

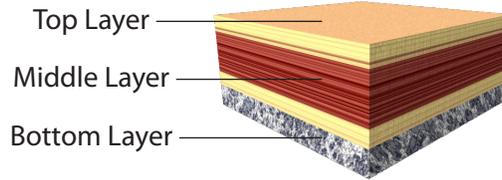
The Earth Science Discovery Cave

By: Nancy Volk



Station 1 Rock Layers and Fossils

Which of the following layers is the oldest? Circle the correct answer.



Circle the fossils you found in the rock wall.



Trilobite



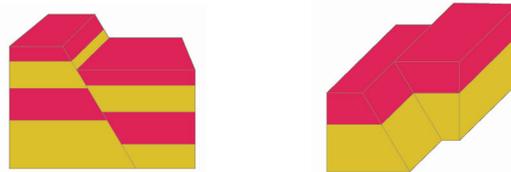
Ammonite



Crinoid

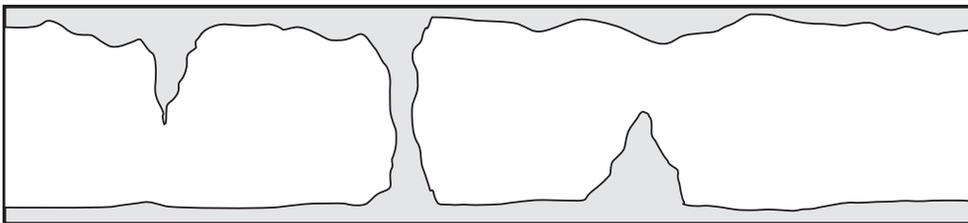
When the land is pushed up by great forces, rock can bend or break. Bends are called **olds** or **faults**. (Circle one.) Breaks are called **olds** or **faults**. (Circle one.) Now, find them on the rock wall.

A **fault** is a break in the rocks along which movement has taken place. Circle the diagram that shows a vertical fault.



Station 2 Coral Reef and Rock Formation

In the cave provided below, label the stalactite, stalagmite and column formations.



The flow of water, slightly acidic from acid rain or from passing through some thing acidic, is what makes caves. It essentially widens cracks in rocks. Howe's Caverns were formed by water flowing through: (Circle one.)

Igneous Rock

Limestone

Is living coral an **animal** or a **plant**? (Circle one.)

Is it free swimming as a **larva** or an **adult**? (Circle one.)

Coral reefs are biologically diverse marine ecosystems. 1/4 of all known fish species live in reefs even though reefs cover only 1/4 of 1% of the marine area.



How does the coral reef relate to the history of the rock development in New York State?

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The Cave tour is designed to assist students with understanding:

- the rocks layers and fossils found in central New York State.
- some New York State rocks developed from coral reefs in warm ocean water.
- the surface of the earth is constantly changing as plates (continents) drift and separate or collide.

New York State Standards

Standard 1: Mathematical Analysis
Key Idea 2: M2.1ab

Standard 4: Living Environment
Key Idea 1: 1.1d, 1.1h
Key Idea 3: 3.2b, 3.2c
Key Idea 5: 5.1a, 5.1b

Standard 4: Physical Setting
Key Idea 2: 2.1b, 2.1d
2.1f, 2.2b, 2.2c,
2.2d, 2.2e, 2.2f

Standard 6:
Key Idea 2
Key Idea 5:5.2

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Station 3 Plate Tectonics and Composition of the Earth

The center of the earth is the same or more than the temperature of the surface of the sun. This temperature is close to _____° Celsius.

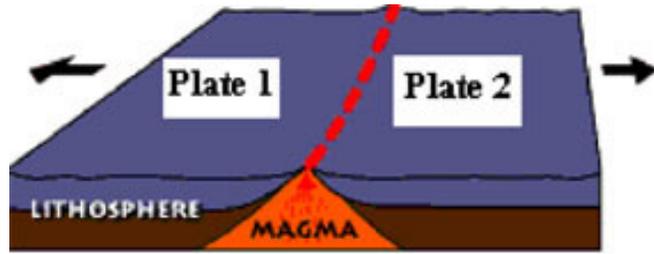
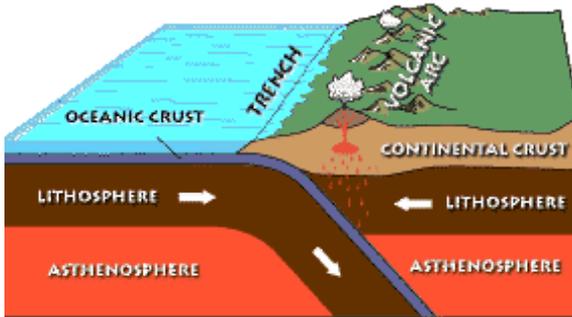
As you move from the crust of the earth toward the center of the earth, the layers become more dense. Matter is packed more closely together. At high temperatures the outer core is liquid, but the inner core is so dense that it remains solid. This inner core is composed of Nickel and _____.

Why does the earth's crust float on the mantle? Choose one.

It is less dense.

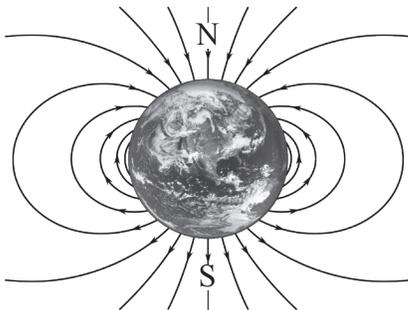
It is more dense.

Circle the picture where volcanoes are located. Put an X over the picture where new ocean crust is formed.



Station 4 Geomagnetism and Glaciers

The earth's magnetic field is a result of the movement of the fluid outer core as the earth rotates. Magnetic polarity changes or reverses periodically. True or False: A record of these changes is found in samples of the rock layers.



The picture to the left shows our current magnetic field. In the next 3,000-5,000 years, when the field reverses, how will the diagram change?

If the polar ice melts, what will happen to the Statue of Liberty?

What will happen to the people who live in New York City?

