

Identify the Controls and Variables

Name: _____

Period: _____



Mr. Smithers thinks that a special juice will allow workers to do more work. He creates 2 groups of 50 workers each and gives each group the same job to do (in this case, they have to staple a set of papers). Group A drinks the juice while they work, while Group B does not. After an hour, Mr. Smithers counts how many packets each group made. Group A made 1,587 packets, Group B made 2,113 packets.

1. Who is the control group?
2. What is the independent variable?
3. What is the dependent variable?
4. What should Smithers conclude?
5. How can experiment be improved?



Homer notices that his shower is covered in a green slime. Barney the Drunk tells him that coconut juice will get rid of the green slime. Homer tests this out by spraying 1/2 of the shower with coconut juice and 1/2 of the shower with water. After 3 days of "treatment" there is no change in either side of the shower.

6. What was Homer's initial observation?
7. What was the control?
8. What was the independent variable?
9. What is the dependent variable?
10. What should Homer conclude?



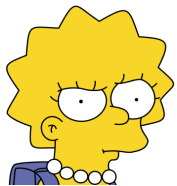
Bart believes that mice exposed to microwaves will become extra strong. He decides to perform an experiment by having a group of 10 mice that he puts in a microwave oven for 10 seconds. He then compared these mice to 10 mice that had not been exposed. He tested the mice by blocking their food with a piece of heavy wood. He found that 8 out of 10 of the mice that were microwaved moved the block out of the way, and 7 of the 10 also moved the block.

11. What was the control group?
12. What was the independent variable?
13. What was the dependent variable?
14. What should Bart conclude?
15. How can experiment be improved?



Krusty the Clown was told that a certain itching powder was the hottest stuff on the market; going as far as to claim that it caused itches that lasted 2 times longer. Interested in this product, he buys the powder and compares it to his usual product. One test subject (Subject A) gets Krusty's usual powder, and the other (Subject B) gets hit with the experimental powder. Subject A reports itching for a $\frac{1}{2}$ hour, while Subject B reports itching for 1 hour.

16. Who is the control?
17. What is the independent variable?
18. What is the dependent variable?
19. Does the data collected by Krusty support the claims made by the advertisements for the new itching powder?



Lisa is working on a science project. Her task is to answer the question: Does "Do-good" (which is a hair product) cause hair to grow faster? Her family, friends and classmates are willing to volunteer for the experiment.

20. Describe how Lisa would do this experiment. Identify the control, the independent variable, and the dependent variable in your description.