Geo Gelatin Student Sheet

Name_____

Each color of gelatin represents a different age and type of sedimentary rock. Stratigraphy is the scientific name for the layering of rock; layers of rock are named based on their physical characteristics. Sediments are deposited over time with the newest sediments located "stratigraphically" above the older sediments. This is known as the Law of Superposition. The type of sediment can change, for instance, from sandstone to limestone depending on the source rock for the deposited grains. The layering process illustrated with this activity would take place over millions of years.

Fossils are the mineralized remains of plants and animals. Fossilization occurs when rapid burial in sediments preserves the body from decomposition; this is followed by the replacement of the original animal's or plant's cells with minerals over time. It is very rare to find the actual bone of a dinosaur because the mineral replacement process has had such a long time to work.

Read below and then complete the questions.

The cup contains the red, yellow and blue gelatin. Red represents a rock layer having the following characteristics: fine-grained sandstone containing ripple marks, with a uniform tan color; may contain fossils. Yellow represents a rock layer with the following characteristics: very fine-grained mudstone, dark-gray to black in color; may contain fossils. Blue represents a rock layer with the following characteristics: massive limestone; contains many primitive fossils.

1. Determine what the name of the rock layer is using the descriptions below and record the names for each layer.

RED = _____

YELLOW = _____

BLUE = _____

2. For each layer, identify the fossil found in this layer and record the fossil's age-range.

_____ Formation = _____ fossil with an age-range of _____.

_____ Formation = _____ fossil with an age-range of _____.

_____ Formation = _____ fossil with an age-range of _____.

3. What are the ages of the red, yellow and blue layers?

Adapted from: https://igws.indiana.edu/outreach/additional/activities/Geo-Gelatin.pdf

Rock Names and Descriptions:

Sowder Formation: Massive, medium-grained, gray limestone. Contains many primitive fossils.

Steinmetz Formation: fine-grained sandstone containing ripple marks, uniform tan color. May contain fossils.

Rapp Formation: Shale, light-gray in color. Contains fossils.

Shaffer Formation: Massive, fine-grained dolomite. Contains some fossils.

Baker Formation: Course-grained sandstone, rust in color. Contains no fossils.

Hill Formation: Very fine-grained mudstone, dark-gray to black in color. May contain fossils.

Fossils and Age-Ranges

<u>Animals</u>

Monkey – represents a ground sloth – age: 2 million to 8,000 years ago

Zebra – represents and early horse – age: 52 to 45 million years ago

Tiger – represents a saber-toothed cat – age: 1 million to 10,000 years ago

Elephant – represents a mammoth – age: 4.8 million to 3,500 years ago

Crocodile – represents a crocodile – age: 200 million years ago to present

<u>Dinosaurs</u>

Tyrannosaurus Rex – age: 65 million years ago

Apatosaurus – age: 140 million years ago

Pterodactyl – age: 228 to 65 million years ago

Triceratops – age: 70 to 65 million years ago

Stegosaurus – age: 155 to 145 million years ago

<u>Other</u>

Gummy Worms – represents a prehistoric worm – age: 600 to 570 million years ago

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