </ul>	<p>or converting to a mixed fraction</p> <ul style="list-style-type: none"> <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 whole numbers, fractions, and mixed fractions without reducing</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 with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator 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 through the hundred-thousandths place</li> <li>• Subtracts decimals to the hundredths place (not same number of digits)</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, horizontally</li> <li>• Subtracts a decimal from a whole number, horizontally</li> <li>• Multiplies a decimal by 10, 100, 1000</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>• Adds and subtracts percent</li> <li>• Solves problems involving percents</li> <li>• Solves problems involving simple interest rates with the formula</li> </ul>
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	<ul style="list-style-type: none"> <li>Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)*</li> <li>Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)</li> <li>Determines unit price*</li> </ul>	
<i>New Vocabulary:</i> biggest, common multiple, compatible numbers, divisible, expanded numeral, hundredth, magic square, mixed number, multiple, place value, plus, twice	<i>New Vocabulary:</i> coin, common factor, decimal form, decimal point, factor tree, greatest common factor, lowest term	<i>New Vocabulary:</i> expanded notation, ten million, ten thousandth
<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> ( ) parenthesis around an integer, \$ dollar sign, ÷ division, ≠ not equal to	<i>New Signs and Symbols:</i> none



**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: 221 - 230**

Skills and Concepts to Enhance 211 - 220	Skills and Concepts to Develop 221 - 230	Skills and Concepts to Introduce 231 - 240
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Represents a decimal to the hundredths place (e.g., three hundredths = 0.03)</li> <li>• Writes a decimal for a shaded region to the tenths place*</li> <li>• Identifies the place value and value of each digit to the tenths*</li> <li>• Determines factors of whole numbers</li> <li>• Completes a factor tree for a number (prime factorization)*</li> <li>• Determines multiples of a whole number*</li> <li>• Determines common multiples 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> <li>• Applies rules of divisibility by 5's*</li> <li>• Demonstrates an understanding of the commutative property of multiplication with simple problems*</li> <li>• Demonstrates an understanding of the associative property of multiplication</li> <li>• Demonstrates an understanding of the distributive property of multiplication by decomposing a term*</li> <li>• Uses the commutative property of addition with rational numbers*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Determines the relative magnitude of whole numbers*</li> <li>• Orders whole numbers a million or greater using &lt; or &gt; symbols*</li> <li>• Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones)</li> <li>• Represents a decimal to thousandths place (e.g., three thousandths = 0.003)</li> <li>• Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)*</li> <li>• Writes a decimal for a shaded region to the hundredths place</li> <li>• Identifies the place value and value of each digit to the hundredths and thousandths</li> <li>• Identifies the place value and value of each digit in numbers through the ten thousandths and beyond</li> <li>• Determines factors of whole numbers</li> <li>• Completes a factor tree for a number (prime factorization)*</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> <li>• Uses divisibility concepts to solve problems*</li> <li>• Demonstrates an understanding of the commutative property of multiplication with complex problems (e.g., parenthesis, 3 factors)</li> <li>• Uses the distributive property</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Determines the prime factorization of a number</li> <li>• Applies rules of divisibility by 3's*</li> <li>• Applies rules of divisibility</li> <li>• Identifies the distributive property*</li> <li>• Uses the distributive property</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</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</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Rounds whole numbers to the nearest million*</li> <li>• Rounds wholes numbers to the nearest billion*</li> <li>• Uses number sense strategies to judge the</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Uses estimation to solve problems involving decimals</li> <li>• Models algorithms using place value concepts (addition and subtraction with whole numbers)*</li> </ul>

<p>nearest thousand</p> <ul style="list-style-type: none"> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand</li> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)*</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (using decimals)</li> <li>• Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only)</li> <li>• Subtracts numbers with 5 digits or more with regrouping</li> <li>• Uses strategies to determine 2 or more missing digits (addition/subtraction only)</li> <li>• Instantly recalls basic multiplication and division facts in a table</li> <li>• Multiplies a 2-digit number by a 2-digit number with regrouping</li> <li>• Multiplies a 3-digit number by a 2-digit number with regrouping</li> <li>• Performs mental computation with multiplication</li> <li>• Multiplies multiple-digit numbers</li> <li>• Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)*</li> <li>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder</li> <li>• Performs mental computation with division</li> <li>• Divides a 4-digit number by a 1-digit number with no remainder</li> <li>• Divides a 4-digit number by a 1-digit number with a remainder*</li> <li>• Divides a 3-digit number by a 2-digit number</li> </ul>	<p>reasonableness of given answers (multiplication/division only)</p> <ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)*</li> <li>• Models algorithms using place value concepts (addition and subtraction with whole numbers)*</li> <li>• Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)*</li> <li>• Multiplies multiple-digit numbers</li> <li>• Models algorithms using place value concepts (multiplication and division with whole numbers)*</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Uses division for multiple-step real-world problems (whole numbers)*</li> <li>• Solves real-world multiple-step problems involving whole numbers*</li> </ul>	<ul style="list-style-type: none"> <li>• Models algorithms using place value concepts (multiplication and division with whole numbers)*</li> <li>• Divides multiple-digit numbers</li> <li>• Uses appropriate algorithms to represent multiplication or division with whole numbers*</li> <li>• Evaluates numerical expressions using the order of operations (whole numbers only)</li> </ul>
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<ul style="list-style-type: none"> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves whole number word problems with division over 10 x 10</li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Evaluates a numerical expression involving more than one operation*</li> <li>• Solves real-world problems involving 2-step multiple operations, whole numbers only</li> <li>• Solves real-world multiple-step problems involving whole numbers*</li> </ul>		
<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>	<b>Rational Numbers: Model, Represent, Compare</b>
<ul style="list-style-type: none"> <li>• Writes whole numbers in standard and expanded form through the hundred thousands</li> <li>• Writes improper fractions and mixed numbers from a visual representation*</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>• Expresses "1" in many different ways (e.g., 3/3, 4/4)*</li> <li>• Expresses improper fractions as whole numbers (e.g., <math>4/2=2</math>)*</li> <li>• Determines simple equivalent fractions using multiples</li> <li>• Converts fractions to lowest terms</li> <li>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers</li> <li>• Compares fractions on a number line</li> <li>• Compares fractions greater than or less than a given fraction using visual representations</li> <li>• Compares fractions and mixed numbers</li> <li>• Compares fractions and mixed numbers using symbols</li> <li>• 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>• Applies base ten place value concepts to solve problems using decimals (analysis)*</li> <li>• Expresses a simple fraction as a decimal</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> </ul>	<ul style="list-style-type: none"> <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>• Orders fractions on a number line*</li> <li>• Uses alternative algorithms to explain the meaning of "fraction"*</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> <li>• 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>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)*</li> <li>• Writes a power as a product of multiplied numbers and vice versa (e.g., <math>2^4 = 2 \times 2 \times 2 \times 2</math>)</li> <li>• Uses powers of 10 to represent numbers (e.g., <math>8 \times 10^3 = 8000</math>)</li> <li>• Uses rounding to estimate answers to real-world problems involving fractions and mixed numbers*</li> <li>• Uses estimation to solve problems involving fractions and mixed numbers</li> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> </ul>	<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>• Writes a ratio as a decimal and vice versa*</li> <li>• Writes a fraction as a decimal and vice versa</li> <li>• Writes a fraction as a mixed decimal and vice versa*</li> <li>• Expresses a decimal as a whole number (e.g., 1.3 thousand = ?)*</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 powers of 10 to represent numbers (e.g., <math>8 \times 10^3 = 8000</math>)</li> <li>• Determines the most accurate answer (fractions only)*</li> <li>• Adds fractions with unlike denominators with reducing or converting to a mixed fraction</li> <li>• Adds whole numbers, fractions, and mixed fractions without reducing</li> <li>• Adds mixed fractions where converting from improper fractions is necessary</li> <li>• Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary</li> <li>• Uses models to multiply and divide fractions and connect the actions to algorithms*</li> <li>• Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms*</li> <li>• Subtracts a decimal from a whole number, horizontally</li> </ul>

<ul style="list-style-type: none"> <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>• Writes a basic percent as a decimal and vice versa*</li> <li>• Expresses a percent as a decimal and vice versa</li> <li>• Writes a power as a product of multiplied numbers and vice versa (e.g., <math>2^4 = 2 \times 2 \times 2 \times 2</math>)</li> <li>• Uses referent numbers to estimate answers when adding and subtracting fractions and mixed numbers*</li> <li>• Adds fractions with like denominators without reducing</li> <li>• Adds fractions with like denominators with reducing or converting to a mixed fraction</li> <li>• Adds fractions with unlike denominators without reducing</li> <li>• Adds mixed fractions with like denominators</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>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator 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, vertically, with the zero missing in the ones place*</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Computes the value of multiple bills and coins (addition/subtraction only)*</li> <li>• Analyzes and computes 1 operation on real-world</li> </ul>	<ul style="list-style-type: none"> <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 whole numbers, fractions, and mixed fractions without reducing</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 with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator 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 through the hundred-thousandths place</li> <li>• Subtracts decimals to the hundredths place (not same number of digits)</li> <li>• Subtracts decimals to the thousandths place, horizontally, with and without regrouping</li> <li>• Subtracts decimals through the hundred-thousandths place, horizontally</li> <li>• Subtracts a decimal from a whole number, horizontally</li> <li>• Multiplies a decimal by 10, 100, 1000</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>• Adds and subtracts percent</li> <li>• Solves problems involving percents</li> <li>• Solves problems involving simple interest rates with the formula</li> </ul>	<ul style="list-style-type: none"> <li>• Multiplies a decimal by 10, 100, 1000</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> </ul>
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problems involving money over \$5.00 (addition/subtraction only)* <ul style="list-style-type: none"> <li>• Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)</li> <li>• Determines unit price*</li> </ul>		
<i>New Vocabulary:</i> coin, common factor, decimal form, decimal point, factor tree, greatest common factor, lowest term	<i>New Vocabulary:</i> expanded notation, ten million, ten thousandth	<i>New Vocabulary:</i> prime factor, prime factorization
<i>New Signs and Symbols:</i> ( ) parenthesis around an integer, \$ dollar sign, ÷ division, ≠ not equal to	<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> • multiplication symbol (dot), - negative number, • point, segment overbar

**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: 231 - 240**

Skills and Concepts to Enhance 221 - 230	Skills and Concepts to Develop 231 - 240	Skills and Concepts to Introduce 241 - 250
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Determines the relative magnitude of whole numbers*</li> <li>• Orders whole numbers a million or greater using &lt; or &gt; symbols*</li> <li>• Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones)</li> <li>• Represents a decimal to thousandths place (e.g., three thousandths = 0.003)</li> <li>• Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)*</li> <li>• Writes a decimal for a shaded region to the hundredths place</li> <li>• Identifies the place value and value of each digit to the hundredths and thousandths</li> <li>• Identifies the place value and value of each digit in numbers through the ten thousandths and beyond</li> <li>• Determines factors of whole numbers</li> <li>• Completes a factor tree for a number (prime factorization)*</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> <li>• Uses divisibility concepts to solve problems*</li> <li>• Demonstrates an understanding of the commutative property of multiplication with complex problems (e.g., parenthesis, 3 factors)</li> <li>• Uses the distributive property</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Determines the prime factorization of a number</li> <li>• Applies rules of divisibility by 3's*</li> <li>• Applies rules of divisibility</li> <li>• Identifies the distributive property*</li> <li>• Uses the distributive property</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Determines the prime factorization of a number using powers</li> <li>• Uses factor and multiple concepts to solve difficult problems</li> <li>• Identifies the associative property of addition*</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Rounds whole numbers to the nearest million*</li> <li>• Rounds whole numbers to the nearest billion*</li> <li>• Uses number sense strategies to judge the</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Uses estimation to solve problems involving decimals</li> <li>• Models algorithms using place value concepts (addition and subtraction with whole numbers)*</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Uses estimation to solve problems involving decimals</li> </ul>

<p>reasonableness of given answers (multiplication/division only)</p> <ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)*</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)*</li> <li>• Models algorithms using place value concepts (addition and subtraction with whole numbers)*</li> <li>• Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)*</li> <li>• Multiplies multiple-digit numbers</li> <li>• Models algorithms using place value concepts (multiplication and division with whole numbers)*</li> <li>• Divides a 4-digit number by a 2-digit number</li> <li>• Divides multiple-digit numbers</li> <li>• Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor)</li> <li>• Uses division for multiple-step real-world problems (whole numbers)*</li> <li>• Solves real-world multiple-step problems involving whole numbers*</li> </ul>	<ul style="list-style-type: none"> <li>• Models algorithms using place value concepts (multiplication and division with whole numbers)*</li> <li>• Divides multiple-digit numbers</li> <li>• Uses appropriate algorithms to represent multiplication or division with whole numbers*</li> <li>• Evaluates numerical expressions using the order of operations (whole numbers only)</li> </ul>	
<p><b>Rational Numbers: Model, Represent, Compare</b></p>	<p><b>Rational Numbers: Model, Represent, Compare</b></p>	<p><b>Rational Numbers: Model, Represent, Compare</b></p>
<ul style="list-style-type: none"> <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>• Orders fractions on a number line*</li> <li>• Uses alternative algorithms to explain the meaning of "fraction"*</li> <li>• Writes a simple mixed fraction as a decimal and vice versa</li> <li>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10</li> </ul>	<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>• Writes a ratio as a decimal and vice versa*</li> <li>• Writes a fraction as a decimal and vice versa</li> <li>• Writes a fraction as a mixed decimal and vice versa*</li> <li>• Expresses a decimal as a whole number (e.g., 1.3 thousand = ?)*</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 powers of 10 to represent numbers (e.g., <math>8 \times 10^3 = 8000</math>)</li> <li>• Determines the most accurate answer (fractions only)*</li> <li>• Adds fractions with unlike denominators with</li> </ul>	<ul style="list-style-type: none"> <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> </ul>

<ul style="list-style-type: none"> <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>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)*</li> <li>• Writes a power as a product of multiplied numbers and vice versa (e.g., <math>2^4 = 2 \times 2 \times 2 \times 2</math>)</li> <li>• Uses powers of 10 to represent numbers (e.g., <math>8 \times 10^3 = 8000</math>)</li> <li>• Uses rounding to estimate answers to real-world problems involving fractions and mixed numbers*</li> <li>• Uses estimation to solve problems involving fractions and mixed numbers</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 whole numbers, fractions, and mixed fractions without reducing</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 with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator 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 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>reducing or converting to a mixed fraction</li> <li>• Adds whole numbers, fractions, and mixed fractions without reducing</li> <li>• Adds mixed fractions where converting from improper fractions is necessary</li> <li>• Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary</li> <li>• Uses models to multiply and divide fractions and connect the actions to algorithms*</li> <li>• Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms*</li> <li>• Subtracts a decimal from a whole number, horizontally</li> <li>• Multiplies a decimal by 10, 100, 1000</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> </ul>	
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<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 10, 100, 1000</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>• Adds and subtracts percent</li> <li>• Solves problems involving percents</li> <li>• Solves problems involving simple interest rates with the formula</li> </ul>		
<i>New Vocabulary:</i> expanded notation, ten million, ten thousandth	<i>New Vocabulary:</i> prime factor, prime factorization	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> • multiplication symbol (dot), - negative number, • point, segment overbar	<i>New Signs and Symbols:</i> none

