

Name: _____

Date: _____

Class: _____

1. How is an isotope different from the standard form of a chemical element?

- a. It has a different number of protons.
- b. It has a different number of neutrons.
- c. It has a different number of electrons.
- d. It has a different number of positrons.

2. Compared to the amount of carbon atoms on Earth, the amount of radioactive carbon atoms is infinitesimal. In this sentence, what is the best synonym for "infinitesimal?"

- a. Tiny
- b. Large
- c. Equal
- d. Dangerous

3. Which of the following best describes the nucleus of an atom of carbon-14?

- a. Four protons, 10 neutrons
- b. Six protons, eight neutrons
- c. Eight protons, six neutrons
- d. 10 protons, four neutrons

4. What is radioactive decay?

- a. The physical wear and tear that ancient artifacts exhibit over long periods of time.
- b. The ability of radioactive atoms to destroy other atoms.
- c. The effect of exposing radioactive material to the human body.
- d. The ability of radioactive elements to decay into different elements over time.

5. What is the relationship between carbon-14 and nitrogen?

- a. Nitrogen and carbon-14 react to form radioactive elements.
- b. Over time, nitrogen becomes carbon-14.
- c. Over time, carbon-14 becomes nitrogen.
- d. Carbon-14 can be used to date ancient nitrogen.

6. Let's say you have a sample of 10 milligrams of carbon-14. How many milligrams will you have in 5,700 years?

- a. 5 mg
- b. 10 mg
- c. 0 mg
- d. 20 mg

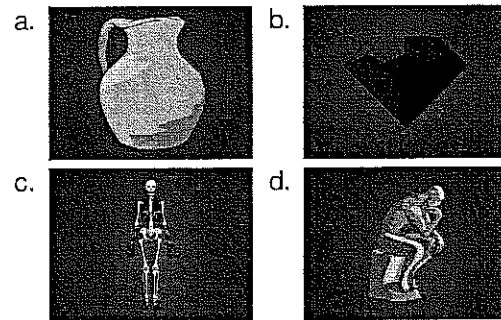
7. How much carbon-14 do you have in your system today, compared with the amount you had when you were born?

- a. More
- b. Less
- c. The same amount
- d. None

8. What can you learn about an organism from the amount of carbon-14 in its remains?

- a. How long ago it died.
- b. What its diet consisted of.
- c. Which biological kingdom it belonged to.
- d. Which living animals it's most closely related to.

9. Which of the following items can be dated with carbon-14?



10. Why can't carbon-14 dating be used on dinosaur remains? Choose the best answer.

- a. The remains of living creatures cannot be accurately dated with carbon-14.
- b. The carbon-14 isotope did not exist during the age of the dinosaurs.
- c. Dinosaurs were reptiles who had no carbon-14 in their systems.
- d. Carbon dating is only accurate to 60,000 years ago--well after the age of the dinosaurs.