

DesCartes (Combined)

Subject: Mathematics

Goal: Numbers and Operations

Subject: Mathematics
 Goal Strand: Numbers and Operations
 RIT Score Range: Below 161

Skills and Concepts to Develop Below 161	Skills and Concepts to Introduce 161 - 170
Numbers and Ways of Representing Numbers	Numbers and Ways of Representing Numbers
	<ul style="list-style-type: none"> Writes whole numbers in standard and expanded form through the tens Adds money vertically with no regrouping*
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
	<ul style="list-style-type: none"> Orders whole numbers less than 10*
Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts
Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
<ul style="list-style-type: none"> Adds two 1-digit numbers with sums to 10 in horizontal format 	<ul style="list-style-type: none"> Adds two 1-digit numbers with sums to 10 in horizontal format Adds two 1-digit numbers with sums to 10 in vertical format Adds two 1-digit numbers with sums between 10 and 19 in horizontal format Adds two 1-digit numbers with sums between 10 and 19 in vertical format* Adds multiple 1-digit numbers Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens) Adds 1-digit to multiple-digit number with no regrouping* Adds 2-digit numbers with no regrouping Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000* Solves real-world whole number addition problems with sums to 20 (result unknown) Uses models to construct subtraction facts with differences through 10 (whole numbers)* Uses models to calculate differences through 100 (whole numbers)* Subtracts two 1-digit numbers horizontally Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only) Subtracts two 1-digit numbers vertically

	<ul style="list-style-type: none"> • Uses strategies for subtraction facts (e.g., counting back, one less, two less)* • Subtracts a 2-digit number from a 2-digit number, with no regrouping
Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division
	<ul style="list-style-type: none"> • Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12
<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> add
<i>New Signs and Symbols:</i> + addition, = is equal to, □ variable	<i>New Signs and Symbols:</i> \$ dollar sign, × multiplication, – subtraction

Subject: Mathematics
Goal Strand: Numbers 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
Numbers and Ways of Representing Numbers	Numbers and Ways of Representing Numbers <ul style="list-style-type: none"> Writes whole numbers in standard and expanded form through the tens Adds money vertically with no regrouping* 	Numbers and Ways of Representing Numbers <ul style="list-style-type: none"> Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)* Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)* Writes equivalent forms of whole number expressions (e.g., $15 + 5 = 10 + 10$) Counts objects that are grouped into tens and ones Identifies the place value and value of each digit in whole numbers through the tens place* Represents $\frac{1}{2}$ with a diagram or model Identifies equivalent fractions using visual representations* Adds money vertically with no regrouping* Identifies the value of a collection of coins to \$1.00 (with pictures of coins) Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money)
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
	<ul style="list-style-type: none"> Orders whole numbers less than 10* 	<ul style="list-style-type: none"> Compares whole numbers through 100* Compares whole numbers through 999
Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts
Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
<ul style="list-style-type: none"> Adds two 1-digit numbers with sums to 10 in horizontal format 	<ul style="list-style-type: none"> Adds two 1-digit numbers with sums to 10 in horizontal format Adds two 1-digit numbers with sums to 10 in vertical format Adds two 1-digit numbers with sums between 10 and 19 in horizontal format Adds two 1-digit numbers with sums between 10 and 19 in vertical format* Adds multiple 1-digit numbers Uses strategies for addition facts (e.g., compatible) 	<ul style="list-style-type: none"> Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens) Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000* Adds two or three 2-digit number with regrouping Solves real-world whole number addition problems with sums to 20 (result unknown) Solves real-world whole number addition problems with sums to 20 (start unknown)*

	<p>numbers, counting on, doubles, neighbors, making tens)</p> <ul style="list-style-type: none"> • Adds 1-digit to multiple-digit number with no regrouping* • Adds 2-digit numbers with no regrouping • Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000* • Solves real-world whole number addition problems with sums to 20 (result unknown) • Uses models to construct subtraction facts with differences through 10 (whole numbers)* • Uses models to calculate differences through 100 (whole numbers)* • Subtracts two 1-digit numbers horizontally • Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only) • Subtracts two 1-digit numbers vertically • Uses strategies for subtraction facts (e.g., counting back, one less, two less)* • Subtracts a 2-digit number from a 2-digit number, with no regrouping 	<ul style="list-style-type: none"> • Solves real-world whole number addition problems with sums to 20 (change unknown)* • Solves real-world whole number addition problems with sums to 100 (result unknown)* • Solves real-world whole number addition problems with sums to 1000 • Uses models to calculate differences through 100 (whole numbers)* • Uses models to calculate differences through 1000 (whole numbers)* • Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only) • Uses strategies for subtraction facts (e.g., counting back, one less, two less)* • Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically • Subtracts a 1-digit number from a multiple-digit number* • Subtracts a 2-digit number from a 2-digit number, with no regrouping • Subtracts 2- and/or 3-digit numbers with no regrouping • Solves real-world whole number problems involving subtraction with numbers under 20
Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division
	<ul style="list-style-type: none"> • Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12 	<ul style="list-style-type: none"> • Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12 • Multiplies basic facts to 10 x 10 vertically
<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> add	<i>New Vocabulary:</i> greater, greater than, hundred, largest, ones, penny, tens, thousand
<i>New Signs and Symbols:</i> + addition, = is equal to, □ variable	<i>New Signs and Symbols:</i> \$ dollar sign, × multiplication, – subtraction	<i>New Signs and Symbols:</i> ¢ cent sign, lb pound

Subject: Mathematics

Goal Strand: Numbers 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>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes whole numbers in standard and expanded form through the tens Adds money vertically with no regrouping* 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)* Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)* Writes equivalent forms of whole number expressions (e.g., $15 + 5 = 10 + 10$) Counts objects that are grouped into tens and ones Identifies the place value and value of each digit in whole numbers through the tens place* Represents $\frac{1}{2}$ with a diagram or model Identifies equivalent fractions using visual representations* Adds money vertically with no regrouping* Identifies the value of a collection of coins to \$1.00 (with pictures of coins) Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money) 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)* Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa) Identifies the numeral and written name for whole numbers 10,000 to 100,000 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., $14 = 7 + 7$)* Writes equivalent forms of whole numbers using multiplication (e.g., $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$)* Converts to dozens without models Counts objects that are grouped into tens and ones Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) Identifies the place value and value of each digit in whole numbers through the tens place* Identifies the place value and value of each digit in whole numbers through the hundreds place Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Represents $\frac{1}{4}$ with a diagram or model* Represents $\frac{3}{4}$ with a diagram or model* Identifies equal parts by using models Identifies $\frac{1}{2}$ from a region or set Identifies $\frac{1}{4}$ from a region or set Identifies $\frac{2}{3}$ or $\frac{3}{3}$ from a region or set* Identifies tenths from a region or set* Identifies eighths from a region or set Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set Applies base ten place value concepts to solve problems

		<ul style="list-style-type: none"> using decimals* Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money) Identifies the value of a collection of coins and bills to \$100.00 by "counting on"* Finds equivalent combinations of coins with the same value* Combines a collection of coins and identifies the correct notation Makes change to \$1.00 by "counting on" or subtracting Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
<ul style="list-style-type: none"> Orders whole numbers less than 10* 	<ul style="list-style-type: none"> Compares whole numbers through 100* Compares whole numbers through 999 	<ul style="list-style-type: none"> Compares whole numbers through 999 Compares whole numbers through 9999 Orders whole numbers less than 100 Orders whole numbers less than 1000* Compares and orders decimals to the hundredths place (same number of digits after decimal)
Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts
		<ul style="list-style-type: none"> Determines whether a set of objects has an odd or even number of elements Distinguishes between odd and even numbers
Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
<ul style="list-style-type: none"> Adds two 1-digit numbers with sums to 10 in horizontal format Adds two 1-digit numbers with sums to 10 in vertical format Adds two 1-digit numbers with sums between 10 and 19 in horizontal format Adds two 1-digit numbers with sums between 10 and 19 in vertical format* Adds multiple 1-digit numbers Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens) Adds 1-digit to multiple-digit number with no 	<ul style="list-style-type: none"> Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens) Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000* Adds two or three 2-digit number with regrouping Solves real-world whole number addition problems with sums to 20 (result unknown) Solves real-world whole number addition problems with sums to 20 (start unknown)* Solves real-world whole number addition problems with sums to 20 (change unknown)* Solves real-world whole number addition problems 	<ul style="list-style-type: none"> Rounds 2- and 3- digit whole numbers to the nearest ten Rounds 3-digit whole numbers to the nearest hundred Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only) Adds 1-digit to multiple-digit number with regrouping* Adds two or three 2-digit number with regrouping Adds 2-digit to 3-digit number with regrouping Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given

<p>regrouping*</p> <ul style="list-style-type: none"> • Adds 2-digit numbers with no regrouping • Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000* • Solves real-world whole number addition problems with sums to 20 (result unknown) • Uses models to construct subtraction facts with differences through 10 (whole numbers)* • Uses models to calculate differences through 100 (whole numbers)* • Subtracts two 1-digit numbers horizontally • Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only) • Subtracts two 1-digit numbers vertically • Uses strategies for subtraction facts (e.g., counting back, one less, two less)* • Subtracts a 2-digit number from a 2-digit number, with no regrouping 	<p>with sums to 100 (result unknown)*</p> <ul style="list-style-type: none"> • Solves real-world whole number addition problems with sums to 1000 • Uses models to calculate differences through 100 (whole numbers)* • Uses models to calculate differences through 1000 (whole numbers)* • Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only) • Uses strategies for subtraction facts (e.g., counting back, one less, two less)* • Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically • Subtracts a 1-digit number from a multiple-digit number* • Subtracts a 2-digit number from a 2-digit number, with no regrouping • Subtracts 2- and/or 3-digit numbers with no regrouping • Solves real-world whole number problems involving subtraction with numbers under 20 	<ul style="list-style-type: none"> • Solves real-world whole number addition problems with sums to 20 (start unknown)* • Solves real-world whole number addition problems with sums to 100 (result unknown)* • Solves real-world whole number addition problems with sums to 1000 • Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)* • Uses models to calculate differences through 1000 (whole numbers)* • Instantly recalls basic subtraction facts with minuend less than 10* • Subtracts a 1-digit number from a multiple-digit number* • Subtracts 1-digit number from a 2-digit number with regrouping* • Subtracts a 2-digit number from a 2-digit number, with regrouping • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Subtracts 2- and/or 3-digit numbers with no regrouping • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers under 1000 • Subtracts multiple-digit numbers with no regrouping* • Solves real-world whole number problems involving subtraction with numbers under 20 • Solves real-world whole number problems involving subtraction with numbers 100 and under • Solves real-world whole number problems involving subtraction with numbers under 1000 • Adds decimals to the hundredths place (same number of digits) • Subtracts decimals to the hundredths place (same number of digits) without regrouping
<p>Compute and Estimate: Multiplication and Division</p>	<p>Compute and Estimate: Multiplication and Division</p>	<p>Compute and Estimate: Multiplication and Division</p>
<ul style="list-style-type: none"> • Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12 	<ul style="list-style-type: none"> • Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12 • Multiplies basic facts to 10 x 10 vertically 	<ul style="list-style-type: none"> • Multiplies basic facts to 10 x 10 vertically • Multiplies a 2-digit number by a 1-digit number with regrouping • Solves word problems involving basic whole number multiplication facts to 10 x 10 • Uses sharing for division

		<ul style="list-style-type: none"> • Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) • Models multiplication and division algorithms using arrays (whole numbers) • Instantly recalls division facts with dividend and divisors less than 10 • Solves word problems with whole number division facts with dividend and divisors less than 11 involving money • Solves real-world whole number problems involving addition and subtraction
<i>New Vocabulary:</i> add	<i>New Vocabulary:</i> greater, greater than, hundred, largest, ones, penny, tens, thousand	<i>New Vocabulary:</i> closest, coins, cost, digit, dozen, even number, factor, fourths, fraction, hundred thousand, hundreds, million, nearest, nickel, number statement, odd number, one, round, row, smallest, symmetrical, ten, ten thousand, thirds, thousandth, unit, value
<i>New Signs and Symbols:</i> \$ dollar sign, \times multiplication, $-$ subtraction	<i>New Signs and Symbols:</i> ¢ cent sign, lb pound	<i>New Signs and Symbols:</i> { } set notation, \div division, long division symbol

