

AGENDAS FOR THE WEEK: 10/5 – 10/9

One-sentence summary of the week's lessons/learning goals: Students will connect function notation and evaluating functions to tables, coordinate points, and graphs, then use graphs to identify and interpret key features of linear functions.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
(Include times for each part of your lesson)	Objective(s): SWBAT - Evaluate a function for given inputs. - Represent evaluated function values as coordinate points. - Connect function notation to points on a function's graph. MAFS/NGSSS: MA.912.F.1.2: Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the output. MA.912.AR.2.4: Given a table, equation or written description of a linear function, graph that function, and determine and interpret its key features.	Objective(s): SWBAT - Create a table of values from a linear equation. - Evaluate a function for multiple inputs. - Identify the relationship between inputs, outputs, and coordinate points. MAFS/NGSSS: MA.912.F.1.2: Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the output. MA.912.AR.2.4: Given a table, equation or written description of a linear function, graph that function, and determine and interpret its key features.	Objective(s): SWBAT - Use a table of values to identify coordinate points. - Plot coordinate points and connect them to form a linear graph. - Explain the relationship between an equation, table of values, coordinate points, and a graph. MAFS/NGSSS: MA.912.F.1.2: Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the output. MA.912.AR.2.4: Given a table, equation or written description of a linear function, graph that function, and determine and interpret its key features.	Objective(s): SWBAT - Identify the slope and y-intercept of a linear function from its graph. - Describe key features of a linear graph. - Connect the slope and y-intercept to the graph of a linear function. MAFS/NGSSS: MA.912.AR.2.4: Given a table, equation or written description of a linear function, graph that function, and determine and interpret its key features.	Objective(s): SWBAT NO SCHOOL MAFS/NGSSS:

P	Engage (10 minutes) Bellringer: - Bellringer consisting of three questions that were most frequently missed on Friday's test. - Students work independently. - Volunteers come to the board to work out each problem. - Students compare their work with the board solutions and ask questions about the process.	Engage (10 minutes) Bellringer: - Bellringer reviewing Monday's content. - Students solve independently. - Volunteers demonstrate their solutions on the board. - Class compares answers and discusses any questions about the solutions.	Engage (10 minutes) Bellringer: - Spot the Mistake bellringer. - Students examine worked-out problems and identify the mistake. - Students explain what went wrong and determine how the problem should be solved. - Volunteers share their reasoning with the class.	Engage (10 minutes) - Bellringer reviewing tables, coordinate points, and graphing linear functions. - Volunteers solve the problems on the board. - Students compare their work and discuss the solutions with their peers.	Engage -
L A	Explore (15 minutes) - Students complete the "What Did the Boy Bunny Ask the Girl Bunny?" coordinate graph activity. - Students plot the given coordinate points on the provided graphs. - After plotting the points, students connect the points as instructed to reveal the hidden message. - The activity serves as an introduction to using coordinate points to create a graph.	Explore (15 minutes) - Introduce the idea of organizing multiple input and output values in a table of values. - Students connect previously evaluated function values to the x and y columns of a table. - Students identify how each row of a table represents a coordinate point. Explain (25 minutes) - Introduce tables of values as another way to represent a function. - Model how to substitute each given x-value into an equation to determine the corresponding y-value.	Explore (20 minutes) Gator Jigsaw Graphing Activity - Students are divided into six groups of three. - Each student receives three coordinate points, giving each group a total of nine points. - Students first plot their individual points on their own graphing paper. - Students then transfer their points onto their group's large graphing poster. - Each point is labeled with a letter. - Once all points have been plotted, the group connects the	Explore (15 minutes) Counting Distance on a Graph - Students examine a linear graph and count the horizontal and vertical distance between points. - Students identify patterns in how the line moves from one point to another. - Students use these observations to begin recognizing the relationship between movement on a graph and slope.	Explore Explain Elaborate

