

# Diocese of Bridgeport – Math Standards – Grade 5



## BASE TEN VALUE, OPERATIONS, and THEORY

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

|                      |   |   |  |
|----------------------|---|---|--|
| <b>BVOT<br/>5.2B</b> | Extend understanding of factors and multiples                                       | <ul style="list-style-type: none"> <li>·Perform prime factorization on a given number</li> <li>·Identify factors and multiples of a given number</li> <li>·Use factors to explore, represent, and classify numbers</li> </ul>   | Factor, multiples, factor pair, factor rainbow, factor tree, prime, composite, classify, represent   |
| <b>BVOT<br/>5.2C</b> | Write and interpret numerical expression using order of operations                  | <ul style="list-style-type: none"> <li>·Use and follow the order of operations</li> <li>·Use parenthesis, brackets, or braces in numerical expressions</li> <li>·Evaluate numerical expressions with symbols</li> <li>·Write simple expressions that record calculations</li> <li>·Simplify arithmetic and algebraic expressions</li> <li>·Use numerical expressions to compare quantities</li> </ul>   | Numerical expression, order of operations, parenthesis, exponents, brackets, evaluate, express, symbols, variables, calculate, simplify, quantity, value                                   |
| <b>BVOT<br/>5.3</b>  | Extend previous understanding of fractions to solve problems                        | <ul style="list-style-type: none"> <li>·Make reasonable estimates</li> <li>·Extend understands of place value to include fractions with a denominator of 10 or 100</li> <li>·Understand fractions as numbers on a number line and use number line as strategy for solving problems</li> <li>·Use equivalent fractions as a strategy for solving problems</li> <li>·Use models to solve problems</li> <li>·Model, identify, and express equivalent forms of fractions and mixed numbers</li> <li>·Find equivalent fractions, decimals, and percent</li> <li>·Compare quantities and solve for percent</li> <li>·Express probability as a fraction</li> </ul>   | Reasonable, estimate, value, fractions, denominator, numerator, decimal, equivalent, strategy, number line, model, express, percent, quantity, probability, likely, unlikely, rare, common |
| <b>BVOT<br/>5.3A</b> | Solve problems involving adding and subtracting fractions                           | <ul style="list-style-type: none"> <li>·Add and subtract fractions with unlike denominators, including mixed numbers</li> <li>·Solve word problems involving adding and subtracting fractions with the same whole</li> <li>·Use understanding of equivalent fractions to add and subtract</li> <li>·Use number sentences to express addition and subtraction problems</li> </ul>  | Mixed numbers, word problem, number story, whole, equivalent, number sentence, equation, express   |
| <b>BVOT<br/>5.3B</b> | Extend understanding to solve problems involving multiplying and dividing fractions | <ul style="list-style-type: none"> <li>·Interpret a fraction as division of the numerator by the denominator</li> <li>·Solve word problems with whole numbers that lead to answers with fractions or mixed numbers ex. <math>\frac{4}{3}</math></li> <li>·Use models and equations</li> <li>·Multiply a fraction by a whole number or fraction</li> <li>·Find the area of a rectangle with fractional side lengths</li> <li>·Interpret multiplication as scaling</li> <li>·Solve real world problems involving multiplication of fractions and mixed numbers</li> <li>·Divide unit fractions by whole numbers</li> <li>·Solve real world problems involving division of unit fractions by non-zero whole numbers</li> <li>·Create and solve word problems</li> <li>·Solve problems using models and equations</li> <li>·Use number sentences to express multiplication and division problems</li> </ul> | 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>  |
|-----------------|--|---|--|
| <b>DMM 5.1</b>  | Extend understanding of measurement units to convert units   | <ul style="list-style-type: none"> <li>· Determine appropriate tools and units for a given problem</li> <li>· Estimate measurement</li> <li>· Use measurement to determine the relative size of objects</li> <li>· Use standard units to identify and express measurement in daily life</li> <li>· Convert between like measurement units in a given system</li> <li>· Convert between Metric units</li> <li>· Convert between US Customary units</li> </ul>  | 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              |
| <b>DMM 5.1A</b> | Solve problems involving conversion of units                 | <ul style="list-style-type: none"> <li>· Solve multistep, real world problems that require conversion of units</li> <li>· Use all four operations to solve problems involving measurement</li> </ul>  | Conversion, units, add, subtract, multiply, divide, multi-step   |
| <b>DMM 5.1B</b> | Solve problems involving the volume of 3-dimensional figures | <ul style="list-style-type: none"> <li>· Extend understanding of area and perimeter</li> <li>· Describe the relationship between area and perimeter and volume</li> <li>· Find the area of a circle</li> <li>· Recognize volume as an attribute of solid figures</li> <li>· Understand the meaning of one cubic unit</li> <li>· Understand that the volume of a figure doesn't not include overlaps or gaps between unit cubes</li> <li>· Measure volume by counting unit cubes</li> <li>· Relate volume to addition and to multiplication</li> <li>· Use and apply the following formulas to find volume and missing dimensions for rectangular prisms: <math>V = l * w * h</math> and <math>V = b * h</math></li> <li>· Solve real world problems involving volume</li> </ul> | 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 |
| <b>DMM 5.2</b>  | Solve problems involving time and money                      | <ul style="list-style-type: none"> <li>· Solve two and three step problems</li> <li>· Solve problems involving all four operations and money</li> <li>· Solve problems involving elapsed time</li> </ul>  | Decimal, money, cents, dollars, change, cashier, elapsed time, days, weeks, months, years, decades, hours, minutes, seconds, clock, bills  |