Subject: Mathematics

Goal Strand: Numbers and Operations

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>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)* Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)* Writes equivalent forms of whole number expressions (e.g., $15 + 5 = 10 + 10$) Counts objects that are grouped into tens and ones Identifies the place value and value of each digit in whole numbers through the tens place* Represents $\frac{1}{2}$ with a diagram or model Identifies equivalent fractions using visual representations* Adds money vertically with no regrouping* Identifies the value of a collection of coins to \$1.00 (with pictures of coins) Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money) 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)* Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa) Identifies the numeral and written name for whole numbers 10,000 to 100,000 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., $14 = 7 + 7$)* Writes equivalent forms of whole numbers using multiplication (e.g., $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$)* Converts to dozens without models Counts objects that are grouped into tens and ones Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) Identifies the place value and value of each digit in whole numbers through the tens place* Identifies the place value and value of each digit in whole numbers through the hundreds place Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Represents $\frac{1}{4}$ with a diagram or model* Represents $\frac{3}{4}$ with a diagram or model* Identifies equal parts by using models Identifies $\frac{1}{2}$ from a region or set Identifies $\frac{1}{4}$ from a region or set Identifies $\frac{2}{3}$ or $\frac{3}{3}$ from a region or set* Identifies tenths from a region or set* Identifies eighths from a region or set Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set Applies base ten place value concepts to solve problems 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers 100 - 999 using base-10 blocks* Identifies whole numbers over 999 using base-10 blocks* Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place Identifies the numeral and written name for whole numbers 10,000 to 100,000 Identifies the numeral and written name for whole numbers over 100,000 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., $14 = 7 + 7$)* Writes equivalent forms of whole numbers using multiplication (e.g., $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$)* Converts to dozens without models Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Writes whole numbers in standard and expanded form through the hundreds Writes whole numbers in standard and expanded form through the thousands Represents $\frac{1}{3}$ with a diagram or model Identifies one-half from a region or set* Identifies $\frac{1}{4}$ from a region or set Identifies $\frac{1}{3}$ from a region or set Identifies $\frac{2}{3}$ or $\frac{3}{3}$ from a region or set* Identifies tenths from a region or set* Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set Matches numeric and visual representation of

	<ul style="list-style-type: none"> using decimals* Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money) Identifies the value of a collection of coins and bills to \$100.00 by "counting on"* Finds equivalent combinations of coins with the same value* Combines a collection of coins and identifies the correct notation Makes change to \$1.00 by "counting on" or subtracting Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00 	<ul style="list-style-type: none"> equivalent fractions Identifies a decimal on a number line to the tenths place* Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money) Identifies the value of a collection of coins and bills to \$100.00 by "counting on"* Finds equivalent combinations of coins with the same value* Finds equivalent combinations of dollars and cents with the same value* Makes change to \$1.00 by "counting on" or subtracting Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
<ul style="list-style-type: none"> Compares whole numbers through 100* Compares whole numbers through 999 	<ul style="list-style-type: none"> Compares whole numbers through 999 Compares whole numbers through 9999 Orders whole numbers less than 100 Orders whole numbers less than 1000* Compares and orders decimals to the hundredths place (same number of digits after decimal) 	<ul style="list-style-type: none"> Compares whole numbers through 999,999 Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >) Compares whole numbers through the thousands using the symbols <, >, or = Orders whole numbers less than 1000* Orders whole numbers less than 10,000 Compares and orders money in decimal form Compares and orders decimals to the thousandths place (same number of digits after decimal)*
Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts
	<ul style="list-style-type: none"> Determines whether a set of objects has an odd or even number of elements Distinguishes between odd and even numbers 	<ul style="list-style-type: none"> Distinguishes between odd and even numbers Identifies numbers as composite
Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
<ul style="list-style-type: none"> Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens) Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000* Adds two or three 2-digit number with regrouping 	<ul style="list-style-type: none"> Rounds 2- and 3- digit whole numbers to the nearest ten Rounds 3-digit whole numbers to the nearest hundred Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only) 	<ul style="list-style-type: none"> Rounds 2- and 3- digit whole numbers to the nearest ten Rounds 3-digit whole numbers to the nearest hundred Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only)*

<ul style="list-style-type: none"> • Solves real-world whole number addition problems with sums to 20 (result unknown) • Solves real-world whole number addition problems with sums to 20 (start unknown)* • Solves real-world whole number addition problems with sums to 20 (change unknown)* • Solves real-world whole number addition problems with sums to 100 (result unknown)* • Solves real-world whole number addition problems with sums to 1000 • Uses models to calculate differences through 100 (whole numbers)* • Uses models to calculate differences through 1000 (whole numbers)* • Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only) • Uses strategies for subtraction facts (e.g., counting back, one less, two less)* • Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically • Subtracts a 1-digit number from a multiple-digit number* • Subtracts a 2-digit number from a 2-digit number, with no regrouping • Subtracts 2- and/or 3-digit numbers with no regrouping • Solves real-world whole number problems involving subtraction with numbers under 20 	<ul style="list-style-type: none"> • Adds 1-digit to multiple-digit number with regrouping* • Adds two or three 2-digit number with regrouping • Adds 2-digit to 3-digit number with regrouping • Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given • Solves real-world whole number addition problems with sums to 20 (start unknown)* • Solves real-world whole number addition problems with sums to 100 (result unknown)* • Solves real-world whole number addition problems with sums to 1000 • Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)* • Uses models to calculate differences through 1000 (whole numbers)* • Instantly recalls basic subtraction facts with minuend less than 10* • Subtracts a 1-digit number from a multiple-digit number* • Subtracts 1-digit number from a 2-digit number with regrouping* • Subtracts a 2-digit number from a 2-digit number, with regrouping • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Subtracts 2- and/or 3-digit numbers with no regrouping • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers under 1000 • Subtracts multiple-digit numbers with no regrouping* • Solves real-world whole number problems involving subtraction with numbers under 20 • Solves real-world whole number problems involving subtraction with numbers 100 and under • Solves real-world whole number problems involving subtraction with numbers under 1000 • Adds decimals to the hundredths place (same number of digits) • Subtracts decimals to the hundredths place (same number of digits) without regrouping 	<ul style="list-style-type: none"> • Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)* • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Uses rounding to estimate answers to 1-step problems involving answers less than \$1 (whole numbers only, e.g., 10 cents + 10 cents)* • Uses rounding to estimate answers to 1-step problems involving answers less than \$20 (decimals only, e.g., \$1.20 + \$2.75) • Adds 2-digit to 3-digit number with regrouping • Uses number sense strategies to determine the correct answer for an addition computation* • Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given • Solves real-world whole number addition problems with sums to 100 (start unknown)* • Solves whole number addition word problems with sums over 1000 • Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)* • Adds and subtracts whole numbers using place value • Subtracts 1-digit number from a 2-digit number with regrouping* • Subtracts a 2-digit number from a 2-digit number, with regrouping • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Subtracts a 2-digit number from a 3-digit number with a single regrouping • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers under 1000 • Performs mental subtraction with numbers 1000 and over • Subtracts multiple-digit numbers with no regrouping* • Solves real-world whole number problems involving subtraction with numbers 100 and under • Solves real-world whole number problems involving subtraction with numbers under 1000 • Solves whole number subtraction word problems with numbers over 1000
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		<ul style="list-style-type: none"> • Solves problems using the inverse relationship between addition and subtraction* • Subtracts fractions with like denominators without reducing • Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators • Adds decimals to the hundredths place (same number of digits) • Adds decimals to the hundredths place in vertical format (not same number of digits)* • Adds decimals to the thousandths place vertically with and without regrouping • Subtracts decimals to the hundredths place (same number of digits) without regrouping • Subtracts decimals to the hundredths place (same number of digits) with regrouping • Subtracts decimals to the thousandths place, vertically, with and without regrouping • Solves real-world problems involving decimals (not money) using addition and subtraction
Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division
<ul style="list-style-type: none"> • Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12 • Multiplies basic facts to 10 x 10 vertically 	<ul style="list-style-type: none"> • Multiplies basic facts to 10 x 10 vertically • Multiplies a 2-digit number by a 1-digit number with regrouping • Solves word problems involving basic whole number multiplication facts to 10 x 10 • Uses sharing for division • Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) • Models multiplication and division algorithms using arrays (whole numbers) • Instantly recalls division facts with dividend and divisors less than 10 • Solves word problems with whole number division facts with dividend and divisors less than 11 involving money • Solves real-world whole number problems involving addition and subtraction 	<ul style="list-style-type: none"> • Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12* • Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping • Multiplies a 2-digit number by a 1-digit number with regrouping • Multiplies a 3- or 4-digit number by a 1-digit number • Multiplies a 2-digit number by a 2-digit number with no regrouping* • Multiplies a 3-digit number by a 2-digit number with no regrouping • Performs mental computation with multiplication • Solves word problems involving basic whole number multiplication facts to 10 x 10 • Solves word problems involving whole number multiplication with numbers greater than 10 x 10 • Uses repeated subtraction for division* • Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) • Instantly recalls division facts with dividend and divisors less than 10 • Instantly recalls division facts with dividend and

		divisors less than 13 <ul style="list-style-type: none"> • Divides a 2-digit number by a 1-digit number with no remainder • Uses strategies to determine 1 missing digit (multiplication/division only) • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)* • Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction* • Multiplies a decimal by whole number • Computes half price (multiplication/division)* • Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division) • Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) • Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%)
<i>New Vocabulary:</i> greater, greater than, hundred, largest, ones, penny, tens, thousand	<i>New Vocabulary:</i> closest, coins, cost, digit, dozen, even number, factor, fourths, fraction, hundred thousand, hundreds, million, nearest, nickel, number statement, odd number, one, round, row, smallest, symmetrical, ten, ten thousand, thirds, thousandth, unifix cubes, unit, value	<i>New Vocabulary:</i> billion, capacity, composite number, deposit, hundred million, hundredths, longer, percent, prime number, quintillion, standard numeral, symbol, thousands, trillion, zero
<i>New Signs and Symbols:</i> ¢ cent sign, lb pound	<i>New Signs and Symbols:</i> { } set notation, ÷ division, long division symbol	<i>New Signs and Symbols:</i> () order of operations, ≈ approximately equal to, °F degrees Fahrenheit, ft feet, > greater than, ≥ greater than or equal to, < less than, ≤ less than or equal to, % percent, R remainder

Subject: Mathematics

Goal Strand: Numbers and Operations

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>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)* Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa) Identifies the numeral and written name for whole numbers 10,000 to 100,000 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., $14 = 7 + 7$)* Writes equivalent forms of whole numbers using multiplication (e.g., $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$)* Converts to dozens without models Counts objects that are grouped into tens and ones Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) Identifies the place value and value of each digit in whole numbers through the tens place* Identifies the place value and value of each digit in whole numbers through the hundreds place Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Represents $\frac{1}{4}$ with a diagram or model* Represents $\frac{3}{4}$ with a diagram or model* Identifies equal parts by using models Identifies $\frac{1}{2}$ from a region or set Identifies $\frac{1}{4}$ from a region or set Identifies $\frac{2}{3}$ or $\frac{3}{3}$ from a region or set* Identifies tenths from a region or set* Identifies eighths from a region or set Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set Applies base ten place value concepts to solve problems 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers 100 - 999 using base-10 blocks* Identifies whole numbers over 999 using base-10 blocks* Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place Identifies the numeral and written name for whole numbers 10,000 to 100,000 Identifies the numeral and written name for whole numbers over 100,000 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., $14 = 7 + 7$)* Writes equivalent forms of whole numbers using multiplication (e.g., $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$)* Converts to dozens without models Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Writes whole numbers in standard and expanded form through the hundreds Writes whole numbers in standard and expanded form through the thousands Represents $\frac{1}{3}$ with a diagram or model Identifies one-half from a region or set* Identifies $\frac{1}{4}$ from a region or set Identifies $\frac{1}{3}$ from a region or set Identifies $\frac{2}{3}$ or $\frac{3}{3}$ from a region or set* Identifies tenths from a region or set* Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set Matches numeric and visual representation of 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers over 999 using base-10 blocks* Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place Identifies the numeral and written name for whole numbers over 100,000 Writes equivalent forms of whole numbers using place value (e.g., $54 = 4$ tens and 14 ones) Identifies the place value and value of each digit in whole numbers through the billions Writes whole numbers in standard and expanded form through the hundred thousands Applies base ten place value concepts with whole numbers to solve problems Writes whole numbers using place value terms and vice versa Identifies halves of a region using nonadjacent parts Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)* Writes mixed numbers as improper fractions and improper fractions as mixed numbers Identifies the place value and value of each digit to the tenths* Writes a number "squared" in factored form* Finds equivalent combinations of dollars and cents with the same value* Computes the value of multiple bills and coins (addition/subtraction only)*

