

9.2**Lines of Fit**

For use with Activity 9.2

Essential Question How can you use data to predict an event?**1 ACTIVITY:** Representing Data by a Linear Equation

Work with a partner. You have been working on a science project for 8 months. Each month, you measured the length of a baby alligator.

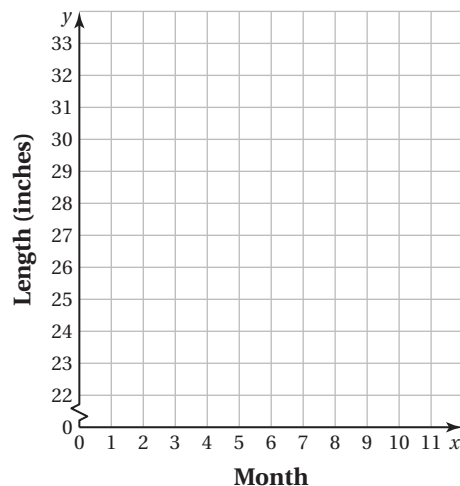


The table shows your measurements.

	September				April			
	↓				↓			
Month, x	0	1	2	3	4	5	6	7
Length (in.), y	22.0	22.5	23.5	25.0	26.0	27.5	28.5	29.5

Use the following steps to predict the baby alligator's length next September.

- Graph the data in the table.
- Draw a line that you think best approximates the points.
- Write an equation for your line.
- MODELING** Use the equation to predict the baby alligator's length next September.



9.2 Lines of Fit (continued)

2 ACTIVITY: Representing Data by a Linear Equation

Work with a partner. You are a biologist and study bat populations.

You are asked to predict the number of bats that will be living in an abandoned mine in 3 years.

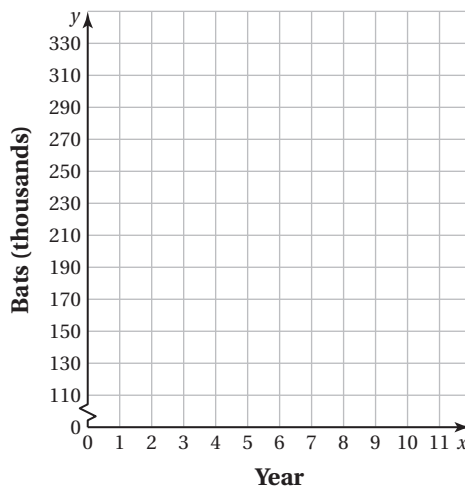
To start, you find the number of bats that have been living in the mine during the past 8 years.

The table shows the results of your research.

	7 years ago							this year
	↓							↓
Year, x	0	1	2	3	4	5	6	7
Bats (thousands), y	327	306	299	270	254	232	215	197

Use the following steps to predict the number of bats that will be living in the mine after 3 years.

- a. Graph the data in the table.
- b. Draw a line that you think best approximates the points.
- c. Write an equation for your line.



- d. **MODELING** Use the equation to predict the number of bats in 3 years.

9.2 Lines of Fit (continued)**What Is Your Answer?**

3. **IN YOUR OWN WORDS** How can you use data to predict an event?

~~4. **MODELING** Use the Internet or some other reference to find data that appear to have a linear pattern. List the data in a table and graph the data. Use an equation that is based on the data to predict a future event.~~