**Crayon Rock Cycle Lab**

**Purpose/Objective:**

This activity is an introduction to the rock cycle by using wax crayons. Crayons have the ability to be ground into small particles (weathered), heated, cooled and compressed just like rocks. However, unlike rocks, all these processes can be done safely and at reasonable temperatures. During this lab, crayons will be used to create sedimentary, metamorphic, and igneous crayons.

**Materials:**

* Crayons – at least two different colors of wax crayons, at least one stick per student
* Aluminum Foil
* Wax Paper
* Paper Plate
* Hot Water Bath
* Plastic Knife

**Procedure:**

**Part 1: Sedimentary Crayon:**

1. Make small, particles sized sediments out of the crayons. These can be scraped from a new crayons (which can also be considered an igneous crayon), a sedimentary block of crayon, a metamorphic block of crayon or an igneous block of crayon. **Scrape the crayons** with plastic knives **onto wax paper that is on top of a paper plate**.
2. Press down on this pile until the particles to stick together:
	1. **Fold** the sediments inside the wax paper to help keep the sediments together.
	2. **Step/stand** (do NOT stomp!!!) on the encased pile to help this process along.
3. The cohesive bunch of crayon sediments is now equivalent to a sedimentary crayon.
4. Complete the **Data Table for Sedimentary Rocks/Crayons.** Use the sedimentary rock samples and textbook provided as necessary.

**Part 2: Metamorphic Crayon:**

1. Shape a piece of **aluminum foil into a bowl/boat** that will not leak.
2. Place the previously formed sedimentary crayon into the aluminum foil bowl/boat.
3. Float the bowl/boat on the **hot water bath**.
4. Watch as the heat from the water transfers to the foil and to the crayons. The crayons should start to melt.
5. **Remove** the bowl/boat when the wax is soft and the **colors start to melt but do not mix**.
6. Let the crayons cool in the foil. Partially melted and cooled crayons are now equivalent to metamorphic crayons.
7. Complete the **Data Table for Metamorphic Rocks/Crayons**. Use the metamorphic rock samples and textbook provided as necessary.

**Part 3: Igneous Crayon:**

1. Place your aluminum foil boat of metamorphic crayon **back into the hot water bath**.
2. Watch as the heat from the water transfers to the foil and to the crayons. The crayons should start to melt.
3. The crayons should be allowed to melt until a smooth liquid forms and the colors have **completely mixed**. Gently shaking/wiggling the bowl/boat may help this happen.
4. Carefully remove the bowl/boat of molten crayon wax and let it cool. The totally melted and cooled crayons are now equivalent to igneous crayons.
5. Complete the **Data Table for Igneous Rocks/Crayons**. Use the igneous rock samples and textbook provided as necessary.

**What’s going on?**

This crayon cycle is designed to model the rock cycle. The rock cycle is a continuing process that has occurred throughout geologic time. One type of rock can become another rock type over time. This process can be thought of as a cycle and can be diagramed. The particles that constitute an igneous rock held in one’s hands today may become part of a sedimentary or metamorphic rock in the distant future. Very little rock on the surface of the earth has remained fixed in its original rock type. Most rocks have undergone several iterations of the rock cycle.

**Follow Up:**

1. Ensure that your data table is completed.
2. Complete the Rock Cycle Diagram, using the textbook provided as necessary.