<ul style="list-style-type: none"> using decimals* Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (with picture of money) Identifies the value of a collection of coins and bills to \$100.00 by "counting on"* Finds equivalent combinations of coins with the same value* Combines a collection of coins and identifies the correct notation Makes change to \$1.00 by "counting on" or subtracting Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00 	<ul style="list-style-type: none"> equivalent fractions Identifies a decimal on a number line to the tenths place* Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money) Identifies the value of a collection of coins and bills to \$100.00 by "counting on"* Finds equivalent combinations of coins with the same value* Finds equivalent combinations of dollars and cents with the same value* Makes change to \$1.00 by "counting on" or subtracting Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only) 	
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
<ul style="list-style-type: none"> Compares whole numbers through 999 Compares whole numbers through 9999 Orders whole numbers less than 100 Orders whole numbers less than 1000* Compares and orders decimals to the hundredths place (same number of digits after decimal) 	<ul style="list-style-type: none"> Compares whole numbers through 999,999 Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >) Compares whole numbers through the thousands using the symbols <, >, or = Orders whole numbers less than 1000* Orders whole numbers less than 10,000 Compares and orders money in decimal form Compares and orders decimals to the thousandths place (same number of digits after decimal)* 	<ul style="list-style-type: none"> Compares whole numbers through 999,999 Compares whole numbers through the billions using the symbols <, >, or =* Orders whole numbers less than 10,000 Orders whole numbers a million or greater Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)
Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts
<ul style="list-style-type: none"> Determines whether a set of objects has an odd or even number of elements Distinguishes between odd and even numbers 	<ul style="list-style-type: none"> Distinguishes between odd and even numbers Identifies numbers as composite 	<ul style="list-style-type: none"> Determines multiples of a whole number* Determines common multiples of whole numbers* Applies rules of divisibility by 5's* Applies rules of divisibility by 2's
Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
<ul style="list-style-type: none"> Rounds 2- and 3- digit whole numbers to the nearest ten Rounds 3-digit whole numbers to the nearest hundred Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 	<ul style="list-style-type: none"> Rounds 2- and 3- digit whole numbers to the nearest ten Rounds 3-digit whole numbers to the nearest hundred Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with 	<ul style="list-style-type: none"> Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred Rounds 4-, 5-, and 6-digit whole numbers to the

<p>(whole numbers only)</p> <ul style="list-style-type: none"> • Adds 1-digit to multiple-digit number with regrouping* • Adds two or three 2-digit number with regrouping • Adds 2-digit to 3-digit number with regrouping • Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given • Solves real-world whole number addition problems with sums to 20 (start unknown)* • Solves real-world whole number addition problems with sums to 100 (result unknown)* • Solves real-world whole number addition problems with sums to 1000 • Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)* • Uses models to calculate differences through 1000 (whole numbers)* • Instantly recalls basic subtraction facts with minuend less than 10* • Subtracts a 1-digit number from a multiple-digit number* • Subtracts 1-digit number from a 2-digit number with regrouping* • Subtracts a 2-digit number from a 2-digit number, with regrouping • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Subtracts 2- and/or 3-digit numbers with no regrouping • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers under 1000 • Subtracts multiple-digit numbers with no regrouping* • Solves real-world whole number problems involving subtraction with numbers under 20 • Solves real-world whole number problems involving subtraction with numbers 100 and under • Solves real-world whole number problems involving subtraction with numbers under 1000 • Adds decimals to the hundredths place (same number of digits) • Subtracts decimals to the hundredths place (same 	<p>addition and subtraction (whole numbers only)*</p> <ul style="list-style-type: none"> • Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)* • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Uses rounding to estimate answers to 1-step problems involving answers less than \$1 (whole numbers only, e.g., 10 cents + 10 cents)* • Uses rounding to estimate answers to 1-step problems involving answers less than \$20 (decimals only, e.g., \$1.20 + \$2.75) • Adds 2-digit to 3-digit number with regrouping • Uses number sense strategies to determine the correct answer for an addition computation* • Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given • Solves real-world whole number addition problems with sums to 100 (start unknown)* • Solves whole number addition word problems with sums over 1000 • Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)* • Adds and subtracts whole numbers using place value • Subtracts 1-digit number from a 2-digit number with regrouping* • Subtracts a 2-digit number from a 2-digit number, with regrouping • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Subtracts a 2-digit number from a 3-digit number with a single regrouping • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers under 1000 • Performs mental subtraction with numbers 1000 and over • Subtracts multiple-digit numbers with no regrouping* • Solves real-world whole number problems involving subtraction with numbers 100 and under • Solves real-world whole number problems involving subtraction with numbers under 1000 • Solves whole number subtraction word problems with 	<p>nearest thousand</p> <ul style="list-style-type: none"> • Rounds whole numbers to the nearest hundred thousand • Explains the rules for rounding* • Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)* • Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)* • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)* • Uses rounding to estimate answers to 2-step problems involving money (whole numbers only)* • Uses rounding to estimate answers to 2-step problems involving money (using decimals) • Instantly recalls basic addition facts with sums to 18 in a table* • Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only) • Solves real-world whole number addition problems with sums to 100 (start unknown)* • Adds and subtracts whole numbers using place value • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers 1000 and over • Subtracts numbers with 5 digits or more with regrouping • Uses strategies to determine 2 or more missing digits (addition/subtraction only) • Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis) • Solves whole number subtraction word problems with numbers over 1000 • Adds fractions with like denominators without reducing • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)* • Adds whole numbers and fractions • Subtracts fractions with like denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping
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<p>number of digits) without regrouping</p>	<p>numbers over 1000</p> <ul style="list-style-type: none"> • Solves problems using the inverse relationship between addition and subtraction* • Subtracts fractions with like denominators without reducing • Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators • Adds decimals to the hundredths place (same number of digits) • Adds decimals to the hundredths place in vertical format (not same number of digits)* • Adds decimals to the thousandths place vertically with and without regrouping • Subtracts decimals to the hundredths place (same number of digits) without regrouping • Subtracts decimals to the hundredths place (same number of digits) with regrouping • Subtracts decimals to the thousandths place, vertically, with and without regrouping • Solves real-world problems involving decimals (not money) using addition and subtraction 	<ul style="list-style-type: none"> • Subtracts whole numbers, fractions, and mixed fractions* • Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators • Adds decimals to the hundredths place in vertical format (not same number of digits)* • Adds decimals to the thousandths place horizontally with and without regrouping • Subtracts decimals to the hundredths place (same number of digits) with regrouping • Subtracts decimals to the thousandths place, vertically, with and without regrouping • Subtracts decimals through the hundred-thousandths place, vertically* • Solves real-world problems involving addition and subtraction of integers*
<p>Compute and Estimate: Multiplication and Division</p>	<p>Compute and Estimate: Multiplication and Division</p>	<p>Compute and Estimate: Multiplication and Division</p>
<ul style="list-style-type: none"> • Multiplies basic facts to 10 x 10 vertically • Multiplies a 2-digit number by a 1-digit number with regrouping • Solves word problems involving basic whole number multiplication facts to 10 x 10 • Uses sharing for division • Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) • Models multiplication and division algorithms using arrays (whole numbers) • Instantly recalls division facts with dividend and divisors less than 10 • Solves word problems with whole number division facts with dividend and divisors less than 11 involving money • Solves real-world whole number problems involving addition and subtraction 	<ul style="list-style-type: none"> • Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12* • Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping • Multiplies a 2-digit number by a 1-digit number with regrouping • Multiplies a 3- or 4-digit number by a 1-digit number • Multiplies a 2-digit number by a 2-digit number with no regrouping* • Multiplies a 3-digit number by a 2-digit number with no regrouping • Performs mental computation with multiplication • Solves word problems involving basic whole number multiplication facts to 10 x 10 • Solves word problems involving whole number multiplication with numbers greater than 10 x 10 • Uses repeated subtraction for division* • Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) • Instantly recalls division facts with dividend and divisors less than 10 	<ul style="list-style-type: none"> • Uses front end estimation for multiplication and division computations (whole numbers only)* • Uses rounding to estimate answers to simple multiplication and division problems (whole numbers only) • Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12* • Instantly recalls basic multiplication and division facts in a table • Multiplies a 2-digit number by a 1-digit number with regrouping • Multiplies a 3- or 4-digit number by a 1-digit number • Multiplies multiple 1-digit numbers • Multiplies a 2-digit number by a 2-digit number with no regrouping* • Multiplies a 2-digit number by a 2-digit number with regrouping • Multiplies a 3-digit number by a 2-digit number with regrouping • Performs mental computation with multiplication • Multiplies a 2- or 3-digit number by multiples of 10 or 100

	<ul style="list-style-type: none"> • Instantly recalls division facts with dividend and divisors less than 13 • Divides a 2-digit number by a 1-digit number with no remainder • Uses strategies to determine 1 missing digit (multiplication/division only) • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)* • Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction* • Multiplies a decimal by whole number • Computes half price (multiplication/division)* • Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division) • Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) • Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%) 	<ul style="list-style-type: none"> • Multiplies a 3-digit number by a 3-digit number • Solves word problems involving whole number multiplication with numbers greater than 10 x 10 • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)* • Instantly recalls division facts with dividend and divisors less than 13 • Divides a 1-digit number by a 1-digit number with a remainder* • Divides a 2-digit number by a 1-digit number with no remainder • Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder • Performs mental computation with division • Divides a 3-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with a remainder* • Divides a 2-digit number by a 2-digit number with a remainder • Divides a 3-digit number by a multiple of 10 • Divides a 4-digit number by a 2-digit number • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)* • Solves whole number word problems with division over 10 x 10 • Solves real-world problems involving 2-step multiple operations, whole numbers only • Multiplies a fraction by a fraction without reducing to simplest form (simple problem) • Multiplies a decimal by whole number • Divides decimal by a whole number • Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division) • Computes addition and subtraction on multiple-step real-world problems involving money • Computes money problems with multiple operations (addition/subtraction only)
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<i>New Vocabulary:</i> closest, coins, cost, digit, dozen, even number, factor, fourths, fraction, hundred thousand, hundreds, million, nearest, nickel, number statement, odd number, one, round, row, smallest, symmetrical, ten, ten thousand, thirds, thousandth, unifix cubes, unit, value	<i>New Vocabulary:</i> billion, capacity, composite number, deposit, hundred million, hundredths, longer, percent, prime number, quintillion, standard numeral, symbol, thousands, trillion, zero	<i>New Vocabulary:</i> above, annual, below, biggest, column, common multiple, compatible numbers, divisible, expanded numeral, hundred thousands, hundredth, kilowatt, magic square, mixed number, multiple, place value, plus, remainder, ten thousands, twice
<i>New Signs and Symbols:</i> { } set notation, ÷ division, long division symbol	<i>New Signs and Symbols:</i> () order of operations, ≈ approximately equal to, °F degrees Fahrenheit, ft feet, > greater than, ≥ greater than or equal to, < less than, ≤ less than or equal to, % percent, R remainder	<i>New Signs and Symbols:</i> ? a variable, a.m., °C degrees Celsius, – negative number, p.m.

