Metamorphic, igneous, and sedimentary rocks are the three major classes of rocks found on the planet. Metamorphic, igneous and sedimentary rock classifications are based on which of the following criteria?

A. the sizes of the rocks

B. the method of formation

C. the age of the rocks

D. the rate of formation

Florida has a large supply of phosphate that ancient seas deposited millions of years ago. The phosphate contains the remains of animals that were deposited in layers on the sea floor. Which type of rock did the phosphate become?

A. intrusive igneous

B. extrusive igneous

C. clastic sedimentary

D. organic sedimentary

A scientist designs a mathematical model of the rock cycle. The model predicts how changes in Earth processes will affect the amounts of different types of rock on Earth. Which quantity should stay the same as Earth processes change?

A. the average rate at which Earth rotates

B. the average distance of Earth from the Sun

C. the total number of inactive volcanoes on Earth

D. the total amount of material on Earth

Pumice is formed when magma blows out of a volcano and cools quickly. Pumice is the only rock that will float because pumice

A. is a hard mineral.

B. was once a liquid.

C. is an igneous rock.

D. contains air pockets.

When buried sediments are subjected to pressure, the mineral grains are squeezed together. What is the result of this action?

A. volcanoes

B. earthquakes

C. new rock is formed

D. layers rise to the surface

In the Four Corners area in the US Southwest, there are large rocky outcroppings of basalt. These were formed by ancient lava flows. Using this information, what class of rock is this?

A. metamorphic

B. sedimentary

C. igneous

D. weathered

In the rock cycle, sedimentary rock forms when rock is

A. crystallized into natural glass.

B. exposed to great temperature.

C. melted into liquid magma.

D. broken down by weathering.

Marta was studying a diagram of the rock cycle. She wanted to know what could cause a sedimentary rock to become a metamorphic rock. Which processes must occur in order for a sedimentary rock to change into a metamorphic rock?

A. compaction and cementation

B. heating and pressure

C. melting and cooling

D. uplift and erosion

A scientist categorized a rock as an extrusive igneous rock. Another scientist could accurately categorize the same rock as

A. intrusive igneous.

B. clastic sedimentary.

C. metamorphic.

D. volcanic.

The mineral quartz naturally forms in various colors. Which difference in quartz formation results in the different colors?

A. pressure at which the processes occurred

B. temperature at which the processes occurred

C. chemical impurities present as the processes occurred

D. amount of time passed since the processes occurred

Shale is a common sedimentary rock. Which of these was required to form shale?