**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: 241 - 250**

Skills and Concepts to Enhance 231 - 240	Skills and Concepts to Develop 241 - 250	Skills and Concepts to Introduce Above 250
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Determines the prime factorization of a number</li> <li>• Applies rules of divisibility by 3's*</li> <li>• Applies rules of divisibility</li> <li>• Identifies the distributive property*</li> <li>• Uses the distributive property</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Determines the prime factorization of a number using powers</li> <li>• Uses factor and multiple concepts to solve difficult problems</li> <li>• Identifies the associative property of addition*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Uses factor and multiple concepts to solve difficult problems</li> <li>• Identifies the commutative property of multiplication*</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Uses estimation to solve problems involving decimals</li> <li>• Models algorithms using place value concepts (addition and subtraction with whole numbers)*</li> <li>• Models algorithms using place value concepts (multiplication and division with whole numbers)*</li> <li>• Divides multiple-digit numbers</li> <li>• Uses appropriate algorithms to represent multiplication or division with whole numbers*</li> <li>• Evaluates numerical expressions using the order of operations (whole numbers only)</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Uses estimation to solve problems involving decimals</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p>
<p><b>Rational Numbers: Model, Represent, Compare</b></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>• Writes a ratio as a decimal and vice versa*</li> <li>• Writes a fraction as a decimal and vice versa</li> <li>• Writes a fraction as a mixed decimal and vice versa*</li> <li>• Expresses a decimal as a whole number (e.g., 1.3 thousand = ?)*</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 powers of 10 to represent numbers (e.g., <math>8 \times 10^3 = 8000</math>)</li> <li>• Determines the most accurate answer (fractions only)*</li> <li>• Adds fractions with unlike denominators with reducing or converting to a mixed fraction</li> <li>• Adds whole numbers, fractions, and mixed fractions without reducing</li> </ul>	<p><b>Rational Numbers: Model, Represent, Compare</b></p> <ul style="list-style-type: none"> <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> </ul>	<p><b>Rational Numbers: Model, Represent, Compare</b></p> <ul style="list-style-type: none"> <li>• Expresses a percent over 100 or under 1 as a fraction in lowest terms and vice versa*</li> </ul>

<ul style="list-style-type: none"> <li>• Adds mixed fractions where converting from improper fractions is necessary</li> <li>• Subtracts whole numbers, fractions, and mixed fractions with regrouping</li> <li>• Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary</li> <li>• Uses models to multiply and divide fractions and connect the actions to algorithms*</li> <li>• Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms*</li> <li>• Subtracts a decimal from a whole number, horizontally</li> <li>• Multiplies a decimal by 10, 100, 1000</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> </ul>		
<i>New Vocabulary:</i> prime factor, prime factorization	<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> • multiplication symbol (dot), - negative number, • point, segment overbar	<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> none

**Subject: Mathematics**

**Goal Strand: Number Sense and Operations**

**RIT Score Range: Above 250**

Skills and Concepts to Enhance 241 - 250	Skills and Concepts to Develop Above 250
<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Determines the prime factorization of a number using powers</li> <li>• Uses factor and multiple concepts to solve difficult problems</li> <li>• Identifies the associative property of addition*</li> </ul>	<p><b>Number Systems: Whole Number and Decimal</b></p> <ul style="list-style-type: none"> <li>• Uses factor and multiple concepts to solve difficult problems</li> <li>• Identifies the commutative property of multiplication*</li> </ul>
<p><b>Formulate, Represent, and Use Algorithms</b></p> <ul style="list-style-type: none"> <li>• Uses estimation to solve problems involving decimals</li> </ul>	<p><b>Formulate, Represent, and Use Algorithms</b></p>
<p><b>Rational Numbers: Model, Represent, Compare</b></p> <ul style="list-style-type: none"> <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> </ul>	<p><b>Rational Numbers: Model, Represent, Compare</b></p> <ul style="list-style-type: none"> <li>• Expresses a percent over 100 or under 1 as a fraction in lowest terms and vice versa*</li> </ul>
<p><i>New Vocabulary: none</i> <i>New Signs and Symbols: none</i></p>	<p><i>New Vocabulary: none</i> <i>New Signs and Symbols: none</i></p>

Subject: Mathematics  
 Goal Strand: Algebraic Structures  
 RIT Score Range: Below 171

Skills and Concepts to Develop Below 171	Skills and Concepts to Introduce 171 - 180
<b>Patterns: Extend, Describe, Analyze</b>	<b>Patterns: Extend, Describe, Analyze</b>
<ul style="list-style-type: none"> <li>Identifies missing numbers in a series through 100</li> <li>Extends repeating patterns - geometric shapes</li> <li>Completes a growing arithmetic pattern by naming missing members</li> </ul>	<ul style="list-style-type: none"> <li>Identifies missing numbers in a series through 100</li> <li>Counts by 2's to 100</li> <li>Counts and writes by 5's*</li> <li>Extends repeating patterns - geometric shapes</li> <li>Extends a growing arithmetic pattern, defined by numbers</li> <li>Completes a growing arithmetic pattern by naming missing members</li> </ul>
<b>Number Properties, Relationships, and Symbols</b>	<b>Number Properties, Relationships, and Symbols</b>
<ul style="list-style-type: none"> <li>Solves basic-facts open sentences - addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>Writes a number sentence for a simple problem solving situation*</li> <li>Writes equivalent forms of whole number expressions (e.g., <math>15 + 5 = 10 + 10</math>)</li> <li>Solves real-world whole number addition problems with sums to 20 (start unknown)*</li> <li>Solves basic-facts open sentences - addition and subtraction</li> <li>Solves linear equations with basic facts - 1-step addition using a letter for the variable*</li> </ul>
<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> + addition, = is equal to, – subtraction, □ variable	<i>New Signs and Symbols:</i> none

**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: 171 - 180**

Skills and Concepts to Enhance Below 171	Skills and Concepts to Develop 171 - 180	Skills and Concepts to Introduce 181 - 190
<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Identifies missing numbers in a series through 100</li> <li>Extends repeating patterns - geometric shapes</li> <li>Completes a growing arithmetic pattern by naming missing members</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Identifies missing numbers in a series through 100</li> <li>Counts by 2's to 100</li> <li>Counts and writes by 5's*</li> <li>Extends repeating patterns - geometric shapes</li> <li>Extends a growing arithmetic pattern, defined by numbers</li> <li>Completes a growing arithmetic pattern by naming missing members</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Counts and writes by 3's*</li> <li>Counts and writes by 4's*</li> <li>Counts and writes by 6's, 7's, 8's, or 9's*</li> <li>Extends a growing arithmetic pattern, defined by numbers</li> <li>Completes a growing arithmetic pattern using models by identifying the missing members*</li> <li>Completes arithmetic growth patterns in number tables by identifying the missing elements</li> <li>Extends a decreasing arithmetic patterns*</li> <li>Applies the rule to determine which set of letters is not like the other sets - other patterns*</li> </ul>
<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Solves basic-facts open sentences - addition and subtraction</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Writes a number sentence for a simple problem solving situation*</li> <li>Writes equivalent forms of whole number expressions (e.g., <math>15 + 5 = 10 + 10</math>)</li> <li>Solves real-world whole number addition problems with sums to 20 (start unknown)*</li> <li>Solves basic-facts open sentences - addition and subtraction</li> <li>Solves linear equations with basic facts - 1-step addition using a letter for the variable*</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Writes a number sentence for a simple problem solving situation*</li> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)*</li> <li>Writes equivalent forms of whole numbers using multiplication (e.g., <math>12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3</math>)*</li> <li>Solves real-world whole number addition problems with sums to 20 (start unknown)*</li> <li>Demonstrates an understanding of the inverse relationship between multiplication and division</li> <li>Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)*</li> <li>Solves linear equations with basic facts - 1-step addition using a letter for the variable*</li> <li>Solves 1-step open sentences with missing addends (numbers 100 and under)</li> </ul>
<p><i>New Vocabulary:</i> none</p>	<p><i>New Vocabulary:</i> none</p>	<p><i>New Vocabulary:</i> none</p>
<p><i>New Signs and Symbols:</i> + addition, = is equal to, - subtraction, □ variable</p>	<p><i>New Signs and Symbols:</i> none</p>	<p><i>New Signs and Symbols:</i> ÷ division, × multiplication</p>

**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: 181 - 190**

Skills and Concepts to Enhance 171 - 180	Skills and Concepts to Develop 181 - 190	Skills and Concepts to Introduce 191 - 200
<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Identifies missing numbers in a series through 100</li> <li>Counts by 2's to 100</li> <li>Counts and writes by 5's*</li> <li>Extends repeating patterns - geometric shapes</li> <li>Extends a growing arithmetic pattern, defined by numbers</li> <li>Completes a growing arithmetic pattern by naming missing members</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Counts and writes by 3's*</li> <li>Counts and writes by 4's*</li> <li>Counts and writes by 6's, 7's, 8's, or 9's*</li> <li>Extends a growing arithmetic pattern, defined by numbers</li> <li>Completes a growing arithmetic pattern using models by identifying the missing members*</li> <li>Completes arithmetic growth patterns in number tables by identifying the missing elements</li> <li>Extends a decreasing arithmetic patterns*</li> <li>Applies the rule to determine which set of letters is not like the other sets - other patterns*</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Extends a growing arithmetic pattern, defined by objects or diagrams*</li> <li>Completes a growing arithmetic pattern using models by identifying the missing members*</li> <li>Extends a decreasing arithmetic patterns*</li> <li>Extends patterns formed by letters*</li> </ul>
<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Writes a number sentence for a simple problem solving situation*</li> <li>Writes equivalent forms of whole number expressions (e.g., <math>15 + 5 = 10 + 10</math>)</li> <li>Solves real-world whole number addition problems with sums to 20 (start unknown)*</li> <li>Solves basic-facts open sentences - addition and subtraction</li> <li>Solves linear equations with basic facts - 1-step addition using a letter for the variable*</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Writes a number sentence for a simple problem solving situation*</li> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)*</li> <li>Writes equivalent forms of whole numbers using multiplication (e.g., <math>12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3</math>)*</li> <li>Solves real-world whole number addition problems with sums to 20 (start unknown)*</li> <li>Demonstrates an understanding of the inverse relationship between multiplication and division</li> <li>Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)*</li> <li>Solves linear equations with basic facts - 1-step addition using a letter for the variable*</li> <li>Solves 1-step open sentences with missing addends (numbers 100 and under)</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)*</li> <li>Writes equivalent forms of whole numbers using multiplication (e.g., <math>12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3</math>)*</li> <li>Solves real-world whole number addition problems with sums to 100 (start unknown)*</li> <li>Solves problems using the inverse relationship between addition and subtraction*</li> <li>Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)*</li> <li>Solves complex open linear sentences using diagrams and models (e.g., using balances)*</li> <li>Solves 1-step open sentences with missing addends (numbers 100 and under)</li> <li>Solves 1-step open sentences with missing addends (numbers over 100)</li> <li>Solves simple open sentences with missing factors (numbers 100 and under)*</li> <li>Solves 2-step open sentences with missing addends*</li> </ul>

<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> ÷ division, × multiplication	<i>New Signs and Symbols:</i> none



**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: 191 - 200**

Skills and Concepts to Enhance 181 - 190	Skills and Concepts to Develop 191 - 200	Skills and Concepts to Introduce 201 - 210
<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Counts and writes by 3's*</li> <li>Counts and writes by 4's*</li> <li>Counts and writes by 6's, 7's, 8's, or 9's*</li> <li>Extends a growing arithmetic pattern, defined by numbers</li> <li>Completes a growing arithmetic pattern using models by identifying the missing members*</li> <li>Completes arithmetic growth patterns in number tables by identifying the missing elements</li> <li>Extends a decreasing arithmetic patterns*</li> <li>Applies the rule to determine which set of letters is not like the other sets - other patterns*</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Extends a growing arithmetic pattern, defined by objects or diagrams*</li> <li>Completes a growing arithmetic pattern using models by identifying the missing members*</li> <li>Extends a decreasing arithmetic patterns*</li> <li>Extends patterns formed by letters*</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>Extends a growing arithmetic pattern, defined by objects or diagrams*</li> <li>Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...)</li> <li>Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)*</li> <li>Extends a pattern formed by rotating a geometric figure</li> </ul>
<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Writes a number sentence for a simple problem solving situation*</li> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)*</li> <li>Writes equivalent forms of whole numbers using multiplication (e.g., <math>12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3</math>)*</li> <li>Solves real-world whole number addition problems with sums to 20 (start unknown)*</li> <li>Demonstrates an understanding of the inverse relationship between multiplication and division</li> <li>Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)*</li> <li>Solves linear equations with basic facts - 1-step addition using a letter for the variable*</li> <li>Solves 1-step open sentences with missing addends (numbers 100 and under)</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)*</li> <li>Writes equivalent forms of whole numbers using multiplication (e.g., <math>12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3</math>)*</li> <li>Solves real-world whole number addition problems with sums to 100 (start unknown)*</li> <li>Solves problems using the inverse relationship between addition and subtraction*</li> <li>Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)*</li> <li>Solves complex open linear sentences using diagrams and models (e.g., using balances)*</li> <li>Solves 1-step open sentences with missing addends (numbers 100 and under)</li> <li>Solves 1-step open sentences with missing addends (numbers over 100)</li> <li>Solves simple open sentences with missing factors (numbers 100 and under)*</li> <li>Solves 2-step open sentences with missing addends*</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>Solves real-world whole number addition problems with sums to 100 (start unknown)*</li> <li>Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>Uses simple linear equations to represent problem situations</li> <li>Describes a realistic situation using information given in a linear equation*</li> <li>Solves complex open linear sentences using diagrams and models (e.g., using balances)*</li> <li>Solves 1-step open sentences with missing addends (numbers over 100)</li> <li>Solves simple open sentences with missing factors (numbers 100 and under)*</li> <li>Solves 2-step open sentences with missing addends*</li> <li>Solves open sentences with basic-facts calculations on both sides of the sentence</li> </ul>

<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> minimum
<i>New Signs and Symbols:</i> ÷ division, × multiplication	<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> ( ) order of operations, + positive number, = is equal to

