MUSEUM OF NATURAL AND CULTURAL HISTORY

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Crayon Rock Cycle

Take crayon "rocks" on a journey through the rock cycle and discover the many changes that Earth's rocks go through.

Safety and Mess Alert!

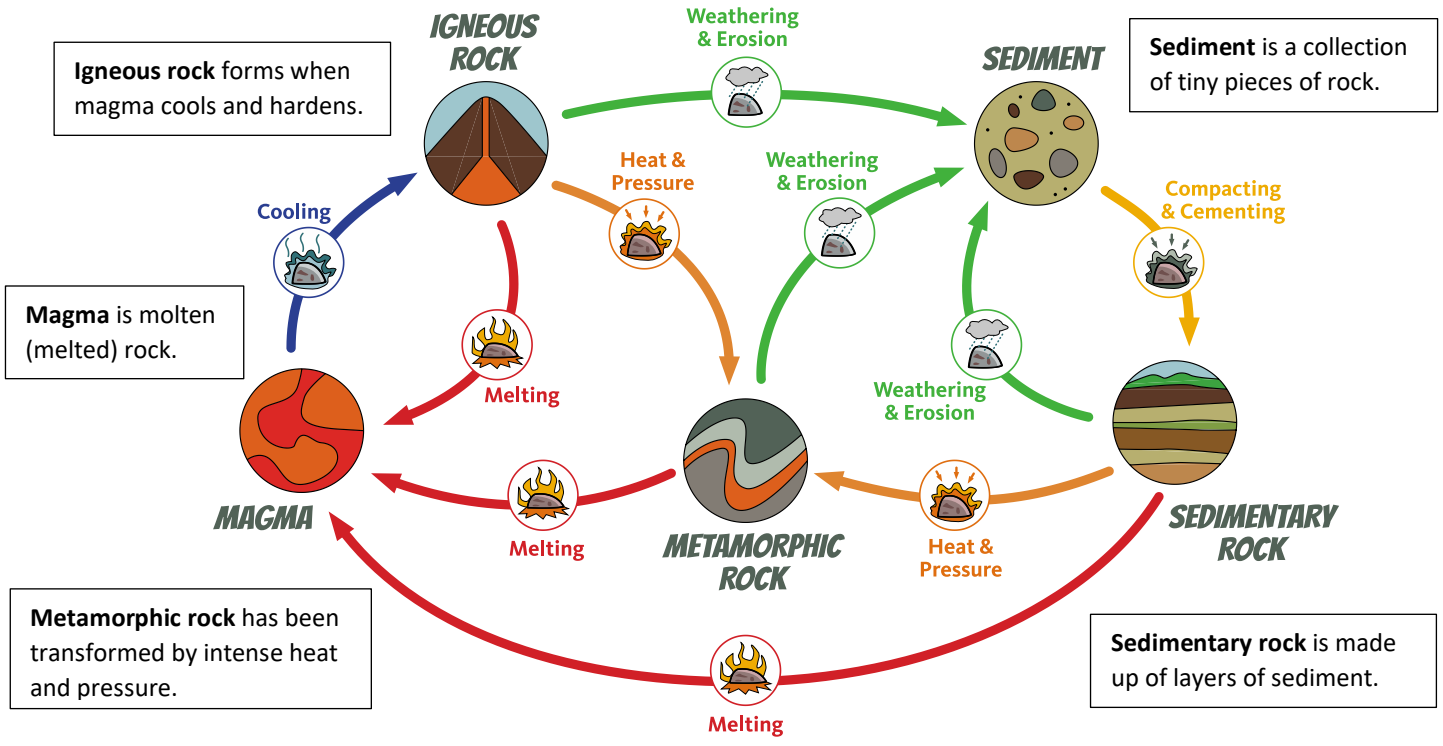
Enlist an adult partner for this activity to assist with the crayon scraping and the heating of hot water. Keep your work area clean by laying newspaper out on a surface, or even completing some of the steps outside.

