

Skills and Concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> • Converts between inches and feet • Solves simple problems involving measurement of length • Estimates simple conversions involving length between the customary and metric system • Converts between cups and pints • Converts between cups, pints, and quarts • Computes simple conversions among units of time (hours, days) • Computes more difficult conversions among units of time • Applies dimensional analysis to simple real-world problems (time) • Solves simple problems involving miles per gallon • Solves simple problems involving miles/kilometers per hour • Determines unit price • Writes the missing number in a proportion using basic facts • Identifies the percent represented in a 2-D region 	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> • Solves problems involving equivalent fractions • Solves 1-step problems involving proportions • Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%) • Converts between inches and feet • Converts between inches, feet, and yards • Solves simple problems involving measurement of length • Converts between cups, pints, quarts, and gallons • Apply dimensional analysis to simple real-world problems (capacity) • Computes more difficult conversions among units of time • Applies dimensional analysis to simple real-world problems (time) • Solves simple problems involving miles per gallon • Determines unit price • Solves problems involving rates • Writes a basic percent as a fraction and vice versa (e.g., 10%, 25%, 50%, 100%) • Expresses a percent as a fraction with 100 as the denominator and vice versa • Recognizes and writes proportions • Identifies the percent represented in a 2-D region 	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> • Solves real-world problems involving decimals (not money) using multiplication • 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 • Converts between inches, feet, and yards • Converts between millimeters, centimeters, meters, and kilometers • Uses dimensional analysis for unit conversions (length) • Solves problems involving length in the customary system and converts to larger or smaller units • Converts between ounces and pounds • Converts between ounces, pounds, and tons • Converts between cups, pints, quarts, and gallons • Converts within the metric system • Apply dimensional analysis to simple real-world problems (capacity) • Solves problems involving capacity in the customary system and converts to larger or smaller units • Computes 2-step conversions between units of time • Applies dimensional analysis to simple real-world problems (time) • Solves complex problems involving miles per gallon • Solves complex problems involving miles/kilometers per hour • Solves problems involving rates • Solves problems involving perimeter and converts to larger or smaller units • Interprets data given in circle graphs to solve complex problems (with percents) • Expresses a percent as a fraction and vice versa • Writes a ratio as a percent and vice versa • Uses concrete and pictorial models to represent ratios • Writes the missing number in a proportion with numbers other than basic facts (e.g., $5/13 = ?/117$)

Explanatory Notes

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<p>Perform Operations</p> <ul style="list-style-type: none"> • Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only) • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Adds multiple-digit numbers, with regrouping, with sums over 1000 • Adds multiple-digit numbers with sums under 1000 • Performs mental computation with more than 4 addends • Subtracts 3- or 4-digit numbers with regrouping • Subtracts numbers with 5 digits or more with regrouping • Solves real-world whole number problems involving subtraction with numbers 100 and under (analysis) • Solves problems using the inverse relationship between addition and subtraction • 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 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 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 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 	<p>Perform Operations</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) • Subtracts numbers with 5 digits or more with regrouping • 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 • Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) • 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 3-digit number by a 2-digit number • Divides a 4-digit number by a 2-digit number • Divides multiple-digit numbers • 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 • Demonstrates an understanding of the inverse relationship between addition and subtraction • Adds fractions with like denominators without reducing 	<p>Perform Operations</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) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number • Divides multiple-digit numbers • Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) • Solves real-world multiple-step problems involving whole numbers • Demonstrates an understanding of multiple properties • 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 simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) • 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 • 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 • Uses models to multiply and divide fractions and connect the actions to algorithms • 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

Explanatory Notes

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<p>Perform Operations</p> <ul style="list-style-type: none"> 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 Determines the remainder in a real-world problem (whole numbers) Uses division for multiple-step real-world problems (whole numbers) Solves real-world problems involving 2-step multiple operations, whole numbers only Adds fractions with like denominators without reducing Adds whole numbers and fractions Uses models to add and subtract fractions and connect the actions to algorithms Subtracts fractions with like denominators without reducing Subtracts mixed fractions with like denominators with no regrouping Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators Multiplies a fraction by a fraction without reducing to simplest form (simple problem) 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 Computes the value of multiple bills and coins (addition/subtraction only) 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 Solves real-world problems involving addition and subtraction of integers Solves problems involving measurement of time Solves simple problems involving elapsed time, with the conversion of hours 	<p>Perform Operations</p> <ul style="list-style-type: none"> Adds fractions with like denominators with reducing or converting to a mixed fraction Adds fractions with unlike denominators without reducing 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 Uses models to multiply and divide fractions and connect the actions to algorithms 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 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, horizontally, with and without regrouping Computes the value of multiple bills and coins (addition/subtraction only) Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only) 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 	<p>Perform Operations</p> <ul style="list-style-type: none"> 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) 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 Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) Multiplies a decimal by 10, 100, 1000 Multiplies a decimal by a decimal (factors to thousandths) 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) Calculate the sum of integers using a number line Adds integers with unlike signs Adds several positive and negative integers Uses models to add and subtract integers and connect the actions to algorithms Subtracts integers Solves real-world problems involving addition and subtraction of integers Solves problems involving addition and subtraction of integers Multiplies integers with unlike signs Divides integers with unlike signs

