

## GLOSSARY

**FOSSIL** = Any evidence of once-living organisms.

**GEOLOGIC TIME SCALE** = A chronologic sequence of units of earth time.

**RELATIVE TIME SCALE** = Dating of events by means of their place in a chronological order of occurrence rather than in terms of years. Compare with absolute time.

**EON** = An age in Earth's history; a geologic age.

**ERA** = One of the major divisions of geologic time, including one or more periods. The eras usually recognized are the Archeozoic, Proterozoic, Paleozoic, Mesozoic and Cenozoic.

**PERIODS** = The fundamental unit of the standard geologic timescale; the time during which a standard system of rocks were formed. Examples are the Devonian, Cretaceous, and Tertiary periods.

**EPOCH** = A unit of geologic time; subdivision of a period. Some geologists restrict the term to the equivalent of a rock series, such as the Eocene Epoch or Series of the Tertiary Period or System.

**PALEONTOLOGIST** = A scientist who studies fossils.

**LAW OF SUPERPOSITION** = In any Sequence of layered rocks, a given bed must be older than any bed on top of it.

**LAW OF ORIGINAL HORIZONTALITY** = Most sediments when originally formed, were laid down horizontally.

**FOSSIL SUCCESSION** = 1) Fossils are the remains of once living organisms. 2) Most fossils are the remains of extinct organisms. 3) The kinds of fossils found in rocks of different ages differ because life on Earth has changed through time.

**HALF-LIFE** = The length of time required for exactly one half of the parent atoms to decay to daughter atoms.

## QUIZ

1) People who study the Earth's history use a type of calendar called:

- A) The geologic time scale.
- B) Gregorian system.
- C) Carbon dating.
- D) Relative time scale.

2) Scientists who study fossils are called:

- A) Hydrologists.
- B) Rock hounds.
- C) PALEONTOLOGIST.
- D) Mineralogists.

3) Most of the rocks exposed at the surface of the Earth are:

- A) Metamorphic.
- B) Igneous.
- C) Sedimentary.
- D) Volcanic.

4) In any sequence of layered rocks, a given bed must be older than any bed on top of it. This is also called:

- A) Theory of Relativity.
- B) Law of the Universe.
- C) Law of Superposition.
- D) Relative time scale.

5) Rock layers are also called:

- A) Striae.
- B) Cenozoic.
- C) Paleolithic.
- D) Strata.

6) In terms of numbers the great bulk of the Fossil Record is dominated by:

- A) Dinosaurs.
- B) Mammoths and Mastadons.
- C) Animals with teeth.
- D) Animals with shells.

7) He was an English geologists who discovered that rocks of the same age may contain the same fossils even when the rocks are separated by long distance:

- A) William Smith.
- B) Nicholas Steno.
- C) Louis Agassiz.
- D) Lee de Forest.

8) This Scientist proposed that older species of life give rise to younger ones:

- A) William Smith.
- B) Charles Darwin.
- C) Nicholas Steno.
- D) Louis de Rothschild

9) Which of the following is not a cause of Evolution:

- A) Variation.
- B) Over-reproduction.
- C) Survival of the fittest.
- D) Diversity of life.

10) Living things have changed through time and older species are ancestors of younger ones. This is definition of:

- A) The theory of superposition.
- B) The theory of Diversity.
- C) Evolution.
- D) Revolution.

## ACTIVITIES:

### Pre-Viewing Activities:

1. Discuss the age of the earth.
2. Discuss the various ways some life form can be preserved (molds, cast, tracks, burrows, etc.)

### Post-Viewing Activities:

1. Define a fossil.
2. Make a collection of fossils found in your state.

### Home Activities:

1. Collect pictures of fossils.
2. Using cement and bottle caps (representing the fossil) show how fossils might be formed.
3. Why are no fossils found in igneous or metamorphic rock?

## QUIZ ANSWERS

- 1) A
- 2) C
- 3) C
- 4) C
- 5) D
- 6) D
- 7) A
- 8) B
- 9) D
- 10) C

## Physical Geography II Series

# FOSSILS, ROCKS AND TIME

KG1170DVD

### PROGRAM DESCRIPTION

This program looks at how historians study events and how they put these events in order.

**PALEONTOLOGIST** - Scientists who study the evolution and development of time have assembled a Relative Time Scale where all history is divided into:

**EONS** - which are subdivided into

**ERAS** - which are subdivided into

**PERIODS** - which are subdivided into

**EPOCH** - These **PALEONTOLOGIST** study the record of the past by studying the layer of rock comprising the surface of the Earth. They look for a record of life in the layers known as "fossil". The program also discusses the Numeric Time Scale. Using the newest scientific instruments, geologists have given specific ages to the various fossil life forms and various deposits. Using isotopes, scientists have been able to determine the exact ages of fossil life form using such methods as Carbon 14, Potassium 40, Rubidium 87 and Uranium 238.

The program illustrates where fossils can be found, including quarries, cliffs, bluffs, strip mines, highway cuts, gravel pits, loess deposits and in building material. It also shows how to collect fossils using common tools such as a hammer, chisel, knapsacks, old newspapers, magnifying lenses and labeling material. The program also explains the various ways fossils are preserved, including molds, casts, tracks, burrows, preservation and distillation.

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