

**Objectives:** State the parts of the rock cycle; know the driving forces of the rock cycle.

### **Rocks change as they move through the rock cycle.**

In our last set of notes we learned how rocks can break down over time, also known as weathering. As rocks break down, they can become part of other rocks. On a grander scale, these rocks can completely change from one type to another. The rock cycle is a natural set of \_\_\_\_\_ that \_\_\_\_\_, \_\_\_\_\_, break down, and re-form rocks. It is considered a cycle because it is made up of \_\_\_\_\_ parts.

As we learned in our activity, there is not one path all rocks take. A rock can go through the cycle in many different ways! James Hutton, the father of geology, is credited with discovering the rock cycle. The rock cycle is related to his idea of \_\_\_\_\_ which states that geologic processes that happen today also happened in the \_\_\_\_\_. Therefore, he concluded that the rock cycle has been going on ever since the earth first formed. This gave scientists a major idea to think about as they pieced together earth's history (which we'll study in our next unit).

### **Each rock type is part of the rock cycle.**

It is hypothesized that when the earth first formed it was a large ball of \_\_\_\_\_ material. When it cooled it formed \_\_\_\_\_ rock. After that, what could happen to the igneous rock? Three things:

1. It could \_\_\_\_\_ to become molten rock.
2. It could \_\_\_\_\_ to become sedimentary rock.
3. It could \_\_\_\_\_ to become metamorphic rock.

These three possibilities apply to all rocks in the rock cycle. No matter where a rock is in the rock cycle, it always has the possibility of going down one of these three routes. This is why there is never just one path for the rock cycle to complete.

**The rock cycle is driven by weathering and plate tectonics.**

The rock cycle is caused by two things: \_\_\_\_\_ and the movement of earth's \_\_\_\_\_. Weathering is essential in breaking down rocks to form \_\_\_\_\_ rocks. But how do these rocks move from one place to another: earth's plates.

The surface of earth is broken apart into many pieces that we call plates. The plates are in constant \_\_\_\_\_. Where two plates come together, called a \_\_\_\_\_ boundary, rocks become \_\_\_\_\_ or \_\_\_\_\_ into molten rock. Why? There is tremendous \_\_\_\_\_ and \_\_\_\_\_ where two plates collide. Where two plates spread apart, called a \_\_\_\_\_ boundary, \_\_\_\_\_ rocks form. Why? \_\_\_\_\_ rock is able to push through here, cool, and become igneous. On the surface of plates \_\_\_\_\_ rocks form. Why? The rocks can easily be \_\_\_\_\_ at this location. This is a HUGE generalization of what happens. It's more complicated than this but we're going to leave it at this!