**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: 201 - 210**

Skills and Concepts to Enhance 191 - 200	Skills and Concepts to Develop 201 - 210	Skills and Concepts to Introduce 211 - 220
<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Extends a growing arithmetic pattern, defined by objects or diagrams*</li> <li>• Completes a growing arithmetic pattern using models by identifying the missing members*</li> <li>• Extends a decreasing arithmetic patterns*</li> <li>• Extends patterns formed by letters*</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Extends a growing arithmetic pattern, defined by objects or diagrams*</li> <li>• Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...)</li> <li>• Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)*</li> <li>• Extends a pattern formed by rotating a geometric figure</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Extends a repeating pattern of geometric shapes in a grid*</li> <li>• Extends a growing geometric pattern - using numbers*</li> <li>• Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...)</li> <li>• Extends, or completes, growing patterns defined by equations or number facts</li> <li>• Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)*</li> <li>• Identifies rules and applies them to new patterns</li> </ul>
<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., <math>14 = 7 + 7</math>)*</li> <li>• Writes equivalent forms of whole numbers using multiplication (e.g., <math>12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3</math>)*</li> <li>• Solves real-world whole number addition problems with sums to 100 (start unknown)*</li> <li>• Solves problems using the inverse relationship between addition and subtraction*</li> <li>• Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>• Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)*</li> <li>• Solves complex open linear sentences using diagrams and models (e.g., using balances)*</li> <li>• Solves 1-step open sentences with missing addends (numbers 100 and under)</li> <li>• Solves 1-step open sentences with missing addends (numbers over 100)</li> <li>• Solves simple open sentences with missing factors (numbers 100 and under)*</li> <li>• Solves 2-step open sentences with missing addends*</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Solves real-world whole number addition problems with sums to 100 (start unknown)*</li> <li>• Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>• Uses simple linear equations to represent problem situations</li> <li>• Describes a realistic situation using information given in a linear equation*</li> <li>• Solves complex open linear sentences using diagrams and models (e.g., using balances)*</li> <li>• Solves 1-step open sentences with missing addends (numbers over 100)</li> <li>• Solves simple open sentences with missing factors (numbers 100 and under)*</li> <li>• Solves 2-step open sentences with missing addends*</li> <li>• Solves open sentences with basic-facts calculations on both sides of the sentence</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Solves problems using the inverse relationship between multiplication and division</li> <li>• Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>• Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>• Uses simple linear equations to represent problem situations</li> <li>• Solves simple open sentences with missing factors (numbers over 100)</li> <li>• Solves open sentences using the distributive property</li> <li>• Solves open sentences with calculations on both sides of the sentence</li> <li>• Solves 2-step open sentences with missing factors</li> <li>• Solves 1-step linear equations</li> <li>• Determines the rule and completes a simple function machine output*</li> </ul>
<p><i>New Vocabulary:</i> none</p>	<p><i>New Vocabulary:</i> minimum</p>	<p><i>New Vocabulary:</i> proof</p>

<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> ( ) order of operations, + positive number, = is equal to	<i>New Signs and Symbols:</i> ? a variable, long division symbol, ? next in sequence, R remainder
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**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: 211 - 220**

Skills and Concepts to Enhance 201 - 210	Skills and Concepts to Develop 211 - 220	Skills and Concepts to Introduce 221 - 230
<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Extends a growing arithmetic pattern, defined by objects or diagrams*</li> <li>• Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...)</li> <li>• Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)*</li> <li>• Extends a pattern formed by rotating a geometric figure</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Extends a repeating pattern of geometric shapes in a grid*</li> <li>• Extends a growing geometric pattern - using numbers*</li> <li>• Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...)</li> <li>• Extends, or completes, growing patterns defined by equations or number facts</li> <li>• Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)*</li> <li>• Identifies rules and applies them to new patterns</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Extends a growing pattern of triangular numbers, defined by objects or diagrams</li> </ul>
<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Solves real-world whole number addition problems with sums to 100 (start unknown)*</li> <li>• Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>• Uses simple linear equations to represent problem situations</li> <li>• Describes a realistic situation using information given in a linear equation*</li> <li>• Solves complex open linear sentences using diagrams and models (e.g., using balances)*</li> <li>• Solves 1-step open sentences with missing addends (numbers over 100)</li> <li>• Solves simple open sentences with missing factors (numbers 100 and under)*</li> <li>• Solves 2-step open sentences with missing addends*</li> <li>• Solves open sentences with basic-facts calculations on both sides of the sentence</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Solves problems using the inverse relationship between multiplication and division</li> <li>• Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>• Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>• Uses simple linear equations to represent problem situations</li> <li>• Solves simple open sentences with missing factors (numbers over 100)</li> <li>• Solves open sentences using the distributive property</li> <li>• Solves open sentences with calculations on both sides of the sentence</li> <li>• Solves 2-step open sentences with missing factors</li> <li>• Solves 1-step linear equations</li> <li>• Determines the rule and completes a simple function machine output*</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Describes and uses a variable with whole numbers, multiplication, and division in a contextual situation*</li> <li>• Expresses a simple linear equation from a contextual situation</li> <li>• Solves open sentences with calculations on both sides of the sentence</li> <li>• Solves 2-step open sentences with missing factors</li> <li>• Solves 1-step linear equations</li> <li>• Solves 2-step linear equations*</li> <li>• Solves linear equations with decimals*</li> <li>• Solves linear equations with integers</li> <li>• Solves open sentences with decimals</li> <li>• Solves open sentences with integers*</li> <li>• Completes a function table according to a rule*</li> </ul>
<p><i>New Vocabulary:</i> minimum</p>	<p><i>New Vocabulary:</i> proof</p>	<p><i>New Vocabulary:</i> none</p>
<p><i>New Signs and Symbols:</i> ( ) order of operations, + positive number, = is equal to</p>	<p><i>New Signs and Symbols:</i> ? a variable, long division symbol, ? next in sequence, R remainder</p>	<p><i>New Signs and Symbols:</i> ( ) parenthesis around an integer, - negative number, repeating decimal overbar, <math>\Delta</math> triangle</p>

**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: 221 - 230**

Skills and Concepts to Enhance 211 - 220	Skills and Concepts to Develop 221 - 230	Skills and Concepts to Introduce 231 - 240
<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Extends a repeating pattern of geometric shapes in a grid*</li> <li>• Extends a growing geometric pattern - using numbers*</li> <li>• Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,4,8,7,...)</li> <li>• Extends, or completes, growing patterns defined by equations or number facts</li> <li>• Extends a growing pattern of numbers - explicit quadratic rule - recursive rule is to add x more each time (such as 1,2,4,7,...)*</li> <li>• Identifies rules and applies them to new patterns</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Extends a growing pattern of triangular numbers, defined by objects or diagrams</li> </ul>	<p><b>Patterns: Extend, Describe, Analyze</b></p> <ul style="list-style-type: none"> <li>• Applies the rule to determine which number does not belong - growing pattern: arithmetic*</li> </ul>
<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Solves problems using the inverse relationship between multiplication and division</li> <li>• Demonstrates an understanding of the inverse relationship between addition and subtraction</li> <li>• Uses algebraic reasoning to solve problems involving equality relationships*</li> <li>• Uses simple linear equations to represent problem situations</li> <li>• Solves simple open sentences with missing factors (numbers over 100)</li> <li>• Solves open sentences using the distributive property</li> <li>• Solves open sentences with calculations on both sides of the sentence</li> <li>• Solves 2-step open sentences with missing factors</li> <li>• Solves 1-step linear equations</li> <li>• Determines the rule and completes a simple function machine output*</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Describes and uses a variable with whole numbers, multiplication, and division in a contextual situation*</li> <li>• Expresses a simple linear equation from a contextual situation</li> <li>• Solves open sentences with calculations on both sides of the sentence</li> <li>• Solves 2-step open sentences with missing factors</li> <li>• Solves 1-step linear equations</li> <li>• Solves 2-step linear equations*</li> <li>• Solves linear equations with decimals*</li> <li>• Solves linear equations with integers</li> <li>• Solves open sentences with decimals</li> <li>• Solves open sentences with integers*</li> <li>• Completes a function table according to a rule*</li> </ul>	<p><b>Number Properties, Relationships, and Symbols</b></p> <ul style="list-style-type: none"> <li>• Expresses a simple linear equation from a contextual situation</li> <li>• Solves 2-step open sentences with missing factors (variables on both sides of the sentence)*</li> <li>• Solves 2-step linear equations*</li> <li>• Solves linear equations with decimals*</li> <li>• Solves linear equations with integers</li> <li>• Solves linear equations with fractions</li> <li>• Solves open sentences with integers*</li> <li>• Completes a function table according to a rule*</li> </ul>
<p><i>New Vocabulary:</i> proof</p>	<p><i>New Vocabulary:</i> none</p>	<p><i>New Vocabulary:</i> none</p>
<p><i>New Signs and Symbols:</i> ? a variable, long division symbol, ? next in sequence, R remainder</p>	<p><i>New Signs and Symbols:</i> ( ) parenthesis around an integer, - negative number, repeating decimal overbar, Δ triangle</p>	<p><i>New Signs and Symbols:</i> none</p>

**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: 231 - 240**

Skills and Concepts to Enhance 221 - 230	Skills and Concepts to Develop 231 - 240	Skills and Concepts to Introduce 241 - 250
<b>Patterns: Extend, Describe, Analyze</b>	<b>Patterns: Extend, Describe, Analyze</b>	<b>Patterns: Extend, Describe, Analyze</b>
<ul style="list-style-type: none"> <li>• Extends a growing pattern of triangular numbers, defined by objects or diagrams</li> </ul>	<ul style="list-style-type: none"> <li>• Applies the rule to determine which number does not belong - growing pattern: arithmetic*</li> </ul>	<ul style="list-style-type: none"> <li>• Represents growing arithmetic patterns using algebraic expressions or equations*</li> </ul>
<b>Number Properties, Relationships, and Symbols</b>	<b>Number Properties, Relationships, and Symbols</b>	<b>Number Properties, Relationships, and Symbols</b>
<ul style="list-style-type: none"> <li>• Describes and uses a variable with whole numbers, multiplication, and division in a contextual situation*</li> <li>• Expresses a simple linear equation from a contextual situation</li> <li>• Solves open sentences with calculations on both sides of the sentence</li> <li>• Solves 2-step open sentences with missing factors</li> <li>• Solves 1-step linear equations</li> <li>• Solves 2-step linear equations*</li> <li>• Solves linear equations with decimals*</li> <li>• Solves linear equations with integers</li> <li>• Solves open sentences with decimals</li> <li>• Solves open sentences with integers*</li> <li>• Completes a function table according to a rule*</li> </ul>	<ul style="list-style-type: none"> <li>• Expresses a simple linear equation from a contextual situation</li> <li>• Solves 2-step open sentences with missing factors (variables on both sides of the sentence)*</li> <li>• Solves 2-step linear equations*</li> <li>• Solves linear equations with decimals*</li> <li>• Solves linear equations with integers</li> <li>• Solves linear equations with fractions</li> <li>• Solves open sentences with integers*</li> <li>• Completes a function table according to a rule*</li> </ul>	<ul style="list-style-type: none"> <li>• Uses linear equations to represent situations involving variable quantities</li> <li>• Solves 2-step open sentences with missing factors (variables on both sides of the sentence)*</li> <li>• Solves linear equations with fractions</li> </ul>
<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> ( ) parenthesis around an integer, - negative number, repeating decimal overbar, $\Delta$ triangle	<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> none

**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: 241 - 250**

Skills and Concepts to Enhance 231 - 240	Skills and Concepts to Develop 241 - 250	Skills and Concepts to Introduce Above 250
<b>Patterns: Extend, Describe, Analyze</b> <ul style="list-style-type: none"> <li>Applies the rule to determine which number does not belong - growing pattern: arithmetic*</li> </ul>	<b>Patterns: Extend, Describe, Analyze</b> <ul style="list-style-type: none"> <li>Represents growing arithmetic patterns using algebraic expressions or equations*</li> </ul>	<b>Patterns: Extend, Describe, Analyze</b>
<b>Number Properties, Relationships, and Symbols</b> <ul style="list-style-type: none"> <li>Expresses a simple linear equation from a contextual situation</li> <li>Solves 2-step open sentences with missing factors (variables on both sides of the sentence)*</li> <li>Solves 2-step linear equations*</li> <li>Solves linear equations with decimals*</li> <li>Solves linear equations with integers</li> <li>Solves linear equations with fractions</li> <li>Solves open sentences with integers*</li> <li>Completes a function table according to a rule*</li> </ul>	<b>Number Properties, Relationships, and Symbols</b> <ul style="list-style-type: none"> <li>Uses linear equations to represent situations involving variable quantities</li> <li>Solves 2-step open sentences with missing factors (variables on both sides of the sentence)*</li> <li>Solves linear equations with fractions</li> </ul>	<b>Number Properties, Relationships, and Symbols</b> <ul style="list-style-type: none"> <li>Draws a simple valid conclusion from a given if ... then statement and a minor premise*</li> </ul>
<i>New Vocabulary: none</i>	<i>New Vocabulary: none</i>	<i>New Vocabulary: none</i>
<i>New Signs and Symbols: none</i>	<i>New Signs and Symbols: none</i>	<i>New Signs and Symbols: none</i>



**Subject: Mathematics**  
**Goal Strand: Algebraic Structures**  
**RIT Score Range: Above 250**

Skills and Concepts to Enhance 241 - 250	Skills and Concepts to Develop Above 250
<b>Patterns: Extend, Describe, Analyze</b>	<b>Patterns: Extend, Describe, Analyze</b>
<ul style="list-style-type: none"> <li>• Represents growing arithmetic patterns using algebraic expressions or equations*</li> </ul>	
<b>Number Properties, Relationships, and Symbols</b>	<b>Number Properties, Relationships, and Symbols</b>
<ul style="list-style-type: none"> <li>• Uses linear equations to represent situations involving variable quantities</li> <li>• Solves 2-step open sentences with missing factors (variables on both sides of the sentence)*</li> <li>• Solves linear equations with fractions</li> </ul>	<ul style="list-style-type: none"> <li>• Draws a simple valid conclusion from a given if ... then statement and a minor premise*</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> none

Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: Below 171

Skills and Concepts to Develop Below 171	Skills and Concepts to Introduce 171 - 180
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Solves simple problems based on data from tables*</li> <li>• Compares data from simple graphs (e.g., largest, smallest, most often, least often)</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Interprets simple graphs or tables</li> <li>• Interprets data using tally charts</li> <li>• Reads and interprets data from a pictograph*</li> <li>• Solves simple problems based on data from pictographs</li> <li>• Displays data appropriately - bar graph - scale is 1 to 1*</li> <li>• Solves simple problems based on data from bar graphs</li> <li>• Compares data from simple graphs (e.g., largest, smallest, most often, least often)</li> </ul>
<p><b>Likelihood and Probability of Events</b></p>	<p><b>Likelihood and Probability of Events</b></p>
	<ul style="list-style-type: none"> <li>• Investigates probability of "more likely" or "less likely" using a table*</li> </ul>
<p><i>New Vocabulary:</i> dollar, shortest, table</p>	<p><i>New Vocabulary:</i> fewer, less, taller</p>
<p><i>New Signs and Symbols:</i> \$ dollar sign, = is equal to</p>	<p><i>New Signs and Symbols:</i> cm centimeter/centimetre, in. inch</p>

