

Directed Reading B

Section: Absolute Dating (pp. 246–249)

1. What is the purpose of absolute dating?

RADIOACTIVE DECAY

2. Atoms of the same element that have the same number of protons but a different number of neutrons are called _____.

3. When an isotope is _____, it does not undergo radioactive decay.

4. When an isotope is _____, it is called radioactive.

5. During _____, an unstable isotope breaks down into a stable isotope.

6. How do scientists use isotopes to determine the age of an object?

7. An unstable isotope is called a(n) _____ isotope.

8. The stable isotope is called the _____ isotope.

9. The more daughter material there is in a rock sample, the _____ the rock is.

10. Determining the age of a sample based on the ratio of parent material to daughter material is called _____.

11. The time it takes for one-half of a radioactive sample to decay is called a(n) _____.

Directed Reading B *continued*

12. After every half-life, what has happened to the parent material in an object?

13. The best types of rock samples to use for radiometric dating are _____ rocks.

USING RADIOMETRIC DATING

14. To date the age of our solar system, scientists perform radiometric dating on moon rocks and _____.

Match the correct description with the correct term. Write the letter in the space provided.

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|--|---------------------------|
| _____ 15. used mainly for dating rocks older than 100,000 years | a. potassium-argon |
| _____ 16. used to date rocks older than 10 million years; half-life of isotope is 4.5 billion years | b. uranium-lead |