

Name: _____

Date: _____

4.4 Scatter Plots and Lines of Fit

Essential Question: _____

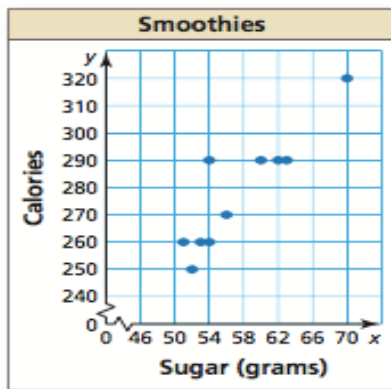
A _____ plot is a _____ that shows the _____ between two data sets.

The two data sets are graphed as _____ pairs in a coordinate plane. Scatter plots can show _____ in the _____.

EXAMPLE 1 Interpreting a Scatter Plot

The scatter plot shows the amounts x (in grams) of sugar and the numbers y of calories in 10 smoothies.

- How many calories are in the smoothie that contains 56 grams of sugar?
- How many grams of sugar are in the smoothie that contains 320 calories?
- What tends to happen to the number of calories as the number of grams of sugar increases?



A _____ is a _____ between data sets. You can use a scatter plot to describe the correlation between the data.

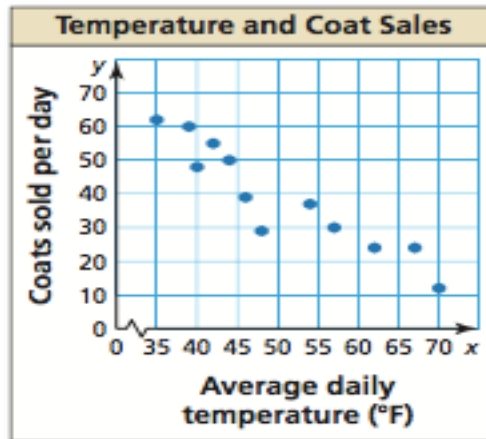
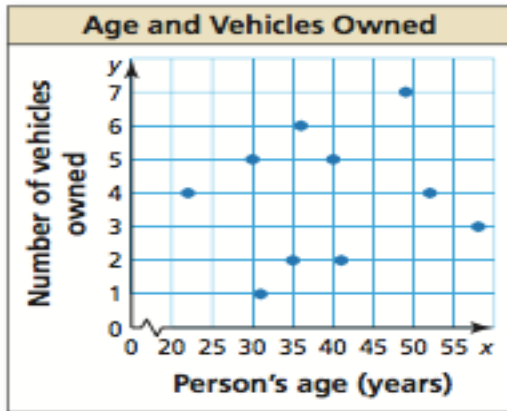
In the space below, draw an example of each of the types of correlations as shown in the video:

EXAMPLE 2**Identifying Correlations**

Tell whether the data show a *positive*, a *negative*, or *no* correlation.

a. age and vehicles owned

b. temperature and coat sales at a store



Using Lines of Fit to Model Data

When data shows a positive or negative correlation, you can model the _____ in the data using a _____ of _____. A line of fit is a _____ drawn on a scatter plot that is _____ to most of the data points.

Step 1: Make a _____ plot of the data.

Step 2: Decide whether the data can be _____ by a _____.

Step 3: _____ a line that appears to fit the data _____. There should be approximately as many points _____ the line as _____ it.

Step 4: Write an _____ using two points on the _____. The points do _____ have to represent actual data pairs but they _____ lie on the line of _____.

EXAMPLE 3 Finding a Line of Fit

The table shows the weekly sales of a DVD and the number of weeks since its release. Write an equation that models the DVD sales as a function of the number of weeks since its release. Interpret the slope and y -intercept of the line of fit.

Week, x	1	2	3	4	5	6	7	8
Sales (millions), y	\$19	\$15	\$13	\$11	\$10	\$8	\$7	\$5

