

## 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.