

A Dogged Investigation

KEY

Instructions: After reading the story "A Dogged Investigation" answer the following questions in the spaces provided.

1. What was wrong with Fernanda's first dog food investigation?.....

She had no other dog or dog food to compare her results to ... to PROVE that it was only the food that made the difference.

2. What two mistakes did she make in her second experiment?

- 1. Tested the food on two different types of dog.**
- 2. She fed both dogs different food.**

3. What is a variable?

A factor in an experiment that you can CHANGE to see if it makes a difference in the outcome.

4. What is a control, and why is it important in a scientific experiment?

A control is the comparison group ... the group that will NOT be changed.

Which was the control dog and which was the experimental dog in Fernanda's third attempt?

- 1. Control dog: Beagle B**
- 2. Experimental dog: Beagle A**

5. Why is it important to limit the number of experimental variables in an experiment to one?

What this question means is "why do you keep EVERYTHING the same and only change ONE thing between control group and experimental group?" Because otherwise you won't be able to tell which variable you changed was the one that affected the result of your experiment.

6. Could you copy and do Fernanda's experiment? **Yes**

Why is it important to be able to repeat experiments in Science?.....

It enables you to prove that it wasn't just a fluke and that the results really were because of the variable she changed and not because of some other random or environmental factor she hadn't thought of.

7. What other kinds of experiments could you do to test Fernanda's conclusion about the effect of her dog vitamins?

- 1. Do same test with a different breed of dog.**
- 2. Compare her formulation with OTHER brands and types of commercial dog food.**
- 3. Grow the dogs in different environments (different homes)**