

Diocese of Bridgeport
Curriculum Map

Course: Mathematics

Grade Level: 5

Content	Skills	Suggested Assessments*	Connecticut Content Standards
<p>Numbers & Operations</p> <ul style="list-style-type: none"> • Associative, commutative, identity <p>Numbers</p> <p>Place Value</p> <ul style="list-style-type: none"> • Whole Numbers through billions period • Decimals through thousandths • Comparing and ordering numbers • Rounding 	<ul style="list-style-type: none"> • Read a word problem and apply problem solving strategies (understand, plan, solve and look back) • Differentiate between various place values through the millions period • Read and write whole numbers through the millions period standard, expanded and word format • Read and write decimals numbers to thousandths in standard, expanded and word format • Compare and order numbers using inequality symbols • Restate a number using rounding with or without a number line 	<ul style="list-style-type: none"> • Evaluate word problems in a math journal • Use "real life" situations to apply problem solving strategies • Use place values blocks in peer groups to identify numbers through millions • Construct and label place value chart • Use "real life" numbers in newspapers, etc., to identify values of numbers • Use grid paper to draw decimals • Solve word problems involving money in all operations • Use "real life" strategies for use of money (shopping, allowance, business, etc.) • Write in cross-curricular subjects on topic of values of currency 	<ul style="list-style-type: none"> • Place value patterns, number lines, expanded and regrouped forms, and algebraic properties may be used to explain how various estimation and computation procedures (algorithms) work. • Place value patterns with whole numbers and models may be used to extend notations with decimal fractions and percent. • An equation or inequality may be written to describe the general relationship between two sets of data. • Models, pictures, number patterns and the distributive property can be used to estimate and derive answers to multiplication problems with fractions and mixed number. • Patterns can be used to identify trends and make predictions.

	Content	Skills	Suggested Assessments*	Connecticut Content Standards
	<p>Numbers Addition & Subtraction of Whole Numbers and Decimals</p> <ul style="list-style-type: none"> • Estimation • Sums and differences • Problem solving skills • Money problems 	<ul style="list-style-type: none"> • Distinguish between different currencies values of money in order to solve currency problems • Compute, add, and subtract 3,4,5,6 digit whole numbers • Compute, add, and subtract decimals to the thousandths place • Apply estimation to validate actual answers • Restate a number using front-end estimate both with and without a number line • Apply the knowledge of the commutative property to add mentally • Apply the knowledge of the associative property to add mentally • Apply the knowledge of the identity property to add mentally • Choose an appropriate calculation method: mental math or paper & pencil • Identify a variable, find a pattern and state a rule about data in a table 	<ul style="list-style-type: none"> • Write number sentences to show operations • Use calculator to solve larger problems • Determine, in peer groups, which methods to use to solve problems • Participate in flash card games • Participate in oral math bee: using basic facts/mental problem solving, estimating • Show associative and commutative properties and align numbers in problems using grid paper 	<ul style="list-style-type: none"> • Models and pictures demonstrate the equivalence of numbers written with fraction or decimal notations. • Place value patterns, number lines, expanded and regrouped forms, and algebraic properties may be used to explain how various estimation and computation procedures (algorithms) work. • Models and pictures demonstrate the equivalence of numbers written with fraction or decimal notations. • Models, pictures, number patterns and the distributive property can be used to estimate and derive answers to multiplication problems with fractions and mixed numbers. • Place value patterns with whole numbers and models may be used to extend notations with decimal, fractions and percent.

