We often hear about teams that spend a lot of money to bring talented players to their team. It makes us wonder, does a large payroll equal more wins? In this activity we ask students to compare sports teams payrolls with the team's total wins.

For all students regardless of sport:

1. What are the variables in this situation? Which is the independent variable? Which is the dependent variable? In general, how do you determine independent and dependent variables for a given situation?

2. Create a scatter plot of the data. Be careful to consider which variable belongs on the x-axis and which belongs on the y-axis. Carefully consider the scales that you will use for each axis. It may make sense to talk this out with your partner or even another group before creating your scales.

3. Does there appear to be a correlation between team salary and total team wins? If so, describe the correlation, is it positive, negative, weak, strong?

4. Compute the correlation coefficient. Does the value of the correlation coefficient support your response to question 3?

Whole class tasks (after seeing scatter plots from all four sports).

5. Only looking at the plots, which of the sports appears to show the strongest correlation between team salaries and total team wins? Which of the sports shows the weakest association?

6. Using the correlation coefficients for each sport, which sport shows the strongest correlation between team salaries and total team wins?

7. Based on the data from the four sports, would you say that there is a relationship between team salaries and wins in the sporting world? Explain your reasoning. To better answer this question, what other information would be useful?

8. Assuming there is a relationship between team salary and wins in any of the sports, would you say the relationship is causation or correlation? Explain your thinking.

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