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<p>Perform Operations</p> <ul style="list-style-type: none"> Solves problems using tables Writes a terminating decimal as a fraction or mixed number Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction) 	<p>Perform Operations</p> <ul style="list-style-type: none"> Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money Adds integers with like signs Uses models to add and subtract integers and connect the actions to algorithms Solves real-world problems involving addition and subtraction of integers Multiplies integers with unlike signs Divides integers with unlike signs Divides integers with like signs Demonstrates an understanding that division by 0 is undefined Solves difficult problems involving elapsed time, with the conversion of hours Selects and uses the appropriate units depending on degree of accuracy required to solve problems Expresses a simple fraction as a decimal Writes a simple mixed fraction as a decimal and vice versa Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 Expresses a percent as a decimal and vice versa Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction) Determines factors of whole numbers Identifies numbers as prime Identifies common factors of two or more numbers Identifies the greatest common factor of whole numbers 	<p>Perform Operations</p> <ul style="list-style-type: none"> Divides integers with like signs Adds rational expressions in decimal form Identifies the additive inverse property Solves difficult problems involving elapsed time, with the conversion of hours Interprets data given in tables to solve problems Writes a simple mixed fraction as a decimal and vice versa Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 Determines factors of whole numbers Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility) 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
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> Graphs ordered pairs in the first quadrant Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph) Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks) Locates the origin on a coordinate grid 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 	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> Predicts the relative size of the answer when computing with 10's, 100's, 1000's Predicts the relative size of the answer when multiplying whole numbers Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system Locates the origin on a coordinate grid 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 Rounds wholes numbers to the nearest billion 	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> Graphs ordered pairs in all quadrants Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines) Determines the relative magnitude of whole numbers Rounds whole numbers to the nearest million 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 Compares fractions (e.g., comparing numerators and denominators)

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<p>Extend and Use Properties</p> <ul style="list-style-type: none"> Compares whole numbers through the billions using the symbols $<$, $>$, or $=$ Orders whole numbers a million or greater using $<$ or $>$ symbols 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 Rounds wholes numbers to the nearest billion Explains the rules for rounding 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 Identifies equivalent fractions using visual representations Expresses 1 in many different ways (e.g., $3/3$, $4/4$) 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 Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10) Orders fractions on a number line Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) Identifies a decimal on a number line to the tenths place Rounds decimals to the nearest whole number Compares integers on a number line 	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> Writes whole numbers in standard and expanded form through the hundred thousands Identifies equivalent fractions using visual representations Identifies a fractions in lowest terms from a region or set Identifies eighths, reduced to lowest terms, from a region or set Determines simple equivalent fractions using multiples Converts fractions to lowest terms Writes mixed numbers as improper fractions and improper fractions as mixed numbers 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 Orders fractions on a number line Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) Represents a decimal to the hundredths place (e.g., three hundredths = 0.03) Compares and orders decimals past the thousandths place Rounds decimals to the nearest whole number Rounds decimals to the nearest tenth Applies base ten place value concepts to solve problems using decimals Identifies an integer from a number line Compares two integers Orders integers on a number line Defines integers 	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> Uses alternative algorithms to explain the meaning of fraction 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 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 Rounds decimals to the nearest hundredth Rounds decimals to nearest thousandth Identifies the place value and value of each digit to the hundredths and thousandths Applies base ten place value concepts to solve problems using decimals Compares two integers Orders integers on a number line Orders integers Locates rational numbers on a number line Orders rational numbers, in a/b form Orders fractions and decimals to the hundred thousandths
<p><i>New Vocabulary:</i> biggest, coordinate, coordinate point, expanded numeral, larger, miles per gallon, origin</p>	<p><i>New Vocabulary:</i> century, coin, common factor, decimal form, greatest common factor, how long, lowest term, lowest terms, reduce, triple</p>	<p><i>New Vocabulary:</i> real number, ten million</p>
<p><i>New Signs and Symbols:</i> ft feet, in. inch, mpg miles per gallon, - negative number</p>	<p><i>New Signs and Symbols:</i> \$ dollar sign, hr hour, kg kilogram, - negative sign, \neq not equal to, yd yard</p>	<p><i>New Signs and Symbols:</i> () parenthesis around an integer, cm centimeter/centimetre, °C degrees Celsius, km kilometer/kilometre, mL milliliter/millilitre, # number, / per, + positive number, : ratio</p>

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