Subject: Mathematics

Goal Strand: Numbers 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>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers 100 - 999 using base-10 blocks* Identifies whole numbers over 999 using base-10 blocks* Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place Identifies the numeral and written name for whole numbers 10,000 to 100,000 Identifies the numeral and written name for whole numbers over 100,000 Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., $14 = 7 + 7$)* Writes equivalent forms of whole numbers using multiplication (e.g., $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$)* Converts to dozens without models Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) Identifies the place value and value of each digit in whole numbers through the thousands Identifies the place value and value of each digit in whole numbers through the hundred thousands Writes whole numbers in standard and expanded form through the hundreds Writes whole numbers in standard and expanded form through the thousands Represents $\frac{1}{3}$ with a diagram or model Identifies one-half from a region or set* Identifies $\frac{1}{4}$ from a region or set Identifies $\frac{1}{3}$ from a region or set Identifies $\frac{2}{3}$ or $\frac{3}{3}$ from a region or set* Identifies tenths from a region or set* Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set Matches numeric and visual representation of 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers over 999 using base-10 blocks* Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place Identifies the numeral and written name for whole numbers over 100,000 Writes equivalent forms of whole numbers using place value (e.g., $54 = 4$ tens and 14 ones) Identifies the place value and value of each digit in whole numbers through the billions Writes whole numbers in standard and expanded form through the hundred thousands Applies base ten place value concepts with whole numbers to solve problems Writes whole numbers using place value terms and vice versa Identifies halves of a region using nonadjacent parts Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)* Writes mixed numbers as improper fractions and improper fractions as mixed numbers Identifies the place value and value of each digit to the tenths* Writes a number "squared" in factored form* Finds equivalent combinations of dollars and cents with the same value* Computes the value of multiple bills and coins (addition/subtraction only)* 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers 100 - 999 using 2-D and 3-D models* Identifies whole numbers over 999 using 2- and 3-D models* Writes whole numbers in standard and expanded form through the hundred thousands Writes improper fractions and mixed numbers from a visual representation* Identifies a fractions in lowest terms from a region or set Identifies eighths, reduced to lowest terms, from a region or set Expresses "1" in many different ways (e.g., $\frac{3}{3}$, $\frac{4}{4}$)* Expresses improper fractions as whole numbers (e.g., $\frac{4}{2}=2$)* Determines simple equivalent fractions using multiples Converts fractions to lowest terms Writes mixed numbers as improper fractions and improper fractions as mixed numbers Represents a decimal to the hundredths place (e.g., three hundredths = 0.03) Writes a decimal for a shaded region to the tenths place* Identifies the place value and value of each digit to the tenths* Applies base ten place value concepts to solve problems using decimals (analysis)* Identifies an integer from a number line Identifies the percent represented in a 2-D region* Writes a power as a product of multiplied numbers and vice versa (e.g., $2^4 = 2 \times 2 \times 2 \times 2$) Uses powers to represent 10, 100, 1000, 10,000, and 100,000 Computes the value of multiple bills and coins (addition/subtraction only)*

<ul style="list-style-type: none"> equivalent fractions Identifies a decimal on a number line to the tenths place* Identifies the value of a collection of coins to \$1.00 (without picture of coins) Adds money with regrouping Identifies the value of a collection of coins and bills to \$10.00 by "counting on" (without picture of money) Identifies the value of a collection of coins and bills to \$100.00 by "counting on"* Finds equivalent combinations of coins with the same value* Finds equivalent combinations of dollars and cents with the same value* Makes change to \$1.00 by "counting on" or subtracting Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only) Computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only) 		<ul style="list-style-type: none"> Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)*
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
<ul style="list-style-type: none"> Compares whole numbers through 999,999 Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >) Compares whole numbers through the thousands using the symbols <, >, or = Orders whole numbers less than 1000* Orders whole numbers less than 10,000 Compares and orders money in decimal form Compares and orders decimals to the thousandths place (same number of digits after decimal)* 	<ul style="list-style-type: none"> Compares whole numbers through 999,999 Compares whole numbers through the billions using the symbols <, >, or =* Orders whole numbers less than 10,000 Orders whole numbers a million or greater Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10) 	<ul style="list-style-type: none"> Compares fractions on a number line Compares fractions greater than or less than a given fraction using visual representations Compares fractions and mixed numbers Compares fractions and mixed numbers using symbols
Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts
<ul style="list-style-type: none"> Distinguishes between odd and even numbers Identifies numbers as composite 	<ul style="list-style-type: none"> Determines multiples of a whole number* Determines common multiples of whole numbers* Applies rules of divisibility by 5's* Applies rules of divisibility by 2's 	<ul style="list-style-type: none"> Recognizes characteristics of odd and even numbers Determines factors of whole numbers Completes a factor tree for a number (prime factorization)* Determines multiples of a whole number* Determines common multiples of whole numbers* Identifies numbers as prime Identifies common factors of two or more numbers* Identifies the greatest common factor of whole numbers

Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
<ul style="list-style-type: none"> • Rounds 2- and 3- digit whole numbers to the nearest ten • Rounds 3-digit whole numbers to the nearest hundred • Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with addition and subtraction (whole numbers only)* • Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)* • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Uses rounding to estimate answers to 1-step problems involving answers less than \$1 (whole numbers only, e.g., 10 cents + 10 cents)* • Uses rounding to estimate answers to 1-step problems involving answers less than \$20 (decimals only, e.g., \$1.20 + \$2.75) • Adds 2-digit to 3-digit number with regrouping • Uses number sense strategies to determine the correct answer for an addition computation* • Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given • Solves real-world whole number addition problems with sums to 100 (start unknown)* • Solves whole number addition word problems with sums over 1000 • Uses a number line to construct subtraction facts with subtrahends and minuends through 20 (whole numbers)* • Adds and subtracts whole numbers using place value • Subtracts 1-digit number from a 2-digit number with regrouping* • Subtracts a 2-digit number from a 2-digit number, with regrouping • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Subtracts a 2-digit number from a 3-digit number with a single regrouping • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers under 1000 • Performs mental subtraction with numbers 1000 and 	<ul style="list-style-type: none"> • Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten • Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred • Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand • Rounds whole numbers to the nearest hundred thousand • Explains the rules for rounding* • Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)* • Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)* • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)* • Uses rounding to estimate answers to 2-step problems involving money (whole numbers only)* • Uses rounding to estimate answers to 2-step problems involving money (using decimals) • Instantly recalls basic addition facts with sums to 18 in a table* • Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only) • Solves real-world whole number addition problems with sums to 100 (start unknown)* • Adds and subtracts whole numbers using place value • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers 1000 and over • Subtracts numbers with 5 digits or more with regrouping • Uses strategies to determine 2 or more missing digits (addition/subtraction only) • Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis) • Solves whole number subtraction word problems with numbers over 1000 • Adds fractions with like denominators without reducing 	<ul style="list-style-type: none"> • Applies rules of divisibility by 5's* • Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred • Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand • Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand • Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)* • Uses rounding to estimate answers to 2-step problems involving money (using decimals) • Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only) • Subtracts numbers with 5 digits or more with regrouping • Uses strategies to determine 2 or more missing digits (addition/subtraction only) • Adds fractions with like denominators without reducing • Adds fractions with like denominators with reducing or converting to a mixed fraction • Adds fractions with unlike denominators without reducing • Adds mixed fractions with like denominators • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)* • Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)* • Subtracts fractions with unlike denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Subtracts mixed fractions with unlike denominators with no regrouping • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals to the thousandths place horizontally with and without regrouping • Adds decimals through the hundred-thousandths place

<ul style="list-style-type: none"> over Subtracts multiple-digit numbers with no regrouping* Solves real-world whole number problems involving subtraction with numbers 100 and under Solves real-world whole number problems involving subtraction with numbers under 1000 Solves whole number subtraction word problems with numbers over 1000 Solves problems using the inverse relationship between addition and subtraction* Subtracts fractions with like denominators without reducing Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators Adds decimals to the hundredths place (same number of digits) Adds decimals to the hundredths place in vertical format (not same number of digits)* Adds decimals to the thousandths place vertically with and without regrouping Subtracts decimals to the hundredths place (same number of digits) without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Subtracts decimals to the thousandths place, vertically, with and without regrouping Solves real-world problems involving decimals (not money) using addition and subtraction 	<ul style="list-style-type: none"> Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)* Adds whole numbers and fractions Subtracts fractions with like denominators without reducing Subtracts mixed fractions with like denominators with no regrouping Subtracts whole numbers, fractions, and mixed fractions* Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators Adds decimals to the hundredths place in vertical format (not same number of digits)* Adds decimals to the thousandths place horizontally with and without regrouping Subtracts decimals to the hundredths place (same number of digits) with regrouping Subtracts decimals to the thousandths place, vertically, with and without regrouping Subtracts decimals through the hundred-thousandths place, vertically* Solves real-world problems involving addition and subtraction of integers* 	<ul style="list-style-type: none"> Subtracts decimals to the thousandths place, vertically, with the zero missing in the ones place* Subtracts decimals to the thousandths place, horizontally, with and without regrouping Adds integers with like signs Solves real-world problems involving addition and subtraction of integers*
<p>Compute and Estimate: Multiplication and Division</p> <ul style="list-style-type: none"> Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12* Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 3- or 4-digit number by a 1-digit number Multiplies a 2-digit number by a 2-digit number with no regrouping* Multiplies a 3-digit number by a 2-digit number with no regrouping Performs mental computation with multiplication Solves word problems involving basic whole number multiplication facts to 10 x 10 Solves word problems involving whole number 	<p>Compute and Estimate: Multiplication and Division</p> <ul style="list-style-type: none"> Uses front end estimation for multiplication and division computations (whole numbers only)* Uses rounding to estimate answers to simple multiplication and division problems (whole numbers only) Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12* Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 3- or 4-digit number by a 1-digit number Multiplies multiple 1-digit numbers Multiplies a 2-digit number by a 2-digit number with no regrouping* 	<p>Compute and Estimate: Multiplication and Division</p> <ul style="list-style-type: none"> Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)* Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)* Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)* Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only) Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with

<p>multiplication with numbers greater than 10 x 10</p> <ul style="list-style-type: none"> • Uses repeated subtraction for division* • Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction) • Instantly recalls division facts with dividend and divisors less than 10 • Instantly recalls division facts with dividend and divisors less than 13 • Divides a 2-digit number by a 1-digit number with no remainder • Uses strategies to determine 1 missing digit (multiplication/division only) • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)* • Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction* • Multiplies a decimal by whole number • Computes half price (multiplication/division)* • Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division) • Computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) • Solves problems involving basic percent concepts (e.g., 10%, 50%, 100%) 	<ul style="list-style-type: none"> • Multiplies a 2-digit number by a 2-digit number with regrouping • Multiplies a 3-digit number by a 2-digit number with regrouping • Performs mental computation with multiplication • Multiplies a 2- or 3-digit number by multiples of 10 or 100 • Multiplies a 3-digit number by a 3-digit number • Solves word problems involving whole number multiplication with numbers greater than 10 x 10 • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)* • Instantly recalls division facts with dividend and divisors less than 13 • Divides a 1-digit number by a 1-digit number with a remainder* • Divides a 2-digit number by a 1-digit number with no remainder • Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder • Performs mental computation with division • Divides a 3-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with a remainder* • Divides a 2-digit number by a 2-digit number with a remainder • Divides a 3-digit number by a multiple of 10 • Divides a 4-digit number by a 2-digit number • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)* • Solves whole number word problems with division over 10 x 10 • Solves real-world problems involving 2-step multiple operations, whole numbers only • Multiplies a fraction by a fraction without reducing to simplest form (simple problem) • Multiplies a decimal by whole number • Divides decimal by a whole number 	<p>regrouping</p> <ul style="list-style-type: none"> • Multiplies a 3-digit number by a 2-digit number with regrouping • Performs mental computation with multiplication • Multiplies a 3-digit number by a 3-digit number • Multiplies a 4- or more digit number by multiples of 100 or 1000 • Multiplies multiple-digit numbers • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)* • Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder • Performs mental computation with division • Divides a 4-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with a remainder* • Divides a 3-digit number by a 2-digit number • Divides a 4-digit number by a 2-digit number • Solves problems using the inverse relationship between multiplication and division • Divides a whole number by a whole number and expresses the remainder as a decimal* • Divides multiple-digit numbers • Uses strategies to determine 2 or more missing digits (multiplication/division only)* • Solves whole number word problems with division over 10 x 10 • Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) • Solves real-world problems involving 2-step multiple operations, whole numbers only • Solves real-world multiple-step problems involving whole numbers* • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number • Solves 1-step real-world problems involving fractions with multiplication and division • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to
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	<ul style="list-style-type: none"> • Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division) • Computes addition and subtraction on multiple-step real-world problems involving money • Computes money problems with multiple operations (addition/subtraction only) • Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money 	<p>hundredths)</p> <ul style="list-style-type: none"> • Divides decimal by a whole number • Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) • Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) • Computes addition and subtraction on multiple-step real-world problems involving money • Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money • Multiplies integers with unlike signs* • Divides integers with unlike signs* • Solves real-world problems involving multiplication and division of integers* • Solves problems involving equivalent fractions* • Solves 1-step problems involving proportions • Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%)
<i>New Vocabulary:</i> billion, capacity, composite number, deposit, hundred million, hundredths, longer, percent, prime number, quintillion, standard numeral, symbol, thousands, trillion, zero	<i>New Vocabulary:</i> above, annual, below, biggest, column, common multiple, compatible numbers, divisible, expanded numeral, hundred thousands, hundredth, kilowatt, magic square, mixed number, multiple, place value, plus, remainder, ten thousands, twice	<i>New Vocabulary:</i> coin, common factor, decimal point, factor tree, greatest common factor, interest, lowest terms, negative, positive, reduce, region, standard form, triple
<i>New Signs and Symbols:</i> () order of operations, \approx approximately equal to, $^{\circ}$ F degrees Fahrenheit, 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> ? a variable, a.m., $^{\circ}$ C degrees Celsius, - negative number, p.m.	<i>New Signs and Symbols:</i> - subtraction, \$ dollar sign, in. inch, kg kilogram, mph miles per hour, \neq not equal to, + positive number