A. evaporating

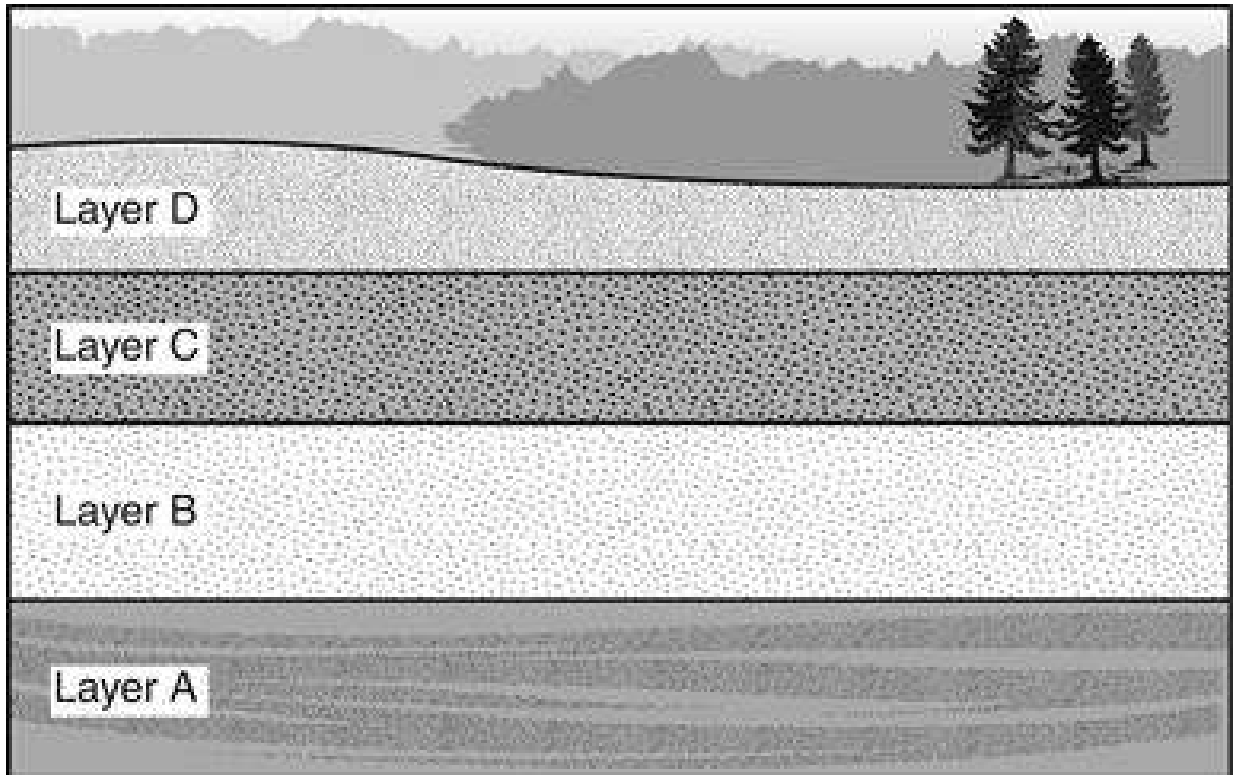
B. condensing

C. melting

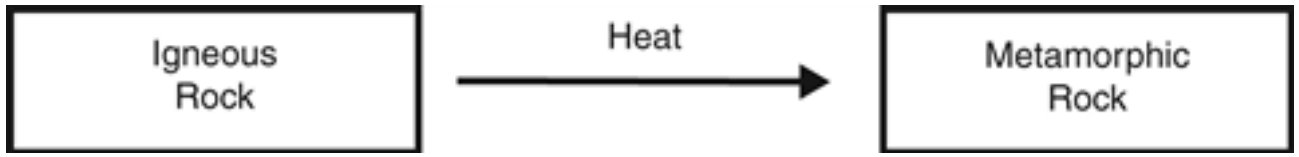
D. compacting

Scientists were studying a rock formation. The picture shows an undisturbed section of the rock layers studied.

- Which rock layer is the oldest?
- How can the oldest rock layer be determined?



Hector made the diagram below to show how igneous rock can change to metamorphic rock.



What would be the BEST addition to the diagram?

A. The word “weathering” below the arrow.

B. The word “pressure” below the arrow.

C. The word “melting” below the arrow.

D. The word “cooling” below the arrow.

What is one condition necessary to produce diamonds?

