Looking at 2 variables
Data

Let’s use the schools data again. But this time we’re interested in how two variables move together.

Types of questions:

As the rate of poor students at a school increases, what happens to test scores?

Is there a relationship between student teacher-ratio and math test scores?
Cartesian coordinate review

In general, the x-axis is the thing we think is a predictor.

The y-axis is the thing we think might be related to the x-axis.
Are poverty and test scores related?

To assess this, we want to plot poverty rates and school average test scores on our x and y axis.

- Select the poverty and math score columns and paste them into a new tab.
- Choose Math vs. Poverty from the options
Are poverty and test scores related?

Your result should look like this:
Interpreting a scatterplot

If \( y \) goes up as \( X \) goes up, that is a positive correlation.

If \( y \) goes down as \( X \) goes up, that is a negative correlation.

There are two uses for a scatterplot:

1. What is the relationship between the variables overall?
2. Are there ‘outliers’, or observations that don’t fit the pattern. This can be the source of good reporting leads.