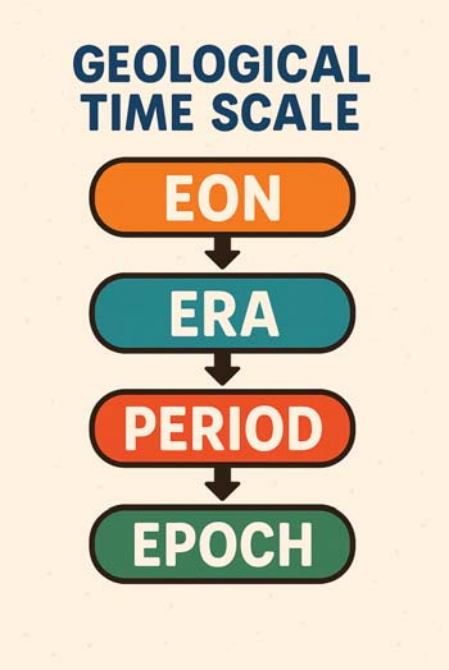
Name _____

Geological Time Scale: Eons, Eras, Periods, and Epochs



Earth is over 4.5 billion years old. That's a very long time—so long that it's hard to imagine. To help make sense of Earth's long and exciting past, scientists created a tool called the geological time scale. This scale breaks Earth's history into smaller parts so we can understand when big events happened.

The biggest parts of the time scale are called eons. Each eon lasts for hundreds of millions or even billions of years. There are only four eons because they are so long. For example, the Phanerozoic eon is the one we live in now. It began about 540 million years ago, when many new life forms appeared in the oceans.

Eons are divided into eras, which are a bit shorter. Eras are separated by big changes in Earth's history. For instance, the dinosaurs lived during the Mesozoic Era. This era ended when a huge asteroid hit Earth and wiped out most dinosaurs.

Each era is split into periods, which show even smaller changes. During different periods, new types of plants and animals appeared. Some periods were warmer or colder. Others saw continents moving or mountains forming. Scientists often name periods after where rocks from that time were first found.

Finally, periods are divided into epochs, which are the smallest parts of time on the scale. Epochs help scientists study changes that happened more recently. For example, the Ice Ages happened during the Pleistocene Epoch.

The reason scientists divide time this way is to organize Earth's history. It helps them understand when life forms appeared, when mass extinctions happened, and how Earth's surface changed. It's like putting a huge story into chapters and paragraphs so it's easier to read.

By studying fossils and layers of rock, scientists decide where one time unit ends and another begins. The geological time scale is like a timeline of Earth's life—a timeline filled with volcanoes, oceans, dinosaurs, and even the rise of humans.