



# MOHAWK

Local School District

*Preparing today's students for tomorrow's challenges*

Mohawk Local Schools      Grade Math 6

Quarter 4      Curriculum Guide

Mathematical Practices

1. Make Sense of Problems and Persevere in Solving them
2. Reasoning Abstractly & Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Critical Areas of Focus Being Addressed:

- Geometry and Statistics
- Statistics and Probability
- Number System
- Modeling and Reasoning

Content Statements Addressed and Whether they are Knowledge, Reasoning, Performance Skill, or Product:  
 (DOK1)      (DOK2)      (DOK3)      (DOK4)

Underpinning Targets Corresponding with Standards and Whether they are Knowledge, Reasoning, Performance Skill, or Product: "I can.....", "Students Will Be Able To....."

6.NS.2 Fluently divide multi-digit numbers using the standard algorithm. (DOK 1)

**DOK 1 I Can...**  
 Fluently divide multi-digit numbers using the standard algorithm with speed and accuracy.

<p>6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. (DOK 1)</p>	<p><b>DOK 1 I Can...</b> Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation with speed and accuracy.</p>
<p>6.G.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (DOK 2)</p>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>• Recognize and know how to compose and decompose polygons into triangles and rectangles.</li> </ul> <p><b>DOK 2 I Can...</b></p> <ul style="list-style-type: none"> <li>• Compare the area of a triangle to the area of the composed rectangle. (Decomposition addressed in previous grade.)</li> <li>• Apply the techniques of composing and/or decomposing to find the area of triangles, special quadrilaterals and polygons to solve mathematical and real world problems.</li> <li>• Discuss, develop and justify formulas for triangles and parallelograms (6th grade introduction)</li> </ul>
<p>6.G.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas <math>V=lwh</math> and <math>V=Bh</math> to find the volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. (DOK 3)</p>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>• Know how to calculate the volume of a right rectangular prism.</li> </ul> <p><b>DOK 2 I Can....</b></p> <ul style="list-style-type: none"> <li>• Apply volume formulas for right rectangular prisms to solve realworld and mathematical problems involving rectangular prisms with fractional edge lengths.</li> </ul> <p><b>DOK 3 I Can...</b></p>

	<ul style="list-style-type: none"> <li>Model the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths.</li> </ul>
<p>6.G.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. (DOK 2)</p>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>Draw polygons in the coordinate plane.</li> <li>Use coordinates (with the same x-coordinate or the same y-coordinate) to find the length of a side of a polygon.</li> </ul> <p><b>DOK 2 I Can...</b></p> <ul style="list-style-type: none"> <li>Apply the technique of using coordinates to find the length of a side of a polygon drawn in the coordinate plane to solve real-world and mathematical problems.</li> </ul>
<p>6.G.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. (DOK 2)</p>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>Know that 3-D figures can be represented by nets</li> </ul> <p><b>DOK 2 I Can...</b></p> <ul style="list-style-type: none"> <li>Represent three-dimensional figures using nets made up of rectangles and triangles.</li> <li>Apply knowledge of calculating the area of rectangles and triangles to a net, and combine the areas for each shape into one answer representing the surface area of a 3-dimensional figure.</li> <li>Solve real-world and mathematical problems involving surface area using nets.</li> </ul>
<p>6.SP.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, “How old am I?” is not a statistical question, but “How old are the students in my</p>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>Recognize that data can have variability.</li> <li>Recognize a statistical question (examples versus nonexamples)</li> </ul>

<p>school?" is a statistical question because one anticipates variability in students' ages. (DOK 1)</p>	
<p>6.SP.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. (DOK 1)</p>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>• Know that a set of data has a distribution.</li> <li>• Describe a set of data by its center, e.g., mean and median.</li> <li>• Describe a set of data by its spread and overall shape, e.g. by identifying data clusters, peaks, gaps and symmetry</li> </ul>
<p>6.SP.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. (DOK 1)</p>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>• Recognize there are measures of central tendency for a data set, e.g., mean, median, mode.</li> <li>• Recognize there are measures of variances for a data set, e.g., range, interquartile range, mean absolute deviation.</li> <li>• Recognize measures of central tendency for a data set summarizes the data with a single number.</li> <li>• Recognize measures of variation for a data set describes how its values vary with a single number.</li> </ul>
<p>6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots. (DOK 4)</p>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>• Identify the components of dot plots, histograms, and box plots.</li> <li>• Find the median, quartile and interquartile range of a set of data.</li> </ul> <p><b>DOK 2 I Can...</b></p> <ul style="list-style-type: none"> <li>• Analyze a set of data to determine its variance.</li> </ul> <p><b>DOK 3 I Can...</b></p> <p>None</p>

	<p><b>DOK 4 I Can....</b></p> <ul style="list-style-type: none"> <li>• Create a dot plot to display a set of numerical data.</li> <li>• Create a histogram to display a set of numerical data.</li> <li>• Create a box plot to display a set of numerical data.</li> </ul>
<p>6.SP.5abcd Summarize numerical data sets in relation to their context, such as by:</p> <ol style="list-style-type: none"> <li>a. Reporting the number of observations.</li> <li>b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</li> <li>c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and /or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</li> <li>d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. (DOK 2)</li> </ol>	<p><b>DOK 1 I Can...</b></p> <ul style="list-style-type: none"> <li>• Organize and display data in tables and graphs.</li> <li>• Report the number of observations in a data set or display.</li> <li>• Describe the data being collected, including how it was measured and its units of measurement.</li> <li>• Calculate quantitative measures of center, e.g., mean, median, mode.</li> <li>• Calculate quantitative measures of variance, e.g., range, interquartile range, mean absolute deviation.</li> <li>• Identify outliers</li> </ul> <p><b>DOK 2 I Can...</b></p> <ul style="list-style-type: none"> <li>• Determine the effect of outliers on quantitative measures of a set of data, e.g., mean, median, mode, range, interquartile range, mean absolute deviation.</li> <li>• Choose the appropriate measure of central tendency to represent the data.</li> <li>• Analyze the shape of the data distribution and the context in which the data were gathered to choose the appropriate measures of central tendency and variability and justify why this measure is appropriate in terms of the context</li> </ul>