

<u>Mathematics</u>	
Number Operations	
	<p>Understand numbers, ways of representing numbers, relationships among numbers and number systems</p> <p>The students will be able to:</p> <ul style="list-style-type: none"> ▪ Compare and order integers, positive rationals and percents, including finding their approximate location on a number line. ▪ Finding their approximate location on a number line ▪ Recognize and generate equivalent forms of fractions, decimals and percents ▪ Recognize equivalent representations for the same number and generate them by decomposing and composing numbers, including expanded notation ▪ Use factors and multiples to describe relationships between and among numbers, including whole number common factors and multiples <p>Understand meanings of operations and how they relate to one another</p> <p>The students will be able to:</p> <ul style="list-style-type: none"> ▪ Describe the effects of addition and subtraction on fractions and decimals <p>Compute fluently and make reasonable estimates</p> <p>The students will be able to:</p> <ul style="list-style-type: none"> ▪ Add and subtract positive rational numbers ▪ Estimate and justify the results of addition and subtraction of positive rational numbers ▪ Solve problems using equivalent ratios
Algebraic Relationships	
	<p>Understand patterns, relations and functions</p> <p>The students will be able to:</p> <ul style="list-style-type: none"> ▪ Represent and describe patterns with tables, graphs, pictures, symbolic rules or words ▪ Compare various forms of representations to identify a pattern

	<ul style="list-style-type: none"> ▪ Identify functions as linear or nonlinear from a table or graph <p>Represent and analyze mathematical situations and structures using algebraic symbols</p> <ul style="list-style-type: none"> ▪ Use variables to represent unknown quantities in expressions ▪ Recognize equivalent forms for simple algebraic expressions (associative, distributive properties) <p>Use mathematical models to represent and understand quantitative relationships</p> <ul style="list-style-type: none"> ▪ Model and solve problems, using multiple representations such as graphs, tables, expressions and equations <p>Analyze change in various contexts</p> <ul style="list-style-type: none"> ▪ Compare situations with constant or varying rates of change
<p>Geometric and Spatial Relationships</p>	
	<p>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</p> <ul style="list-style-type: none"> ▪ Identify the properties of 1- 2- and 3- dimensional shapes using the appropriate geometric vocabulary ▪ Describe relationships between the corresponding angles and the length of corresponding sides of similar triangles (whole number scale factors) <p>Specify locations and describe spatial relationships using coordinate geometry and other representational systems</p> <ul style="list-style-type: none"> ▪ Use coordinate geometry to construct geometric shapes <p>Apply transformations and use symmetry to analyze mathematical situations</p> <ul style="list-style-type: none"> ▪ Describe the transformation from a given pre-

	<p>image to its image using the terms reflection/flips, rotation/turn and translation/ slide</p> <ul style="list-style-type: none"> ▪ Create polygons and designs with rotational symmetry <p>Use visualization, spatial reasoning and geometric modeling to solve problems</p> <ul style="list-style-type: none"> ▪ Use spatial visualization to identify isometric representations of net plans ▪ Draw or use visual models to represent and solve problems
Measurement	
	<p>Understand measurable attributes of objects and the units, systems and processes of measurement</p> <ul style="list-style-type: none"> ▪ Identify and justify an angle as acute, obtuse, straight or right ▪ Solve problems involving elapsed time (hours and minutes) <p>Apply appropriate techniques, tools and formulas to determine measurements</p> <ul style="list-style-type: none"> ▪ Estimate a measurement using either standard or non- standard unit of measurement ▪ Select and use benchmarks to estimate measurements of 0-, 45-, 90-, 180-, 360-degree angles ▪ Describe how to solve problems involving the area or perimeter of polygons ▪ Convert from one unit to another within a system of measurement (mass and weight)
Data and Probability	
	<p>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</p> <ul style="list-style-type: none"> ▪ Formulate questions, design studies and collect data about a characteristic ▪ Interpret circle graphs; create and interpret stem-and-leaf plots <p>Select and use appropriate statistical methods to analyze data</p> <ul style="list-style-type: none"> ▪ Find the range and measures of center, including

Sixth Grade

	<p>median, mode and mean</p> <ul style="list-style-type: none">▪ Compare different representations of the same data and evaluate how well each representation shows important aspects of the data <p>Compare different representations of the same data and evaluate how well each representation shows important aspects of the data</p> <ul style="list-style-type: none">▪ Use observations about differences between 2 samples to make conjectures about the populations from which the samples were taken <p>Understand and apply basic concepts of probability</p> <ul style="list-style-type: none">▪ Use a model (diagrams, list, sample space, or area model) to illustrate the possible outcomes of an event
--	--