

Name _____

A Model of the Rock Cycle

- Purpose:** 1) To summarize the rock cycle
 2) To analyze and predict the sequence of events in the rock cycle
 3) To represent the natural world using models and identify their limitations

Background Information:

Weathering is the breakdown of rocks and minerals at and just below the Earth's surface; can be physical or chemical

Sediment is soil, sand, and minerals that are transported and deposited by wind and water

Erosion is the movement of soil and rock material by agents such as water and wind

Deposition is also known as sedimentation, is the geological process by which wind, water, or ice create a sediment deposit by laying down of material that has been eroded and transported from another location

Lava is rock that in its molten form (as magma

Magma is molten rock beneath the surface of the earth

Igneous rocks are formed from the cooling and crystallization of magma.

Igneous rocks can be extrusive, meaning that they cooled on or very near the earth's surface, or intrusive, meaning that they cooled below the earth's surface.

Sedimentary rocks are formed by the deposition of sediments formed by the deposition of sediments

Metamorphic rocks result when a sedimentary or an igneous rock is changed by temperature and pressure within the crust of the Earth

Materials:

Wax crayons in several colors	10cm x 10cm square of aluminum foil	Crayon sharpener or plastic knife
Candle	Goggles	Test tube clamp

Procedure & Observations:

1. Each crayon represents an igneous rock. How is it like this type of rock?

2. What is a limitation of using a crayon to represent this type of rock?

3. Use the knife or sharpener to shave off small pieces of two different crayon rocks. What process does this represent?

What do the shavings represent? _____

4. Gently blow the shavings. What process does this represent?

5. Drop the shavings onto the piece of foil. What process does this represent? _____

6. Fold the foil over and press between your hands until the shavings stick together. What process does this represent?

What type of rock does this process produce?

How is your model like this type of rock?

What is a limitation of using a crayon to represent this type of rock?

7. **PUT ON YOUR GOGGLES!** TIE BACK LONG HAIR & LOOSE CLOTHING.
8. Make a small boat from your foil. Put the rock made in step 4 and any shavings you have in the boat. Use the test tube clamp to hold the boat over a candle flame.
9. Take the boat off the flame as soon as the crayon rocks begin to melt.
10. Let the crayon rock cool. What process does this represent?

What type of rock does this process produce?

How is your model like this type of rock?

What is a limitation of using a crayon to represent this type of rock?

11. Heat the crayon rock until it is completely melted and the colors have blended. Let the crayon rock cool. What process does this represent?

What type of rock does this process produce?

How is your model like this type of rock?

Conclusion: Draw a diagram of the rock cycle below. Include the weathering, erosion, deposition/sedimentation, compaction, heat, pressure, and all three classifications of rocks.