Materials Needed:

- Crayons (2-3 colors)
- Scraping device (cheese grater, plastic knife, or craft stick)
- Aluminum foil (2 pieces about 5 to 6-inches square)
- Container for hot water and a source of very hot water
- Plate or cookie sheet (to contain the mess)
- Tongs (optional)

The Rock Cycle

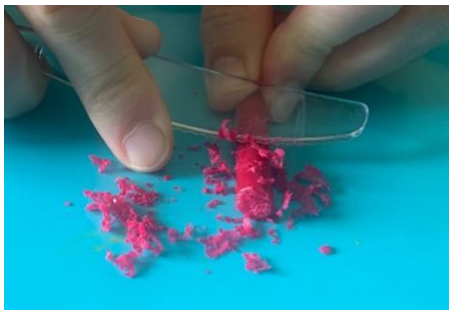
Rocks are always changing through a process we call the rock cycle. There are 3 kinds of rocks – igneous, sedimentary and metamorphic. The rock cycle never ends. It goes on and on, recycling old rocks into new rocks.



What to do:

1. Follow your crayon "rock" on its journey through the rock cycle using the diagram above. A crayon starts out as an **igneous rock.**
2. Remove the paper wrappers from your crayons and scrape off small crayon shavings into piles (use a cheese grater, butter knife or craft stick). These are now **sediment.** What do you think happens in nature to break rocks down into sediment?

Igneous Rocks



Ask an adult to help you make crayon shavings.

Sediment

3. Place one color of sediment into small pile on a piece of aluminum foil. Then layer other colors on top of the pile, one color at a time.
4. Place the second piece of foil over the top of your layered shavings, then press down hard on the top of the foil to squeeze the sediment together. To create even pressure on your rock, you can place a hardcover book or a heavy pan on top of foil before pressing down. Now it is a **sedimentary rock**. Peel it carefully off the foil to see the different colored layers of sediment.

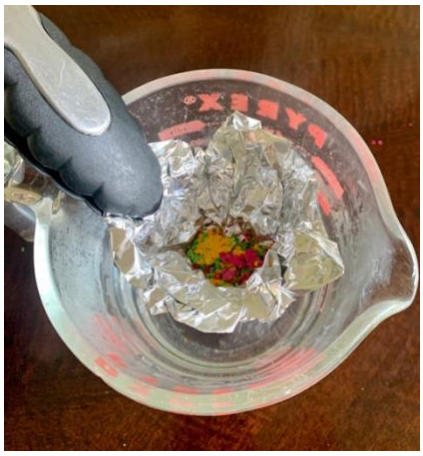
Layers of colored sediment.

Add pressure on top of the sediment.

Sedimentary Rock

5. Fill a container with very hot water (an adult can help you heat water on the stove or in the microwave).
6. Shape the foil around your rock into a cup with tall sides.
7. Use tongs to hold the foil cup on the surface of the water – just until you see your rock start to become soft. Be careful not to let any water get inside the foil. If you do not have tongs, you can make an extra tall side of the foil cup and hold it carefully with your fingers.
8. Take the foil cup out of the water and observe your rock. How has it changed? Heat and pressure have transformed it into a **metamorphic rock**.

Ask an adult to help you heat water so that it is very hot.



Metamorphic Rock

Only hold foil cup on water until the rock starts to soften and mix (probably under 30 seconds).

9. Now hold the foil cup back on the surface of hot water, using the tongs, until it has turned to liquid. This is now hot, molten rock called **magma**.
10. Remove the foil cup and let it stand until completely cooled and hardened (10-15 minutes). Don't touch the hot part of foil or the hot rock!
11. Carefully peel your rock out of the foil cup. Does it look different now? What color is it? It is an **igneous rock** again!

Hold foil cup on water until the rock has melted.

Magma

Igneous Rock

Share your rocks!

Post a picture on social media and tag the museum! #MuseumFromHome

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