

Can Statistics Be Deceiving?

Divide the class into groups. Each group will select, prepare and present their graphs for the scenarios below. Their goal is to create deceiving graphs. After the presentations, discuss how to read graphs so you won't be deceived.

Your GPA

This is the data concerning your GPA this year.

1. Design a line graph to persuade your parents you really improved over the year, so you deserve an increase in your allowance.
2. Design the line graph your parents might use to show that you have made very little improvement and will have to work a lot harder to get an allowance increase.

Quarter #	GPA
1	2.7
2	2.8
3	3.0
4	3.2

But All My Friends Get More Money than Me!

This is the data you collected in a survey of the allowance your friends get.

1. Construct a histogram to persuade your parents that you really are underpaid compared to your friends.
2. Construct a histogram which your parents could use to show that you and your friends make almost the same amount of allowance and so you are making too big an issue out of this.

Name	\$Allowance per week
Laura	\$5.00
Cassie	5.00
Angela	10.00
Chris	6.00
Ray	8.00
Me	4.00

Do TV Hours Lower Your Grades?

You have collected this data showing the number of hours you spend watching TV in a month and your math test scores in those months.

1. Construct a scatter plot to show that the number of hours watching TV does not have a great bearing on the test scores. You want to convince your parents you won't have to change your viewing habits.
2. Construct a scatter plot to show that the test scores are greatly affected by the number of hours you watch TV. Your parents want to make the point that you need to change your viewing habits.

TV Hours	Test Scores

Do Clothes Make the Man?

You have been collecting data about the amount of money several of your classmates spend on clothes in a year's time. You are wondering if more expensive clothes seem to make a person more popular.

1. Construct a scatter plot to convince your parents that you need to spend more money on clothes.
2. Construct a scatter plot to show that there isn't enough of a difference in the number of friends to make spending more money on clothes that important.

\$ Spent on Clothes	Number of Friends
\$500	20
450	18
600	24
400	17
350	16

Movie Buffs

You have been collecting data about favorite movies.

1. You want to persuade people to attend the number 1 movie. Construct a graph showing a lot more people attending the number one movie.
2. Construct a graph showing that no movie was really much more popular than the others.

Movie	Number of people who preferred
#1	40
2	35
3	32
4	30
5	29