

Diocese of Bridgeport – Math Standards – Grade 5



BASE TEN VALUE, OPERATIONS, and THEORY

<u>STANDARD</u>		<u>SKILLS</u>	<u>VOCABULARY</u>
BVOT 5.1	Understand the place value system, including decimals	<ul style="list-style-type: none"> ·Recognize that in a multi- digit whole number a digit represents a number ten times larger than the place to its left ·Recognize the pattern associated with multiplying multiples of ten ·Read, write and compare decimals to thousandths ·Read and write decimals to the thousandths in numeral, word, and expanded form ·Round decimals to anyplace ·Compare quantities ·Relate whole numbers, decimals, fractions, and percent 	Multi-digit whole numbers, multiples of ten, millions, thousands, hundreds, tens, ones, compare, decimals, numeral, expanded form, round, estimate, relate, percent, fractions, quantity
BVOT 5.1A	Explore numbers less than zero	<ul style="list-style-type: none"> ·Assign meaning to integers less than zero ·Identify and place numbers less than zero on a number line 	Integer, whole number, decimal, fraction, number line, positive, negative
BVOT 5.2	Perform multi-digit arithmetic with whole numbers and decimals to the hundredths	<ul style="list-style-type: none"> ·Make estimates to determine reasonableness of solutions ·Understand how operations are related <u>Addition & Subtraction</u> <ul style="list-style-type: none"> · Add and subtract decimals to the hundredths <u>Multiplication</u> <ul style="list-style-type: none"> · Fluently multiple multi- digit whole numbers using the standard algorithm · Multiply decimals to the hundredths <u>Division</u> <ul style="list-style-type: none"> · Find whole number quotients and remainders with up to four-digit dividends and two- digit divisors · Divide fractions to the to the hundredths 	Commutative Property, Associative Property, Distributive Property, array, model, estimate, operations, add, subtract, sum, addend, difference, product, factors, multiples, multiply, divide, quotient, dividend, division, decimal, fraction
BVOT 5.2A	Solve problems involving the four operations, including decimals to the hundredths	<ul style="list-style-type: none"> ·Make estimates to determine reasonableness of solutions ·Solve two-step word problems ·Solve addition, subtraction, multiplication and division word problems ·Interpret remainders in division problems ·Use drawings, models, and equations 	Estimate, reasonableness, word problems, number stories, interpret, remainder, model, represent, express

BVOT 5.2B	Extend understanding of factors and multiples	<ul style="list-style-type: none"> ·Perform prime factorization on a given number ·Identify factors and multiples of a given number ·Use factors to explore, represent, and classify numbers 	Factor, multiples, factor pair, factor rainbow, factor tree, prime, composite, classify, represent
BVOT 5.2C	Write and interpret numerical expression using order of operations	<ul style="list-style-type: none"> ·Use and follow the order of operations ·Use parenthesis, brackets, or braces in numerical expressions ·Evaluate numerical expressions with symbols ·Write simple expressions that record calculations ·Simplify arithmetic and algebraic expressions ·Use numerical expressions to compare quantities 	Numerical expression, order of operations, parenthesis, exponents, brackets, evaluate, express, symbols, variables, calculate, simplify, quantity, value
BVOT 5.3	Extend previous understanding of fractions to solve problems	<ul style="list-style-type: none"> ·Make reasonable estimates ·Extend understands of place value to include fractions with a denominator of 10 or 100 ·Understand fractions as numbers on a number line and use number line as strategy for solving problems ·Use equivalent fractions as a strategy for solving problems ·Use models to solve problems ·Model, identify, and express equivalent forms of fractions and mixed numbers ·Find equivalent fractions, decimals, and percent ·Compare quantities and solve for percent ·Express probability as a fraction 	Reasonable, estimate, value, fractions, denominator, numerator, decimal, equivalent, strategy, number line, model, express, percent, quantity, probability, likely, unlikely, rare, common
BVOT 5.3A	Solve problems involving adding and subtracting fractions	<ul style="list-style-type: none"> ·Add and subtract fractions with unlike denominators, including mixed numbers ·Solve word problems involving adding and subtracting fractions with the same whole ·Use understanding of equivalent fractions to add and subtract ·Use number sentences to express addition and subtraction problems 	Mixed numbers, word problem, number story, whole, equivalent, number sentence, equation, express
BVOT 5.3B	Extend understanding to solve problems involving multiplying and dividing fractions	<ul style="list-style-type: none"> ·Interpret a fraction as division of the numerator by the denominator ·Solve word problems with whole numbers that lead to answers with fractions or mixed numbers ex. $\frac{4}{3}$ ·Use models and equations ·Multiply a fraction by a whole number or fraction ·Find the area of a rectangle with fractional side lengths ·Interpret multiplication as scaling ·Solve real world problems involving multiplication of fractions and mixed numbers ·Divide unit fractions by whole numbers ·Solve real world problems involving division of unit fractions by non-zero whole numbers ·Create and solve word problems ·Solve problems using models and equations ·Use number sentences to express multiplication and division problems 	Interpret, division, fraction, whole numbers, word problem, number stories, mixed numbers, scale, fractional, sides, lengths, non-zero, unit fractions,