**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: 171 - 180**

Skills and Concepts to Enhance Below 171	Skills and Concepts to Develop 171 - 180	Skills and Concepts to Introduce 181 - 190
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Solves simple problems based on data from tables*</li> <li>Compares data from simple graphs (e.g., largest, smallest, most often, least often)</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Interprets simple graphs or tables</li> <li>Interprets data using tally charts</li> <li>Reads and interprets data from a pictograph*</li> <li>Solves simple problems based on data from pictographs</li> <li>Displays data appropriately - bar graph - scale is 1 to 1*</li> <li>Solves simple problems based on data from bar graphs</li> <li>Compares data from simple graphs (e.g., largest, smallest, most often, least often)</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Interprets simple graphs or tables</li> <li>Solves simple problems based on data from tally charts*</li> <li>Solves simple problems based on data from pictographs</li> <li>Reads and interprets data from a bar graph</li> <li>Solves simple problems based on data from bar graphs</li> </ul>
<p><b>Likelihood and Probability of Events</b></p>	<p><b>Likelihood and Probability of Events</b></p>	<p><b>Likelihood and Probability of Events</b></p>
	<ul style="list-style-type: none"> <li>Investigates probability of "more likely" or "less likely" using a table*</li> </ul>	<ul style="list-style-type: none"> <li>Investigates probability of "more likely" or "less likely" using a spinner</li> <li>Investigates probability of "more likely" or "less likely" with objects hidden in containers*</li> </ul>
<p><i>New Vocabulary:</i> dollar, shortest, table</p>	<p><i>New Vocabulary:</i> fewer, less, taller</p>	<p><i>New Vocabulary:</i> consecutive, lowest, most likely, most often</p>
<p><i>New Signs and Symbols:</i> \$ dollar sign, = is equal to</p>	<p><i>New Signs and Symbols:</i> cm centimeter/centimetre, in. inch</p>	<p><i>New Signs and Symbols:</i> none</p>

**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: 181 - 190**

Skills and Concepts to Enhance 171 - 180	Skills and Concepts to Develop 181 - 190	Skills and Concepts to Introduce 191 - 200
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Interprets simple graphs or tables</li> <li>• Interprets data using tally charts</li> <li>• Reads and interprets data from a pictograph*</li> <li>• Solves simple problems based on data from pictographs</li> <li>• Displays data appropriately - bar graph - scale is 1 to 1*</li> <li>• Solves simple problems based on data from bar graphs</li> <li>• Compares data from simple graphs (e.g., largest, smallest, most often, least often)</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Interprets simple graphs or tables</li> <li>• Solves simple problems based on data from tally charts*</li> <li>• Solves simple problems based on data from pictographs</li> <li>• Reads and interprets data from a bar graph</li> <li>• Solves simple problems based on data from bar graphs</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Solves problems using tables</li> <li>• Solves problems using tally charts*</li> <li>• Reads and interprets data from a bar graph</li> <li>• Reads and interprets dual bar graphs*</li> <li>• Reads and interprets simple line graphs</li> <li>• Reads and interprets data given in percent form on a circle graph*</li> <li>• Draws conclusions from data - tally charts or frequency tables*</li> </ul>
<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Investigates probability of "more likely" or "less likely" using a table*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Investigates probability of "more likely" or "less likely" using a spinner</li> <li>• Investigates probability of "more likely" or "less likely" with objects hidden in containers*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Investigates probability of "more likely" or "less likely" using a spinner</li> <li>• Investigates probability of "more likely" or "less likely" with a dart board*</li> </ul>
<p><i>New Vocabulary:</i> fewer, less, taller</p>	<p><i>New Vocabulary:</i> consecutive, lowest, most likely, most often</p>	<p><i>New Vocabulary:</i> line graph</p>
<p><i>New Signs and Symbols:</i> cm centimeter/centimetre, in. inch</p>	<p><i>New Signs and Symbols:</i> none</p>	<p><i>New Signs and Symbols:</i> a.m., °F degrees Fahrenheit, g gram, lb pound, min minute, p.m., % percent,   tally mark, : used with time</p>

**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: 191 - 200**

Skills and Concepts to Enhance 181 - 190	Skills and Concepts to Develop 191 - 200	Skills and Concepts to Introduce 201 - 210
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Interprets simple graphs or tables</li> <li>• Solves simple problems based on data from tally charts*</li> <li>• Solves simple problems based on data from pictographs</li> <li>• Reads and interprets data from a bar graph</li> <li>• Solves simple problems based on data from bar graphs</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Solves problems using tables</li> <li>• Solves problems using tally charts*</li> <li>• Reads and interprets data from a bar graph</li> <li>• Reads and interprets dual bar graphs*</li> <li>• Reads and interprets simple line graphs</li> <li>• Reads and interprets data given in percent form on a circle graph*</li> <li>• Draws conclusions from data - tally charts or frequency tables*</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Reads and interprets tables*</li> <li>• Solves problems using tables</li> <li>• Understands how the omission or duplication of data affects the interpretation of results from a pictograph*</li> <li>• Organizes data to create simple bar graphs</li> <li>• Solves problems using bar graphs</li> <li>• Solves problems using dual bar graphs*</li> <li>• Solves problems using line graphs*</li> <li>• Displays data appropriately - simple circle graph - no calculations necessary*</li> <li>• Reads and interprets data given in percent form on a circle graph*</li> <li>• Interprets data given in circle graphs to solve simple problems (with percents)</li> <li>• Draws conclusions from data - bar graphs</li> <li>• Predicts from pictographs and bar graphs*</li> <li>• Predicts from simple charts and tables</li> </ul>
<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Investigates probability of "more likely" or "less likely" using a spinner</li> <li>• Investigates probability of "more likely" or "less likely" with objects hidden in containers*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Investigates probability of "more likely" or "less likely" using a spinner</li> <li>• Investigates probability of "more likely" or "less likely" with a dart board*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Recognizes events that are certain, likely, unlikely, possible, or impossible*</li> <li>• Uses the concept of chance to determine the likelihood of an event*</li> <li>• Determines the probability for a simple experiment using one or more coins</li> <li>• Determines the probability for a simple experiment using objects - must determine size of sample space</li> </ul>
<p><i>New Vocabulary:</i> consecutive, lowest, most likely, most often</p>	<p><i>New Vocabulary:</i> line graph</p>	<p><i>New Vocabulary:</i> bar graph, below, chance, less likely, probability, random</p>
<p><i>New Signs and Symbols:</i> none</p>	<p><i>New Signs and Symbols:</i> a.m., °F degrees Fahrenheit, g gram, lb pound, min minute, p.m., % percent,   tally mark, : used with time</p>	<p><i>New Signs and Symbols:</i> ft feet, kg kilogram</p>

**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: 201 - 210**

Skills and Concepts to Enhance 191 - 200	Skills and Concepts to Develop 201 - 210	Skills and Concepts to Introduce 211 - 220
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Solves problems using tables</li> <li>Solves problems using tally charts*</li> <li>Reads and interprets data from a bar graph</li> <li>Reads and interprets dual bar graphs*</li> <li>Reads and interprets simple line graphs</li> <li>Reads and interprets data given in percent form on a circle graph*</li> <li>Draws conclusions from data - tally charts or frequency tables*</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Reads and interprets tables*</li> <li>Solves problems using tables</li> <li>Understands how the omission or duplication of data affects the interpretation of results from a pictograph*</li> <li>Organizes data to create simple bar graphs</li> <li>Solves problems using bar graphs</li> <li>Solves problems using dual bar graphs*</li> <li>Solves problems using line graphs*</li> <li>Displays data appropriately - simple circle graph - no calculations necessary*</li> <li>Reads and interprets data given in percent form on a circle graph*</li> <li>Interprets data given in circle graphs to solve simple problems (with percents)</li> <li>Draws conclusions from data - bar graphs</li> <li>Predicts from pictographs and bar graphs*</li> <li>Predicts from simple charts and tables</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Solves problems using pictographs*</li> <li>Solves problems using bar graphs</li> <li>Interprets data in line graphs (e.g., change over time)</li> <li>Solves problems using line graphs*</li> <li>Reads and interprets circle graphs*</li> <li>Interprets data given in circle graphs to solve simple problems (with percents)</li> <li>Solves problems using circle graphs*</li> <li>Determines the average (mean) of a simple set of data</li> <li>Solves simple problems involving mean</li> <li>Draws conclusions from data - charts*</li> <li>Predicts from pictographs and bar graphs*</li> <li>Predicts from plotted data*</li> </ul>
<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Investigates probability of "more likely" or "less likely" using a spinner</li> <li>Investigates probability of "more likely" or "less likely" with a dart board*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Recognizes events that are certain, likely, unlikely, possible, or impossible*</li> <li>Uses the concept of chance to determine the likelihood of an event*</li> <li>Determines the probability for a simple experiment using one or more coins</li> <li>Determines the probability for a simple experiment using objects - must determine size of sample space</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Determines the probability for a simple experiment using one die</li> <li>Determines probability from a real-world situation - number of possible outcomes given</li> <li>Determines the probabilities for a simple experiment using a frequency table - must determine size of sample space</li> <li>Determines probability when drawing objects from containers - must determine size of sample space</li> <li>Determines the complement of a simple event*</li> <li>Determines the possible outcomes for a simple probability experiment using spinners</li> <li>Predicts the sample space, based on the outcome of an experiment - tally sheet*</li> <li>Uses the results of probability experiments or events to predict future events*</li> </ul>
<p><i>New Vocabulary:</i> line graph</p>	<p><i>New Vocabulary:</i> bar graph, below, chance, less likely,</p>	<p><i>New Vocabulary:</i> combinations, line of best fit, mean,</p>

	probability, random	number cube, outcome, tails
<i>New Signs and Symbols:</i> a.m., °F degrees Fahrenheit, g gram, lb pound, min minute, p.m., % percent,   tally mark, : used with time	<i>New Signs and Symbols:</i> ft feet, kg kilogram	<i>New Signs and Symbols:</i> { } set notation, ¢ cent sign, d distance, hr hour, mph miles per hour, P( ) probability, t time

**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: 211 - 220**

Skills and Concepts to Enhance 201 - 210	Skills and Concepts to Develop 211 - 220	Skills and Concepts to Introduce 221 - 230
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Reads and interprets tables*</li> <li>• Solves problems using tables</li> <li>• Understands how the omission or duplication of data affects the interpretation of results from a pictograph*</li> <li>• Organizes data to create simple bar graphs</li> <li>• Solves problems using bar graphs</li> <li>• Solves problems using dual bar graphs*</li> <li>• Solves problems using line graphs*</li> <li>• Displays data appropriately - simple circle graph - no calculations necessary*</li> <li>• Reads and interprets data given in percent form on a circle graph*</li> <li>• Interprets data given in circle graphs to solve simple problems (with percents)</li> <li>• Draws conclusions from data - bar graphs</li> <li>• Predicts from pictographs and bar graphs*</li> <li>• Predicts from simple charts and tables</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Solves problems using pictographs*</li> <li>• Solves problems using bar graphs</li> <li>• Interprets data in line graphs (e.g., change over time)</li> <li>• Solves problems using line graphs*</li> <li>• Reads and interprets circle graphs*</li> <li>• Interprets data given in circle graphs to solve simple problems (with percents)</li> <li>• Solves problems using circle graphs*</li> <li>• Determines the average (mean) of a simple set of data</li> <li>• Solves simple problems involving mean</li> <li>• Draws conclusions from data - charts*</li> <li>• Predicts from pictographs and bar graphs*</li> <li>• Predicts from plotted data*</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Determines the most accurate sample for a situation*</li> <li>• Interprets data given in tables to solve problems</li> <li>• Solves problems using circle graphs*</li> <li>• Determines the average (mean) of a simple set of data</li> <li>• Determines the mean of a complex set of data (e.g., fractions, integers, many data points)</li> <li>• Estimates the mean from a set of data*</li> <li>• Solves simple problems involving mean</li> <li>• Solves problems with missing data when the mean is known</li> <li>• Determines the middle value (median) from a simple set of data*</li> <li>• Determines the mode of a set of data</li> <li>• Draws conclusions from data - charts*</li> <li>• Predicts from line graphs*</li> <li>• Predicts from plotted data*</li> </ul>
<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Recognizes events that are certain, likely, unlikely, possible, or impossible*</li> <li>• Uses the concept of chance to determine the likelihood of an event*</li> <li>• Determines the probability for a simple experiment using one or more coins</li> <li>• Determines the probability for a simple experiment using objects - must determine size of sample space</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Determines the probability for a simple experiment using one die</li> <li>• Determines probability from a real-world situation - number of possible outcomes given</li> <li>• Determines the probabilities for a simple experiment using a frequency table - must determine size of sample space</li> <li>• Determines probability when drawing objects from containers - must determine size of sample space</li> <li>• Determines the complement of a simple event*</li> <li>• Determines the possible outcomes for a simple probability experiment using spinners</li> <li>• Predicts the sample space, based on the outcome of an experiment - tally sheet*</li> <li>• Uses the results of probability experiments or events to predict future events*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Determines likelihood using tree diagrams*</li> <li>• Determines probability - must determine size of sample space</li> <li>• Determines the complement of a simple event*</li> <li>• Determines the possible outcomes for a simple probability experiment using spinners</li> </ul>
<p><i>New Vocabulary:</i> bar graph, below, chance, less likely,</p>	<p><i>New Vocabulary:</i> combinations, line of best fit, mean,</p>	<p><i>New Vocabulary:</i> frequency table, median, mode, survey</p>



probability, random	number cube, outcome, tails	
<i>New Signs and Symbols:</i> ft feet, kg kilogram	<i>New Signs and Symbols:</i> { } set notation, ¢ cent sign, d distance, hr hour, mph miles per hour, P( ) probability, t time	<i>New Signs and Symbols:</i> oz ounce