Explain (20 minutes) Notes: - Introduce the connection between evaluating a function and finding a coordinate point. - Explain that when an input is substituted into a function, the resulting output gives the corresponding y-value. - Connect x and $f(x)$ to the coordinate (x,y). - Demonstrate how multiple evaluated inputs can provide points that can be plotted on a graph. Elaborate (35 minutes) - Students complete a worksheet in which they evaluate functions for various inputs and use the resulting values to identify coordinate points. - Students may work independently or collaboratively. - Students may use their notes and ask the teacher for assistance. - An answer sheet will remain displayed at the front of the classroom for students to check their work. - Students are encouraged to focus on showing their	- Connect each row of the table to an ordered pair. - Connect the table of values to the graph of the function Elaborate (35 minutes) - Students complete the Table of Values Practice worksheet. - Students use the given equations and inputs to complete each table. - Students may work with their groups, use notes, and ask the teacher for assistance. - Students check their answers using the posted answer sheet. - Emphasis remains on showing the substitution and calculation process.	points in alphabetical order. - Each group discovers a letter. - The six group letters combine to spell GATORS. - Groups may decorate their completed letters before they are displayed in the hallway. Explain (25 minutes) Teacher Instruction - Connect the activity to the progression: Function notation → evaluating functions → table of values → coordinate points → graph - Explain that evaluating a function for several inputs creates multiple coordinate points. - Show how plotting and connecting these points creates the graph of a linear function. - Discuss how an equation can be represented in multiple connected forms. Elaborate (35 minutes) - Students complete a worksheet requiring them to: Complete a table of values.	Explain - Introduce the parts and key features of a linear graph. - Define and identify: Slope y-intercept - Explain how slope describes the rate at which a line increases or decreases. - Explain how the y-intercept identifies where the line crosses the y-axis. - Connect these features to the equation and graph of a linear function. Elaborate (35 minutes) Linear Equation Graphs Worksheet - Students determine the y-intercept and slope from each graph. - Students use the graph to count horizontal and vertical changes. - Students may work collaboratively, use notes, and ask for assistance. - Students check their answers using the posted answer sheet. - Students are expected to show how they determined the slope and y-intercept.	
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	process rather than simply obtaining the correct answer.		Use the table to identify coordinate points. Plot the points. Connect the points to form the graph of the linear function. - Students may collaborate, use notes, and ask for assistance. - Students check their work using the posted answer sheet		
N	Evaluate and Summary - Teacher checks students' progress and understanding while circulating. - Students summarize the connection between evaluating a function and finding a point on its graph.	Evaluate and Summary - Teacher checks students' completed tables and work process. - Students explain how a table of values can be used to create points for a graph.	Evaluate and Summary - Teacher checks students' graphs and work process. - Students explain how a table of values can be used to create a graph.	Evaluate and Summary - Teacher checks students' work and understanding. - Students explain what the slope and y-intercept tell them about a linear graph.	Evaluate and Summary -
Resources:	- Friday's test - Bellringer: three most-missed test questions - "What Did the Boy Bunny Ask the Girl Bunny?" coordinate graphing activity - Evaluating Functions worksheet - Student notes - Graphing paper/pencils - Posted answer sheet - Whiteboard and markers	- Bellringer problems - Notes on tables of values - Table of Values Practice worksheet - Student notes - Posted answer sheet - Whiteboard and markers	- Spot the Mistake bellringer - Gator Jigsaw Graphing Activity - Individual graphing paper - Large group graphing posters - Markers/colored pencils for decorating - Table of Values and Graphing worksheet - Student notes - Posted answer sheet	- Bellringer problems - Counting Distance on a Graph thinking activity - Notes on linear equations and key features of a line - "Linear Equation Graphs (A)" worksheet - Student notes - Posted answer sheet	-

Questions to ask students during lesson:

1. What does the input represent? What does the output represent?
2. When you evaluate $f(x)$, what are you finding?
3. How can your answer be represented as a coordinate point?
4. What does each column in the table represent? How does a row in the table relate to an ordered pair?
5. Where would this point be located on the coordinate plane?

6. How can we use the table to create a graph?
7. What do you notice about the points when the function is linear?
8. How can you find the y-intercept from the graph? How can you determine the slope using two points?
9. How far did the line move horizontally? How far did the line move vertically?
10. What does the slope tell us about the direction of the line?

Misconceptions or identified areas where students will struggle:

- Confusing the input x with the output $f(x)$.
- Forgetting to substitute the input for every occurrence of x .
- Treating $f(x)$ as multiplication instead of function notation.
- Confusing a function's output with the entire coordinate point.
- Reversing the x and y -coordinates when plotting points.
- Plotting points incorrectly because of difficulty reading the coordinate plane.
- Confusing slope with the y -intercept.
- Counting horizontal and vertical movement incorrectly when finding slope.