Scientific Method Quiz

Name: _____
Date: _____
Class: _____

1. What's the difference between a hypothesis and a theory?

a. "Theory" is another word for "fact;" "hypothesis" is another word for "guess"
b. Hypotheses can't be proven; theories can
c. Theories have been confirmed through tests; hypotheses haven't
d. Theories contain many hypotheses; a hypothesis only contains one theory

2. Place the following steps in sequence: A) Recognizing a problem; B) Testing a hypothesis; C) Drawing inferences

a. A, C, B
b. A, B, C
c. B, C, A
d. C, B, A

3. In the phrase, "The scientific method is an analytic process for determining why things happen," what's the best synonym for "analytic?"

a. Probable
b. Amazing
c. Incoherent
d. Logical

4. What must you do before you make a hypothesis?

a. Run an experiment
b. Make observations
c. Form a theory
d. Draw conclusions

5. If you were running an experiment to determine the temperature at which beans sprout the fastest, what would be the variable?

a. The number of beans you plant
b. The height of the sprouts you grow
c. The amount of water you give the beans
d. The temperature at which each bean is kept

6. You should run an experiment several times to make sure your results are consistent. In the preceding phrase, what does "consistent" mean?

a. Obvious
b. Perfect
c. Unchanging
d. Testable

7. What might cause a theory to change over time?

a. New laws passed by the government
b. New but untestable ideas
c. Changes in public opinion
d. The discovery of new evidence

8. Evolution is one example of a theory. From what you know about the scientific method, what can you conclude about this biological theory?

a. It's been tested many times
b. Scientists don't need to test it anymore
c. No one is allowed to test whether it's true or not
d. There is very little evidence to support it

9. Which of the following is a testable hypothesis?

a. Roses are more beautiful than violets
b. A plant needs at least five hours of sunlight per day to grow
c. Ice cream is delicious
d. Humans will someday land on Mars

10. What happens if you test a hypothesis multiple times and the data doesn't support your prediction?

a. Change the data to support your prediction
b. Run the experiment again until you get the results you're looking for
c. Conclude that your hypothesis cannot be proven
d. Re-think your hypothesis