

Name _____

Date _____

Scientific Inquiry

Read each question and circle the correct answer.

1. Which of the following describes a scientific process?

A. Jon claims that cities are better than towns. He finds 12 people who agree with him as evidence to support his claim.

B. Kyra starts to believe in vampires after she sees a movie that has vampires in it.

C. Pedro plants a sapling in his front yard. He observes and measures it each day. Using his observations, he hypothesizes that the leaves grow most in the spring.

D. Justine drinks eight glasses of water every day because she saw a presentation in health class about water being good for you.

2. On which of the following could a scientific claim be based?

A. a famous athlete's speech

B. a religious text

C. superstitions and folklore

D. experiments and studies

3. Sandra claims that invisible fairies live above the clouds where no one can see, hear or feel them. Which of the following is true?

A. Sandra's claim is a hypothesis that she could test with the scientific method.

B. Sandra's claim is not scientific because it is not testable.

C. Sandra's claim is a law based on empirical evidence.

D. Sandra's claim is not scientific because no one famous would agree with her.

4. Which of the following describes empirical evidence?

A. dogs are good pets

B. dogs can speak English

C. dogs have two eyes and two ears

D. pet dogs should be allowed at school prom

5. Which of the following describes a scientific law?

- A. People have the right to a speedy trial.
- B. Any two objects in the universe attract each other with a force called gravity.
- C. The universe may have begun from an explosion (or big bang) from a single point.
- D. Students must wear their safety goggles in the lab.

6. A scientific theory is a

- A. guess that some scientists believe.
- B. guess that once was a hypothesis and might one day become a law.
- C. well-tested explanation for a wide range of observations or experimental results.
- D. law that scientists no longer like and are trying to modify.

7. Which of the following would be a scientific theory?

- A. the hypothesis that if you increase the temperature of water, then sugar will dissolve quicker
- B. the statement that objects in motion tend to stay in motion
- C. a belief in ghosts that humans cannot see or feel
- D. an explanation of why global temperatures are rising

8. Which of the following describes the relationship between scientific theories and scientific laws?

- A. A law can describe a phenomenon, and a theory can give a possible explanation for it.
- B. A theory can state a simple guess, and a law can give more evidence to support it.
- C. Scientists might not believe in scientific laws, but everyone believes in scientific theories.
- D. A law has more hypotheses to test than a theory does.

9. True or false: scientific theories and models cannot be modified.

- A. True
- B. False

10. Which of the following is an example of pseudoscience?

A. A claim that pretends to be scientific but has not actually been tested

B. A hypothesis that the results did not support

C. A theory that has been modified based on new evidence

D. A law that describes a phenomenon observable only at some scales