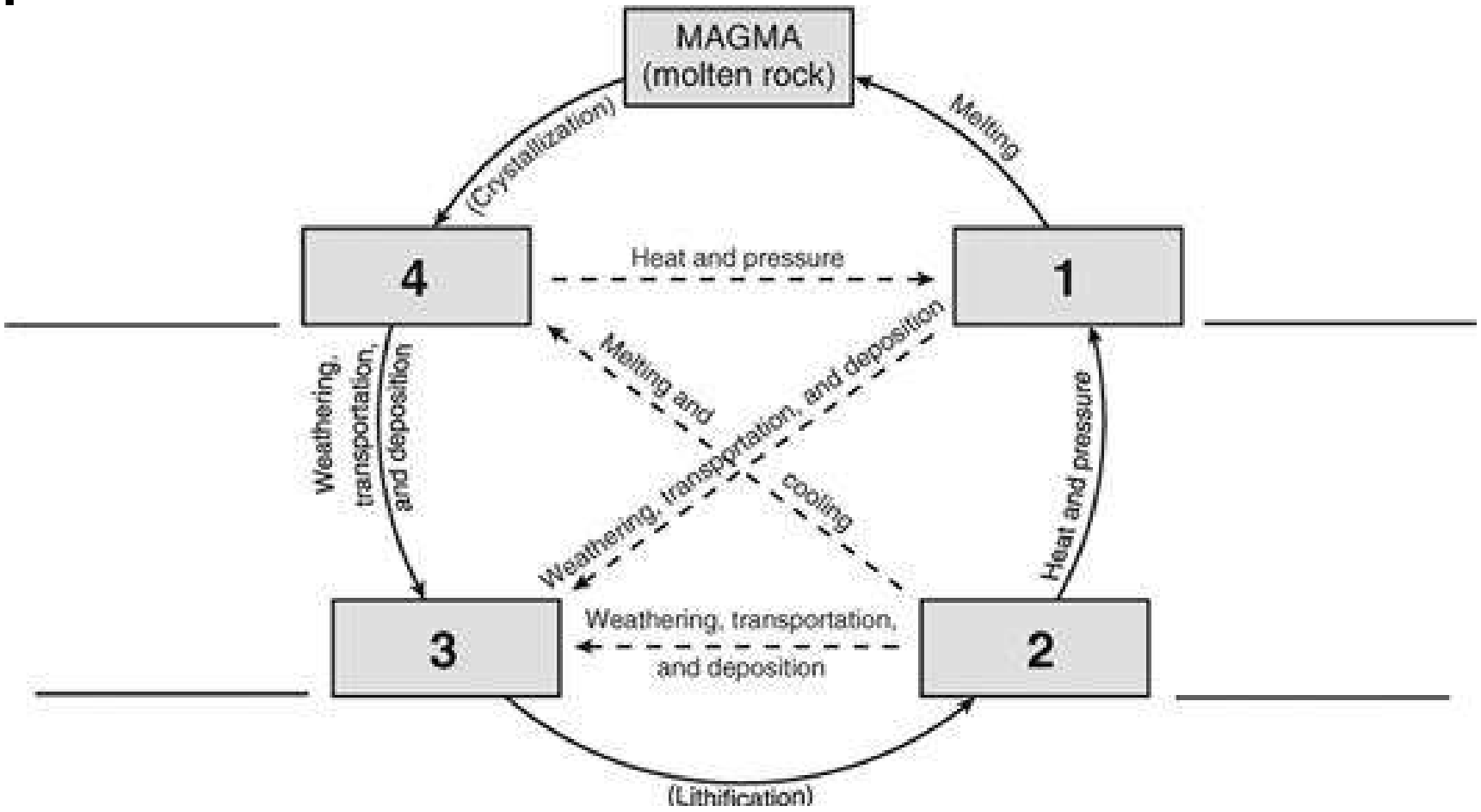
A. high altitude

B. intense pressure

C. quick cooling

D. low temperatures

The rock cycle is summarized in the diagram below. Based on the processes that are taking place at each of the arrows, label the four rectangles in the diagram with the appropriate terms.



