

Name _____

Date _____

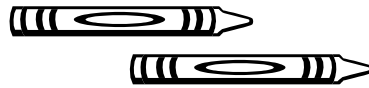
THE ROCK CYCLE

Introduction:

The Rock Cycle is a never ending process. Igneous rock forms from the cooling of magma or lava. Weathering breaks down rock into sediments that are compacted and cemented into sedimentary rock. Under great heat and pressure inside Earth's crust, rocks are changed into metamorphic rock. Through the rock cycle, each type of rock can change into any of the others. In the following activity, you will observe the transformations that occur as rocks change form.

Materials:

Crayons Pencil Sharpener
Blocks Candle
Foil Vise



Part 1.

1. The crayons represent different types of rock.
2. Using the pencil sharpener, carefully shave the crayons.
3. Keep all of the shavings of each color in its own pile.

What part of the rock cycle does this represent? _____

Part 2.

1. Fold the square of aluminum foil in half to form a rectangle.
2. Place one color of the crayon "rock" fragments in the middle of the aluminum foil.
3. Spread the shavings into a square layer approximately 1 cm thick.
4. Carefully spread another color of "rock" shavings on top of the first layer.
5. Do this with each remaining color so there is a four-layer stack of crayon rock fragments in the middle of the foil rectangle.

What part of the rock cycle does this represent? _____

Part 3.

1. Carefully fold each side of the aluminum foil over the stack of rock fragments, allowing for a 1 cm gap between the edge of the shavings and where the foil folds.
2. Place the foil package between the two blocks.
3. Apply moderate pressure by pressing the blocks together with your hands.
4. Remove the foil package from the blocks and carefully open it to observe any changes.

What part of the rock cycle does this represent? _____

Part 4.

1. Break your "rock" into two pieces by placing your fingers underneath and your thumbs close together on top.
2. Place the two parts back into the foil and refold the package.
3. Place the package back between the blocks and tightly squeeze the layers together using the vice.
4. Remove the foil package from the blocks and carefully open it to observe any changes.

What part of the rock cycle does this represent? _____

Part 5.

1. Break the "rock" into several pieces.
2. Place the rock fragments into the tin bowl.
3. Carefully light the candle.
4. Holding the tin with tongs, place it over the candle to melt the rock fragments.
5. Be careful to melt them slowly enough to keep the fragments from spattering.
6. Blow out your candle and set the bowl aside to cool for about 10 minutes.

What part of the rock cycle does this represent? _____

Questions:

1. Summarize how this activity relates to the rock cycle. _____

2. Explain how a sedimentary rock might become a metamorphic rock. ____

3. Why do people generally not see the processes simulated in this activity within their own lifetimes? _____

4. What is probably the only type of rock you might have and opportunity to see formed in your own lifetime. Explain. _____

