Unit 7 The Coordinate Plane & Lines

Content Area: **Special Education**
Course(s):
Time Period: **September**
Length: **6 weeks**
Status: **Published**

Enduring Understandings

A function is a relationship between variables in which each value of the input variable is associated with a unique value of the output variable.

Patterns and relationships can be represented graphically, numerically, symbolically, or verbally

Essential Questions

hat does the y-intercept form of a linear equations tell me about its graph?

How do we create, test and validate a model?

Content

Vocabulary

Coordinate plane

Ordered pair

Slope

Slope-intercept form

x-intercept

y-intercept

x-axis

y-axis

linear

Skills

Identify the essential parts of the coordinate plane.

Plot points in a coordinate plane.

Use graphs to represent relations and functions.

Graph lines through a variety of methods.

Find and interpret slopes of lines.

Interpret and create graphs representing real-world situations.

Graph and write linear equations in slope-intercept form.

Construct a function to model for a linear relationship between two quantities.

Resources

Standards

CCSS: Mathematics

CCSS: Grade 8

Functions

8.F.A. Define, evaluate, and compare functions.

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.

Show details

8.F.A.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.

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.

Show details

8.F.B. Use functions to model relationships between quantities.

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	Functions
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.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 (□, □) 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.