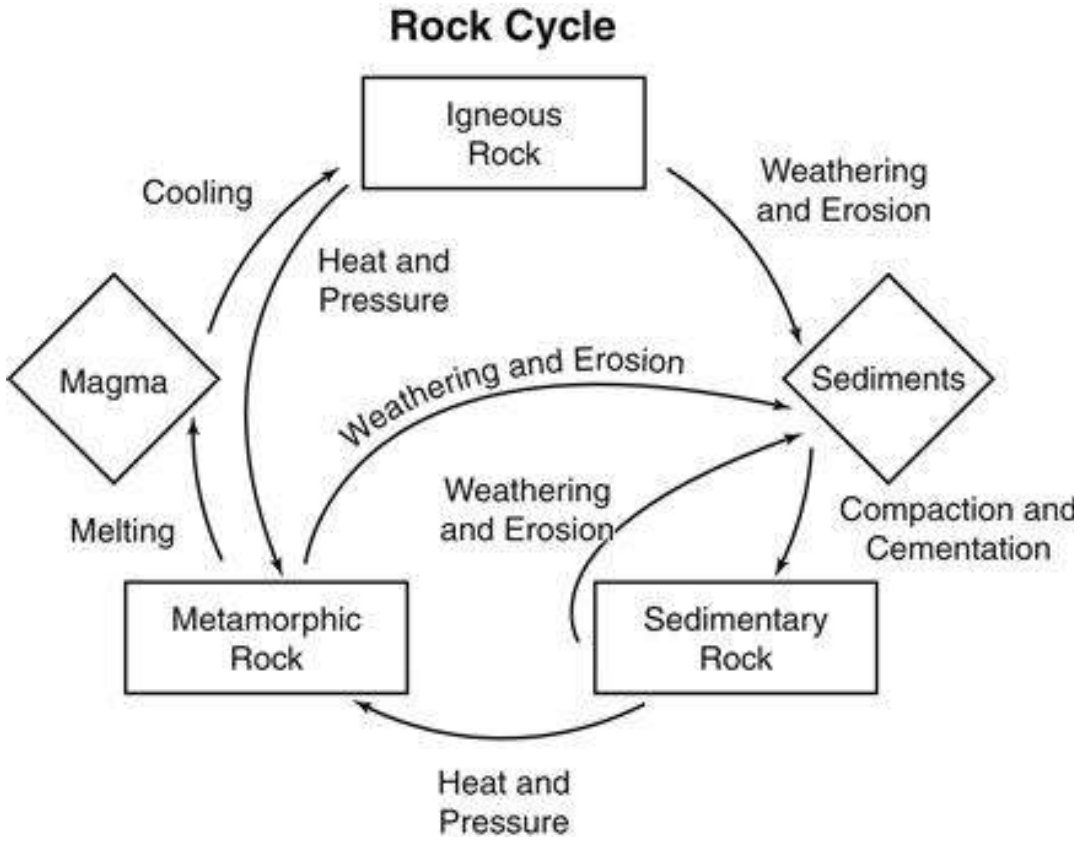
Use the diagram below to respond to the following.

A. Explain how a sedimentary rock becomes a metamorphic rock.

B. Explain how any type of rock can become sediment.

C. Explain how a metamorphic rock becomes an igneous rock.

D. Explain how sediments are converted into sedimentary rocks.



The formation of the mineral halite is MOST likely to occur by which process?

A. the evaporation of seawater

B. the hardening of lava in seawater

C. the cementing together of sediment particles

D. the slow crystallization of magma deep in the crust

The table describes how four different rocks form.

How Rock Forms

Name of Rock	The Way the Rock Forms
Basalt Lava	From a volcano flows and cools.
Limestone	Shells and bones are stuck together.
Marble	Limestone is changed by heat and pressure.
Sandstone	Sand particles are stuck together.

Which of these rocks is an igneous rock?

A. basalt

B. limestone

C. marble

D. sandstone

Gabbro and basalt are classified as igneous rocks. Even though the names are different, they have the same chemical composition. Geologists normally use what feature for identification purposes to differentiate between these two rock types?

A. color

B. texture

C. hardness

D. origin

Which processes change magma into igneous rock?

A. cooling and crystallization

B. compaction and cementation

C. heat and pressure

D. weathering and erosion

Diamonds are formed when carbon is placed under extreme heat and pressure. This process occurs

A. in caves.

B. in the ocean.

C. in the atmosphere of Earth.

D. beneath the surface of Earth.

Coal is formed from

A. seas that have evaporated.

B. natural gas subjected to heat.

C. melted and cooled metamorphic rock.

D. plant remains decomposed under pressure.