

# Unit 7 The Coordinate Plane & Lines

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

## **Enduring Understandings**

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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**

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What does the y-intercept form of a linear equation tell me about its graph?

How do we create, test and validate a model?

## **Content**

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### **Vocabulary**

Coordinate plane

Ordered pair

Slope

Slope-intercept form

x-intercept

y-intercept

x-axis

y-axis

linear

## Skills

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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

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## Standards

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**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.

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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.