Subject: Mathematics

Goal Strand: Numbers 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>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers over 999 using base-10 blocks* Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place Identifies the numeral and written name for whole numbers over 100,000 Writes equivalent forms of whole numbers using place value (e.g., $54 = 4$ tens and 14 ones) Identifies the place value and value of each digit in whole numbers through the billions Writes whole numbers in standard and expanded form through the hundred thousands Applies base ten place value concepts with whole numbers to solve problems Writes whole numbers using place value terms and vice versa Identifies halves of a region using nonadjacent parts Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)* Writes mixed numbers as improper fractions and improper fractions as mixed numbers Identifies the place value and value of each digit to the tenths* Writes a number "squared" in factored form* Finds equivalent combinations of dollars and cents with the same value* Computes the value of multiple bills and coins (addition/subtraction only)* 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers 100 - 999 using 2-D and 3-D models* Identifies whole numbers over 999 using 2- and 3-D models* Writes whole numbers in standard and expanded form through the hundred thousands Writes improper fractions and mixed numbers from a visual representation* Identifies a fractions in lowest terms from a region or set Identifies eighths, reduced to lowest terms, from a region or set Expresses "1" in many different ways (e.g., $3/3$, $4/4$)* Expresses improper fractions as whole numbers (e.g., $4/2=2$)* Determines simple equivalent fractions using multiples Converts fractions to lowest terms Writes mixed numbers as improper fractions and improper fractions as mixed numbers Represents a decimal to the hundredths place (e.g., three hundredths = 0.03) Writes a decimal for a shaded region to the tenths place* Identifies the place value and value of each digit to the tenths* Applies base ten place value concepts to solve problems using decimals (analysis)* Identifies an integer from a number line Identifies the percent represented in a 2-D region* Writes a power as a product of multiplied numbers and vice versa (e.g., $2^4 = 2 \times 2 \times 2 \times 2$) Uses powers to represent 10, 100, 1000, 10,000, and 100,000 Computes the value of multiple bills and coins (addition/subtraction only)* 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., $253 = 2$ hundreds, 5 tens, and 3 ones) Writes whole numbers in standard and exponential form Identifies a fractions in lowest terms from a region or set Determines simple equivalent fractions using multiples Determines equivalent fractions using multiples Represents a decimal to thousandths place (e.g., three thousandths = 0.003) Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)* Writes a decimal for a shaded region to the hundredths place Identifies the place value and value of each digit to the hundredths and thousandths Identifies the place value and value of each digit in numbers through the ten thousandths and beyond Identifies the percent represented in a given model* Writes a power as a product of multiplied numbers and vice versa (e.g., $2^4 = 2 \times 2 \times 2 \times 2$) Uses powers of 10 to represent numbers (e.g., $8 \times 10^3 = 8000$) Uses powers to represent 10, 100, 1000, 10,000, and 100,000

	<ul style="list-style-type: none"> Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)* 	
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
<ul style="list-style-type: none"> Compares whole numbers through 999,999 Compares whole numbers through the billions using the symbols $<$, $>$, or $=$* Orders whole numbers less than 10,000 Orders whole numbers a million or greater Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10) 	<ul style="list-style-type: none"> Compares fractions on a number line Compares fractions greater than or less than a given fraction using visual representations Compares fractions and mixed numbers Compares fractions and mixed numbers using symbols 	<ul style="list-style-type: none"> Determines the relative magnitude of whole numbers* Orders whole numbers a million or greater using $<$ or $>$ symbols* Compares fractions (e.g., comparing numerators and denominators) Compares and orders decimals to the hundredths place (not same number of digits after decimal)* Compares and orders decimals to the thousandths place (not same number of digits after decimal) Compares and orders decimals past the thousandths place*
Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts
<ul style="list-style-type: none"> Determines multiples of a whole number* Determines common multiples of whole numbers* Applies rules of divisibility by 5's* Applies rules of divisibility by 2's 	<ul style="list-style-type: none"> Recognizes characteristics of odd and even numbers Determines factors of whole numbers Completes a factor tree for a number (prime factorization)* Determines multiples of a whole number* Determines common multiples of whole numbers* Identifies numbers as prime Identifies common factors of two or more numbers* Identifies the greatest common factor of whole numbers Applies rules of divisibility by 5's* 	<ul style="list-style-type: none"> Recognizes characteristics of odd and even numbers Determines factors of whole numbers Completes a factor tree for a number (prime factorization)* Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility) Determines common denominators of fractions Uses factor and multiple concepts to solve simple problems Identifies common factors of two or more numbers* Identifies the greatest common factor of whole numbers Uses divisibility concepts to solve problems*
Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
<ul style="list-style-type: none"> Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand Rounds whole numbers to the nearest hundred thousand Explains the rules for rounding* Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)* Uses front end digits to estimate answers in addition 	<ul style="list-style-type: none"> Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)* Uses rounding to estimate answers to 2-step problems involving money (using decimals) Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only) Subtracts numbers with 5 digits or more with 	<ul style="list-style-type: none"> Rounds whole numbers to the nearest million* Rounds whole numbers to the nearest billion* Models algorithms using place value concepts (addition and subtraction with whole numbers)* Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds whole numbers, fractions, and mixed fractions without reducing Adds mixed fractions where converting from improper

<p>and subtraction computations (whole numbers only)*</p> <ul style="list-style-type: none"> • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)* • Uses rounding to estimate answers to 2-step problems involving money (whole numbers only)* • Uses rounding to estimate answers to 2-step problems involving money (using decimals) • Instantly recalls basic addition facts with sums to 18 in a table* • Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only) • Solves real-world whole number addition problems with sums to 100 (start unknown)* • Adds and subtracts whole numbers using place value • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers 1000 and over • Subtracts numbers with 5 digits or more with regrouping • Uses strategies to determine 2 or more missing digits (addition/subtraction only) • Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis) • Solves whole number subtraction word problems with numbers over 1000 • Adds fractions with like denominators without reducing • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)* • Adds whole numbers and fractions • Subtracts fractions with like denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Subtracts whole numbers, fractions, and mixed fractions* • Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators • Adds decimals to the hundredths place in vertical format (not same number of digits)* • Adds decimals to the thousandths place horizontally with and without regrouping 	<p>regrouping</p> <ul style="list-style-type: none"> • Uses strategies to determine 2 or more missing digits (addition/subtraction only) • Adds fractions with like denominators without reducing • Adds fractions with like denominators with reducing or converting to a mixed fraction • Adds fractions with unlike denominators without reducing • Adds mixed fractions with like denominators • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)* • Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)* • Subtracts fractions with unlike denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Subtracts mixed fractions with unlike denominators with no regrouping • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals to the thousandths place horizontally with and without regrouping • Adds decimals through the hundred-thousandths place • Subtracts decimals to the thousandths place, vertically, with the zero missing in the ones place* • Subtracts decimals to the thousandths place, horizontally, with and without regrouping • Adds integers with like signs • Solves real-world problems involving addition and subtraction of integers* 	<p>fractions is necessary</p> <ul style="list-style-type: none"> • Subtracts fractions with like denominators with reducing • Subtracts fractions with unlike denominators without reducing • Subtracts fractions with unlike denominators with reducing* • Subtracts mixed fractions with unlike denominators with no regrouping • Subtracts whole numbers, fractions, and mixed fractions with regrouping • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits) • Subtracts decimals to the thousandths place, horizontally, with and without regrouping • Subtracts decimals through the hundred-thousandths place, horizontally • Subtracts a decimal from a whole number, horizontally • Adds integers with unlike signs • Adds several positive and negative integers • Solves real-world problems involving addition and subtraction of integers* • Solves problems involving addition and subtraction of integers*
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<ul style="list-style-type: none"> Subtracts decimals to the hundredths place (same number of digits) with regrouping Subtracts decimals to the thousandths place, vertically, with and without regrouping Subtracts decimals through the hundred-thousandths place, vertically* Solves real-world problems involving addition and subtraction of integers* 		
Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division
<ul style="list-style-type: none"> Uses front end estimation for multiplication and division computations (whole numbers only)* Uses rounding to estimate answers to simple multiplication and division problems (whole numbers only) Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12* Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 1-digit number with regrouping Multiplies a 3- or 4-digit number by a 1-digit number Multiplies multiple 1-digit numbers Multiplies a 2-digit number by a 2-digit number with no regrouping* Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Multiplies a 2- or 3-digit number by multiples of 10 or 100 Multiplies a 3-digit number by a 3-digit number Solves word problems involving whole number multiplication with numbers greater than 10 x 10 Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)* Instantly recalls division facts with dividend and divisors less than 13 Divides a 1-digit number by a 1-digit number with a remainder* Divides a 2-digit number by a 1-digit number with no remainder Divides a 2-digit number or a 3-digit number by a 1- 	<ul style="list-style-type: none"> Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)* Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)* Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)* Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only) Instantly recalls basic multiplication and division facts in a table Multiplies a 2-digit number by a 2-digit number with regrouping Multiplies a 3-digit number by a 2-digit number with regrouping Performs mental computation with multiplication Multiplies a 3-digit number by a 3-digit number Multiplies a 4- or more digit number by multiples of 100 or 1000 Multiplies multiple-digit numbers Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)* Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder Performs mental computation with division Divides a 4-digit number by a 1-digit number with no remainder Divides a 4-digit number by a 1-digit number with a remainder* Divides a 3-digit number by a 2-digit number Divides a 4-digit number by a 2-digit number 	<ul style="list-style-type: none"> Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)* Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)* Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)* Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)* Multiplies multiple-digit numbers Models algorithms using place value concepts (multiplication and division with whole numbers)* Divides a 4-digit number by a 2-digit number Divides multiple-digit numbers Divides numbers by powers of 10* Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) Uses division for multiple-step real-world problems (whole numbers)* Solves real-world multiple-step problems involving whole numbers* Multiplies a fraction by a fraction without reducing to simplest form (complex problem) Multiplies a fraction by a fraction where reducing to simplest form is necessary Multiplies a fraction by a whole number Multiplies mixed fractions Divides a fraction by a fraction Divides a mixed fraction by a fraction Solves 1-step real-world problems involving fractions with multiplication and division

