

NAME _____

Module 19 Analyzing Data and Statistics
Lesson 4 Finding a Line of Best Fit

**guided
notes**

Lesson Objectives

- Make a scatter plot.
- Describe the correlation between two data sets.
- Write the equation for a line of fit.
- Use the equation of the line of fit to make predictions.

A scatter plot shows the **relationship** _____ between two sets of data values. It is made by plotting the two sets of data values as **ordered pairs** _____ on the coordinate plane.

A **negative correlation** _____ is a relationship in which the dependent variable decreases as the independent variable increases.

A positive correlation is a relationship in which the **dependent** _____ variable **increases** _____ as the **independent** _____ variable **increases** _____.

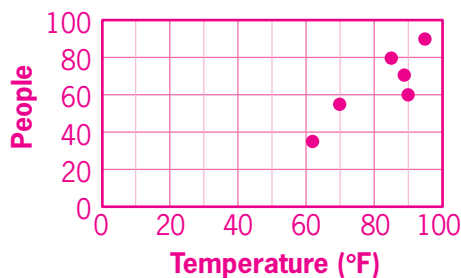
When two data sets have **no correlation** _____, there is no relationship between the dependent and independent variables.

The dependent variable is usually plotted on the vertical axis.

The independent variable is usually plotted on the horizontal axis.

1 Make a scatter plot of the data.

Temp. (°F)	People on beach
62	35
95	90
90	60
70	55
85	80
87	70

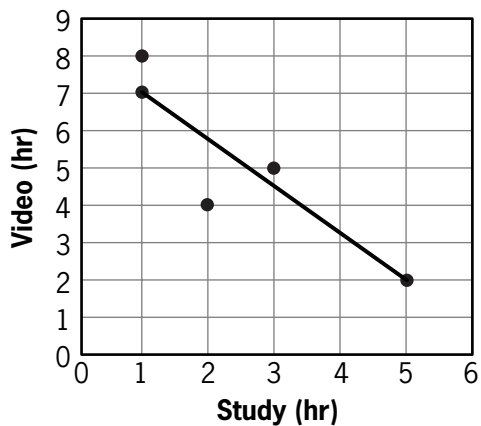


- 2 Describe the relationship in the scatter plot above, which compares the number of people at a beach and the daily high temperature.

Positive correlation: As the temperature increases, the number of people at this beach also increases.

A line of fit describes the **trend** of the data and can be used to make **predictions**. A line of fit is also known as a **regression** line.

- 3 Find the equation for the line of fit shown on the scatter plot which compares the number of hours studying and the number of hours playing video games per week for five weeks. Use the points (1, 7) and (5, 2) to find the equation.



$y = -1.25x + 8.25$

- 4 Predict the number of hours playing video games if the student spends three hours studying. **4.5 hours**
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