

## Skills Worksheet

**Directed Reading B****Section: Absolute Dating** (pp. 246–249)

1. What is the purpose of absolute dating?

To more precisely determine the age of rocks and fossils.

**RADIOACTIVE DECAY**

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

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

4. When an isotope is **unstable**, it is called radioactive.

5. During **radioactive decay**, an unstable isotope breaks down into a stable isotope.

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

Scientists compare the amount of parent isotope to the amount of daughter isotope. The more daughter isotope a rock has then the older the rock is.

7. An unstable isotope is called a(n) **parent** isotope.

8. The stable isotope is called the **daughter** isotope.

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

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

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

**Directed Reading B** *continued*

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

After every half-life, then half of the parent material has radioactively decayed and changed into the daughter material. For example, Carbon-14 takes 34,000 years to change into Nitrogen.

**13.** The best types of rock samples to use for radiometric dating

are igneous rocks.

**USING RADIOMETRIC DATING**

**14.** To date the age of our solar system, scientists perform radiometric dating

on moon rocks and meteorites.

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

potassium - argon

**15.** used mainly for dating rocks older than 100,000 years

**a.** potassium-argon

**b.** uranium-lead

uranium - lead

**16.** used to date rocks older than 10 million years; half-life of isotope is 4.5 billion years