

Playdough Rock Cycle



Any rock you find has been changed slowly over time because of various **forces** acting on it. Using playdough, you can model how rocks change from one **type** to another.

Start with three different colors of playdough. You'll only need a small amount of each.

Imagine that these are three little rocks sitting at the edge of a river. Over time these rocks will break down into smaller pieces by the action of **weathering** and **erosion**.

Rip up all your playdough so you have a lot of tiny pieces.

The tiny pieces of rock are called **sediment**. Sometimes these sediments stick together through a process called **lithification**. When this happens a **sedimentary rock** is created!

Gently press your playdough sediments together until they are sticking to each other but you can still see the different layers.

Imagine that this sedimentary rock somehow gets buried deep in the earth. It is under a lot of **pressure** and **heat**.

The different layers of sediment are squished together to create a new kind of rock. When this happens a **metamorphic rock** is created!

Use the heat and pressure of your hands to squish your playdough layers together. You should be able to see new colors in your playdough rock, as well as some of the original colors swirled around.

What if your rock was buried even deeper? It might **melt** completely! Melted rock is called **magma**. If that magma **cools** down again the **igneous rock** that forms will have mixed with other melted materials and transformed into a new rock.

Squish and fold your playdough rock together until it is all one color.

What happens to your rock next? Any of these processes can happen again, transforming your rock into a new sedimentary, metamorphic, or igneous rock. The rock cycle never stops!



Sometimes you can see that **sedimentary** rocks are made of bits of other rocks stuck together.



Metamorphic rocks are changed by heat and pressure



Igneous rocks may have evidence of how they cooled from lava or magma into solid rock.