B. Now that you have seen some of the assumptions and limitations associated with experimentation, try your hand at analyzing experimental data. Remember that you must be objective, regardless of what you are trying to prove.

A scientist wished to determine if a new type of antibiotic, called antibiotic F, was effective against a particular type of microorganism that caused pneumonia. To test the hypothesis, the scientist found 100 volunteers in a large hospital, all suffering from the same type of pneumonia. The scientist gave 50 of the volunteers the new antibiotic for 10 days. The other 50 volunteers were given a sugar pill for 10 days. The sugar pill is called a placebo.

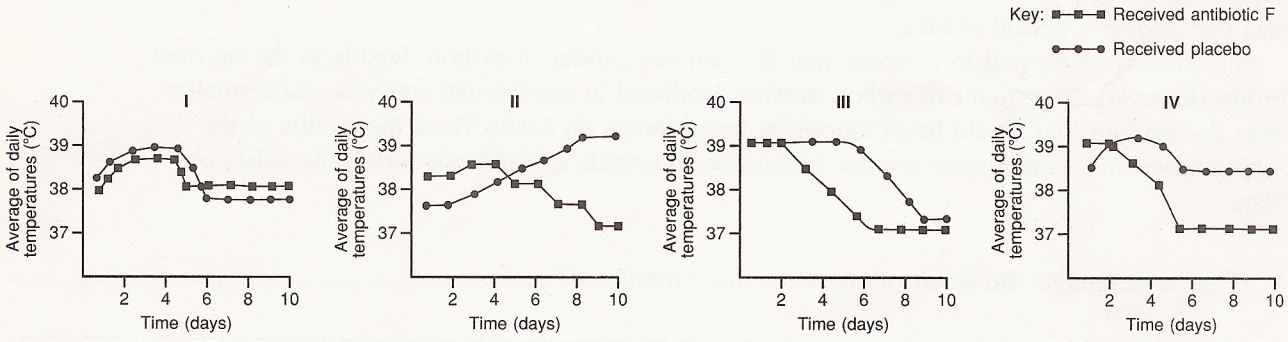
The scientist measured the effectiveness of the antibiotic by measuring each volunteer's temperature. Higher than normal body temperature indicated the presence of the disease-causing microorganisms. When a volunteer's temperature remained normal (37°C) for three days, he or she was considered free of the disease-causing microorganism.

1. What was the scientist's hypothesis? _____

_____

2. Identify the control group. _____

3. Identify the experimental group. _____



4. Which graph indicates that the antibiotic was not effective against the disease-causing microorganism? Explain you answer. _____

5. Which graph supports the scientist's original hypothesis? Explain your answer. _____

_____

6. Can you think of any other observations or comparisons the scientist might have made in this experiment? _____

_____

_____

7. Why do you think the scientist gave 50 of the volunteers a placebo? _____

_____