

Scatter Plots & Line of Best Fit

Name: _____ Date: _____

LEARNING OBJECTIVE

The student will collect bivariate data, plot it on a scatter plot, and draw an approximate line of best fit to describe the trend.

MATERIALS NEEDED

- graph paper
- ruler
- pencil
- a tape measure or ruler for measuring
- string (optional)

HANDS-ON ACTIVITY

1. Collect at least 8 pairs of related data points, such as the height and arm span of 8 household items/people, or the length and width of 8 different books.
2. Plot each (x, y) pair as a point on a graph paper scatter plot, labeling both axes clearly.
3. Lay a piece of string or your ruler across the scatter plot to find a line that best represents the overall trend, then draw that line of best fit in pencil.
4. Estimate the slope of your line of best fit by choosing two points on the line and calculating rise over run.
5. Use your line to predict a y-value for one new x-value that was not in your original data set.

QUESTIONS

1. **What two variables did you measure, and do they show a positive, negative, or no correlation?**
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2. **What is the approximate slope of your line of best fit? Show the two points you used and your calculation.**
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3. **Using your line of best fit, what y-value did you predict for a new x-value? Show your reasoning.**

4. Why is a line of best fit useful even though it doesn't pass through every point exactly?
