

STATE BENCHMARKS	CORE TOPICS	DISTRICT BENCHMARKS The student will:	SUGGESTED ASSESSMENT	POSSIBLE RESOURCES
<p>II-1-1: Distinguish among shapes and differentiate between examples and non-examples of shapes based on their properties; generalize about shapes of graphs and data distributions.</p>	<p>Geometric Concepts</p>	<ul style="list-style-type: none"> Identify parts of solid figures Classify triangles and quadrilaterals by sides and angles 		
<p>II-1-5: Combine, dissect and transform shapes.</p>	<p>Geometric Concepts</p>	<ul style="list-style-type: none"> Draw reflection images Draw the turn or rotation images of a geometric figure Identify translation images and translation symmetry 		
<p>II-1-6: Generalize about the common properties of similar, congruent, parallel and perpendicular shapes and verify their generalizations informally.</p>	<p>Geometric Concepts</p>	<ul style="list-style-type: none"> Identify two figures that are congruent Find lengths of corresponding sides of similar figures 		
<p>II-1-7: Use shape, shape properties and shape relationships to describe the physical world and to solve problems.</p>	<p>Geometric Concepts</p>	<ul style="list-style-type: none"> Learn and use the angle sum relationships in triangles and quadrilaterals 		
<p>II-2-1: Locate and describe objects in terms of their position, including compass directions, Cartesian coordinates, latitude and longitude and midpoints.</p>	<p>Geometric Concepts</p>	<ul style="list-style-type: none"> Identify translation images and translation symmetry 		
<p>II-2-2: Locate and describe objects in terms of their orientation and relative position, including coincident collinear, parallel, perpendicular; differentiate between fixed (e.g., N- S- E- W-) and relative (e.g. right, left) orientations; recognize and describe examples of bilateral and rotational symmetry.</p>	<p>Geometric Concepts</p>	<ul style="list-style-type: none"> Rotate, slide and flip geometric figures in a coordinate plane 		
<p>II-2-3: Describe translations, reflections, rotations and dilations using the language of transformations and employ transformations to verify congruence of figures.</p>	<p>Geometric Concepts</p>	<ul style="list-style-type: none"> Verify congruence of geometric figures through transformations 		
<p>II-2-4: Locate the position of points or objects described by two or more conditions; locate all the points (locus) that satisfy a given condition.</p>	<p>Geometric Concepts</p>	<ul style="list-style-type: none"> Identify all parts of the coordinate grid, read ordered pairs and plot points. 		

MATH

Seventh Grade

STATE BENCHMARKS	CORE TOPICS	DISTRICT BENCHMARKS The student will:	SUGGESTED ASSESSMENT	POSSIBLE RESOURCES
II-3-1: Select and use appropriate tools; measure objects using standard units in both metric and common systems and measure angles in degrees.	Geometric Concepts	<ul style="list-style-type: none"> • Select appropriate measuring devices to find area, perimeter and volume of familiar objects • Measure angles with a protractor 		
II-3-2: Identify the attribute to be measured and select the appropriate unit of measurement for length, mass (weight), time, temperature, perimeter, area, volume and angle.	Geometric Concepts	<ul style="list-style-type: none"> • Identify attributes to be measured then apply the measurements to real life situations. 		
II-3-3: Estimate measures with a specified degree of accuracy and decide if an estimate or a measurement is “close enough”.	Geometric Concepts	<ul style="list-style-type: none"> • Determine whether you need an exact answer for a problem or an estimate • Determine the precision of measurement. 		
II-3-6: Apply measurement to describe the real world and to solve problems.	Geometric Concepts	<ul style="list-style-type: none"> • Use measurements and apply them to real life situations. 		
V-1-1: Use manipulatives and diagrams to model operations and their inverses with integers and rational numbers and relate the models to their symbolic expressions.	Algebraic Ideas	<ul style="list-style-type: none"> • Use integer chips and number lines to model operations 		
V-1-2: Compute with integers, rational numbers and simple algebraic expressions using mental computation, estimation, calculators and paper-and-pencil; explain what they are doing and how they know which operations to perform in a given situation.	Algebraic Ideas	<ul style="list-style-type: none"> • Be able to perform all operations with integers 		
V-1-3: Describe the properties of operations with rationals and integers (e.g., closure; associative, commutative and distributive properties) and give examples of how they use those properties.	Algebraic Ideas	<ul style="list-style-type: none"> • Identify and use the properties of integers and whole numbers 		
V-1-4: Efficiently and accurately apply operations with integers, rational numbers and simple algebraic expressions in solving problems.	Algebraic Ideas	<ul style="list-style-type: none"> • Use operations to solve problems with integers 		
V-2-1: Read and write algebraic expressions; develop original examples expressed verbally and algebraically; simplify expressions and translate between verbal and algebraic expressions; and solve linear equations and inequalities.	Algebraic Ideas	<ul style="list-style-type: none"> • Use manipulatives to solve algebraic equations • Be able to match verbal expressions to algebraic expressions • Solve addition and subtraction inequalities 		