**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: 221 - 230**

Skills and Concepts to Enhance 211 - 220	Skills and Concepts to Develop 221 - 230	Skills and Concepts to Introduce 231 - 240
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Solves problems using pictographs*</li> <li>Solves problems using bar graphs</li> <li>Interprets data in line graphs (e.g., change over time)</li> <li>Solves problems using line graphs*</li> <li>Reads and interprets circle graphs*</li> <li>Interprets data given in circle graphs to solve simple problems (with percents)</li> <li>Solves problems using circle graphs*</li> <li>Determines the average (mean) of a simple set of data</li> <li>Solves simple problems involving mean</li> <li>Draws conclusions from data - charts*</li> <li>Predicts from pictographs and bar graphs*</li> <li>Predicts from plotted data*</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Determines the most accurate sample for a situation*</li> <li>Interprets data given in tables to solve problems</li> <li>Solves problems using circle graphs*</li> <li>Determines the average (mean) of a simple set of data</li> <li>Determines the mean of a complex set of data (e.g., fractions, integers, many data points)</li> <li>Estimates the mean from a set of data*</li> <li>Solves simple problems involving mean</li> <li>Solves problems with missing data when the mean is known</li> <li>Determines the middle value (median) from a simple set of data*</li> <li>Determines the mode of a set of data</li> <li>Draws conclusions from data - charts*</li> <li>Predicts from line graphs*</li> <li>Predicts from plotted data*</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Organizes data using tables*</li> <li>Interprets data given in tables to solve problems</li> <li>Determines appropriate intervals and/or scale for a bar graph*</li> <li>Interprets data given in horizontal and vertical bar graphs to solve problems</li> <li>Interprets data given in line graphs to solve problems*</li> <li>Determines the mean of a complex set of data (e.g., fractions, integers, many data points)</li> <li>Estimates the mean from a set of data*</li> <li>Solves problems with missing data when the mean is known</li> <li>Determines the median from a complex set of data (e.g., not in order, many data points)</li> <li>Determines the range of a complex set of data</li> <li>Predicts from charts and tables</li> </ul>
<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Determines the probability for a simple experiment using one die</li> <li>Determines probability from a real-world situation - number of possible outcomes given</li> <li>Determines the probabilities for a simple experiment using a frequency table - must determine size of sample space</li> <li>Determines probability when drawing objects from containers - must determine size of sample space</li> <li>Determines the complement of a simple event*</li> <li>Determines the possible outcomes for a simple probability experiment using spinners</li> <li>Predicts the sample space, based on the outcome of an experiment - tally sheet*</li> <li>Uses the results of probability experiments or events to predict future events*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Determines likelihood using tree diagrams*</li> <li>Determines probability - must determine size of sample space</li> <li>Determines the complement of a simple event*</li> <li>Determines the possible outcomes for a simple probability experiment using spinners</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Determines certainty from a set data*</li> <li>Determines sample space given probability of all possible outcomes*</li> <li>Determines probability - must determine size of sample space</li> <li>Modifies sample space to change the probability of an event*</li> <li>Recognizes the relationship between events and probability - selects an experiment which matches a given probability*</li> </ul>
<p><i>New Vocabulary:</i> combinations, line of best fit, mean, number cube, outcome, tails</p>	<p><i>New Vocabulary:</i> frequency table, median, mode, survey</p>	<p><i>New Vocabulary:</i> average salary, meters per minute, middle</p>

<i>New Signs and Symbols:</i> { } set notation, ¢ cent sign, d distance, hr hour, mph miles per hour, P( ) probability, t time	<i>New Signs and Symbols:</i> oz ounce	<i>New Signs and Symbols:</i> \$ dollar sign, °C degrees Celsius, m meter/metre, mL milliliter/millilitre, – negative number, ? next in sequence
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**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: 231 - 240**

Skills and Concepts to Enhance 221 - 230	Skills and Concepts to Develop 231 - 240	Skills and Concepts to Introduce 241 - 250
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Determines the most accurate sample for a situation*</li> <li>• Interprets data given in tables to solve problems</li> <li>• Solves problems using circle graphs*</li> <li>• Determines the average (mean) of a simple set of data</li> <li>• Determines the mean of a complex set of data (e.g., fractions, integers, many data points)</li> <li>• Estimates the mean from a set of data*</li> <li>• Solves simple problems involving mean</li> <li>• Solves problems with missing data when the mean is known</li> <li>• Determines the middle value (median) from a simple set of data*</li> <li>• Determines the mode of a set of data</li> <li>• Draws conclusions from data - charts*</li> <li>• Predicts from line graphs*</li> <li>• Predicts from plotted data*</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Organizes data using tables*</li> <li>• Interprets data given in tables to solve problems</li> <li>• Determines appropriate intervals and/or scale for a bar graph*</li> <li>• Interprets data given in horizontal and vertical bar graphs to solve problems</li> <li>• Interprets data given in line graphs to solve problems*</li> <li>• Determines the mean of a complex set of data (e.g., fractions, integers, many data points)</li> <li>• Estimates the mean from a set of data*</li> <li>• Solves problems with missing data when the mean is known</li> <li>• Determines the median from a complex set of data (e.g., not in order, many data points)</li> <li>• Determines the range of a complex set of data</li> <li>• Predicts from charts and tables</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>• Reads and interprets data in tables</li> <li>• Determines the range of a complex set of data</li> </ul>
<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Determines likelihood using tree diagrams*</li> <li>• Determines probability - must determine size of sample space</li> <li>• Determines the complement of a simple event*</li> <li>• Determines the possible outcomes for a simple probability experiment using spinners</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Determines certainty from a set data*</li> <li>• Determines sample space given probability of all possible outcomes*</li> <li>• Determines probability - must determine size of sample space</li> <li>• Modifies sample space to change the probability of an event*</li> <li>• Recognizes the relationship between events and probability - selects an experiment which matches a given probability*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>• Determines certainty from a set data*</li> <li>• Determines probability using counting procedures*</li> <li>• Determines probability using tables</li> <li>• Uses theoretical probability to predict future events</li> </ul>
<p><i>New Vocabulary:</i> frequency table, median, mode, survey</p>	<p><i>New Vocabulary:</i> average salary, meters per minute, middle</p>	<p><i>New Vocabulary:</i> mileage table</p>
<p><i>New Signs and Symbols:</i> oz ounce</p>	<p><i>New Signs and Symbols:</i> \$ dollar sign, °C degrees Celsius, m meter/metre, mL milliliter/millilitre, – negative number, ? next in sequence</p>	<p><i>New Signs and Symbols:</i> ° degrees, E east, NE northeast, NNE north northeast, N north, NW northwest, S south, W west</p>

**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: 241 - 250**

Skills and Concepts to Enhance 231 - 240	Skills and Concepts to Develop 241 - 250	Skills and Concepts to Introduce Above 250
<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Organizes data using tables*</li> <li>Interprets data given in tables to solve problems</li> <li>Determines appropriate intervals and/or scale for a bar graph*</li> <li>Interprets data given in horizontal and vertical bar graphs to solve problems</li> <li>Interprets data given in line graphs to solve problems*</li> <li>Determines the mean of a complex set of data (e.g., fractions, integers, many data points)</li> <li>Estimates the mean from a set of data*</li> <li>Solves problems with missing data when the mean is known</li> <li>Determines the median from a complex set of data (e.g., not in order, many data points)</li> <li>Determines the range of a complex set of data</li> <li>Predicts from charts and tables</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Reads and interprets data in tables</li> <li>Determines the range of a complex set of data</li> </ul>	<p><b>Visual Displays: Create, Describe, Interpret Data</b></p> <ul style="list-style-type: none"> <li>Uses random sampling techniques*</li> <li>Displays data appropriately - circle graph - calculations necessary*</li> <li>Solves complex problems involving mean*</li> </ul>
<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Determines certainty from a set data*</li> <li>Determines sample space given probability of all possible outcomes*</li> <li>Determines probability - must determine size of sample space</li> <li>Modifies sample space to change the probability of an event*</li> <li>Recognizes the relationship between events and probability - selects an experiment which matches a given probability*</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Determines certainty from a set data*</li> <li>Determines probability using counting procedures*</li> <li>Determines probability using tables</li> <li>Uses theoretical probability to predict future events</li> </ul>	<p><b>Likelihood and Probability of Events</b></p> <ul style="list-style-type: none"> <li>Determines certainty from a set data*</li> </ul>
<p><i>New Vocabulary:</i> average salary, meters per minute, middle</p>	<p><i>New Vocabulary:</i> mileage table</p>	<p><i>New Vocabulary:</i> none</p>
<p><i>New Signs and Symbols:</i> \$ dollar sign, °C degrees Celsius, m meter/metre, mL milliliter/millilitre, - negative number, ? next in sequence</p>	<p><i>New Signs and Symbols:</i> ° degrees, E east, NE northeast, NNE north northeast, N north, NW northwest, S south, W west</p>	<p><i>New Signs and Symbols:</i> none</p>

**Subject: Mathematics**

**Goal Strand: Data Analysis and Probability**

**RIT Score Range: Above 250**

Skills and Concepts to Enhance 241 - 250	Skills and Concepts to Develop Above 250
<b>Visual Displays: Create, Describe, Interpret Data</b>	<b>Visual Displays: Create, Describe, Interpret Data</b>
<ul style="list-style-type: none"> <li>• Reads and interprets data in tables</li> <li>• Determines the range of a complex set of data</li> </ul>	<ul style="list-style-type: none"> <li>• Uses random sampling techniques*</li> <li>• Displays data appropriately - circle graph - calculations necessary*</li> <li>• Solves complex problems involving mean*</li> </ul>
<b>Likelihood and Probability of Events</b>	<b>Likelihood and Probability of Events</b>
<ul style="list-style-type: none"> <li>• Determines certainty from a set data*</li> <li>• Determines probability using counting procedures*</li> <li>• Determines probability using tables</li> <li>• Uses theoretical probability to predict future events</li> </ul>	<ul style="list-style-type: none"> <li>• Determines certainty from a set data*</li> </ul>
<i>New Vocabulary:</i> mileage table	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> ° degrees, E east, NE northeast, NNE north northeast, N north, NW northwest, S south, W west	<i>New Signs and Symbols:</i> none

**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: Below 161**

Skills and Concepts to Develop Below 161	Skills and Concepts to Introduce 161 - 170
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>• Identifies figures that are the same size and shape</li> <li>• Predicts the shape after unfolding a figure*</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>• Identifies and names a triangle</li> <li>• Identifies and names a square</li> <li>• Identifies and names a rectangle*</li> <li>• Identifies and names a circle*</li> <li>• Identifies sides and vertices of polygons</li> <li>• Sorts solid figures and objects according to attributes*</li> <li>• Identifies figures that are the same size and shape</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>• Compares objects (wider, narrower)*</li> <li>• Compares objects (taller, shorter)*</li> <li>• Identifies time of day (e.g., morning, afternoon)*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>• Compares objects (shorter, longer)</li> <li>• Estimates and measures length of an object to the nearest inch using a picture of a ruler*</li> <li>• Measures length with customary measures to the inch mark*</li> <li>• Measures length with metric measures to the centimeter mark</li> <li>• Orders periods of time (days of the week)*</li> <li>• Tells time to the nearest hour*</li> <li>• Tells time to the nearest half hour</li> <li>• Reads a calendar - no computation required</li> </ul>
<p><i>New Vocabulary: size</i></p>	<p><i>New Vocabulary: corner, flat, shortest</i></p>
<p><i>New Signs and Symbols: : used with time</i></p>	<p><i>New Signs and Symbols: cm centimeter/centimetre, ft feet, • point</i></p>

**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: 161 - 170**

Skills and Concepts to Enhance Below 161	Skills and Concepts to Develop 161 - 170	Skills and Concepts to Introduce 171 - 180
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies figures that are the same size and shape</li> <li>Predicts the shape after unfolding a figure*</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies and names a triangle</li> <li>Identifies and names a square</li> <li>Identifies and names a rectangle*</li> <li>Identifies and names a circle*</li> <li>Identifies sides and vertices of polygons</li> <li>Sorts solid figures and objects according to attributes*</li> <li>Identifies figures that are the same size and shape</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies and names a triangle</li> <li>Identifies and names a square</li> <li>Identifies and names a rectangle*</li> <li>Identifies and names a circle*</li> <li>Identifies and names a cube</li> <li>Identifies spatial sense concepts (e.g., outside, inside, between, over, under, above, below, behind, in front, middle)*</li> <li>Identifies figures that are similar</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Compares objects (wider, narrower)*</li> <li>Compares objects (taller, shorter)*</li> <li>Identifies time of day (e.g., morning, afternoon)*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Compares objects (shorter, longer)</li> <li>Estimates and measures length of an object to the nearest inch using a picture of a ruler*</li> <li>Measures length with customary measures to the inch mark*</li> <li>Measures length with metric measures to the centimeter mark</li> <li>Orders periods of time (days of the week)*</li> <li>Tells time to the nearest hour*</li> <li>Tells time to the nearest half hour</li> <li>Reads a calendar - no computation required</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Estimates and measures length of an object to the nearest centimeter using a picture of a ruler*</li> <li>Measures length with customary measures to the inch mark*</li> <li>Knows the approximate weight of familiar objects</li> <li>Orders periods of time (months of the year, seasons)*</li> <li>Tells time to the nearest hour*</li> <li>Tells time to the nearest half hour</li> <li>Tells time to the nearest 5 minutes</li> <li>Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)</li> </ul>
<p><i>New Vocabulary: size</i></p>	<p><i>New Vocabulary: corner, flat, shortest</i></p>	<p><i>New Vocabulary: geometric figure, metric, morning, similar</i></p>
<p><i>New Signs and Symbols: : used with time</i></p>	<p><i>New Signs and Symbols: cm centimeter/centimetre, ft feet, • point</i></p>	<p><i>New Signs and Symbols: a.m., g gram, = is equal to, ? next in sequence, p.m.</i></p>



**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: 171 - 180**

Skills and Concepts to Enhance 161 - 170	Skills and Concepts to Develop 171 - 180	Skills and Concepts to Introduce 181 - 190
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies and names a triangle</li> <li>Identifies and names a square</li> <li>Identifies and names a rectangle*</li> <li>Identifies and names a circle*</li> <li>Identifies sides and vertices of polygons</li> <li>Sorts solid figures and objects according to attributes*</li> <li>Identifies figures that are the same size and shape</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies and names a triangle</li> <li>Identifies and names a square</li> <li>Identifies and names a rectangle*</li> <li>Identifies and names a circle*</li> <li>Identifies and names a cube</li> <li>Identifies spatial sense concepts (e.g., outside, inside, between, over, under, above, below, behind, in front, middle)*</li> <li>Identifies figures that are similar</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies congruent line segments*</li> <li>Identifies and names multiple shapes (e.g., square, rectangle, triangle, circle)*</li> <li>Classifies polygons by sides and vertices</li> <li>Identifies and names a cube</li> <li>Identifies congruent figures</li> <li>Identifies figures that are similar</li> <li>Identifies plane figures with line symmetry</li> <li>Identifies transformations of plane figures (rotations/turns)</li> <li>Identifies transformations of plane figures (translations/slides)*</li> <li>Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)*</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Compares objects (shorter, longer)</li> <li>Estimates and measures length of an object to the nearest inch using a picture of a ruler*</li> <li>Measures length with customary measures to the inch mark*</li> <li>Measures length with metric measures to the centimeter mark</li> <li>Orders periods of time (days of the week)*</li> <li>Tells time to the nearest hour*</li> <li>Tells time to the nearest half hour</li> <li>Reads a calendar - no computation required</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Estimates and measures length of an object to the nearest centimeter using a picture of a ruler*</li> <li>Measures length with customary measures to the inch mark*</li> <li>Knows the approximate weight of familiar objects</li> <li>Orders periods of time (months of the year, seasons)*</li> <li>Tells time to the nearest hour*</li> <li>Tells time to the nearest half hour</li> <li>Tells time to the nearest 5 minutes</li> <li>Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Identifies the appropriate instrument used to measure length*</li> <li>Selects and uses the appropriate type and size of unit in customary system (length)</li> <li>Selects and uses the appropriate type and size of unit in customary system (height)*</li> <li>Knows the approximate size of an inch</li> <li>Knows the approximate length of familiar objects*</li> <li>Measures length with non-standard units</li> <li>Measures length with customary measures to the half-inch mark</li> <li>Selects and uses the appropriate type and size of unit in customary system (weight)*</li> <li>Determines more capacity or less capacity</li> <li>Selects and uses the appropriate type and size of unit in customary system (capacity)*</li> <li>Identifies the correct time, given the words, and vice versa</li> <li>Determines elapsed clock time</li> </ul>