**BVOT
5.4**

Analyze patterns and graph ordered pairs

- Generate two numerical patterns given two rules
- Identify relationships between corresponding terms
- Form ordered pairs from patterns
- Graph ordered pairs on a coordinate plane
- Apply patterns to real world situations
- Recognize the pattern associated with multiplying multiples of ten
- Represent, extend, and analyze numerical and geometric patterns
- Use tables, graphs and equations
- Investigate how change in one variable causes a change in the second variable

Numerical pattern, geometric pattern, relationship, ascending, descending, ordered pairs, coordinate, coordinate plane, graph, X axis Y axis, value, table, equation, variable, extend, investigate,

Diocese of Bridgeport – Math Standards – Grade 5



DATA, MEASUREMENT and MONEY

<u>STANDARD</u>		<u>SKILLS</u>	<u>VOCABULARY</u>
DMM 5.1	Extend understanding of measurement units to convert units	<ul style="list-style-type: none"> · Determine appropriate tools and units for a given problem · Estimate measurement · Use measurement to determine the relative size of objects · Use standard units to identify and express measurement in daily life · Convert between like measurement units in a given system · Convert between Metric units · Convert between US Customary units 	Units, measure, tools, volume, length, mass, weight, capacity, scale, ruler, measuring tape, gram, meter, inch, yard, foot, mile, gallon, ounce, pound, quart, liter, conversion, US Customary, Metric, scale
DMM 5.1A	Solve problems involving conversion of units	<ul style="list-style-type: none"> · Solve multistep, real world problems that require conversion of units · Use all four operations to solve problems involving measurement 	Conversion, units, add, subtract, multiply, divide, multi-step
DMM 5.1B	Solve problems involving the volume of 3-dimensional figures	<ul style="list-style-type: none"> · Extend understanding of area and perimeter · Describe the relationship between area and perimeter and volume · Find the area of a circle · Recognize volume as an attribute of solid figures · Understand the meaning of one cubic unit · Understand that the volume of a figure doesn't not include overlaps or gaps between unit cubes · Measure volume by counting unit cubes · Relate volume to addition and to multiplication · Use and apply the following formulas to find volume and missing dimensions for rectangular prisms: $V = l * w * h$ and $V = b * h$ · Solve real world problems involving volume 	Area, perimeter, formula, volume, circumference, length, diameter, radius, solid figure, two-dimensional, three-dimensional, plane, unit cube, dimensions, rectangular prism, triangular prism, cube, chord, central angle
DMM 5.2	Solve problems involving time and money	<ul style="list-style-type: none"> · Solve two and three step problems · Solve problems involving all four operations and money · Solve problems involving elapsed time 	Decimal, money, cents, dollars, change, cashier, elapsed time, days, weeks, months, years, decades, hours, minutes, seconds, clock, bills

DMM 5.3	Generate, represent, and interpret data	<ul style="list-style-type: none"> ·Use tables and graphs to represent data and mathematical relationships and solve real world problems ·Describe the features of a data set ·Determine the likelihood of events through simple games and experiments ·Make line plot to display data sets including fractions of a unit ·Solve problems related to the data represented in a line plot 	Table, graph, data, data set, experiment, survey, likelihood, probability, likely, less likely, possible, impossible, probable, line plot, fractions of a unit, represent
DMM 5.4	Extend understanding of angle measurement to solve problems	<ul style="list-style-type: none"> ·Measure any angle with a protractor ·Measure and solve for complimentary and supplementary angles ·Classify angles ·Solve multistep problems involving measurement of angles ·Solve problems involving combining and decomposing angles 	Compose, decompose, protractor, angle, straight, right, internal, external, additive, acute, obtuse, degree, value, name, combine, complimentary, supplementary

Diocese of Bridgeport – Math Standards – Grade 5



GEOMETRY

	<u>STANDARD</u>	<u>SKILLS</u>	<u>VOCABULARY</u>
G 5.1	Classify 2 dimensional figures in a hierarchy based on properties	<ul style="list-style-type: none"> ·Use properties of polygons to classify them into categories and into a hierarchy ·Use measures and quantities of lines and angles to classify polygons ·Understand that polygons fit into categories and subcategories based on attributes ·Solve problems involving classification of polygons ·Identify and generalize relationships between measurable attributes of figures 	Classify, polygon, categories, hierarchy, lines, angles, categories, subcategories, generalize, relationship, lines, sides, faces, angles, corners, measures, area, perimeter
G 5.2	Graph points in the first quadrant of a coordinate plane	<ul style="list-style-type: none"> ·Identify and use an X and Y axis to graph coordinates ·Understand what the numbers in an ordered pair represent ·Graph ordered pairs and identify ordered pairs for a given location on a coordinate plane ·Represent real world problems by graphing points and interpret points in context 	X axis, Y axis, coordinates, graph, coordinate plane, ordered pairs, points, interpret