

AP Statistics

What do Statisticians really do?

- They try and find answers to really important questions, such as: "Should Mom buy name brand or store brand cereal. Which do kids prefer?"
- In the front of the room there are two brands of cereal, marked A and B. If you have not done so please sample each cereal. Mentally make note of which one you like better. You have to pick one, you can't say they both are terrible.

The store brand manufacturer states that there really is no difference in taste. If his/her claim is true out of a class of 30 how many students should prefer the name-brand cereal? \_\_\_\_\_

Suppose in a class of thirty 18 students prefer the name brand cereal. Is there convincing evidence that students prefer the name brand cereal?

What are the two reasons that the number obtained is higher than 15? (the expected value if there is no difference in taste)

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How can we simulate thirty students choosing cereal by flipping a coin, if taste is really the same?

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Perform the simulation and create a dot-plot of the results. Let a "success" be picking the name-brand cereal. Each person complete 30 trials and count how many times the coin said the name brand cereal was picked.

How many times did you have the name brand cereal chosen by the coin? \_\_\_\_\_

Graph the class data on the dot plot below.

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6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Now answer the same question. If a class of 30 has 18 students pick the name brand cereal is there convincing evidence that students prefer the name brand? Explain.

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Real cereal taste test

Preference

Cereal A \_\_\_\_\_

Cereal B \_\_\_\_\_

Is there convincing evidence that OUR class prefers name brand more than store brand? (Be careful. Can you use the above dot plot?)

Write a short paragraph explanation.