**Geologic Time and Rock Dating Guided Notes**

**Geologic Time Scale:**

**What is the Geologic Time Scale?**

Definition:

Scientists placed Earth’s rocks in order by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to create the geologic column.

We developed the scale by studying these rock layers and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ helped us determine the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the divisions in the scale.

**Divisions of Time:**

As scientists studied the fossil record, they found major changes in life forms at certain times.

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Eon:

Era:

Period:

Epoch:

**Why is a time scale used to represent Earth’s history instead of a calendar?**

**When did geologic time begin?**

**When does geologic time end?**

**How long is a geologic period?**

**Eons:**

Hadean:

Archean:

Proterozoic:

Phanerozoic:

**Eras:**

Paleozoic:

Mesozoic:

Cenozoic:

**Periods:**

**PAST**

**PRESENT**

Cambrian – Explosion of life

Ordovician – 1st Vertebrates

Silurian – 1st Land Plants

Devonian – Age of Fish

Mississippian – Winged insects

Pennsylvanian – First reptiles

Permian – Age of Amphibians

Triassic – First Dinosaurs/Small mammals

Jurassic – First Birds/Flowering Plants

Cretaceous – Heyday of Dinosaurs

Tertiary – Mammals Thrive

Quaternary – Age of Man/Technology

**Life Develops:**

Describe the first lift, as well as when and where it is believed to have evolved.

Primordial Ooze:

When did photosynthetic organisms appear?

**Mass Extinction**

Occurs when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1st Major Extinction:

2nd Major Extinction:

**Relative vs. Absolute Dating**

**RELATIVE DATING**

**Uniformitarianism**

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Laws of nature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Past events \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Charles Lyell credited with this concept. Explained in his book “The Principles of Geology.”

Lithification: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Strata: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Relative Dating:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**4 Principles of Geology**

1. Original Horizontality:
2. Law of Superposition:
3. Cross-Cutting Relations:
4. Fossil Correlation:

**Not all sedimentary layers of rock are intact and complete. There are forces that cause layers “disappear” making the rock record is incomplete.**

Unconformity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3 Types of Unconformities:**

1. Angular Unconformity:
2. Disconformity:
3. Nonconformity:

**ABSOLUTE DATING**

Absolute Dating:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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The Process of Radioactive Decay:



Half Life: