



## The Running Shoe Experiment

A runner has two pairs of running shoes. To find out which pair will allow her to run faster, she puts on the first pair and runs around the track once in exactly 2 minutes. Directly after the first test, she puts on the second pair and runs around the track again, this time, making it in 2 minutes and 10 seconds. She decides the first pair is better, and heads to the store to return the second pair.

1. What is the runner trying to test? That is, what question is she trying to answer? Do you think her experiment can answer the question she is trying to answer? Why or why not?
2. Do you think both pairs of sneakers are treated fairly in the experiment or does one have better chances than the other? Why or why not?
3. Are there any factors that might have interfered with her experiment? If so, what are they?

## VARIABLES

1. What was purposely changed between the first and second test?

(this is the **independent variable**)

2. What was the the result of the change in this experiment?

(this is the **dependent variable**)

3. What were some things that should have stayed the same? (hint see your answer from question 3 on the other page to answer this question).

(these are the **constants**)

4. Based on what you know, was the runner's experiment successful? Do you think she made a fair decision about which shoes to keep? Why or why not?

5. **How could you design a better experiment?**