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<p>V-2-2: Represent algebraic concepts with geometric models (e.g., algebra tiles), physical models (e.g., balance beam), tables and graphs; and write algebraic expressions to correspond to the multiple representations.</p>	Algebraic Ideas	<ul style="list-style-type: none"> Use manipulatives to set up and solve algebraic equations 		
<p>VI-1-1: Describe events as likely or unlikely and give qualitative and quantitative descriptions of the degree of likelihood.</p>	Probability and Discrete Mathematics	<ul style="list-style-type: none"> Rate chance events between impossible and certain 		
<p>VI-1-2: Describe probability as a measure of certainty ranging from 0 to 1 and conduct activities that allow them to express probabilities of simple events in mathematical terms.</p>	Probability and Discrete Mathematics	<ul style="list-style-type: none"> Find the probability of outcomes and events 		
<p>VI-1-4: Explain the difference between probabilities determined from experiments or chance events (empirical) and probabilities derived mathematically (theoretical), and explain how the empirical probability changes for a large number of trials.</p>	Probability and Discrete Mathematics	<ul style="list-style-type: none"> Compare experimental and mathematical probabilities of events 		
<p>VI-1-5: Conduct probability experiments and simulations to model and solve problems.</p>	Probability and Discrete Mathematics	<ul style="list-style-type: none"> Find the expected value of a probability experiment 		
<p>VI-2-1: Use manipulatives, diagrams and the fundamental theorem of counting to count permutations and combinations.</p>	Probability and Discrete Mathematics	<ul style="list-style-type: none"> Use tree diagrams to show compound events 		
<p>III-3-1: Make and test hypotheses</p>	Data Analysis and Statistics	<ul style="list-style-type: none"> Compare experimental and mathematical probabilities of events 		
<p>I-1-1: Describe, analyze, and generalize patterns arising in a variety of contexts and express them in general terms.</p>	Patterns	<ul style="list-style-type: none"> Recognize patterns and draw conclusions from them 		
<p>III-1-1: Collect and explore data through observation, measurement, surveys, sampling techniques and simulations.</p>	Data Analysis and Statistics	<ul style="list-style-type: none"> Design surveys and collect data on topic of interest 		
<p>III-1-2: Organize data using tables, charts, graphs, spreadsheets and data bases.</p>	Data Analysis and Statistics	<ul style="list-style-type: none"> Organize data they collected in tables and various graphs 		
<p>III-1-3: Present data using a variety of appropriate representations and explain why one representation is preferred over another or how a particular representation may bias the presentation.</p>	Data Analysis and Statistics	<ul style="list-style-type: none"> Use critical thinking to choose an appropriate graph 		

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<p>III-1-4: Identify what data are needed to answer a particular question or solve a given problem, and design and implement strategies to obtain, organize and present those data.</p>	<p>Data Analysis and Statistics</p>	<ul style="list-style-type: none"> Solve problems with extra data 		
<p>III-2-2: Describe the shape of a data distribution and identify the center, the spread correlations and any outliers.</p>	<p>Data Analysis and Statistics</p>	<ul style="list-style-type: none"> Find the mean, median, mode and range for a set of data 		
<p>III-2-5: Formulate questions and problems and gather and interpret data to answer those questions.</p>	<p>Data Analysis and Statistics</p>	<ul style="list-style-type: none"> Design higher level thinking questions to correspond with the graphs they created. 		
<p>IV-1-1: Develop an understanding of integers and rational numbers and represent rational numbers in both fraction and decimal form.</p>	<p>Number Sense and Numeration</p>	<ul style="list-style-type: none"> Write a decimal for a fraction and a fraction for a decimal 		
<p>IV-1-2: Extend their understanding of numeration systems to include decimal numeration, scientific numeration and non-decimal numeration systems.</p>	<p>Number Sense and Numeration</p>	<ul style="list-style-type: none"> Write numbers in scientific notation Understand place value in numbers that contain a decimal 		
<p>IV-1-3: Develop an understanding of the properties of the integer and rational number systems (e.g., order, density) and of the properties of special numbers including 0, 1 and , and the additive and multiplicative inverses.</p>	<p>Number Sense and Numeration</p>	<ul style="list-style-type: none"> Order decimals, fractions and numbers from least to greatest 		