<ul style="list-style-type: none"> digit number with a remainder • Performs mental computation with division • Divides a 3-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with a remainder* • Divides a 2-digit number by a 2-digit number with a remainder • Divides a 3-digit number by a multiple of 10 • Divides a 4-digit number by a 2-digit number • Solves word problems with whole number division facts with dividend and divisors less than 11 • Solves simple word problems involving whole number division with remainder (e.g., 1-step, 1-digit divisor)* • Solves whole number word problems with division over 10×10 • Solves real-world problems involving 2-step multiple operations, whole numbers only • Multiplies a fraction by a fraction without reducing to simplest form (simple problem) • Multiplies a decimal by whole number • Divides decimal by a whole number • Computes with dollars and cents up to and including \$5.00 and converts to decimals (multiplication/division) • Computes addition and subtraction on multiple-step real-world problems involving money • Computes money problems with multiple operations (addition/subtraction only) • Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money 	<ul style="list-style-type: none"> • Solves problems using the inverse relationship between multiplication and division • Divides a whole number by a whole number and expresses the remainder as a decimal* • Divides multiple-digit numbers • Uses strategies to determine 2 or more missing digits (multiplication/division only)* • Solves whole number word problems with division over 10×10 • Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) • Solves real-world problems involving 2-step multiple operations, whole numbers only • Solves real-world multiple-step problems involving whole numbers* • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number • Solves 1-step real-world problems involving fractions with multiplication and division • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Divides decimal by a whole number • Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) • Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) • Computes addition and subtraction on multiple-step real-world problems involving money • Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money • Multiplies integers with unlike signs* • Divides integers with unlike signs* • Solves real-world problems involving multiplication and division of integers* • Solves problems involving equivalent fractions* • Solves 1-step problems involving proportions • Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%) 	<ul style="list-style-type: none"> • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions)* • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Multiplies a decimal by 10, 100, 1000 • Multiplies a decimal by a decimal (factors to thousandths) • Solves real-world problems involving rate of pay • Divides a decimal by 10, 100, 1000 • Divides a decimal by a decimal • Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) • Computes the value of multiple bills and coins (multiplication/division) • Solves difficult real-world problems involving decimals (e.g., multiple multiplications, conversions) • Multiplies integers with unlike signs* • Uses a number line to determine the midpoint between a positive and negative number* • Divides integers with unlike signs* • Solves real-world problems involving multiplication and division of integers* • Solves problems involving ratios • Solves 1-step problems involving proportions • Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%) • Calculates a percent of a number (e.g., 6% of 30) • Calculates a number from a percent (e.g., 4 is 9% of what) • Solves problems involving percents • Solves problems involving tax and tips • Solves problems involving simple interest rates with the formula • Solves problems comparing percents, fractions, and decimals*
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<i>New Vocabulary:</i> above, annual, below, biggest, column, common multiple, compatible numbers, divisible, expanded numeral, hundred thousands, hundredth, kilowatt, magic square, mixed number, multiple, place value, plus, remainder, ten thousands, twice	<i>New Vocabulary:</i> coin, common factor, decimal point, factor tree, greatest common factor, interest, lowest terms, negative, positive, reduce, region, standard form, triple	<i>New Vocabulary:</i> borrow, common denominator, cord, expanded notation, exponent, half hour, least common denominator, lowest common denominator, net, odd, short, tax, ten million, ten thousandth, tenths, thousandths, whole
<i>New Signs and Symbols:</i> ? a variable, a.m., °C degrees Celsius, – negative number, p.m.	<i>New Signs and Symbols:</i> – subtraction, \$ dollar sign, in. inch, kg kilogram, mph miles per hour, ≠ not equal to, + positive number	<i>New Signs and Symbols:</i> () parenthesis around an integer, gal gallon, I interest, m meter/metre, : ratio, × multiplication, < less than, = is equal to, > greater than, : used with time

Subject: Mathematics

Goal Strand: Numbers 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>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Identifies whole numbers 100 - 999 using 2-D and 3-D models* Identifies whole numbers over 999 using 2- and 3-D models* Writes whole numbers in standard and expanded form through the hundred thousands Writes improper fractions and mixed numbers from a visual representation* Identifies a fractions in lowest terms from a region or set Identifies eighths, reduced to lowest terms, from a region or set Expresses "1" in many different ways (e.g., $\frac{3}{3}$, $\frac{4}{4}$)* Expresses improper fractions as whole numbers (e.g., $\frac{4}{2}=2$)* Determines simple equivalent fractions using multiples Converts fractions to lowest terms Writes mixed numbers as improper fractions and improper fractions as mixed numbers Represents a decimal to the hundredths place (e.g., three hundredths = 0.03) Writes a decimal for a shaded region to the tenths place* Identifies the place value and value of each digit to the tenths* Applies base ten place value concepts to solve problems using decimals (analysis)* Identifies an integer from a number line Identifies the percent represented in a 2-D region* Writes a power as a product of multiplied numbers and vice versa (e.g., $2^4 = 2 \times 2 \times 2 \times 2$) Uses powers to represent 10, 100, 1000, 10,000, and 100,000 Computes the value of multiple bills and coins (addition/subtraction only)* 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., $253 = 2$ hundreds, 5 tens, and 3 ones) Writes whole numbers in standard and exponential form Identifies a fractions in lowest terms from a region or set Determines simple equivalent fractions using multiples Determines equivalent fractions using multiples Represents a decimal to thousandths place (e.g., three thousandths = 0.003) Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)* Writes a decimal for a shaded region to the hundredths place Identifies the place value and value of each digit to the hundredths and thousandths Identifies the place value and value of each digit in numbers through the ten thousandths and beyond Identifies the percent represented in a given model* Writes a power as a product of multiplied numbers and vice versa (e.g., $2^4 = 2 \times 2 \times 2 \times 2$) Uses powers of 10 to represent numbers (e.g., $8 \times 10^3 = 8000$) Uses powers to represent 10, 100, 1000, 10,000, and 100,000 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes whole numbers in standard and exponential form Estimates percent using 2-D regions* Compares and orders percent* Uses powers of 10 to represent numbers (e.g., $8 \times 10^3 = 8000$) Uses correct terminology for powers* Writes a number expressed in scientific notation in standard form* Writes a whole number in scientific notation Writes a decimal in scientific notation*

<ul style="list-style-type: none"> Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only)* 		
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
<ul style="list-style-type: none"> Compares fractions on a number line Compares fractions greater than or less than a given fraction using visual representations Compares fractions and mixed numbers Compares fractions and mixed numbers using symbols 	<ul style="list-style-type: none"> Determines the relative magnitude of whole numbers* Orders whole numbers a million or greater using $<$ or $>$ symbols* Compares fractions (e.g., comparing numerators and denominators) Compares and orders decimals to the hundredths place (not same number of digits after decimal)* Compares and orders decimals to the thousandths place (not same number of digits after decimal) Compares and orders decimals past the thousandths place* 	<ul style="list-style-type: none"> Compares fractions (e.g., comparing numerators and denominators)
Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts	Number Systems: Number Theory Concepts
<ul style="list-style-type: none"> Recognizes characteristics of odd and even numbers Determines factors of whole numbers Completes a factor tree for a number (prime factorization)* Determines multiples of a whole number* Determines common multiples of whole numbers* Identifies numbers as prime Identifies common factors of two or more numbers* Identifies the greatest common factor of whole numbers Applies rules of divisibility by 5's* 	<ul style="list-style-type: none"> Recognizes characteristics of odd and even numbers Determines factors of whole numbers Completes a factor tree for a number (prime factorization)* Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility) Determines common denominators of fractions Uses factor and multiple concepts to solve simple problems Identifies common factors of two or more numbers* Identifies the greatest common factor of whole numbers Uses divisibility concepts to solve problems* 	<ul style="list-style-type: none"> Determines the prime factorization of a number Applies rules of divisibility by 3's* Applies rules of divisibility
Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
<ul style="list-style-type: none"> Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)* Uses rounding to estimate answers to 2-step problems involving money (using decimals) Uses reasoning strategies to solve magic squares and related puzzles (addition, whole numbers only) Subtracts numbers with 5 digits or more with 	<ul style="list-style-type: none"> Rounds whole numbers to the nearest million* Rounds whole numbers to the nearest billion* Models algorithms using place value concepts (addition and subtraction with whole numbers)* Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds whole numbers, fractions, and mixed fractions without reducing Adds mixed fractions where converting from improper fractions is necessary Subtracts whole numbers, fractions, and mixed fractions with regrouping Solves real-world problems involving addition and subtraction of fractions where converting both 	<ul style="list-style-type: none"> Uses estimation to solve problems involving decimals Models algorithms using place value concepts (addition and subtraction with whole numbers)* Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds whole numbers, fractions, and mixed fractions without reducing Adds mixed fractions where converting from improper fractions is necessary Subtracts whole numbers, fractions, and mixed fractions with regrouping Solves real-world problems involving addition and subtraction of fractions where converting both

<p>regrouping</p> <ul style="list-style-type: none"> • Uses strategies to determine 2 or more missing digits (addition/subtraction only) • Adds fractions with like denominators without reducing • Adds fractions with like denominators with reducing or converting to a mixed fraction • Adds fractions with unlike denominators without reducing • Adds mixed fractions with like denominators • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)* • Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)* • Subtracts fractions with unlike denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Subtracts mixed fractions with unlike denominators with no regrouping • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals to the thousandths place horizontally with and without regrouping • Adds decimals through the hundred-thousandths place • Subtracts decimals to the thousandths place, vertically, with the zero missing in the ones place* • Subtracts decimals to the thousandths place, horizontally, with and without regrouping • Adds integers with like signs • Solves real-world problems involving addition and subtraction of integers* 	<p>fractions is necessary</p> <ul style="list-style-type: none"> • Subtracts fractions with like denominators with reducing • Subtracts fractions with unlike denominators without reducing • Subtracts fractions with unlike denominators with reducing* • Subtracts mixed fractions with unlike denominators with no regrouping • Subtracts whole numbers, fractions, and mixed fractions with regrouping • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits) • Subtracts decimals to the thousandths place, horizontally, with and without regrouping • Subtracts decimals through the hundred-thousandths place, horizontally • Subtracts a decimal from a whole number, horizontally • Adds integers with unlike signs • Adds several positive and negative integers • Solves real-world problems involving addition and subtraction of integers* • Solves problems involving addition and subtraction of integers* 	<p>denominators is necessary</p> <ul style="list-style-type: none"> • Subtracts a decimal from a whole number, horizontally • Adds integers with unlike signs • Adds several positive and negative integers • Subtracts integers* • Solves real-world problems involving addition and subtraction of integers (analysis)* • Evaluates numerical expressions using the order of operations (using integers)*
<p>Compute and Estimate: Multiplication and Division</p>	<p>Compute and Estimate: Multiplication and Division</p>	<p>Compute and Estimate: Multiplication and Division</p>
<ul style="list-style-type: none"> • Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)* • Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)* • Uses rounding to estimate answers to real-world 	<ul style="list-style-type: none"> • Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)* • Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)* • Uses rounding to estimate answers to real-world 	<ul style="list-style-type: none"> • Uses estimation to solve problems involving proportional reasoning (decimals only) • Models algorithms using place value concepts (multiplication and division with whole numbers)* • Divides multiple-digit numbers • Uses appropriate algorithms to represent multiplication or division with whole numbers*

