

Side 1

Rock Cycle

Draw a rock cycle diagram that shows the three types of rocks, how rocks are formed and how one rock can change into another.

Key words: *Sedimentary, Igneous, Metamorphic, Cementation, Erosion,*

Law of Superposition

State the Law of Superposition and draw a picture to represent it. What type of rock does this best apply to? Identify the oldest and youngest rocks in the sequence.

Sometimes Igneous rocks cuts through rocks. Draw a picture to represent this occurrence compared to the previous picture.

Theories of the Changing Earth

Define each theory below:

1. **Uniformitarianism**
2. **Continental Drift**
3. **Theory of Plate Tectonics**

Absolute & Relative Age

Create a chart for absolute vs. relative. Define absolute age and relative age and give examples

Methods: Place the following examples in your chart as relative and absolute age

- **Radioactive dating**
- **Carbon-14**
- **Ice Cores**
- **Law of Superposition**
- **Uranium 238**

Half Life

Draw a graph showing half life, the radioactive decay of a rock. Define half life.

Index Fossils

Solve the following index fossil problem:
A trilobite is found in the second layer of sedimentary rock (trilobite = 200 mya), therefore how old is this rock layer? How old is the rock layer above it? Below it?
Draw a diagram of this situation.

Pangaea and Evidence

Earth's Age

What is the approximate age of the Earth? How do we know this?

Pangaea

What is Pangaea?

Describe 4 pieces of evidence that support Pangaea and Continental Drift.

Convection Current

Draw a diagram of convection current

Dinosaur Extinction

Describe what happened to the dinosaurs. Start with the asteroid hitting the Earth.

Plate Boundaries

Create a chart to sketch and describe how tectonic plates move at each boundary. What is created at each boundary?

- Convergent
- Divergent
- Transform

Geologic Time Scale

Draw a timeline and label the Precambrian, Paleozoic, Mesozoic and Cenozoic. Identify where bacteria, dinosaurs and humans appeared.

Ice Cores

Describe what ice cores are and what information can scientists get from them.

Life Changes Over Time

Define : Adaptation, mutation and genetic variation, evolution

State the theory of natural selection and the scientist given credit for this theory

Choose one: Describe how the finches in the Galapagos Islands OR the Peppered Moths in England shows natural selection.

Evidence of Evolution

Explain and provide an example of each. How do each of these show evolution?

- Homologous Structures
- Comparative embryology
- Vestigial Organs

Title Page

Earth Science and Evolution Study Guide

First and Last Name

Laws vs. Theories

Create a chart showing the differences between Laws and Theories. Give an example of each one.