

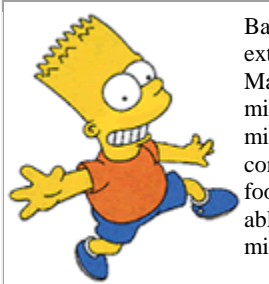
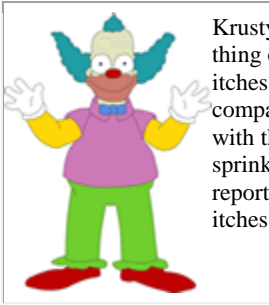



The Simpsons - Identify the Controls and Variables

	<p>Smithers thinks that a special juice will increase the productivity of workers. He creates two groups of 50 workers each and assigns each group the same task (in this case, they're supposed to staple a set of papers). Group A is given the special juice to drink while they work. Group B is not given the special juice. After an hour, Smithers counts how many stacks of papers each group has made. Group A made 1,587 stacks; Group B made 2,113 stacks.</p>	<p>Identify the:</p> <ol style="list-style-type: none"> Control Group Independent Variable Dependent Variable What should Smithers' conclusion be? How could this experiment be improved?
	<p>Homer notices that his shower is covered in a strange green slime. His friend Barney tells him that coconut juice will get rid of the green slime. Homer decides to check this out by spraying half of the shower with coconut juice. He sprays the other half of the shower with water. After 3 days of "treatment" there is no change in the appearance of the green slime on either side of the shower.</p>	<ol style="list-style-type: none"> What was the initial observation? <p>Identify the following:</p> <ol style="list-style-type: none"> Control Group Independent Variable Dependent Variable What should Homer's conclusion be?
	<p>Bart believes that mice exposed to microwaves will become extra strong (maybe he's been reading too much Radioactive Man). He decides to perform this experiment by placing 10 mice in a microwave for 10 seconds. He compared these 10 mice to another 10 mice that had not been exposed. His test consisted of a heavy block of wood that blocked the mouse food. He found that 8 out of 10 of the microwaved mice were able to push the block away. Seven out of 10 of the non-microwaved mice were able to do the same.</p>	<p>Identify the following:</p> <ol style="list-style-type: none"> Control Group Independent Variable Dependent Variable What should Bart's conclusion be? How could Bart's experiment be improved?
	<p>Krusty was told that a certain itching powder was the newest best thing on the market; it even claims to cause 50% longer lasting itches. Interested in this product, he buys the itching powder and compares it to his usual product. One test subject (A) is sprinkled with the original itching powder, and another test subject (B) was sprinkled with the experimental itching powder. Subject A reported having itches for 30 minutes. Subject B reported to have itches for 45 minutes.</p>	<p>Identify the following:</p> <ol style="list-style-type: none"> Control Group Independent Variable Dependent Variable Explain whether the data supports the advertisements claims about its product.
	<p>Lisa is working on a science project. Her task is to answer the question: <i>Does Rogooti (which is a commercial hair product) affect the speed of hair growth?</i> Her family is willing to volunteer for the experiment.</p>	<ol style="list-style-type: none"> Describe how Lisa would perform this experiment. Identify the control group and the independent and dependent variables in your description.

What Did They Do Wrong?

Situation 1

Bob's car won't start. He thinks it might be the gas or the battery. He fills the tank, changes the battery, then tries to start the car. If he wants to find the cause of his car trouble, what did Bob do wrong?

Situation 2

Sherri's plant is dying. She wonders if it could be that the plant isn't getting enough sun or it's getting too much water. She moves it to a sunnier spot and begins to water it less. If she wants to find the cause of her plant's sickness, what did Sherri do wrong?

Situation 3

Veronica is very sick. Dr. Jones is her doctor at Northside Hospital. Veronica's symptoms seem like common appendicitis, so when her blood work comes back to Dr. Jones, he ignores the results and decides to operate. What did Dr. Jones do wrong?

Situation 4

Ashley is working on a laboratory activity which is giving her a lot of trouble. She completes the experiment, prints out the data, and tells her instructor she is finished. Is she lying? What else does Ashley need to do?

Situation 5

Fabian is performing an experiment for the first time, but knows about what the results should be. Instead of what he is expecting, the results are completely abnormal. Fabian just shrugs and writes his conclusions as he expected them to be. What has Fabian done wrong?

Situation 6

Shelby is trying to determine what type of soil is best for planting tomatoes. She uses the same type of pot, same amount of water, and the same strain of tomato plant. Shelby places her plants in three different areas, one of which receives less sun than the others. What has Shelby done wrong?

Situation 7

Jada is testing to see if either light or air exposure is causing her compound to degrade. She has two different samples in two different chambers. At the same time, she turns on the lights and exposes the compound to air for both chambers. One chamber is malfunctioning and is hotter than the other. Jada collects her data and makes conclusions. What did Jada do wrong and why are her results not valid?