

CONTENT	GRADES 3 - 5		
<p><b>NUMBER AND OPERATIONS</b>  <i>Understand numbers, ways of representing number, relationships Among numbers, and number systems</i></p> <p><i>Understand meanings of operations and how they relate to one another</i></p> <p><i>Compute fluently and make reasonable estimates</i></p>	<p>All students will:</p> <ul style="list-style-type: none"> <li>- Understand the place-value structure of the base-ten number system and be able to represent and compare whole numbers and decimals</li> <li>- Recognize equivalent representations for the same number and generate them by decomposing and composing numbers</li> <li>- Develop understanding of fractions as part of a whole, a collection, on number lines, and numbers</li> <li>- Explore numbers less than zero by extending the number line</li> <li>- Understand the various meanings of multiplication and division</li> <li>- Understand the relationship between multiplication and division</li> <li>- Understand the properties of multiplication and division</li> <li>- Developmental computation skills</li> <li>- Develop strategies to estimate the results of whole-number computations</li> <li>- Add and subtract common fractions</li> </ul>		
<p><b>BENCHMARKS</b></p>	<p><b>GRADE 3</b></p>	<p><b>Grade 4</b></p>	<p><b>Grade 5</b></p>
<p><b>NUMBER AND OPERATIONS</b></p>	<ul style="list-style-type: none"> <li>-multiplication &amp; division facts to 10</li> <li>-intro to long division</li> <li>-read, write, compare, and order whole numbers through 1000 and simple fractions with common denominators</li> <li>-addition/subtraction facts through 20</li> <li>-multiply 2 digits by 1 digit</li> <li>-estimating by rounding</li> <li>-compare fractions using &lt;, &gt;, =</li> </ul>	<ul style="list-style-type: none"> <li>-identify, compare, and order whole numbers to one million</li> <li>-identify multiples and factors</li> <li>-add and subtract common fractions</li> <li>-introduction to decimals</li> <li>-introduction to mixed numbers</li> <li>-improper fractions</li> <li>-master long division</li> </ul>	<ul style="list-style-type: none"> <li>-add/subtract: fractions, decimals, and mixed numbers, unlike denom.</li> <li>--identify, compare, and order whole numbers to one billion</li> <li>-long division process with a remainder</li> <li>-show equivalent representations of a number</li> <li>-prime, composite and square numbers</li> <li>-Whole number factors of composite numbers</li> <li>-Estimation related to addition, subtraction and fractions</li> <li>-Ratios and percentages</li> <li>- use inverse operations</li> </ul>

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<p style="text-align: center;"><b>ALGEBRA</b></p> <p><i>Understand patterns, relations, and functions</i></p> <p><i>Represent and analyze mathematical situations and structures using algebraic symbols</i></p> <p><i>Use mathematical models to represent and understand quantitative relationships</i></p>	<p>All students will:</p> <ul style="list-style-type: none"> <li>- Describe, extend, and make generalizations about geometric and numeric patterns</li> <li>- Represent and analyze patterns and functions, using words, tables and graphs</li> <li>- Identify the commutative, associative, and distributive properties and use them to compute whole numbers</li> <li>- Represent the idea of a variable as an unknown quantity using a letter or a symbol</li> <li>- Express mathematical relationships using equations</li> <li>- Investigate how change in one variable relates to a change in a second variable</li> <li>- Identify and describe situations with constant or varying rates of change and compare them</li> </ul>		
BENCHMARKS	GRADE 3	Grade 4	Grade 5
<p style="text-align: center;"><b>ALGEBRA</b></p>	<ul style="list-style-type: none"> <li>-use standard notation to write simple open ended number sentences</li> <li>-Represent and analyze patterns and functions using words, tables and graphs</li> </ul>	<ul style="list-style-type: none"> <li>-solve simple equations</li> <li>-substitute numbers for variables to solve equations</li> <li>-represent relationships with equations</li> </ul>	<ul style="list-style-type: none"> <li>-find the value of expressions with variables</li> <li>-Demonstrate equality of two expressions w/ variables</li> <li>-Order of operations</li> </ul>

