

| | September/October | November | November/December | Dec/Jan | Jan/Feb | Feb/March | April | May/June |
|----------------------------|--|---|--|--|--|--|--|---|
| Textbook Chapters | Math Connects Course 2 Ch.1 | Math Connects Course 2 Ch.4 | Math Connects Course 2 Ch.5 | Math Connects Course 2 Ch.6,7 | Math Connects Course 2 Ch.10 | Math Connects Course 2 Ch.11 | Math Connects Course 2 Ch.8,9 | Math Connects Course 2 Ch 2,3 |
| Essential Questions | How do patterns and functions help us describe data and physical phenomena and solve a variety of problems? | How are quantitative relationships represented by numbers? | How are quantitative relationships represented by numbers? | How are quantitative relationships represented by numbers? | How do geometric relationships and measurements help us to solve problems and make sense of our world? | How do geometric relationships and measurements help us to solve problems and make sense of our world? | How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions? | How do patterns and functions help us describe data and physical phenomena and solve a variety of problems? |
| Standards | <p>Evaluate and simplify algebraic expressions, equations and formulas using algebraic properties .</p> <p>Write, model and solve one-step and two-step equations using a variety of methods such as tables, concrete models and the Properties of Equality and justify the solution.</p> <p>Write expressions, formulas, equations or inequalities using variables to represent mathematical relationships and solve problems</p> | <p>Compare and order rational numbers</p> <p>Represent rational numbers in equivalent fraction, decimal and percentage forms.</p> | <p>Estimate solutions to problems in context or computations with rational numbers and justify the reasonableness of the estimate in writing.</p> <p>Apply a variety of strategies to write and solve problems involving addition, subtraction, multiplication and division of positive rational numbers, i.e., whole numbers, fractions and decimals.</p> <p>Estimate and solve problems containing whole numbers expressed in expanded notation, powers of 10 and scientific notation.</p> | <p>Write ratios and proportions to solve problems in context involving rates, scale factors and percentages</p> <p>Find and/or estimate a percentage of a number, including percentages that are more than 100 percent and less than 1 percent using a variety of strategies</p> <p>Solve percent problems in context including percentage of a number, what percentage one number is of another, percentage increase and percentage decrease.</p> | <p>Classify two- and three-dimensional geometric figures based on their properties.</p> <p>Draw the result of transformations on polygons on coordinate planes including translations, rotations, reflections and dilations</p> <p>Develop and use formulas to determine volumes of geometric solids (rectangular prisms and cylinders).</p> <p>Use estimation and measurement strategies to solve problems involving area of irregular polygons and volumes of irregular solids and justify solutions in writing.</p> | <p>Compare and describe in writing the relationships between the angles, sides, perimeter and area of congruent and similar geometric shapes.</p> <p>Use two dimensional representations of rectangular prisms, pyramids, and cylinders to determine surface area.</p> <p>Use formulas to solve problems involving perimeters and areas of polygons and circles.</p> | <p>Organize and display data using appropriate graphical representations.</p> <p>Make and defend in writing predictions based on patterns and trends from the graphical representations.</p> <p>Find, use and interpret measures of central tendency and spread, including mean, median, mode, range and outliers.</p> <p>Perform experiments to determine experimental probabilities.</p> <p>Solve probability problems in familiar contexts including simple events and compound events.</p> | <p>Examine situations with constant or varying rates of change and know that a constant rate of change describes a linear relationship.</p> <p>Compare and order rational numbers and locate them on number lines, scales and coordinate grids.</p> <p>Develop and describe in writing strategies for addition, subtraction, multiplication and division and solve problems with positive and negative integers using models, number lines, coordinate grids and computational strategies.</p> <p>Analyze a variety of patterns and generalize with algebraic expressions, formulas or equations.</p> <p>Represent and compare the characteristics of linear and nonlinear relationships using verbal descriptions, tables, graphs and equations.</p> <p>Develop an understanding of absolute value using a number line while solving problems involving distance</p> |

Classical Magnet School

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| <p>Major Skills</p> | <p>Solve problems using the four-step plan Use powers and exponents Evaluate expressions using the order of operations Evaluate simple algebraic expressions Write and solve equations Use commutative, associative, identity and distributive properties to solve the problems</p> | <p>Represent fractions pictorially and write fractions in simplest forms. Write fractions as terminating or repeating decimals and write decimals as fractions. Write fractions as percents and percents as fractions. Write percents as decimals and decimals as percents. Compare and order fractions, decimals, and percents.</p> | <p>Estimate sums, differences and products with fractions Perform operations and solve problems with addition and subtraction of fractions Perform operations and solve problems with multiplication and division of fractions, including multi-step problems.</p> | <p>Write, simplify and determine whether two ratios are equivalent. Estimate and solve real world problems involving ratios including determining unit rates. Write proportions to solve problems in context. Estimate and/or find percentages of a number. Solve percent problems in context including what percent one number is of another using proportions and equations</p> | <p>Classify angles and find missing angle measures. Classify two- and three-dimensional geometric figures based on their properties Solve problems involving two- and three dimensional figures.</p> | <p>Use formulas to find perimeter and area of two-dimensional shapes and estimate the approximate area of figures and justify the solution in writing. Calculate volume and surface area of rectangular prisms. Use formulas to find circumference and areas of circles and find surface area of cylinders. Solve problems involving the conversions of customary or metric units.</p> | <p>Organize and display data using a line plot. Find the mean, median, mode, range and outliers of a set of data and determine which measure is the best to represent the data. Create line graphs, bar graphs, histograms, and stem-and-leaf plots and make inferences from the data represented in tables and graphs Find the probability of simple events and determine fairness. Perform experiments and find the probability of independent and dependent events, including compound events.</p> | <p>Read, write and compare positive and negative integers including number lines and coordinate grid. Solve addition, subtraction, multiplication and division problems with integers. Identify and justify whether situations are linear or nonlinear.</p> |
| <p>Themes/ Topics</p> | <p>Introduction to Algebra</p> | <p>Number Sense, Fractions, Decimals and Percents</p> | <p>Operations and Problem Solving with Fractions and Decimals.</p> | <p>Ratios, Proportions, and Percents.</p> | <p>Geometry</p> | <p>Measurement</p> | <p>Statistics and Probability.</p> | <p>Integers and Functions.</p> |
| <p>Coached Projects/Seminars/Labs/other</p> | <p>Seminar: “River crossing problem” “ What are variables?” Based on CMP2 text</p> | <p>Seminar: “The story of One” The history of number system based on fragments of the movie.</p> | <p>Seminar: “ A traveling we will go”- Unit Project: Prepare the travel brochure for your vacation destination.</p> | <p>Seminar: “Sharing the Pizza problem” Unit Project: Paper Pool</p> | <p>Seminar: Arête in Mathematics Coached Project: “Arête in Mathematics”</p> | <p>Seminar: The perfect container Unit Project: The Package Design Contest</p> | <p>Seminar: Mystery probability problem Unit Project: Design a Carnival Game</p> | <p>Seminar: “Good Math student or Happy Math Student?” Labs: Wasted Water Experiment Ball Bounce Experiment</p> |