		<ul style="list-style-type: none"> <li>• Determines elapsed time under 1 hour or to the hour</li> <li>• Determines elapsed time involving whole hours, whole days, whole years</li> <li>• Tells time to the nearest 5 minutes</li> <li>• Interprets a calendar - some computation required</li> <li>• Computes simple conversions among units of time (days, weeks)*</li> <li>• Determines the perimeter of a figure where all sides are labeled</li> </ul>
<i>New Vocabulary:</i> corner, flat, shortest	<i>New Vocabulary:</i> geometric figure, metric, morning, similar	<i>New Vocabulary:</i> clock, clockwise, cup, estimation, flip, fourth, grid, half past, how much time, line of symmetry, measurement, millimeter, noon, o'clock, pint, quarter past, quarter to, rod, rotation, smallest, symmetry, tablespoon, teaspoon, ton, turn, what time
<i>New Signs and Symbols:</i> cm centimeter/centimetre, ft feet, • point	<i>New Signs and Symbols:</i> a.m., g gram, = is equal to, ? next in sequence, p.m.	<i>New Signs and Symbols:</i> ( ) ordered pair, : used with time, c cup, gal gallon, in. inch, pt pint, qt quart, tsp teaspoon

**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: 181 - 190**

Skills and Concepts to Enhance 171 - 180	Skills and Concepts to Develop 181 - 190	Skills and Concepts to Introduce 191 - 200
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies and names a triangle</li> <li>Identifies and names a square</li> <li>Identifies and names a rectangle*</li> <li>Identifies and names a circle*</li> <li>Identifies and names a cube</li> <li>Identifies spatial sense concepts (e.g., outside, inside, between, over, under, above, below, behind, in front, middle)*</li> <li>Identifies figures that are similar</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies congruent line segments*</li> <li>Identifies and names multiple shapes (e.g., square, rectangle, triangle, circle)*</li> <li>Classifies polygons by sides and vertices</li> <li>Identifies and names a cube</li> <li>Identifies congruent figures</li> <li>Identifies figures that are similar</li> <li>Identifies plane figures with line symmetry</li> <li>Identifies transformations of plane figures (rotations/turns)</li> <li>Identifies transformations of plane figures (translations/slides)*</li> <li>Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)*</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies lines*</li> <li>Identifies parallel lines</li> <li>Identifies angles*</li> <li>Identifies points on a circle*</li> <li>Identifies and names a polygon*</li> <li>Identifies and names a pentagon*</li> <li>Sorts 2-D shapes and objects according to their attributes</li> <li>Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape*</li> <li>Identifies position of shapes (e.g., inside, outside, between)*</li> <li>Identifies figures that are the same size and shape (analysis)*</li> <li>Identifies congruent figures</li> <li>Identifies plane figures with line symmetry</li> <li>Identifies the number of lines of symmetry in plane figures</li> <li>Identifies transformations of plane figures (reflections/flips)</li> <li>Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)*</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Estimates and measures length of an object to the nearest centimeter using a picture of a ruler*</li> <li>Measures length with customary measures to the inch mark*</li> <li>Knows the approximate weight of familiar objects</li> <li>Orders periods of time (months of the year, seasons)*</li> <li>Tells time to the nearest hour*</li> <li>Tells time to the nearest half hour</li> <li>Tells time to the nearest 5 minutes</li> <li>Computes simple conversions among units of time</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Identifies the appropriate instrument used to measure length*</li> <li>Selects and uses the appropriate type and size of unit in customary system (length)</li> <li>Selects and uses the appropriate type and size of unit in customary system (height)*</li> <li>Knows the approximate size of an inch</li> <li>Knows the approximate length of familiar objects*</li> <li>Measures length with non-standard units</li> <li>Measures length with customary measures to the</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in customary system (length)</li> <li>Selects and uses the appropriate type and size of unit in customary system (height)*</li> <li>Knows the approximate size of a foot</li> <li>Knows the approximate size of a mile*</li> <li>Measures length with non-standard units</li> <li>Selects and uses the appropriate type and size of unit in customary system (weight)*</li> <li>Knows the approximate size of an ounce*</li> </ul>

(minutes in an hour, half hour, quarter hour)	<p>half-inch mark</p> <ul style="list-style-type: none"> <li>• Selects and uses the appropriate type and size of unit in customary system (weight)*</li> <li>• Determines more capacity or less capacity</li> <li>• Selects and uses the appropriate type and size of unit in customary system (capacity)*</li> <li>• Identifies the correct time, given the words, and vice versa</li> <li>• Determines elapsed clock time</li> <li>• Determines elapsed time under 1 hour or to the hour</li> <li>• Determines elapsed time involving whole hours, whole days, whole years</li> <li>• Tells time to the nearest 5 minutes</li> <li>• Interprets a calendar - some computation required</li> <li>• Computes simple conversions among units of time (days, weeks)*</li> <li>• Determines the perimeter of a figure where all sides are labeled</li> </ul>	<ul style="list-style-type: none"> <li>• Selects and uses the appropriate type and size of unit in customary system (capacity)*</li> <li>• Knows the approximate size of a pint*</li> <li>• Converts between cups and pints*</li> <li>• Converts between cups, pints, and quarts*</li> <li>• Identifies the correct time, given the words, and vice versa</li> <li>• Orders years*</li> <li>• Determines elapsed clock time</li> <li>• Tells time to the nearest quarter hour</li> <li>• Determines elapsed time involving whole hours, whole days, whole years</li> <li>• Tells time to the nearest 1 minute</li> <li>• Computes simple conversions among units of time (minutes, hours)</li> <li>• Computes simple conversions among units of time (hours, days)*</li> <li>• Solves simple problems involving elapsed time, with the conversion of hours</li> <li>• Determines the perimeter of a figure where all sides are labeled</li> <li>• Determines the perimeter of a figure where some sides are labeled</li> <li>• Solves simple problems involving the perimeter of squares, rectangles, or triangles</li> </ul>
<i>New Vocabulary:</i> geometric figure, metric, morning, similar	<i>New Vocabulary:</i> clock, clockwise, cup, estimation, flip, fourth, grid, half past, how much time, line of symmetry, measurement, millimeter, noon, o'clock, pint, quarter past, quarter to, rod, rotation, smallest, symmetry, tablespoon, teaspoon, ton, turn, what time	<i>New Vocabulary:</i> decade, intersect, large, oval, parallel, plane, rhombus, same shape, straight, vertical line
<i>New Signs and Symbols:</i> a.m., g gram, = is equal to, ? next in sequence, p.m.	<i>New Signs and Symbols:</i> ( ) ordered pair, : used with time, c cup, gal gallon, in. inch, pt pint, qt quart, tsp teaspoon	<i>New Signs and Symbols:</i> \$ dollar sign, " inches, m meter/metre, • multiplication symbol (dot), yd yard

**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: 191 - 200**

Skills and Concepts to Enhance 181 - 190	Skills and Concepts to Develop 191 - 200	Skills and Concepts to Introduce 201 - 210
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies congruent line segments*</li> <li>Identifies and names multiple shapes (e.g., square, rectangle, triangle, circle)*</li> <li>Classifies polygons by sides and vertices</li> <li>Identifies and names a cube</li> <li>Identifies congruent figures</li> <li>Identifies figures that are similar</li> <li>Identifies plane figures with line symmetry</li> <li>Identifies transformations of plane figures (rotations/turns)</li> <li>Identifies transformations of plane figures (translations/slides)*</li> <li>Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)*</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies lines*</li> <li>Identifies parallel lines</li> <li>Identifies angles*</li> <li>Identifies points on a circle*</li> <li>Identifies and names a polygon*</li> <li>Identifies and names a pentagon*</li> <li>Sorts 2-D shapes and objects according to their attributes</li> <li>Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape*</li> <li>Identifies position of shapes (e.g., inside, outside, between)*</li> <li>Identifies figures that are the same size and shape (analysis)*</li> <li>Identifies congruent figures</li> <li>Identifies plane figures with line symmetry</li> <li>Identifies the number of lines of symmetry in plane figures</li> <li>Identifies transformations of plane figures (reflections/flips)</li> <li>Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)*</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies the intersection point of two lines*</li> <li>Identifies parallel lines</li> <li>Identifies angles*</li> <li>Identifies right angles*</li> <li>Identifies and names a parallelogram*</li> <li>Identifies and names a polygon*</li> <li>Identifies and names a hexagon*</li> <li>Identifies and names an octagon*</li> <li>Classifies polygons by sides and angles</li> <li>Identifies a cube from a net</li> <li>Classifies plane figures by the number of lines of symmetry*</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> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Identifies the appropriate instrument used to measure length*</li> <li>Selects and uses the appropriate type and size of unit in customary system (length)</li> <li>Selects and uses the appropriate type and size of unit in customary system (height)*</li> <li>Knows the approximate size of an inch</li> <li>Knows the approximate length of familiar objects*</li> <li>Measures length with non-standard units</li> <li>Measures length with customary measures to the</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in customary system (length)</li> <li>Selects and uses the appropriate type and size of unit in customary system (height)*</li> <li>Knows the approximate size of a foot</li> <li>Knows the approximate size of a mile*</li> <li>Measures length with non-standard units</li> <li>Selects and uses the appropriate type and size of unit in customary system (weight)*</li> <li>Knows the approximate size of an ounce*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in metric system (length)</li> <li>Selects and uses the appropriate type and size of unit in metric system (height)*</li> <li>Knows the approximate size of a yard</li> <li>Knows the approximate size of a centimeter</li> <li>Measures length to the nearest centimeter*</li> <li>Converts between inches and feet</li> <li>Selects and uses balances for measuring weight or mass*</li> </ul>

<ul style="list-style-type: none"> <li>half-inch mark</li> <li>Selects and uses the appropriate type and size of unit in customary system (weight)*</li> <li>Determines more capacity or less capacity</li> <li>Selects and uses the appropriate type and size of unit in customary system (capacity)*</li> <li>Identifies the correct time, given the words, and vice versa</li> <li>Determines elapsed clock time</li> <li>Determines elapsed time under 1 hour or to the hour</li> <li>Determines elapsed time involving whole hours, whole days, whole years</li> <li>Tells time to the nearest 5 minutes</li> <li>Interprets a calendar - some computation required</li> <li>Computes simple conversions among units of time (days, weeks)*</li> <li>Determines the perimeter of a figure where all sides are labeled</li> </ul>	<ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in customary system (capacity)*</li> <li>Knows the approximate size of a pint*</li> <li>Converts between cups and pints*</li> <li>Converts between cups, pints, and quarts*</li> <li>Identifies the correct time, given the words, and vice versa</li> <li>Orders years*</li> <li>Determines elapsed clock time</li> <li>Tells time to the nearest quarter hour</li> <li>Determines elapsed time involving whole hours, whole days, whole years</li> <li>Tells time to the nearest 1 minute</li> <li>Computes simple conversions among units of time (minutes, hours)</li> <li>Computes simple conversions among units of time (hours, days)*</li> <li>Solves simple problems involving elapsed time, with the conversion of hours</li> <li>Determines the perimeter of a figure where all sides are labeled</li> <li>Determines the perimeter of a figure where some sides are labeled</li> <li>Solves simple problems involving the perimeter of squares, rectangles, or triangles</li> </ul>	<ul style="list-style-type: none"> <li>Knows the approximate size of a pound</li> <li>Knows the approximate size of a gram</li> <li>Converts between milligrams and grams*</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>Solves problems involving measurement of time</li> <li>Solves simple problems involving elapsed time, with the conversion of hours</li> <li>Determines the perimeter of a figure where some sides are labeled</li> <li>Solves simple problems comparing area and perimeter (customary units)*</li> <li>Identifies situations where it is appropriate to calculate area</li> <li>Estimates and finds volume of a figure using cubic units</li> </ul>
<p><i>New Vocabulary:</i> clock, clockwise, cup, estimation, flip, fourth, grid, half past, how much time, line of symmetry, measurement, millimeter, noon, o'clock, pint, quarter past, quarter to, rod, rotation, smallest, symmetry, tablespoon, teaspoon, ton, turn, what time</p>	<p><i>New Vocabulary:</i> decade, intersect, large, oval, parallel, plane, rhombus, same shape, straight, vertical line</p>	<p><i>New Vocabulary:</i> coordinate point, cubic centimeter, cubic unit, decameter, decimeter, hectometer, larger, milliliter, octagon, rectangular box, regular polygon, trapezoid</p>
<p><i>New Signs and Symbols:</i> ( ) ordered pair, : used with time, c cup, gal gallon, in. inch, pt pint, qt quart, tsp teaspoon</p>	<p><i>New Signs and Symbols:</i> \$ dollar sign, " inches, m meter/metre, • multiplication symbol (dot), yd yard</p>	<p><i>New Signs and Symbols:</i> ' feet, mm millimeter/millimetre, □ variable</p>

**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: 201 - 210**

Skills and Concepts to Enhance 191 – 200	Skills and Concepts to Develop 201 - 210	Skills and Concepts to Introduce 211 - 220
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies lines*</li> <li>Identifies parallel lines</li> <li>Identifies angles*</li> <li>Identifies points on a circle*</li> <li>Identifies and names a polygon*</li> <li>Identifies and names a pentagon*</li> <li>Sorts 2-D shapes and objects according to their attributes</li> <li>Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape*</li> <li>Identifies position of shapes (e.g., inside, outside, between)*</li> <li>Identifies figures that are the same size and shape (analysis)*</li> <li>Identifies congruent figures</li> <li>Identifies plane figures with line symmetry</li> <li>Identifies the number of lines of symmetry in plane figures</li> <li>Identifies transformations of plane figures (reflections/flips)</li> <li>Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)*</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies the intersection point of two lines*</li> <li>Identifies parallel lines</li> <li>Identifies angles*</li> <li>Identifies right angles*</li> <li>Identifies and names a parallelogram*</li> <li>Identifies and names a polygon*</li> <li>Identifies and names a hexagon*</li> <li>Identifies and names an octagon*</li> <li>Classifies polygons by sides and angles</li> <li>Identifies a cube from a net</li> <li>Classifies plane figures by the number of lines of symmetry*</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> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies rays*</li> <li>Identifies perpendicular lines*</li> <li>Describes relationships among points, lines, and planes, and identifies models in the environment*</li> <li>Identifies acute angles</li> <li>Identifies obtuse angles</li> <li>Identifies the diameter of a circle*</li> <li>Identifies the circumference of a circle*</li> <li>Identifies the number of degrees in a circle*</li> <li>Identifies and names a quadrilateral*</li> <li>Classifies polygons by type of angle*</li> <li>Classifies polygons by number of sides*</li> <li>Identifies corners (vertices) of cubes*</li> <li>Identifies the net which makes a cube-like (open box) figure*</li> <li>Predicts and verifies the effects of combining or subdividing basic shapes</li> <li>Compares simple plane figures to solid figures (e.g., circle/sphere, square/cube, rectangle/rectangular solid)*</li> <li>Identifies similar and congruent triangles*</li> <li>Identifies congruent polygons and their corresponding sides and angles*</li> <li>Defines "similarity"*</li> <li>Recognizes similar figures in the real world*</li> <li>Classifies plane figures by the number of lines of symmetry*</li> <li>Identifies geometric transformations (rotations)*</li> <li>Identifies geometric transformations (translations)*</li> <li>Identifies geometric transformations (reflections)*</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in customary system (length)</li> <li>Selects and uses the appropriate type and size of unit in customary system (height)*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in metric system (length)</li> <li>Selects and uses the appropriate type and size of unit in metric system (height)*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in metric system (length)</li> <li>Selects and uses the appropriate type and size of unit in metric system (height)*</li> </ul>

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\* Both data from test items and review by NWEA curriculum specialists are used to place learning continuum statements into appropriate RIT ranges.

