Mohawk Local Schools Grade 7 Math

Quarter 3 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
- Statistics and Probability

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……."
7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. (DOK 4)	(DOK1) I can: • Use ratios and proportions to create scale drawing. • Identify corresponding sides of scaled geometric figures. • Compute lengths and areas from scale drawings using strategies such as proportions.

	(DOK 2) I can: • Solve problems involving scale drawings of geometric figures using scale factors.
7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. (DOK 3)	(DOK 1) I can: • Know which conditions create unique triangles, more than one triangles, or no triangle. (DOK 2) I can: • Analyze given conditions based on the three measures of angles or sides of a triangle to determine when there is a unique triangle, more than one triangle, or no triangle. (DOK 3) I can: • Construct triangles from three given angle measures to determine when there is a unique triangle, more than one triangle or no triangle using appropriate tools (freehand, rulers, protractors, and technology). • Construct triangles from three given side measures to determine when there is a unique triangle, more than one triangle or no triangle using appropriate tools (freehand, rulers, protractors, and technology).
7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. (DOK 2)	(DOK 1) I can: • Define slicing as the cross-section of a 3D figure. • Describe the two-dimensional figures that result from slicing a three-dimensional figure such as a right rectangular prism or pyramid. (DOK 2)

	I can: • Analyze three-dimensional shapes by examining two dimensional cross-sections.
7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between circumference and area of a circle. (DOK 2)	(DOK 1) I can: • Know the parts of a circle including radius, diameter, area, circumference, center, and chord. • Identify π • Know the formulas for area and circumference of a circle • Given the circumference of a circle, find its area. • Given the area of a circle, find its circumference. (DOK 2) I can: • Justify that can be derived from the circumference and diameter of a circle. • Apply circumference or area formulas to solve mathematical and real-world problems • Justify the formulas for area and circumference of a circle and how they relate to π • Informally derive the relationship between circumference and area of a circle.
7.G.5 Use facts about supplementary, complementary, vertical, adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure (DOK 2)	(DOK 1) I can: • Identify and recognize types of angles: supplementary, complementary, vertical, adjacent. • Determine complements and supplements of a given angle. (DOK 2) I can: • Determine unknown angle measures by writing and solving algebraic equations based on relationships between angles.
7.G.6 Solve real-world and mathematical problems involving area, volume, and surface area of two- and	(DOK 1) I can:

threedimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. (DOK 2)	• Know the formulas for area and volume and then procedure for finding surface area and when to use them in real-world and math problems for two- and three dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. (DOK 2) I can: • Solve real-world and math problems involving area, surface area and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
7.SP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. (DOK 2)	(DOK 1) I can: • Know statistics terms such as population, sample, sample size, random sampling, generalizations, valid, biased and unbiased. • Recognize sampling techniques such as convenience, random, systematic, and voluntary. • Know that generalizations about a population from a sample are valid only if the sample is representative of that population (DOK 2) I can: • Apply statistics to gain information about a population from a sample of the population. • Generalize that random sampling tends to produce representative samples and support valid inferences.
7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the	(DOK 1) I can: • Define random sample. • Identify an appropriate sample size.

variation in estimates or predictions. (DOK 2)	(DOK 2) I can: • Analyze & interpret data from a random sample to draw inferences about a population with an unknown characteristic of interest. • Generate multiple samples (or simulated samples) of the same size to determine the variation in estimates or predictions by comparing and contrasting the samples.
7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. (DOK 2)	(DOK 1) I can: • Identify measures of central tendency (mean, median, and mode) in a data distribution. • Identify measures of variation including upper quartile, lower quartile, upper extreme maximum, lower extreme minimum, range, interquartile range, and mean absolute deviation (i.e. box-and-whisker plots, line plot, dot plots, etc.). (DOK 2) I can: • Compare two numerical data distributions on a graph by visually comparing data displays, and assessing the degree of visual overlap. • Compare the differences in the measure of central tendency in two numerical data distributions by measuring the difference between the centers and expressing it as a multiple of a measure of variability.