<p>problems involving numbers 1000 or greater using multiplication and division (whole numbers only)*</p> <ul style="list-style-type: none"> • Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only) • Instantly recalls basic multiplication and division facts in a table • Multiplies a 2-digit number by a 2-digit number with regrouping • Multiplies a 3-digit number by a 2-digit number with regrouping • Performs mental computation with multiplication • Multiplies a 3-digit number by a 3-digit number • Multiplies a 4- or more digit number by multiples of 100 or 1000 • Multiplies multiple-digit numbers • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects)* • Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder • Performs mental computation with division • Divides a 4-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with a remainder* • Divides a 3-digit number by a 2-digit number • Divides a 4-digit number by a 2-digit number • Solves problems using the inverse relationship between multiplication and division • Divides a whole number by a whole number and expresses the remainder as a decimal* • Divides multiple-digit numbers • Uses strategies to determine 2 or more missing digits (multiplication/division only)* • Solves whole number word problems with division over 10 x 10 • Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) • Solves real-world problems involving 2-step multiple operations, whole numbers only • Solves real-world multiple-step problems involving whole numbers* 	<p>problems involving numbers 1000 or greater using multiplication and division (whole numbers only)*</p> <ul style="list-style-type: none"> • Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)* • Multiplies multiple-digit numbers • Models algorithms using place value concepts (multiplication and division with whole numbers)* • Divides a 4-digit number by a 2-digit number • Divides multiple-digit numbers • Divides numbers by powers of 10* • Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) • Uses division for multiple-step real-world problems (whole numbers)* • Solves real-world multiple-step problems involving whole numbers* • Multiplies a fraction by a fraction without reducing to simplest form (complex problem) • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number • Multiplies mixed fractions • Divides a fraction by a fraction • Divides a mixed fraction by a fraction • Solves 1-step real-world problems involving fractions with multiplication and division • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions)* • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Multiplies a decimal by 10, 100, 1000 • Multiplies a decimal by a decimal (factors to thousandths) • Solves real-world problems involving rate of pay • Divides a decimal by 10, 100, 1000 • Divides a decimal by a decimal • Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) 	<ul style="list-style-type: none"> • Multiplies mixed fractions • Divides a fraction by a fraction • Divides a fraction by a whole number • Divides a whole number by a fraction* • Divides a mixed fraction by a whole number* • Divides a whole number by a mixed fraction* • Divides a mixed fraction by a fraction • Divides a fraction by a mixed fraction* • Divides a mixed fraction by a mixed fraction • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions)* • Multiplies a decimal by 10, 100, 1000 • Solves real-world problems involving rate of pay • Solves real-world problems involving rate of pay with time and a half* • Divides a whole number by a decimal • Divides a decimal by 10, 100, 1000 • Divides a decimal by a decimal • Solves difficult real-world problems involving decimals (e.g., multiple multiplications, conversions) • Multiplies integers with like signs* • Divides integers with like signs* • Solves real-world problems involving multiplication and division of integers (analysis)* • Solves problems involving equivalent fractions (analysis)* • Solves problems involving ratios • Solves multiple-step problems involving proportions • Calculates a percent of a number (e.g., 6% of 30) • Calculates the percent one number is of another (e.g., 20 is what % of 90) • Solves problems involving percents • Solves problems involving percents (analysis) • Solves problems involving simple percent discounts (e.g., finding sale price) • Solves problems involving percent increase and decrease* • Solves problems involving tax and tips • Calculates commission/deductions and total pay • Simplifies rational expressions with absolute value
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<ul style="list-style-type: none"> • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number • Solves 1-step real-world problems involving fractions with multiplication and division • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Divides decimal by a whole number • Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) • Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) • Computes addition and subtraction on multiple-step real-world problems involving money • Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money • Multiplies integers with unlike signs* • Divides integers with unlike signs* • Solves real-world problems involving multiplication and division of integers* • Solves problems involving equivalent fractions* • Solves 1-step problems involving proportions • Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%) 	<ul style="list-style-type: none"> • Computes the value of multiple bills and coins (multiplication/division) • Solves difficult real-world problems involving decimals (e.g., multiple multiplications, conversions) • Multiplies integers with unlike signs* • Uses a number line to determine the midpoint between a positive and negative number* • Divides integers with unlike signs* • Solves real-world problems involving multiplication and division of integers* • Solves problems involving ratios • Solves 1-step problems involving proportions • Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%) • Calculates a percent of a number (e.g., 6% of 30) • Calculates a number from a percent (e.g., 4 is 9% of what) • Solves problems involving percents • Solves problems involving tax and tips • Solves problems involving simple interest rates with the formula • Solves problems comparing percents, fractions, and decimals* 	
<p><i>New Vocabulary:</i> coin, common factor, decimal point, factor tree, greatest common factor, interest, lowest terms, negative, positive, reduce, region, standard form, triple</p>	<p><i>New Vocabulary:</i> borrow, common denominator, cord, expanded notation, exponent, half hour, least common denominator, lowest common denominator, net, odd, short, tax, ten million, ten thousandth, tenths, thousandths, whole</p>	<p><i>New Vocabulary:</i> commission, cubed, discount, equality, prime factor, prime factorization, representative sample, scientific notation, square region, tenth power, time-and-a-half</p>
<p><i>New Signs and Symbols:</i> – subtraction, \$ dollar sign, in. inch, kg kilogram, mph miles per hour, ≠ not equal to, + positive number</p>	<p><i>New Signs and Symbols:</i> () parenthesis around an integer, gal gallon, I interest, m meter/metre, : ratio, × multiplication, < less than, = is equal to, > greater than, : used with time</p>	<p><i>New Signs and Symbols:</i> [] square brackets, absolute value, BC, • multiplication symbol</p>

Subject: Mathematics

Goal Strand: Numbers 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>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones) Writes whole numbers in standard and exponential form Identifies a fractions in lowest terms from a region or set Determines simple equivalent fractions using multiples Determines equivalent fractions using multiples Represents a decimal to thousandths place (e.g., three thousandths = 0.003) Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003)* Writes a decimal for a shaded region to the hundredths place Identifies the place value and value of each digit to the hundredths and thousandths Identifies the place value and value of each digit in numbers through the ten thousandths and beyond Identifies the percent represented in a given model* Writes a power as a product of multiplied numbers and vice versa (e.g., $2^4 = 2 \times 2 \times 2 \times 2$) Uses powers of 10 to represent numbers (e.g., $8 \times 10^3 = 8000$) Uses powers to represent 10, 100, 1000, 10,000, and 100,000 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes whole numbers in standard and exponential form Estimates percent using 2-D regions* Compares and orders percent* Uses powers of 10 to represent numbers (e.g., $8 \times 10^3 = 8000$) Uses correct terminology for powers* Writes a number expressed in scientific notation in standard form* Writes a whole number in scientific notation Writes a decimal in scientific notation* 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes a number expressed in scientific notation in standard form* Writes a whole number in scientific notation Writes a decimal in scientific notation*
<p>Relationships Among Numbers: Compare and Order</p> <ul style="list-style-type: none"> Determines the relative magnitude of whole numbers* Orders whole numbers a million or greater using < or > symbols* Compares fractions (e.g., comparing numerators and denominators) Compares and orders decimals to the hundredths place (not same number of digits after decimal)* Compares and orders decimals to the thousandths 	<p>Relationships Among Numbers: Compare and Order</p> <ul style="list-style-type: none"> Compares fractions (e.g., comparing numerators and denominators) 	<p>Relationships Among Numbers: Compare and Order</p>

<ul style="list-style-type: none"> place (not same number of digits after decimal) Compares and orders decimals past the thousandths place* 		
Number Systems: Number Theory Concepts <ul style="list-style-type: none"> Recognizes characteristics of odd and even numbers Determines factors of whole numbers Completes a factor tree for a number (prime factorization)* Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility) Determines common denominators of fractions Uses factor and multiple concepts to solve simple problems Identifies common factors of two or more numbers* Identifies the greatest common factor of whole numbers Uses divisibility concepts to solve problems* 	Number Systems: Number Theory Concepts <ul style="list-style-type: none"> Determines the prime factorization of a number Applies rules of divisibility by 3's* Applies rules of divisibility 	Number Systems: Number Theory Concepts <ul style="list-style-type: none"> Determines the prime factorization of a number using powers Uses factor and multiple concepts to solve difficult problems Identifies the least common multiple of whole numbers* Identifies the greatest common factor and least common multiple of multiple whole numbers*
Compute and Estimate: Addition and Subtraction <ul style="list-style-type: none"> Rounds whole numbers to the nearest million* Rounds whole numbers to the nearest billion* Models algorithms using place value concepts (addition and subtraction with whole numbers)* Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds whole numbers, fractions, and mixed fractions without reducing Adds mixed fractions where converting from improper fractions is necessary Subtracts fractions with like denominators with reducing Subtracts fractions with unlike denominators without reducing Subtracts fractions with unlike denominators with reducing* Subtracts mixed fractions with unlike denominators with no regrouping Subtracts whole numbers, fractions, and mixed fractions with regrouping Solves real-world problems involving addition and 	Compute and Estimate: Addition and Subtraction <ul style="list-style-type: none"> Uses estimation to solve problems involving decimals Models algorithms using place value concepts (addition and subtraction with whole numbers)* Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds whole numbers, fractions, and mixed fractions without reducing Adds mixed fractions where converting from improper fractions is necessary Subtracts whole numbers, fractions, and mixed fractions with regrouping Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary Subtracts a decimal from a whole number, horizontally Adds integers with unlike signs Adds several positive and negative integers Subtracts integers* Solves real-world problems involving addition and subtraction of integers (analysis)* Evaluates numerical expressions using the order of operations (using integers)* 	Compute and Estimate: Addition and Subtraction <ul style="list-style-type: none"> Uses estimation to solve problems involving decimals Uses a number line to determine the distance between a positive and negative number Subtracts integers* Solves real-world problems involving addition and subtraction of integers (analysis)* Evaluates numerical expressions using the order of operations (using integers)* Evaluates expressions using the order of operations, including exponents (using integers)*

<p>subtraction of fractions where converting one denominator is necessary</p> <ul style="list-style-type: none"> • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits) • Subtracts decimals to the thousandths place, horizontally, with and without regrouping • Subtracts decimals through the hundred-thousandths place, horizontally • Subtracts a decimal from a whole number, horizontally • Adds integers with unlike signs • Adds several positive and negative integers • Solves real-world problems involving addition and subtraction of integers* • Solves problems involving addition and subtraction of integers* 		
<p>Compute and Estimate: Multiplication and Division</p>	<p>Compute and Estimate: Multiplication and Division</p>	<p>Compute and Estimate: Multiplication and Division</p>
<ul style="list-style-type: none"> • Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)* • Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)* • Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)* • Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)* • Multiplies multiple-digit numbers • Models algorithms using place value concepts (multiplication and division with whole numbers)* • Divides a 4-digit number by a 2-digit number • Divides multiple-digit numbers • Divides numbers by powers of 10* • Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) • Uses division for multiple-step real-world problems (whole numbers)* • Solves real-world multiple-step problems involving whole numbers* 	<ul style="list-style-type: none"> • Uses estimation to solve problems involving proportional reasoning (decimals only) • Models algorithms using place value concepts (multiplication and division with whole numbers)* • Divides multiple-digit numbers • Uses appropriate algorithms to represent multiplication or division with whole numbers* • Multiplies mixed fractions • Divides a fraction by a fraction • Divides a fraction by a whole number • Divides a whole number by a fraction* • Divides a mixed fraction by a whole number* • Divides a whole number by a mixed fraction* • Divides a mixed fraction by a fraction • Divides a fraction by a mixed fraction* • Divides a mixed fraction by a mixed fraction • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions)* • Multiplies a decimal by 10, 100, 1000 • Solves real-world problems involving rate of pay • Solves real-world problems involving rate of pay with time and a half* 	<ul style="list-style-type: none"> • Solves real-world problems involving multiplication and division of integers (analysis)* • Solves multiple-step problems involving proportions • Solves problems involving a fractional increase* • Calculates the percent one number is of another (e.g., 20 is what % of 90) • Calculates a percent of a rational number (e.g., 6% of 0.78) • Solves problems involving percents (analysis) • Solves problems involving simple percent discounts (e.g., finding sale price) • Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)* • Calculates commission/deductions and total pay • Solves problems involving simple interest rates without the formula

