8th Grade - Unit 4: Math - Functions

Content Area: **Mathematics**
Course(s): **Math 6, Generic Course**
Time Period: **Generic Time Period**
Length: **30 days**
Status: **Published**

Established Goals/Standards

Please choose the appropriate Goals/Standards from the Standards tab above.

MA.8.F.A	Define, evaluate, and compare functions.
MA.8.F.A.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.
MA.8.F.A.2	Compare properties (e.g. rate of change, intercepts, domain and range) of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).
MA.8.F.A.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.
MA.8.F.B	Use functions to model relationships between quantities.
MA.8.F.B.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 the situation it models, and in terms of its graph or a table of values.
MA.8.F.B.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.

Essential Questions

Please add your Essential Questions by clicking on the Lists tab above.

- Are properties of functions and graphs the same for all functions?
- How are functions represented?
- What is a function?

Enduring Understanding

Please add your Enduring Understandings by clicking on the Lists tab above.

- A function is special type of relation.
- Functions are represented by graphs, tables, equations, and sets of ordered pairs.
- Functions vary dependent upon their corresponding equation, table, or graph.

Content

Students will be able to:

- Interpret a graph that represents a real world situation.
- Evaluate functions.
- Complete an input and output table.
- Determine if relationships are proportional.
- Recognize linear functions and graph them.
- Identify non-linear functions and graph them.
- Find the slope of a line.
- Write function rules from words tables and graphs
- Compare properties of functions

Vocabulary:

- Function
- Relation
- Input
- Output
- Domain
- Range
- Linear
- Non-linear
- Parabola
- Quadratic
- Proportional relationship
- Slope
- Slope-intercept form
- Y-intercept
- X-intercept

Assessment

Resources

- Savvas enVision textbook and online resources
- Teacher made flip-charts
- Web-based activities (mathplayground.com) (coolmath.com)
- Teacher made worksheets/assessments
- mad minutes
- NJCTL.org (PMI math)

- Pizzazz series of worksheets