	Content	Skills	Suggested Assessments*	Connecticut Content Standards
	<p>Numbers Fractions and Mixed Numbers</p> <ul style="list-style-type: none"> • Recognize parts of a fraction • Equivalent fractions • Improper fraction & mixed numbers • Reduce fractions (lowest terms, simplify) • Addition & subtraction of fractions (proper fractions, mixed numbers with like & unlike denominators) • Problem solving involving addition & subtraction of fractions • Fractions as ratios 	<ul style="list-style-type: none"> • Recognize the numerator and denominator in a fraction • Find factors of numbers to obtain a greatest common factor • Use divisibility rules to identify prime and composite numbers. • Select greatest common factor to simplify fractions • Find multiples of numbers to determine the least common multiple and least common denominator • Comprehend that an improper fraction is greater than or equal to one • Comprehend how to use division to convert improper fractions to mixed numbers • Rewrite mixed numbers as improper fractions through the use of multiplication and addition • Apply least common multiple techniques to calculate equivalent fractions • Convert fractions into simpler forms • Distinguish between like and unlike denominators • Find common denominators to solve addition and subtraction problems • Read word problems and apply problem solving strategies using fractions (understand, plan, solve and look back) • Recognize that the product of reciprocals is equal to one • Apply reciprocals to solve division problems • Multiply and divide fractions and mixed numbers • Rewrite fractions recognizing common factors and using cross-canceling to simplify 	<ul style="list-style-type: none"> • Construct fraction using shape blocks • Compare fraction using food and other "real life" materials • Create fractions using art media • Develop word problems using fractions with various operations in math journal • Classify common factors in simplest forms using Venn diagrams 	<ul style="list-style-type: none"> • Place value patterns with whole numbers and models may be used to extend notations with decimal fractions and percent. • Models, pictures, number patterns and the distributive property can be used to estimate and derive answers to multiplication problems with fractions and mixed numbers. • Models and pictures may be used to represent proportions and to solve problems. • Rectangular arrays can be used to find and classify prime and composite numbers and factor pairs. • Models and pictures demonstrate the equivalence of numbers written with fraction or decimal notations. • Knowing factors can make multiplication and division problems easier. • Place value patterns with whole numbers and models may be used to extend notations with decimal, fractions and percent. • Models, pictures, number patterns and the distributive property can be used to estimate and derive answers to multiplication problems with fractions and mixed numbers. • Rectangular arrays can be used to find and classify prime and composite numbers and factor pairs.

	Content	Skills	Suggested Assessments*	Connecticut Content Standards
	<p>Probability & Statistics Graphing</p> <ul style="list-style-type: none"> • Range, mean, median & mode • Ratio—Percent • Calculators 	<ul style="list-style-type: none"> • Transfer data to various graph formats (line, bar, circle, pictograph, line-plot) • Define range, mean, median and mode • Compute mean average, calculators optional • Calculate range using subtraction • Differentiate mid-points of data • Identify the number used most often • Demonstrate ability to use a calculator 	<ul style="list-style-type: none"> • Critique “real life” graphs from magazines, newspapers, etc. to identify various types of graphs • Conduct surveys and use results to construct graphs by hand or via computer • Interpret results in peer groups of graph/survey • Use “real life” situations (such as weather) to record, construct and find mean, mode, and range • Develop graphic organizer to show where data belongs • Play dice games to represent chances of getting a certain number 	<ul style="list-style-type: none"> • Patterns can be used to identify trends and make predictions. • Geometric relationships can be used to describe polygons and solids. • Changes in the perimeter of a polygon may affect its area, and changes in area may affect the perimeter. • Scale drawings use a scale factor as the rate of change for linear dimensions. • Various tables and graphs, including stem-and-leaf plots, make it easy to identify the range, mode and median of a set of data. • Data collection methods can affect the nature of the data set. • Data can be analyzed for trends, which can help to make predictions. • Patterns can be used to identify trends and make predictions. • Pairs of numbers can be represented as a location on a coordinate plane defined by horizontal and vertical number lines.

	Content	Skills	Suggested Assessments*	Connecticut Content Standards
	<p>Geometry & Measurement</p> <ul style="list-style-type: none"> • Rays, lines, line segments • Angles • Polygons, circles and solids • Solid/plane figures • Symmetry • Volume • Measurement • Perimeter, area, circumference • Use of protractor & compass • Coordinate geometry 	<ul style="list-style-type: none"> • Distinguish various types of polygons, solids, plane figures and lines • Explain the difference between perimeter and area • Apply addition to find perimeter • Apply multiplication to find area • Apply multiplication to find volume • Use a ruler to determine the length and width of a figure • Recognize and plot ordered pairs and apply them to coordinate geometry • Name angles, (acute, right and obtuse) • Demonstrate use of measurement tools 	<ul style="list-style-type: none"> • Compare various areas of geometry using out of school scenarios (home, neighborhood) • Design a building, using rubric • Produce measurements of actual items using ruler, protractor • Differentiate area, perimeter and volume by conducting hands-on problems • Use geoboards, tangrams and pattern blocks to identify and construct geometric shapes 	<ul style="list-style-type: none"> • The surface area of 3-dimensional objects may be represented by 2-dimensional nets. Nets are 2-dimensional patterns that can be folded to form 3-dimensional objects, which have volume. • Spatial visualization helps to build mental images that describe the results of a series of motions. • Patterns can be used to identify trends and make predictions. • There are specific ratios involved in the measure of time and in converting units of length in customary and metric systems.

*Formal and informal assessments for skills may also encompass—1) testing; 2) quizzes; 3) class work (self-guided and group); 4) homework; 5) IOWA Test of Basic Skills; 6) use of computer curriculum to assess skills on map.