<ul style="list-style-type: none"> • Multiplies a fraction by a fraction without reducing to simplest form (complex problem) • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number • Multiplies mixed fractions • Divides a fraction by a fraction • Divides a mixed fraction by a fraction • Solves 1-step real-world problems involving fractions with multiplication and division • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions)* • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Multiplies a decimal by 10, 100, 1000 • Multiplies a decimal by a decimal (factors to thousandths) • Solves real-world problems involving rate of pay • Divides a decimal by 10, 100, 1000 • Divides a decimal by a decimal • Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) • Computes the value of multiple bills and coins (multiplication/division) • Solves difficult real-world problems involving decimals (e.g., multiple multiplications, conversions) • Multiplies integers with unlike signs* • Uses a number line to determine the midpoint between a positive and negative number* • Divides integers with unlike signs* • Solves real-world problems involving multiplication and division of integers* • Solves problems involving ratios • Solves 1-step problems involving proportions • Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%) • Calculates a percent of a number (e.g., 6% of 30) • Calculates a number from a percent (e.g., 4 is 9% of what) 	<ul style="list-style-type: none"> • Divides a whole number by a decimal • Divides a decimal by 10, 100, 1000 • Divides a decimal by a decimal • Solves difficult real-world problems involving decimals (e.g., multiple multiplications, conversions) • Multiplies integers with like signs* • Divides integers with like signs* • Solves real-world problems involving multiplication and division of integers (analysis)* • Solves problems involving equivalent fractions (analysis)* • Solves problems involving ratios • Solves multiple-step problems involving proportions • Calculates a percent of a number (e.g., 6% of 30) • Calculates the percent one number is of another (e.g., 20 is what % of 90) • Solves problems involving percents • Solves problems involving percents (analysis) • Solves problems involving simple percent discounts (e.g., finding sale price) • Solves problems involving percent increase and decrease* • Solves problems involving tax and tips • Calculates commission/deductions and total pay • Simplifies rational expressions with absolute value 	
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<ul style="list-style-type: none"> • Solves problems involving percents • Solves problems involving tax and tips • Solves problems involving simple interest rates with the formula • Solves problems comparing percents, fractions, and decimals* 		
<i>New Vocabulary:</i> borrow, common denominator, cord, expanded notation, exponent, half hour, least common denominator, lowest common denominator, net, odd, short, tax, ten million, ten thousandth, tenths, thousandths, whole	<i>New Vocabulary:</i> commission, cubed, discount, equality, prime factor, prime factorization, representative sample, scientific notation, square region, tenth power, time-and-a-half	<i>New Vocabulary:</i> least common multiple
<i>New Signs and Symbols:</i> () parenthesis around an integer, gal gallon, I interest, m meter/metre, : ratio, × multiplication, < less than, = is equal to, > greater than, : used with time	<i>New Signs and Symbols:</i> [] square brackets, absolute value, BC, • multiplication symbol	<i>New Signs and Symbols:</i> LCM lowest common multiple

Subject: Mathematics

Goal Strand: Numbers 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 251 - 260
<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes whole numbers in standard and exponential form Estimates percent using 2-D regions* Compares and orders percent* Uses powers of 10 to represent numbers (e.g., $8 \times 10^3 = 8000$) Uses correct terminology for powers* Writes a number expressed in scientific notation in standard form* Writes a whole number in scientific notation Writes a decimal in scientific notation* 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Writes a number expressed in scientific notation in standard form* Writes a whole number in scientific notation Writes a decimal in scientific notation* 	<p>Numbers and Ways of Representing Numbers</p> <ul style="list-style-type: none"> Uses fractional and negative exponents as optional ways of representing problem situations (e.g., $27^{2/3} = (27^{1/3})^2 = 9$)* Writes a rational number in scientific notation*
<p>Relationships Among Numbers: Compare and Order</p> <ul style="list-style-type: none"> Compares fractions (e.g., comparing numerators and denominators) 	<p>Relationships Among Numbers: Compare and Order</p>	<p>Relationships Among Numbers: Compare and Order</p>
<p>Number Systems: Number Theory Concepts</p> <ul style="list-style-type: none"> Determines the prime factorization of a number Applies rules of divisibility by 3's* Applies rules of divisibility 	<p>Number Systems: Number Theory Concepts</p> <ul style="list-style-type: none"> Determines the prime factorization of a number using powers Uses factor and multiple concepts to solve difficult problems Identifies the least common multiple of whole numbers* Identifies the greatest common factor and least common multiple of multiple whole numbers* 	<p>Number Systems: Number Theory Concepts</p> <ul style="list-style-type: none"> Uses factor and multiple concepts to solve difficult problems Uses prime and relatively prime concepts to solve problems* Solves problems using multiple number theory concepts (e.g., prime, GCF and LCM, multiples, factors)
<p>Compute and Estimate: Addition and Subtraction</p> <ul style="list-style-type: none"> Uses estimation to solve problems involving decimals Models algorithms using place value concepts (addition and subtraction with whole numbers)* Adds fractions with unlike denominators with reducing or converting to a mixed fraction Adds whole numbers, fractions, and mixed fractions without reducing Adds mixed fractions where converting from improper fractions is necessary Subtracts whole numbers, fractions, and mixed fractions with regrouping 	<p>Compute and Estimate: Addition and Subtraction</p> <ul style="list-style-type: none"> Uses estimation to solve problems involving decimals Uses a number line to determine the distance between a positive and negative number Subtracts integers* Solves real-world problems involving addition and subtraction of integers (analysis)* Evaluates numerical expressions using the order of operations (using integers)* Evaluates expressions using the order of operations, including exponents (using integers)* 	<p>Compute and Estimate: Addition and Subtraction</p>

<ul style="list-style-type: none"> • Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary • Subtracts a decimal from a whole number, horizontally • Adds integers with unlike signs • Adds several positive and negative integers • Subtracts integers* • Solves real-world problems involving addition and subtraction of integers (analysis)* • Evaluates numerical expressions using the order of operations (using integers)* 		
Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division
<ul style="list-style-type: none"> • Uses estimation to solve problems involving proportional reasoning (decimals only) • Models algorithms using place value concepts (multiplication and division with whole numbers)* • Divides multiple-digit numbers • Uses appropriate algorithms to represent multiplication or division with whole numbers* • Multiplies mixed fractions • Divides a fraction by a fraction • Divides a fraction by a whole number • Divides a whole number by a fraction* • Divides a mixed fraction by a whole number* • Divides a whole number by a mixed fraction* • Divides a mixed fraction by a fraction • Divides a fraction by a mixed fraction* • Divides a mixed fraction by a mixed fraction • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions)* • Multiplies a decimal by 10, 100, 1000 • Solves real-world problems involving rate of pay • Solves real-world problems involving rate of pay with time and a half* • Divides a whole number by a decimal • Divides a decimal by 10, 100, 1000 • Divides a decimal by a decimal • Solves difficult real-world problems involving decimals (e.g., multiple multiplications, conversions) • Multiplies integers with like signs* • Divides integers with like signs* 	<ul style="list-style-type: none"> • Solves real-world problems involving multiplication and division of integers (analysis)* • Solves multiple-step problems involving proportions • Solves problems involving a fractional increase* • Calculates the percent one number is of another (e.g., 20 is what % of 90) • Calculates a percent of a rational number (e.g., 6% of 0.78) • Solves problems involving percents (analysis) • Solves problems involving simple percent discounts (e.g., finding sale price) • Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)* • Calculates commission/deductions and total pay • Solves problems involving simple interest rates without the formula 	<ul style="list-style-type: none"> • Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)*

<ul style="list-style-type: none"> • Solves real-world problems involving multiplication and division of integers (analysis)* • Solves problems involving equivalent fractions (analysis)* • Solves problems involving ratios • Solves multiple-step problems involving proportions • Calculates a percent of a number (e.g., 6% of 30) • Calculates the percent one number is of another (e.g., 20 is what % of 90) • Solves problems involving percents • Solves problems involving percents (analysis) • Solves problems involving simple percent discounts (e.g., finding sale price) • Solves problems involving percent increase and decrease* • Solves problems involving tax and tips • Calculates commission/deductions and total pay • Simplifies rational expressions with absolute value 		
<p><i>New Vocabulary:</i> commission, cubed, discount, equality, prime factor, prime factorization, representative sample, scientific notation, square region, tenth power, time-and-a-half</p>	<p><i>New Vocabulary:</i> least common multiple</p>	<p><i>New Vocabulary:</i> none</p>
<p><i>New Signs and Symbols:</i> [] square brackets, absolute value, BC, • multiplication symbol</p>	<p><i>New Signs and Symbols:</i> LCM lowest common multiple</p>	<p><i>New Signs and Symbols:</i> none</p>

Subject: Mathematics

Goal Strand: Numbers and Operations

RIT Score Range: 251 - 260

Skills and Concepts to Enhance 241 - 250	Skills and Concepts to Develop 251 - 260	Skills and Concepts to Introduce Above 260
Numbers and Ways of Representing Numbers <ul style="list-style-type: none"> Writes a number expressed in scientific notation in standard form* Writes a whole number in scientific notation Writes a decimal in scientific notation* 	Numbers and Ways of Representing Numbers <ul style="list-style-type: none"> Uses fractional and negative exponents as optional ways of representing problem situations (e.g., $27^{2/3} = (27^{1/3})^2 = 9$)* Writes a rational number in scientific notation* 	Numbers and Ways of Representing Numbers
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
Number Systems: Number Theory Concepts <ul style="list-style-type: none"> Determines the prime factorization of a number using powers Uses factor and multiple concepts to solve difficult problems Identifies the least common multiple of whole numbers* Identifies the greatest common factor and least common multiple of multiple whole numbers* 	Number Systems: Number Theory Concepts <ul style="list-style-type: none"> Uses factor and multiple concepts to solve difficult problems Uses prime and relatively prime concepts to solve problems* Solves problems using multiple number theory concepts (e.g., prime, GCF and LCM, multiples, factors) 	Number Systems: Number Theory Concepts <ul style="list-style-type: none"> Identifies the least common multiple of numbers in their prime factored state*
Compute and Estimate: Addition and Subtraction <ul style="list-style-type: none"> Uses estimation to solve problems involving decimals Uses a number line to determine the distance between a positive and negative number Subtracts integers* Solves real-world problems involving addition and subtraction of integers (analysis)* Evaluates numerical expressions using the order of operations (using integers)* Evaluates expressions using the order of operations, including exponents (using integers)* 	Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
Compute and Estimate: Multiplication and Division <ul style="list-style-type: none"> Solves real-world problems involving multiplication and division of integers (analysis)* Solves multiple-step problems involving proportions Solves problems involving a fractional increase* Calculates the percent one number is of another (e.g., 20 is what % of 90) Calculates a percent of a rational number (e.g., 6% of 0.78) 	Compute and Estimate: Multiplication and Division <ul style="list-style-type: none"> Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)* 	Compute and Estimate: Multiplication and Division

<ul style="list-style-type: none"> • Solves problems involving percents (analysis) • Solves problems involving simple percent discounts (e.g., finding sale price) • Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)* • Calculates commission/deductions and total pay • Solves problems involving simple interest rates without the formula 		
<i>New Vocabulary:</i> least common multiple	<i>New Vocabulary:</i> none	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> LCM lowest common multiple	<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> none

Subject: Mathematics

Goal Strand: Numbers and Operations

RIT Score Range: Above 260

Skills and Concepts to Enhance 251 - 260	Skills and Concepts to Develop Above 260
Numbers and Ways of Representing Numbers <ul style="list-style-type: none"> • Uses fractional and negative exponents as optional ways of representing problem situations (e.g., $27^{2/3} = (27^{1/3})^2 = 9$)* • Writes a rational number in scientific notation* 	Numbers and Ways of Representing Numbers
Relationships Among Numbers: Compare and Order	Relationships Among Numbers: Compare and Order
Number Systems: Number Theory Concepts <ul style="list-style-type: none"> • Uses factor and multiple concepts to solve difficult problems • Uses prime and relatively prime concepts to solve problems* • Solves problems using multiple number theory concepts (e.g., prime, GCF and LCM, multiples, factors) 	Number Systems: Number Theory Concepts <ul style="list-style-type: none"> • Identifies the least common multiple of numbers in their prime factored state*
Compute and Estimate: Addition and Subtraction	Compute and Estimate: Addition and Subtraction
Compute and Estimate: Multiplication and Division	Compute and Estimate: Multiplication and Division
<ul style="list-style-type: none"> • Solves problems involving complex percent discounts (e.g., finding percent discount, regular price)* 	
<i>New Vocabulary: none</i>	<i>New Vocabulary: none</i>
<i>New Signs and Symbols: none</i>	<i>New Signs and Symbols: none</i>