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<p style="text-align: center;"><b>GEOMETRY</b></p> <p><i>Analyze characteristics and properties of two- and three- dimensional geometric shapes and develop mathematical arguments about geometric relationships</i></p> <p><i>Specify locations and describe spatial relationships using coordinate geometry and other representational systems</i></p> <p><i>Apply transformations and use symmetry to analyze mathematical situations</i></p> <p><i>Use visualization, spatial reasoning and geometric modeling to solve problems</i></p>	<p>All students will:</p> <ul style="list-style-type: none"> <li>- Identify, compare and analyze attributes of two- and three- dimensional shapes</li> <li>- Classify two- and three-dimensional shapes according to their properties and develop definitions of classes of shapes such as triangles and pyramids</li> <li>- Investigating, describe, and reason about the results of subdividing, combining and transforming shapes</li> <li>- Explore congruence and similarity</li> <li>- Describe location and movement using common language and geometric vocabulary</li> <li>- Make and use coordinate systems to specify locations and to describe paths</li> <li>- Find the distance between points along horizontal and vertical lines of a coordinate system</li> <li>- Predict and describe the results of sliding, flipping and turning two-dimensional shapes</li> <li>- Describe and identify congruency and how to manipulate shapes to achieve congruency</li> <li>- identify and describe line and rotational symmetry in two- and three-dimensional shapes and designs</li> <li>- build and draw three dimensional objects</li> <li>- recognize geometric ideas and relationships and apply them to other disciplines</li> </ul>		
BENCHMARKS	GRADE 3	GRADE 4	GRADE 5
<p style="text-align: center;"><b>GEOMETRY</b></p>	<ul style="list-style-type: none"> <li>-sort and classify two and three dimensional figures</li> <li>-use geometric terms appropriately to describe the relationships between shapes and angles: congruent, similar, symmetry, parallel</li> <li>-introduce concepts of parallel, congruent and symmetrical</li> </ul>	<ul style="list-style-type: none"> <li>-Identify, describe and classify two and three dimensional figures</li> <li>-draw or create two or three dimensional shapes</li> <li>-describe the position of figures on a coordinate grid</li> <li>-describe perpendicular angles and label angles</li> <li>Understand the concepts of parallel, congruent and symmetrical</li> <li>Coordinate systems</li> </ul>	<ul style="list-style-type: none"> <li>-apply properties of figures</li> <li>-Identify and plot points on coordinate grids</li> <li>-identify and create simple transformations using translations, reflections or rotations</li> <li>-Identify, compare, analyze and classify attributes of 2 and 3 dimensional shapes</li> <li>-Identify geometric shapes in real life settings</li> <li>-identify and create points, lines, rays, segments and angles using straight edge, protractor and compass</li> </ul>

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<p><b>MEASUREMENT</b>  <i>Understand measurable attributes of objects and the units, systems, and processes of measurement</i></p> <p><i>Apply appropriate techniques , tools, and formulas to determine measurements</i></p>	<p>All students will:</p> <ul style="list-style-type: none"> <li>- understand such attributes as length, area, weight, volume , and size of an angle and select the appropriate type of unit for measurement</li> <li>- understand the need for measuring standard units and become familiar with standard units in the customary and metric systems</li> <li>- carry out simple unit conversions such as centimeters to meters</li> <li>- Understand that measurements are approximations and understand how differences in units affect precision</li> <li>- Develop strategies for estimating the perimeters, areas and volumes of irregular shapes</li> <li>- Select and apply appropriate standard units and tools to measure length, area, volume, weight, time temperature, and size of angles</li> <li>- Develop, understand, and use formulas to find the area of rectangles and related triangles and parallelograms</li> <li>- Develop strategies to determine the surface areas and volumes of rectangular solids</li> </ul>		
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<p><b>MEASUREMENT</b></p>	<ul style="list-style-type: none"> <li>-count mixed coins and make change to \$5</li> <li>-tell time to the nearest minute</li> <li>-measure objects to the nearest ½ inch</li> <li>-relationship between cup, pint, quart, gallon</li> <li>-Measure area, perimeter, and capacity</li> <li>-Predict and measure elapsed time</li> </ul>	<ul style="list-style-type: none"> <li>-make change to \$100</li> <li>-measure using 1/8 &amp; ¼ inch</li> <li>-approximately measure and check accuracy</li> <li>-Convert measurement within a system</li> </ul>	<ul style="list-style-type: none"> <li>-introduce complicated weight measures</li> <li>-predict time units and create sophisticated time lines</li> <li>-Convert metric measures into larger and smaller units</li> <li>-Draw angles using a protractor</li> <li>-Estimate &amp; measure perimeter, area, and volume of regular and irregular shapes and objects</li> <li>-Select appropriate tools to measure, draw, or construct figures</li> <li>-Develop and use formulas to determine areas squares, rectangles and right triangles</li> </ul>

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<p><b>DATA ANALYSIS</b></p> <p><i>Formulate questions that can be addressed with data and collect organize and display relevant data to answer them</i></p> <p><i>Select and use appropriate statistical methods to analyze data</i></p> <p><i>Develop and evaluate inferences and predictions that are based on data</i></p> <p><i>Understand and apply basic concepts of probability</i></p>	<p>All students will:</p> <ul style="list-style-type: none"> <li>- Design investigations to address a question and consider how data-collection methods affect the nature of the data set</li> <li>- Collect data using observations surveys and experiments</li> <li>- Represent data using tables and graphs such as line plots, bar graphs and line graphs</li> <li>- Recognize the differences in representing categorical and numerical data</li> <li>- Describe the shape and important features of a set of data and compare related data sets with and emphasis on how the dare are distributed</li> <li>- Use measures of center focusing on the median, and understand what each does and does not indicate about the data set</li> <li>- Propose and justify conclusions and predictions that are based on data and design studies to further investigate the conclusions or predictions</li> <li>- Predict the probability of outcomes of simple experiments and test the predictions</li> </ul>		
BENCHMARKS	GRADE 3	GRADE 4	GRADE 5
DATA ANALYSIS	<ul style="list-style-type: none"> <li>-collect ,organize, and interpret data using graphs, tables and written explanation</li> <li>-make predictions or draw conclusions</li> </ul>	<ul style="list-style-type: none"> <li>-use counting procedures to determine the number of possible outcomes of an event</li> <li>-find and describe mean, median, mode and range</li> </ul>	<ul style="list-style-type: none"> <li>-determine the probability of common and independent events</li> <li>Evaluate and represent data using a variety of graphs and tables</li> <li>Evaluate mean, median, mode, and range</li> <li>Illustrate probabilities as fractions</li> <li>Predict and test outcomes</li> </ul>