CARROLL HIGH SCHOOL
LESSON PLANS

Teacher: Mrs. M. Williams

Subject: Algebra	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
ACCRS:	13)[A-CED2] Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2] (Linear, quadratic, and exponential (integer inputs only)) 22.) Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). [A-REI10] 28.) [F-IF4] For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4] (Linear, exponential and quadratic)	13.)[A-CED2] Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2] (Linear, quadratic, and exponential (integer inputs only)) 22.) Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). [A-REI10] 28.) [F-IF4] For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4] (Linear, exponential and quadratic)	22.) Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). 25.) Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).	22.) Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). 25.) Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).	28.) [F-IF4] For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4] (Linear, exponential and quadratic) 30.)[F-IF6] 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.* (Linear, exponential and quadratic) 46. [S-ID7] Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
Before:	Warm up: Students will complete an assignment on google classroom on coordinate plane.	Quiz coordinate plane	Warm up X and y intercepts	Warm up solving for a specified variable. Students will be sent to the board to work out the problems.	Warm up solving for a specified variable. Students will be sent to the board to work out the problems.
During:	Students will write notes on intercepts (x- and y intercepts)	The student will finish notes on finding the x and y intercepts of lines from an equation.	Students will write notes on function notation.	Students will learn that equations can be written in function notation.	Students will take notes on how to find the slope when given two points. They will also have to label the slope and y intercept when given an equation of a line

After:	Students will work out problems where they will determine where the x-intercept is located and where the y intercept is located when given a graph or an equation.	Students will share their answers with in their groups to check for complete understanding.	Students will work problems where they will determine the range when given the domain.	Students will determine dependent and independent variables.	Students will work out problems where they have to figure out the slope of a line when given two points and where the slope and y intercept is of an equation.
Desired Outcome:	Students will learn how to find the x and y intercepts when given an equation or from the graph.	The student will investigate and analyze function (linear and quadratic) families and their characteristics both algebraically and graphically, including *x*- and *y*-intercepts.	The student will investigate and analyze function (linear and quadratic) families and their characteristics both algebraically and graphically, including; finding the values of a function for elements in its domain;	Students will learn function notation and how to substitute numbers into a function.	The student will graph linear equations in two variables, including determining the slope of a line when given an equation of the line, the graph of the line, or two points on the line. Slope will be described as rate of change and will be positive, negative, zero, or undefined
Formative/Summative	Warm up	Quiz and I will walk around and check each group and their set of cards.	Warm up	Warm up	Warm and I will walk around and assess the students as they are working in their groups at their desk
Homework:	X- and Y – intercepts sheet on google classroom	X and Y intercept worksheet on google classroom.	Worksheet on google drive	Worksheet on google classroom	none
Higher Order Questions:	How can you determine the x and y intercepts of a graph?	How can you analyze a function from its graph?	It is important to know that the values of $f(x)$ are the ordinates of the points of the graph of f.	How can you determine whether a graph represents a function? How can you determine whether a table of values represents a function?	How can you explain slope as a rate of change?