



Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

1 The **absolute age** of rocks is determined by analyzing the \_\_\_\_\_ in a rock.

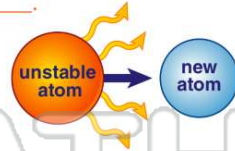
- A plant fossils
- B number of metal ions
- C number of silica ions
- D radioactive isotopes



2 The absolute age of a rock is determined by **comparing** the number of unstable radioactive isotopes of a particular element in the rock with the number of stable isotopes of the same element.

Unstable isotopes break down into stable isotopes in a **process** called \_\_\_\_\_.

- A permineralization
- B bombardment
- C radioactive decay
- D nuclear fusion



3 Unstable radioactive isotopes are called **parent material**. The **stable isotopes** formed from the parent material are called the **daughter material**. The amount of time it takes for  $\frac{1}{2}$  of the parent material to undergo radioactive decay and become the daughter material is called the radioactive element's \_\_\_\_\_.

- A base rate

4 If the **half-life** of a radioactive element is **5,730 years**, how much of the parent material exists **after 17,190 years**?

Parent Material	Daughter Material	Half-Life
Uranium-238	Lead-206	4.5 billion years
Potassium-40	Argon and Calcium	1.3 billion years
Carbon-14		5,730 years



## PREVIEW

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True or false?

- A true
- B false



What is the **term** we now use for Hutton's idea?

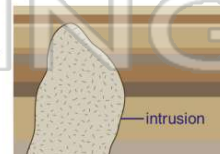
- A plagiarism
- B catastrophism
- C superposition
- D uniformitarianism

9 Which of the following quotations is the famous **summary** of the theory of **uniformitarianism**?

- A "The earth is 4.6 billion years old."
- B "The past is the key to the present."
- C "The present is the key to the past."
- D "Uniformitarianism is not a catastrophe."

10 Compare the **layers of sediment** and the **igneous intrusion** in the picture. **Which formed first and why?**

- A the sediments; they are sedimentary
- B the intrusion; it is igneous
- C the sediments; the intrusion cuts across the sediments
- D the intrusion; the sediments are broken by the intrusion





## ANSWER KEY

The **absolute age** of rocks is determined by analyzing the \_\_\_\_\_ in a rock.

- A plant fossils
- B number of metal ions
- C number of silica ions
- D radioactive isotopes

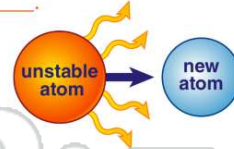


(d)

The absolute age of a rock is determined by **comparing** the number of unstable radioactive isotopes of a particular element in the rock with the number of stable isotopes of the same element.

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- A permineralization
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- C radioactive decay
- D nuclear fusion



(c)

Unstable radioactive isotopes are called **parent material**. The **stable isotopes** formed from the parent material are called the **daughter material**. The amount of time it takes for 1/2 of the parent material to undergo radioactive decay and become the daughter material is called the radioactive element's \_\_\_\_\_.

- A base rate
- B decay quotient
- C relative age
- D half-life

(d)

If the **half-life** of a radioactive element is **5,730 years**, how much of the parent material exists **after 17,190 years**?

Parent Material	Daughter Material	Half-Life
Uranium-238	Lead-206	4.5 billion years
Potassium-40	Argon and Calcium	1.3 billion years
Carbon-14		5,730 years

(c)

- A three times
- C 1/8



## PREVIEW

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- A true
- B false



- A plagiarism
- B catastrophism
- C superposition
- D uniformitarianism

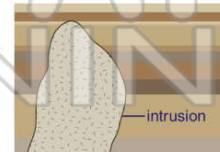
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(c)

Compare the **layers of sediment** and the **igneous intrusion** in the picture. **Which formed first and why?**

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(c)