Mohawk Local Schools Grade 8 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:

- Functions
- Geometry

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……."
8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (DOK 1)	(DOK 1) I can: • Examine the correspondence or relationship between input and output values in a set of ordered pairs and identify functions as

	those for which each input has only one output. • Recognize the graph of a function as a set of ordered pairs consisting of an input value and the corresponding output value.
8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change. (DOK 2)	(DOK 1) I can: • Identify functions algebraically including slope and y intercept. • Identify functions using graphs. Identify functions using tables. • Identify functions using verbal descriptions. (DOK 2) I can: • Compare and contrast two functions with different representations. • Draw conclusions based on different representations of functions.
8.F.3 Interpret the equation y=mx+b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A=s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4), and (3,9), which are not on a straight line. (DOK 2)	(DOK 1) I can: • Recognize that a linear function is graphed as a straight line. • Recognize the equation y=mx+b is the equation of a function whose graph is a straight line where m is the slope and b is the y-intercept. • Provide examples of nonlinear functions using multiple representations. (DOK 2) I can: • Compare the characteristics of linear and nonlinear functions using various representations.
8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x,y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of a	(DOK 1) I can: • Recognize that slope is determined by the constant rate of change. • Recognize that the y-intercept is the initial value where x=0. • Determine the rate of change from two (x,y) values, a verbal description, values in a table, or graph. • Determine the initial value from two (x,y) values, a verbal

situation it models, and in terms of its graph or a table of values. (DOK 2)	description, values in a table, or graph. (DOK 2) I can: • Construct a function to model a linear relationship between two quantities. • Relate the rate of change and initial value to real world quantities in a linear function in terms of the situation modeled and in terms of its graph or a table of values.
8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. (DOK 2)	(DOK 1) I can: • Sketch a graph given a verbal description of its qualitative features. (DOK 2) I can: • Interpret the relationship between x and y values by analyzing a graph. • Analyze a graph and describe the functional relationship between two quantities using the qualities of the graph.
8.G.1abc Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines. (DOK 2)	(DOK 1) I can: • Define & identify rotations, reflections, and translations. • Identify corresponding sides & corresponding angles. • Write prime notation to describe an image after a translation, reflection, or rotation. • Identify center of rotation. • Identify direction and degree of rotation. • Identify line of reflection. (DOK 2) I can: • Use physical models, transparencies, or geometry software to verify the properties of rotations, reflections, and translations (ie.

	Lines are taken to lines and line segments to line segments of the same length, angles are taken to angles of the same measure, & parallel lines are taken to parallel lines.)
8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. (DOK 2)	(DOK 1) I can: • Define congruency. • Identify symbols for congruency. (DOK 2) I can: • Apply the concept of congruency to write congruent statements. • Reason that a 2-D figure is congruent to another if the second can be obtained by a sequence of rotations, reflections, translation. • Describe the sequence of rotations, reflections, translations that exhibits the congruence between 2-D figures using words.
8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. (DOK 2)	(DOK 1) I can: • Define dilations as a reduction or enlargement of a figure. • Identify scale factor of the dilation. (DOK 2) I can: • Describe the effects of dilations, translations, rotations, & reflections on 2-D figures using coordinates.
8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. (DOK 2)	(DOK 1) I can: • Define similar figures as corresponding angles are congruent and corresponding sides are proportional. • Recognize symbol for similar. (DOK 2) I can: • Apply the concept of similarity to write similarity statements. • Reason that a 2-D figure is similar to another if the second can be

	obtained by a sequence of rotations, reflections, translation, or dilation. • Describe the sequence of rotations, reflections, translations, or dilations that exhibits the similarity between 2-D figures using words and/or symbols.