



Sediment Jar Activity

Recommendations: For students grades 3-6. Adult supervision is recommended. Can be done indoors or outside.

Purpose: The purpose of this experiment is to represent how sedimentary rocks are formed

Materials:

- Clear mason jar with a lid
- Various types of dirt, soil, plant matter, sand, etc.
- Water
- Bowl for mixing the soil

How it Works:

*Context: Explain how sedimentary rocks are formed in nature. When dirt, rocks, sand and organic matter (sediments) are **moved, broken down and compacted** over thousands of years layers of sedimentary rock are formed. These sediments can be moved by wind, rain, water, ice etc. through the process of erosion. The particles then fall and settle when they can no longer be carried by water or air and form a blanket of sediment on the bottom of rivers, lakes, oceans, or on surfaces of land. Settling out of the wind or water depends on the size of the sediment. Larger pieces will settle more quickly than smaller ones. The process of settling down is called deposition.*

The Activity:

Step 1: Give students time to collect different types of materials to put into their jars. (*Sand, potting soil, leaves, small rocks/gravel, clay, dry dirt etc.*)

Step 2: Mix all the materials found in a bowl

Step 3: Fill the mason jar $\frac{3}{4}$ full of water

Step 4: Poor the mixed materials into the mason jar leaving 1 inch of air at the top

Step 5: Put the lid on the mason jar and give it a good shake

Step 6: Set the jar in a sunny spot and let it sit

Step 7: Give students time to observe their jars. How do the materials look after 1 hour? 2 hours? Etc.

Conclusion:

Things to look for or think about:

1. *Where did each material settle?*
2. *Why did the materials settle in the way they did? Lightest to heaviest, particle size etc.?*
3. *Knowing that sedimentary rocks are formed through the movement, breaking down and compaction of sediments, where are you likely to find sedimentary rocks being formed in nature?*

Fun facts:

Sedimentary rocks can tell us what the Earth's surface was like in the past. They can contain fossils that tell us about the animals and plants or show the climate in an area. Sedimentary rocks are also important because they may contain water for drinking or oil and gas to run our cars and heat our homes.

Fossils are only found in sedimentary rock

Limestone is a type of sedimentary rock and is often made from the fossilized remains of ocean life that died millions of years ago.

Chalk is a soft, white, porous, sedimentary rock, a form of limestone

Flint often found within chalk or certain types of limestone has been used for making tools and starting fires for over 2 million years

Sedimentary rocks are most likely to be found near or under sources of water, which is where a lot of erosion takes place, like oceans, riverbeds and ponds but sedimentary rock can also be found in deserts and in caves.

Sedimentary rocks form a thin layer of rock over 75 per cent of the Earth's surface

Resources to further learning:

<https://www.youtube.com/watch?v=SuNfbEDMOQs>

https://www.youtube.com/watch?v=Em3w_7KMmBQ