|                    |   |   |   |
|--------------------|---|---|---|
| <b>DMM<br/>5.3</b> | Generate, represent, and interpret data                     | <ul style="list-style-type: none"> <li>·Use tables and graphs to represent data and mathematical relationships and solve real world problems</li> <li>·Describe the features of a data set</li> <li>·Determine the likelihood of events through simple games and experiments</li> <li>·Make line plot to display data sets including fractions of a unit</li> <li>·Solve problems related to the data represented in a line plot</li> </ul> | Table, graph, data, data set, experiment, survey, likelihood, probability, likely, less likely, possible, impossible, probable, line plot, fractions of a unit, represent |
| <b>DMM<br/>5.4</b> | Extend understanding of angle measurement to solve problems | <ul style="list-style-type: none"> <li>·Measure any angle with a protractor</li> <li>·Measure and solve for complimentary and supplementary angles</li> <li>·Classify angles</li> <li>·Solve multistep problems involving measurement of angles</li> <li>·Solve problems involving combining and decomposing angles</li> </ul>  | 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>   |
|------------------|---|--|---|
| <b>G<br/>5.1</b> | Classify 2 dimensional figures in a hierarchy based on properties | <ul style="list-style-type: none"> <li>·Use properties of polygons to classify them into categories and into a hierarchy</li> <li>·Use measures and quantities of lines and angles to classify polygons</li> <li>·Understand that polygons fit into categories and subcategories based on attributes</li> <li>·Solve problems involving classification of polygons</li> <li>·Identify and generalize relationships between measurable attributes of figures</li> </ul> | Classify, polygon, categories, hierarchy, lines, angles, categories, subcategories, generalize, relationship, lines, sides, faces, angles, corners, measures, area, perimeter |
| <b>G<br/>5.2</b> | Graph points in the first quadrant of a coordinate plane          | <ul style="list-style-type: none"> <li>·Identify and use an X and Y axis to graph coordinates</li> <li>·Understand what the numbers in an ordered pair represent</li> <li>·Graph ordered pairs and identify ordered pairs for a given location on a coordinate plane</li> <li>·Represent real world problems by graphing points and interpret points in context</li> </ul>   | X axis, Y axis, coordinates, graph, coordinate plane, ordered pairs, points, interpret  |