

Calendar-Based Curriculum Map: Math

6th Grade

	August/September	October	November
Essential Question	How will students understand numbers, ways of representing numbers, relationships among numbers and number systems?	How will students understand meanings of operations and how they relate to one another?	How will students understand patterns, relations and functions?
Content	Read, write and compare numbers. Represent and use rational numbers. Compose and decompose numbers.	Describe effects of operations. Apply properties of operations.	Create and analyze patterns. Classify objects and representations. Identify functions as linear or nonlinear from tables and graphs.
Skills	<p>Apply and understand whole numbers to millions, fractions and decimals to the thousandths (including location on the number line) GLE NOA1</p> <p>Recognize and generate equivalent forms of fractions, decimals and <u>benchmark percents</u> GLE NOB1</p> <p>Recognize equivalent representations for the same number and generate them by <u>decomposing and composing numbers</u> GLE NOC1</p>	<p>Describe the effects of multiplication and division on fractions and decimals GLE NOA2</p> <p>Apply <u>properties of operations</u> (including order of operations) to positive rational numbers GLE NOB2</p> <p>Identify square and cubic numbers and determine whole number roots and cubes GLE NOD2</p> <p>Multiply and divide positive rational numbers GLE NOC3</p> <p>Estimate and justify the results of multiplication and division of positive rational numbers GLE NOD3</p> <p>solve problems using ratios and rates GLE NOE3</p>	<p>Represent and describe patterns with tables, graphs, pictures, <u>symbolic rules</u> or words GLE ARB1</p> <p>Compare various forms of <u>representations</u> to identify patterns GLE ARC1</p> <p>Identify <u>functions</u> as <u>linear</u> or <u>nonlinear</u> from tables or graphs GLE ARD1</p>
Assessments	Teacher created, publisher provided materials. Observations and oral assessments.	Teacher created, publisher provided materials. Observations and oral assessments.	Teacher created, publisher provided materials. Observations and oral assessments.

Activities/Resources	Using Manipulatives, Rulers, Protractors. Textbook, internet, Math websites, computers.	Using Manipulatives, Rulers, Protractors Textbook, internet, Math websites, computers.	Using Manipulatives, Rulers, Protractors Textbook, internet, Math websites, computers.

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	December	January	February
Essential Question	How will students represent and analyze mathematical situations and structures using algebraic symbols?	How will students represent and analyze mathematical situations and structures using algebraic symbols?	How will students analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships?
Content	Represent mathematical situations. Describe and use mathematical manipulation.	Use mathematical models. Analyze change.	Describe and use geometric relationships. Use coordinate systems.
Skills	Use <u>symbolic algebra</u> to represent unknown quantities in expressions or equations and solve one-step equations GLE ARA2 Use the <u>commutative, distributive and associative</u> properties to generate equivalent forms for simple algebraic expressions GLE ARB2	<u>Model</u> and solve problems, using multiple representations such as tables, expressions and one-step equations GLE ARA3 Construct and analyze representations to compare situations with constant or varying rates of change GLE ARA4	Identify similar and congruent shapes GLE GRA1 Use <u>coordinate systems</u> to construct geometric shapes GLE GRA2
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Activities/Resources	Using Manipulatives, Rulers, Protractors Textbook, internet, Math websites, computers.	Using Manipulatives, Rulers, Protractors Math contest. Textbook, internet, Math websites, computers.	Using Manipulatives, Rulers, Protractors Textbook, internet, Math websites, computers.

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6th Grade

	March	April	May
Essential Question	How will students specify locations and describe spatial relationships using coordinate geometry and other representational systems?	How will students formulate questions that can be addressed with data and collect, organize and display data to answer them and select and use appropriate statistical methods to analyze data?	How will students understand measurable attributes of objects and the units, systems and processes of measurement and apply techniques, tools, and formulas to determine measurements?
Content	Use transformation on objects. Use symmetry. Recognize and draw three-dimensional representations. Draw and use visual models.	Formulate questions. Represent and interpret data. Describe and analyze data. Develop and evaluate interferences. Apply basic concepts of probability.	Determine unit of measurement. Tell and use units of time. Use angle measurement. Apply geometric measurements. Use relationships within a measurement system.
Skills	Describe the transformation from a given pre-image using the terms <u>reflection/flip</u> , <u>rotation/turn</u> , and <u>translation/slide</u> GLE GRA3 Create polygons and designs with rotational symmetry GLE GRC3 Use spatial visualization to identify <u>isometric representations of mat plans</u> GLE GRA4 Draw or use <u>visual models</u> to represent and solve problems GLE GRB4	Formulate questions, design studies and collect data about a characteristic GLE DPA1 Interpret circle graphs; create and interpret <u>stem-and-leaf plots</u> GLE DPC1 find the <u>range</u> and <u>measures of center</u> , including <u>median</u> , <u>mode</u> and <u>mean</u> GLE DPA2 use observations about differences between 2 samples to make <u>conjectures</u> about the populations from which the samples were taken GLE DPA3 use a model (diagrams, list, sample	Identify and justify the unit of measure for area and volume (customary and metric) GLE MEA1 Solve problems involving elapsed time (hours and minutes) GLE MEC1 Identify and justify an angle as acute, obtuse, straight, or right. GLE MEB2 Solve problems involving the area or perimeter of polygons. GLE MEC2 Convert from one unit to another within a system of measurement (mass and weight) GLE MEE2

		space, or area model) to illustrate the possible outcomes of an event GLE DPA4	
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Activities/Resources	Using Manipulatives, Rulers, Protractors, Building blocks. Textbook, internet, Math websites, computers.	Using Manipulatives, Rulers, Protractors, Spinners, dice. Textbook, internet, Math websites, computers.	Using Manipulatives, Rulers, Protractors Measuring tapes, Textbook, internet, Math websites, computers.