

Scientific Method

The methods for answering scientific questions...

Scientific Method: _____

1. _____
2. _____
3. _____: educated guess based on research-answer to problem.
4. _____: test the hypothesis.
5. _____: discussion- is the hypothesis correct? Explain your reasoning.

Designing Experiments

_____ - what causes the change.

* _____

_____ - this is expected to change as the independent variable changes.

_____ - does **not** change in an experiment.

_____ - a group used as a standard of comparison. (No experiment is done to the control group)

Making Conclusions from Experiments

_____ - a well-tested idea that explains and connects a wide range of observations.

** scientists need to get more information and observations before a theory can become a law.*

_____ - a statement that describes what scientists expect to happen every time under a particular set of conditions.

Ex: Gravity exists on Earth, on other planets, and out in space

The Case of the Green Slime



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.

1. What is the problem?
2. What is the control group?
3. What is the manipulated variable?
4. What is the responding variable?
5. What should Homer's conclusion be?

Market Research: Itching Powder

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.



6. What is the Control Group?
7. What is the Manipulated Variable?
8. What is the Responding Variable?
9. Explain whether the data supports the advertisements claims about its product.