Blank cells indicate data are limited or unavailable for this range or document version.

<ul style="list-style-type: none"> <li>• Knows the approximate size of a foot</li> <li>• Knows the approximate size of a mile*</li> <li>• Measures length with non-standard units</li> <li>• Selects and uses the appropriate type and size of unit in customary system (weight)*</li> <li>• Knows the approximate size of an ounce*</li> <li>• Selects and uses the appropriate type and size of unit in customary system (capacity)*</li> <li>• Knows the approximate size of a pint*</li> <li>• Converts between cups and pints*</li> <li>• Converts between cups, pints, and quarts*</li> <li>• Identifies the correct time, given the words, and vice versa</li> <li>• Orders years*</li> <li>• Determines elapsed clock time</li> <li>• Tells time to the nearest quarter hour</li> <li>• Determines elapsed time involving whole hours, whole days, whole years</li> <li>• Tells time to the nearest 1 minute</li> <li>• Computes simple conversions among units of time (minutes, hours)</li> <li>• Computes simple conversions among units of time (hours, days)*</li> <li>• Solves simple problems involving elapsed time, with the conversion of hours</li> <li>• Determines the perimeter of a figure where all sides are labeled</li> <li>• Determines the perimeter of a figure where some sides are labeled</li> <li>• Solves simple problems involving the perimeter of squares, rectangles, or triangles</li> </ul>	<ul style="list-style-type: none"> <li>• Knows the approximate size of a yard</li> <li>• Knows the approximate size of a centimeter</li> <li>• Measures length to the nearest centimeter*</li> <li>• Converts between inches and feet</li> <li>• Selects and uses balances for measuring weight or mass*</li> <li>• Knows the approximate size of a pound</li> <li>• Knows the approximate size of a gram</li> <li>• Converts between milligrams and grams*</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>• Solves problems involving measurement of time</li> <li>• Solves simple problems involving elapsed time, with the conversion of hours</li> <li>• Determines the perimeter of a figure where some sides are labeled</li> <li>• Solves simple problems comparing area and perimeter (customary units)*</li> <li>• Identifies situations where it is appropriate to calculate area</li> <li>• Estimates and finds volume of a figure using cubic units</li> </ul>	<ul style="list-style-type: none"> <li>• Knows the approximate size of a millimeter*</li> <li>• Knows the approximate size of a kilometer*</li> <li>• Measures length to the nearest half inch*</li> <li>• Measures length to the nearest quarter of an inch</li> <li>• Measures length to the nearest eighth of an inch</li> <li>• Converts between inches and feet</li> <li>• Converts between inches, feet, and yards</li> <li>• Converts between feet, yards, and miles*</li> <li>• Computes basic addition with units of length</li> <li>• Selects and uses the appropriate type and size of unit in metric system (mass)*</li> <li>• Knows the approximate size of an ounce*</li> <li>• Knows the approximate size of a gallon*</li> <li>• Converts between cups, pints, quarts, and gallons</li> <li>• Computes basic operations with units of time</li> <li>• Relates years, decades, centuries, and millennia</li> <li>• Determines the perimeter of a figure using non-standard units*</li> <li>• Solves problems involving the perimeter of squares, rectangles, or triangles</li> <li>• Determines the process for calculating perimeter</li> <li>• Solves simple problems comparing area and perimeter (customary units)*</li> <li>• Estimates and finds volume of a figure using cubic units</li> <li>• Determines an appropriate scale for representing a distance on a map*</li> </ul>
<p><i>New Vocabulary:</i> decade, intersect, large, oval, parallel, plane, rhombus, same shape, straight, vertical line</p>	<p><i>New Vocabulary:</i> coordinate point, cubic centimeter, cubic unit, decameter, decimeter, hectometer, larger, milliliter, octagon, rectangular box, regular polygon, trapezoid</p>	<p><i>New Vocabulary:</i> acute angle, century, congruent angle, dilation, enlargement, obtuse angle, straight angle, tessellation, transformation</p>
<p><i>New Signs and Symbols:</i> \$ dollar sign, " inches, m meter/metre, • multiplication symbol (dot), yd yard</p>	<p><i>New Signs and Symbols:</i> ' feet, mm millimeter/millimetre, □ variable</p>	<p><i>New Signs and Symbols:</i> + addition, ∠ angle, angle marker (arc), ° degrees, ÷ division, fl oz fluid ounce, hr hour, ↓ measurement span down, ← measurement span left, → measurement span right, ↑ measurement span up, min minute, × multiplication, oz ounce, right angle marker, sec second, segment overbar, – subtraction</p>



**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: 211 - 220**

Skills and Concepts to Enhance 201 - 210	Skills and Concepts to Develop 211 - 220	Skills and Concepts to Introduce 221 - 230
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies the intersection point of two lines*</li> <li>Identifies parallel lines</li> <li>Identifies angles*</li> <li>Identifies right angles*</li> <li>Identifies and names a parallelogram*</li> <li>Identifies and names a polygon*</li> <li>Identifies and names a hexagon*</li> <li>Identifies and names an octagon*</li> <li>Classifies polygons by sides and angles</li> <li>Classifies a cube from a net</li> <li>Classifies plane figures by the number of lines of symmetry*</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> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies rays*</li> <li>Identifies perpendicular lines*</li> <li>Describes relationships among points, lines, and planes, and identifies models in the environment*</li> <li>Identifies acute angles</li> <li>Identifies obtuse angles</li> <li>Identifies the diameter of a circle*</li> <li>Identifies the circumference of circle*</li> <li>Identifies the number of degrees in a circle*</li> <li>Identifies and names a quadrilateral*</li> <li>Classifies polygons by type of angle*</li> <li>Classifies polygons by number of sides*</li> <li>Identifies corners (vertices) of cubes*</li> <li>Identifies the net which makes a cube-like (open box) figure*</li> <li>Predicts and verifies the effects of combining or subdividing basic shapes</li> <li>Compares simple plane figures to solid figures (e.g., circle/sphere, square/cube, rectangle/rectangular solid)*</li> <li>Identifies similar and congruent triangles*</li> <li>Identifies congruent polygons and their corresponding sides and angles*</li> <li>Defines "similarity"*</li> <li>Recognizes similar figures in the real world*</li> <li>Classifies plane figures by the number of lines of symmetry*</li> <li>Identifies geometric transformations (rotations)*</li> <li>Identifies geometric transformations (translations)*</li> <li>Identifies geometric transformations (reflections)*</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies rays*</li> <li>Determines which lines are perpendicular (analysis)*</li> <li>Identifies properties of parallel and perpendicular lines</li> <li>Identifies acute angles</li> <li>Classifies equilateral triangles*</li> <li>Identifies and names a trapezoid*</li> <li>Identifies the radius of a circle</li> <li>Identifies the diameter of a circle*</li> <li>Identifies the circumference of circle*</li> <li>Identifies the number of degrees in a circle*</li> <li>Identifies and names a quadrilateral*</li> <li>Classifies polygons by type of angle*</li> <li>Identifies geometric transformations (rotations)*</li> <li>Identifies geometric transformations (translations)*</li> <li>Identifies geometric transformations (reflections)*</li> <li>Determines coordinates of geometric figures in the first quadrant</li> <li>Graphs ordered pairs in all quadrants</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in metric system (length)</li> <li>Selects and uses the appropriate type and size of unit in metric system (height)*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in metric system (length)</li> <li>Selects and uses the appropriate type and size of unit in metric system (height)*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Uses the appropriate unit of measure for length*</li> <li>Knows the approximate size of a meter</li> <li>Measures length to the nearest millimeter</li> <li>Converts between inches, feet, and yards</li> </ul>

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\* Both data from test items and review by NWEA curriculum specialists are used to place learning continuum statements into appropriate RIT ranges.

Blank cells indicate data are limited or unavailable for this range or document version.

<ul style="list-style-type: none"> <li>• Knows the approximate size of a yard</li> <li>• Knows the approximate size of a centimeter</li> <li>• Measures length to the nearest centimeter*</li> <li>• Converts between inches and feet</li> <li>• Selects and uses balances for measuring weight or mass*</li> <li>• Knows the approximate size of a pound</li> <li>• Knows the approximate size of a gram</li> <li>• Converts between milligrams and grams*</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>• Solves problems involving measurement of time</li> <li>• Solves simple problems involving elapsed time, with the conversion of hours</li> <li>• Determines the perimeter of a figure where some sides are labeled</li> <li>• Solves simple problems comparing area and perimeter (customary units)*</li> <li>• Identifies situations where it is appropriate to calculate area</li> <li>• Estimates and finds volume of a figure using cubic units</li> </ul>	<ul style="list-style-type: none"> <li>• Knows the approximate size of a millimeter*</li> <li>• Knows the approximate size of a kilometer*</li> <li>• Measures length to the nearest half inch*</li> <li>• Measures length to the nearest quarter of an inch</li> <li>• Measures length to the nearest eighth of an inch</li> <li>• Converts between inches and feet</li> <li>• Converts between inches, feet, and yards</li> <li>• Converts between feet, yards, and miles*</li> <li>• Computes basic addition with units of length</li> <li>• Selects and uses the appropriate type and size of unit in metric system (mass)*</li> <li>• Knows the approximate size of an ounce*</li> <li>• Knows the approximate size of a gallon*</li> <li>• Converts between cups, pints, quarts, and gallons</li> <li>• Computes basic operations with units of time</li> <li>• Relates years, decades, centuries, and millenniums</li> <li>• Determines the perimeter of a figure using non-standard units*</li> <li>• Solves problems involving the perimeter of squares, rectangles, or triangles</li> <li>• Determines the process for calculating perimeter</li> <li>• Solves simple problems comparing area and perimeter (customary units)*</li> <li>• Estimates and finds volume of a figure using cubic units</li> <li>• Determines an appropriate scale for representing a distance on a map*</li> </ul>	<ul style="list-style-type: none"> <li>• Converts between feet, yards, and miles*</li> <li>• Computes basic addition with units of length</li> <li>• Computes basic subtraction and multiplication with units of length</li> <li>• Converts between millimeters, centimeters, meters, and kilometers</li> <li>• Converts between ounces and pounds</li> <li>• Converts between ounces, pounds, and tons*</li> <li>• Computes basic operations with units of weight/mass*</li> <li>• Converts between cups, pints, quarts, and gallons</li> <li>• Converts within the metric system</li> <li>• Computes basic operations with units of time</li> <li>• Relates years, decades, centuries, and millenniums</li> <li>• Computes 2-step conversions between units of time</li> <li>• Solves problems involving the perimeter of squares, rectangles, or triangles</li> <li>• Solves problems involving the perimeter of irregular or complex shapes</li> <li>• Solves problems involving perimeter and converts to larger or smaller units</li> <li>• Calculates the area of a rectangle, given labeled sides (customary units)</li> <li>• Calculates area and perimeter of a rectangle (customary units)</li> <li>• Uses the appropriate unit of measure for area*</li> </ul>
<p><i>New Vocabulary:</i> coordinate point, cubic centimeter, cubic unit, decameter, decimeter, hectometer, larger, milliliter, octagon, rectangular box, regular polygon, trapezoid</p>	<p><i>New Vocabulary:</i> acute angle, century, congruent angle, dilation, enlargement, obtuse angle, straight angle, tessellation, transformation</p>	<p><i>New Vocabulary:</i> arc, center, central angle, equilateral triangle, isosceles triangle, obtuse triangle, scalene triangle</p>
<p><i>New Signs and Symbols:</i> ' feet, mm millimeter/millimetre, □ variable</p>	<p><i>New Signs and Symbols:</i> + addition, ∠ angle, angle marker (arc), ° degrees, ÷ division, fl oz fluid ounce, hr hour, ↓ measurement span down, ← measurement span left, → measurement span right, ↑ measurement span up, min minute, × multiplication, oz ounce, right angle marker, sec second, segment overbar, – subtraction</p>	<p><i>New Signs and Symbols:</i> ( ) order of operations, dm decimeter/decimetre, km kilometer/kilometre, lb pound, ↔ line symbol, mL milliliter/millilitre, – negative number, π pi</p>

**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: 221 - 230**

Skills and Concepts to Enhance 211 - 220	Skills and Concepts to Develop 221 - 230	Skills and Concepts to Introduce 231 - 240
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies rays*</li> <li>Identifies perpendicular lines*</li> <li>Describes relationships among points, lines, and planes, and identifies models in the environment*</li> <li>Identifies acute angles</li> <li>Identifies obtuse angles</li> <li>Identifies the diameter of a circle*</li> <li>Identifies the circumference of circle*</li> <li>Identifies the number of degrees in a circle*</li> <li>Identifies and names a quadrilateral*</li> <li>Classifies polygons by type of angle*</li> <li>Classifies polygons by number of sides*</li> <li>Identifies corners (vertices) of cubes*</li> <li>Identifies the net which makes a cube-like (open box) figure*</li> <li>Predicts and verifies the effects of combining or subdividing basic shapes</li> <li>Compares simple plane figures to solid figures (e.g., circle/sphere, square/cube, rectangle/rectangular solid)*</li> <li>Identifies similar and congruent triangles*</li> <li>Identifies congruent polygons and their corresponding sides and angles*</li> <li>Defines "similarity"*</li> <li>Recognizes similar figures in the real world*</li> <li>Classifies plane figures by the number of lines of symmetry*</li> <li>Identifies geometric transformations (rotations)*</li> <li>Identifies geometric transformations (translations)*</li> <li>Identifies geometric transformations (reflections)*</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies rays*</li> <li>Determines which lines are perpendicular (analysis)*</li> <li>Identifies properties of parallel and perpendicular lines</li> <li>Identifies acute angles</li> <li>Classifies equilateral triangles*</li> <li>Identifies and names a trapezoid*</li> <li>Identifies the radius of a circle</li> <li>Identifies the diameter of a circle*</li> <li>Identifies the circumference of circle*</li> <li>Identifies the number of degrees in a circle*</li> <li>Identifies and names a quadrilateral*</li> <li>Classifies polygons by type of angle*</li> <li>Identifies geometric transformations (rotations)*</li> <li>Identifies geometric transformations (translations)*</li> <li>Identifies geometric transformations (reflections)*</li> <li>Determines coordinates of geometric figures in the first quadrant</li> <li>Graphs ordered pairs in all quadrants</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Determines which lines are perpendicular (analysis)*</li> <li>Identifies parts of a right triangle (legs, hypotenuse, angles)*</li> <li>Classifies isosceles triangles</li> <li>Classifies scalene triangles*</li> <li>Identifies properties of circles</li> <li>Identifies properties of congruent triangles*</li> <li>Identifies geometric transformations (dilations)</li> <li>Graphs ordered pairs in all quadrants</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Selects and uses the appropriate type and size of unit in metric system (length)</li> <li>Selects and uses the appropriate type and size of unit in metric system (height)*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Uses the appropriate unit of measure for length*</li> <li>Knows the approximate size of a meter</li> <li>Measures length to the nearest millimeter</li> <li>Converts between inches, feet, and yards</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Measures length to the nearest millimeter</li> <li>Converts between feet, yards, and miles*</li> <li>Computes basic subtraction and multiplication with units of length</li> </ul>

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\* Both data from test items and review by NWEA curriculum specialists are used to place learning continuum statements into appropriate RIT ranges.

