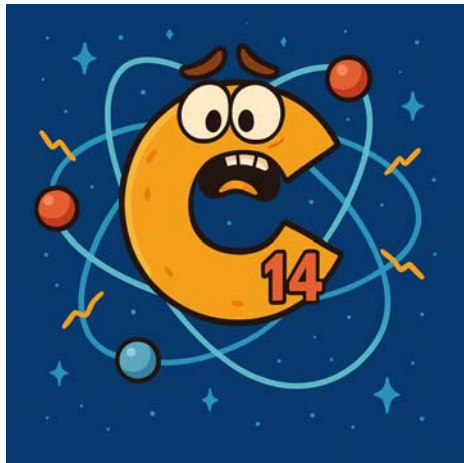


Name _____



Can One Tiny Atom Help Us Unlock the Secrets of Earth's History?

It might be hard to believe, but something as small as an atom can tell us big things about Earth's past. An atom is the tiniest part of an element, and some special atoms help scientists figure out how old rocks, fossils, and even ice are. These tiny clues come from something called radioactive atoms.

Radioactive atoms are a kind of atom that slowly change, or decay, over time. When they decay, they turn into different atoms. This process happens at a very steady rate, like a clock that never stops ticking. Because of this, scientists can use them to measure time. This method is called radiometric dating.

One of the most famous radioactive atoms is called carbon-14. It is found in living things, like plants and animals. When a plant or animal dies, the carbon-14 inside it begins to decay. Scientists can measure how much carbon-14 is left to figure out how long ago the plant or animal lived—up to about 50,000 years ago.

For even older things, scientists use atoms like uranium or potassium. These atoms are found in rocks deep in the ground. Some of the oldest rocks on Earth have been dated to be over 4 billion years old using this method!

Atoms have helped scientists learn when the dinosaurs lived, when volcanoes erupted, and even how ice ages happened. These tiny particles have become one of the most powerful tools for discovering Earth's timeline.

But this work takes a lot of care. Scientists use special machines to measure the atoms. They must clean and protect the samples so they don't get mixed up. Even a little mistake could give the wrong age.

Thanks to atoms, we can piece together Earth's long and exciting history. From ancient creatures to changing climates, one tiny atom can unlock stories from millions of years ago—stories that help us understand our world today.

