Tools and Topics

Inspiring Connections Course 3, Chapter 6

Spotlight On: Perseverance

People are rarely proficient when they first try something new, whether it is riding a bike, speaking a new language, or playing a new video game. Being unsure, identifying errors, and making mistakes are signs that someone is actively thinking about and making sense of new ideas and skills; they are signs that someone is learning and growing. In math class, your student is invited to engage with challenges productively. Students are encouraged to take risks, try new ideas, and learn from their mistakes.

The Big Picture

Growing From

Multiple representations;
Graphs of systems;
Trend lines on a scatter plot

Working On

Slope;
Solving systems of equations algebraically;
Equations of trend lines on a scatter plot

Growing To

Linear and nonlinear functions;
Linear regression

Need Help?

Methods & Meanings boxes are included in the Mathematician's Notebook as reference.

6.1.1: Systems of Equations Vocabulary
6.1.3: The Equal Values Method
6.1.4: Linear Equations
6.2.1: Solutions to a System of Equations
6.2.4: Proportional Equations
6.2.5: Slope of a Line

Current Topics

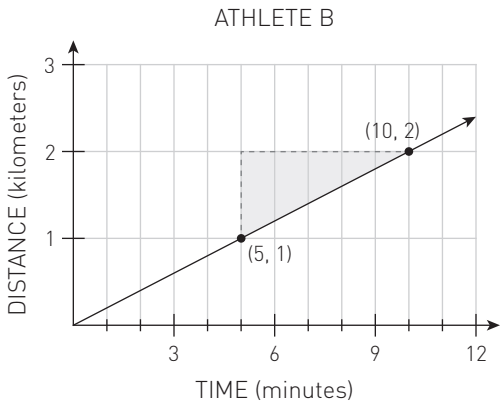
When will the United States meet its goals to reduce its carbon footprint? How many solutions do two linear equations have? Throughout this chapter, students will solve systems of equations using multiple representations, explore slope and growth triangles, and analyze relationships in scatter plots and two-way tables to address these questions.

Solving Systems Algebraically (Section 6.1)

In Section 6.1, students will continue their exploration of solutions to systems of linear equations from Chapter 2 and Chapter 5. They will write systems of linear equations and solve them algebraically in contexts related to climate change.

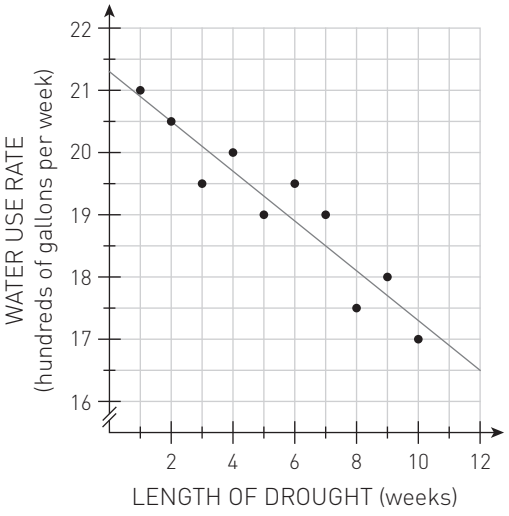
Slope and Rate of Change (Section 6.2)

In Section 6.2, students consolidate their understanding of unit rates, rates of change, and growth triangles to define slope as the ratio between the change in y-values and the change in x-values. Students will use this ratio while exploring race times from the 2016 Paralympics, efforts to reduce carbon emissions in buildings, and beliefs of sampled populations of varying sizes about efforts to mitigate climate change.



Associations (Section 6.3)

In Section 6.3, students continue their work with scatter plots from Chapter 1 and Chapter 3 by writing the equation for a trend line in $y = mx + b$ form and determining the slope of a trend line with slope triangles. Students explore association represented first by scatter plots, then in two-way tables in the last two lessons.



Try This at Home!

Work with your student to make sense of what a carbon footprint is and what it means to reduce the carbon footprint in your household.