



## Topic B

# Linear Equations in Two Variables and Their Graphs

## 8.EE.B.5

<b>Focus Standard:</b>	8.EE.B.5	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. <i>For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.</i>
<b>Instructional Days:</b>	5	
<b>Lesson 10:</b>	A Critical Look at Proportional Relationships (S) <sup>1</sup>	
<b>Lesson 11:</b>	Constant Rate (P)	
<b>Lesson 12:</b>	Linear Equations in Two Variables (E)	
<b>Lesson 13:</b>	The Graph of a Linear Equation in Two Variables (S)	
<b>Lesson 14:</b>	The Graph of a Linear Equation—Horizontal and Vertical Lines (S)	

Topic B begins with students working with proportional relationships related to average speed and constant speed. In Lesson 10, students use information that is organized in the form of a table to write linear equations. In Lesson 11, students learn how to apply the concept of constant rate to a variety of contexts requiring two variables (**8.EE.B.5**). Lesson 12 introduces students to the standard form of an equation in two variables. At this point, students use a table to help them find and organize solutions to a linear equation in two variables. Students then use the information from the table to begin graphing solutions on a coordinate plane. In Lesson 13, students begin to question whether or not the graph of a linear equation is a line, as opposed to something that is curved. Lesson 14 presents students with equations in standard form,  $ax + by = c$ , where  $a = 0$  or  $b = 0$ , which produces lines that are either vertical or horizontal.

<sup>1</sup>Lesson Structure Key: **P**-Problem Set Lesson, **M**-Modeling Cycle Lesson, **E**-Exploration Lesson, **S**-Socratic Lesson