Blank cells indicate data are limited or unavailable for this range or document version.

<ul style="list-style-type: none"> <li>• Knows the approximate size of a millimeter*</li> <li>• Knows the approximate size of a kilometer*</li> <li>• Measures length to the nearest half inch*</li> <li>• Measures length to the nearest quarter of an inch</li> <li>• Measures length to the nearest eighth of an inch</li> <li>• Converts between inches and feet</li> <li>• Converts between inches, feet, and yards</li> <li>• Converts between feet, yards, and miles*</li> <li>• Computes basic addition with units of length</li> <li>• Selects and uses the appropriate type and size of unit in metric system (mass)*</li> <li>• Knows the approximate size of an ounce*</li> <li>• Knows the approximate size of a gallon*</li> <li>• Converts between cups, pints, quarts, and gallons</li> <li>• Computes basic operations with units of time</li> <li>• Relates years, decades, centuries, and millenniums</li> <li>• Determines the perimeter of a figure using non-standard units*</li> <li>• Solves problems involving the perimeter of squares, rectangles, or triangles</li> <li>• Determines the process for calculating perimeter</li> <li>• Solves simple problems comparing area and perimeter (customary units)*</li> <li>• Estimates and finds volume of a figure using cubic units</li> <li>• Determines an appropriate scale for representing a distance on a map*</li> </ul>	<ul style="list-style-type: none"> <li>• Converts between feet, yards, and miles*</li> <li>• Computes basic addition with units of length</li> <li>• Computes basic subtraction and multiplication with units of length</li> <li>• Converts between millimeters, centimeters, meters, and kilometers</li> <li>• Converts between ounces and pounds</li> <li>• Converts between ounces, pounds, and tons*</li> <li>• Computes basic operations with units of weight/mass*</li> <li>• Converts between cups, pints, quarts, and gallons</li> <li>• Converts within the metric system</li> <li>• Computes basic operations with units of time</li> <li>• Relates years, decades, centuries, and millenniums</li> <li>• Computes 2-step conversions between units of time</li> <li>• Solves problems involving the perimeter of squares, rectangles, or triangles</li> <li>• Solves problems involving the perimeter of irregular or complex shapes</li> <li>• Solves problems involving perimeter and converts to larger or smaller units</li> <li>• Calculates the area of a rectangle, given labeled sides (customary units)</li> <li>• Calculates area and perimeter of a rectangle (customary units)</li> <li>• Uses the appropriate unit of measure for area*</li> </ul>	<ul style="list-style-type: none"> <li>• Converts between millimeters, centimeters, meters, and kilometers</li> <li>• Converts between grams and kilograms*</li> <li>• Computes basic operations with units of capacity</li> <li>• Converts within the metric system</li> <li>• Solves problems involving the perimeter of irregular or complex shapes</li> <li>• Solves perimeter problems comparing width and length</li> <li>• Calculates the area of a rectangle, given labeled sides (customary units)</li> <li>• Explores maps and relates them to measurements of real distances, using proportional reasoning</li> <li>• Determines an appropriate scale for representing an object in a scale drawing*</li> </ul>
<p><i>New Vocabulary:</i> acute angle, century, congruent angle, dilation, enlargement, obtuse angle, straight angle, tessellation, transformation</p>	<p><i>New Vocabulary:</i> arc, center, central angle, equilateral triangle, isosceles triangle, obtuse triangle, scalene triangle</p>	<p><i>New Vocabulary:</i> acute triangle, chord, minus, secant, shorter, tangent</p>
<p><i>New Signs and Symbols:</i> + addition, <math>\angle</math> angle, angle marker (arc), <math>^\circ</math> degrees, <math>\div</math> division, fl oz fluid ounce, hr hour, <math>\downarrow</math> measurement span down, <math>\leftarrow</math> measurement span left, <math>\rightarrow</math> measurement span right, <math>\uparrow</math> measurement span up, min minute, <math>\times</math> multiplication, oz ounce, right angle marker, sec second, segment overbar, <math>-</math> subtraction</p>	<p><i>New Signs and Symbols:</i> ( ) order of operations, dm decimeter/decimetre, km kilometer/kilometre, lb pound, <math>\leftrightarrow</math> line symbol, mL milliliter/millilitre, <math>-</math> negative number, <math>\pi</math> pi</p>	<p><i>New Signs and Symbols:</i> congruent segment symbol, kg kilogram</p>

**Subject: Mathematics**

**Goal Strand: Geometric Relationships**

**RIT Score Range: 231 - 240**

Skills and Concepts to Enhance 221 - 230	Skills and Concepts to Develop 231 - 240	Skills and Concepts to Introduce 241 - 250
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Identifies rays*</li> <li>Determines which lines are perpendicular (analysis)*</li> <li>Identifies properties of parallel and perpendicular lines</li> <li>Identifies acute angles</li> <li>Classifies equilateral triangles*</li> <li>Identifies and names a trapezoid*</li> <li>Identifies the radius of a circle</li> <li>Identifies the diameter of a circle*</li> <li>Identifies the circumference of circle*</li> <li>Identifies the number of degrees in a circle*</li> <li>Identifies and names a quadrilateral*</li> <li>Classifies polygons by type of angle*</li> <li>Identifies geometric transformations (rotations)*</li> <li>Identifies geometric transformations (translations)*</li> <li>Identifies geometric transformations (reflections)*</li> <li>Determines coordinates of geometric figures in the first quadrant</li> <li>Graphs ordered pairs in all quadrants</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Determines which lines are perpendicular (analysis)*</li> <li>Identifies parts of a right triangle (legs, hypotenuse, angles)*</li> <li>Classifies isosceles triangles</li> <li>Classifies scalene triangles*</li> <li>Identifies properties of circles</li> <li>Identifies properties of congruent triangles*</li> <li>Identifies geometric transformations (dilations)</li> <li>Graphs ordered pairs in all quadrants</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>Defines angles using properties (e.g., acute, obtuse, right, straight, reflex)*</li> <li>Classifies right triangles by defining properties*</li> <li>Identifies properties of similar figures*</li> <li>Determines the new coordinates of a transformed geometric figure</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Uses the appropriate unit of measure for length*</li> <li>Knows the approximate size of a meter</li> <li>Measures length to the nearest millimeter</li> <li>Converts between inches, feet, and yards</li> <li>Converts between feet, yards, and miles*</li> <li>Computes basic addition with units of length</li> <li>Computes basic subtraction and multiplication with units of length</li> <li>Converts between millimeters, centimeters, meters, and kilometers</li> <li>Converts between ounces and pounds</li> <li>Converts between ounces, pounds, and tons*</li> <li>Computes basic operations with units of weight/mass*</li> <li>Converts between cups, pints, quarts, and gallons</li> <li>Converts within the metric system</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Measures length to the nearest millimeter</li> <li>Converts between feet, yards, and miles*</li> <li>Computes basic subtraction and multiplication with units of length</li> <li>Converts between millimeters, centimeters, meters, and kilometers</li> <li>Converts between grams and kilograms*</li> <li>Computes basic operations with units of capacity</li> <li>Converts within the metric system</li> <li>Solves problems involving the perimeter of irregular or complex shapes</li> <li>Solves perimeter problems comparing width and length</li> <li>Calculates the area of a rectangle, given labeled sides (customary units)</li> <li>Explores maps and relates them to measurements of</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>Uses dimensional analysis for unit conversions (time)</li> <li>Solves problems involving the perimeter of squares, rectangles, or triangles (analysis)</li> <li>Solves perimeter problems comparing width and length</li> <li>Solves problems involving area of a rectangle and converts to larger or smaller units (customary)</li> </ul>

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Blank cells indicate data are limited or unavailable for this range or document version.

<ul style="list-style-type: none"> <li>• Computes basic operations with units of time</li> <li>• Relates years, decades, centuries, and millenniums</li> <li>• Computes 2-step conversions between units of time</li> <li>• Solves problems involving the perimeter of squares, rectangles, or triangles</li> <li>• Solves problems involving the perimeter of irregular or complex shapes</li> <li>• Solves problems involving perimeter and converts to larger or smaller units</li> <li>• Calculates the area of a rectangle, given labeled sides (customary units)</li> <li>• Calculates area and perimeter of a rectangle (customary units)</li> <li>• Uses the appropriate unit of measure for area*</li> </ul>	<p>real distances, using proportional reasoning</p> <ul style="list-style-type: none"> <li>• Determines an appropriate scale for representing an object in a scale drawing*</li> </ul>	
<p><i>New Vocabulary:</i> arc, center, central angle, equilateral triangle, isosceles triangle, obtuse triangle, scalene triangle</p>	<p><i>New Vocabulary:</i> acute triangle, chord, minus, secant, shorter, tangent</p>	<p><i>New Vocabulary:</i> linear foot, x-axis, y-axis</p>
<p><i>New Signs and Symbols:</i> ( ) order of operations, dm decimeter/decimetre, km kilometer/kilometre, lb pound, ↔ line symbol, mL milliliter/millilitre, - negative number, <math>\pi</math> pi</p>	<p><i>New Signs and Symbols:</i> congruent segment symbol, kg kilogram</p>	<p><i>New Signs and Symbols:</i> &lt; less than, mph miles per hour</p>

**Subject: Mathematics**

**Goal Strand: Geometric Relationships**

**RIT Score Range: 241 - 250**

Skills and Concepts to Enhance 231 - 240	Skills and Concepts to Develop 241 - 250	Skills and Concepts to Introduce Above 250
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>• Determines which lines are perpendicular (analysis)*</li> <li>• Identifies parts of a right triangle (legs, hypotenuse, angles)*</li> <li>• Classifies isosceles triangles</li> <li>• Classifies scalene triangles*</li> <li>• Identifies properties of circles</li> <li>• Identifies properties of congruent triangles*</li> <li>• Identifies geometric transformations (dilations)</li> <li>• Graphs ordered pairs in all quadrants</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>• Defines angles using properties (e.g., acute, obtuse, right, straight, reflex)*</li> <li>• Classifies right triangles by defining properties*</li> <li>• Identifies properties of similar figures*</li> <li>• Determines the new coordinates of a transformed geometric figure</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>• Classifies right triangles by defining properties*</li> <li>• Uses sums of interior/exterior angles to identify polygons</li> <li>• Classifies polygons by properties</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>• Measures length to the nearest millimeter</li> <li>• Converts between feet, yards, and miles*</li> <li>• Computes basic subtraction and multiplication with units of length</li> <li>• Converts between millimeters, centimeters, meters, and kilometers</li> <li>• Converts between grams and kilograms*</li> <li>• Computes basic operations with units of capacity</li> <li>• Converts within the metric system</li> <li>• Solves problems involving the perimeter of irregular or complex shapes</li> <li>• Solves perimeter problems comparing width and length</li> <li>• Calculates the area of a rectangle, given labeled sides (customary units)</li> <li>• Explores maps and relates them to measurements of real distances, using proportional reasoning</li> <li>• Determines an appropriate scale for representing an object in a scale drawing*</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>• Uses dimensional analysis for unit conversions (time)</li> <li>• Solves problems involving the perimeter of squares, rectangles, or triangles (analysis)</li> <li>• Solves perimeter problems comparing width and length</li> <li>• Solves problems involving area of a rectangle and converts to larger or smaller units (customary)</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>• Uses dimensional analysis for unit conversions (time)</li> <li>• Solves problems comparing area to perimeter (analysis)</li> </ul>
<p><i>New Vocabulary:</i> acute triangle, chord, minus, secant, shorter, tangent</p>	<p><i>New Vocabulary:</i> linear foot, x-axis, y-axis</p>	<p><i>New Vocabulary:</i> exterior angle</p>
<p><i>New Signs and Symbols:</i> congruent segment symbol, kg kilogram</p>	<p><i>New Signs and Symbols:</i> &lt; less than, mph miles per hour</p>	<p><i>New Signs and Symbols:</i> none</p>

**Subject: Mathematics**  
**Goal Strand: Geometric Relationships**  
**RIT Score Range: Above 250**

Skills and Concepts to Enhance 241 - 250	Skills and Concepts to Develop Above 250
<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>• Defines angles using properties (e.g., acute, obtuse, right, straight, reflex)*</li> <li>• Classifies right triangles by defining properties*</li> <li>• Identifies properties of similar figures*</li> <li>• Determines the new coordinates of a transformed geometric figure</li> </ul>	<p><b>Geometric Figures: Attributes and Location</b></p> <ul style="list-style-type: none"> <li>• Classifies right triangles by defining properties*</li> <li>• Uses sums of interior/exterior angles to identify polygons</li> <li>• Classifies polygons by properties</li> </ul>
<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>• Uses dimensional analysis for unit conversions (time)</li> <li>• Solves problems involving the perimeter of squares, rectangles, or triangles (analysis)</li> <li>• Solves perimeter problems comparing width and length</li> <li>• Solves problems involving area of a rectangle and converts to larger or smaller units (customary)</li> </ul>	<p><b>Measurement: Appropriate Tools, Units, and Systems</b></p> <ul style="list-style-type: none"> <li>• Uses dimensional analysis for unit conversions (time)</li> <li>• Solves problems comparing area to perimeter (analysis)</li> </ul>
<p><i>New Vocabulary:</i> linear foot, x-axis, y-axis</p>	<p><i>New Vocabulary:</i> exterior angle</p>
<p><i>New Signs and Symbols:</i> &lt; less than, mph miles per hour</p>	<p><i>New Signs and Symbols:</i> none</p>