Assessment Plan

Math 2 Unit 5

Standards/Topics	Conceptual Understanding	Procedural Skill & Fluency	Application
F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative* **#2 Comparing Functions Practice** Lesson 1 *Formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*
F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a) Graph linear and quadratic functions and show intercepts, maxima, and minima.	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative* **#2 Comparing Functions Practice** Lesson 1 *Formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*
F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. e) Graph exponential ~~and logarithmic~~ functions, showing intercepts and end behavior~~, and trigonometric functions, showing period, midline, and amplitude.~~	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative* **#2 Comparing Functions Practice** Lesson 1 *Formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*
F.IF.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	**# 3 Truffle Tins** Lesson 2 *Summative or formative*	**# 3 Truffle Tins** Lesson 2 *Summative or formative*	**# 3 Truffle Tins** Lesson 2 *Summative or formative*

F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically, in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative* **#2 Comparing Functions Practice** Lesson 1 *Formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*
F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative* **#2 Comparing Functions Practice** Lesson 1 *Formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*
F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*
F.BF.1 Write a function that describes a relationship between two quantities. a) Determine an explicit expression, a recursive process, or steps for calculation from a context.	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*	**#1 Tortoise, the Hare, and the Aardvark** Lesson 1 *Summative or formative*
S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a) Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.	**#7 Identifying Functions** Lesson 3 *Self-Assessment/Reflection* *Formative* **#5 Line of Best Fit Pre-Assessment** Lesson 3 *Pre-Assessment*	**#8 Multiple Representations Spoons** Lesson 3 *Observation Checklist* *Reflection Sheet* *Formative* **#5 Line of Best Fit Pre-Assessment** Lesson 3 *Pre-Assessment*	

S.ID.6b b) Informally assess the fit of a function by plotting and analyzing residuals.	**#6 Chirping Crickets** Lesson 3 *Formative*	**#6 Chirping Crickets** Lesson 3 *Formative*	**#4 Functionville** Lesson 3 *Summative*

Pre-Assessment(s)	Formative Assessment(s)	Summative Assessment(s)	Self-Assessment(s)
#5 Line of Best Fit Pre-Assessment	#1 Tortoise, the Hare, and the Aardvark #2 Comparing Functions Practice #3 Truffle Tins #6 Chirping Crickets #8 Multiple Representations Spoons	#1 Tortoise, the Hare, and the Aardvark #3 Truffle Tin #4 Functionville	#7 Identifying Functions

Sample Lesson Sequence:

1. F.IF. 6, 7, 9, F.BF.3, F.LE.3 Comparing linear, quadratic, and exponential functions.
    a. Compare the graphs
    b. Compare the equations
    c. Compare what happens when they transform the equation and the graph
2. F.IF.8a Rearrange functions to an appropriate form for graphing
3. S.ID.6 & F.IF.9
    a. Identifying functions from data
    b. Identifying functions from context
    c. Identifying functions from a graph
    d. Identifying functions from an equation
    e. Line of Best Fit Revisited