NATURE ACTIVITIES

SEDIMENT JAR

Photo Credit: Raising Life Long Learners

Would you like to learn about sedimentary deposits by getting outside, collecting rock, and dirt? Shake it up and observe geologic formations in action!

PART ONE - CREATING

Sediment is composed of living and non-living material: such as soil, sand, gravel, dirt and organic material. With every rainfall, sediment is moved into streams and other waterways. Sediments sometimes are deposited in a “whoosh” from a current. This carries many sediment particles into the water to settle. When the water moves fast, the larger sediments are pulled into the water and settle through gravity. When the water slows down, the larger particles are the first ones to settle. This causes erosion of riverbanks and creates deposits of sediment called deltas and sand bars. A bed is produced when there is a gradual reduction in particle size from the base upwards settles in a single layer of deposition. These jars mimic this process.

Photo Credit: Kids Geo

Resources/materials needed: Waterway such as a stream or creek, lidded jar, water, sediment (rock, sand, dirt) in different size grades (Coarse 2-4 mm through granules such as sand and mud)

Skills: Cognitive, Motor Skills, Responsibility, Respect for Others, Hand-Eye Coordination, Technical Skills, Creative Reuse

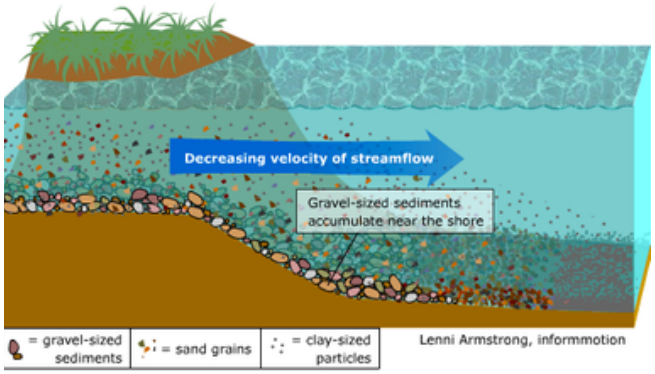

Photo Credit: Middle School Science

DIRECTIONS:

Step 1: Wash the jar with soap and water and let dry. Make sure the sediment jar is free clear and labels are removed.

Step 2: Go outside and explore! Observe the sediment differences in waterways such as a creek. See if you notice particles afloat. Have fun playing in the creek!

Step 3: Scoop up sediment including small rocks, sand, mud, and in between size sediment. Make sure there is still some water in your jar. You can also gather sediment dry and add it to half a jar of water if you do not have a stream or creek near you.

Photo Credit:Raising Life Long Learners

Step 4: If you are collecting sediment separately, mix soil/dirt, pebbles, sand, small granules of sediment in the jar evenly distributed in size. This should take up about 1/2 of the jar. Add water to the jar the rest of the jar leaving 1/2"-3/4" of space left at the top. Seal the lid. Make sure there is only about a 6 pinches of soil compared to the sand and other sediments which would be a handful or so each.

Step 5: Shake and swirl the sediment so everything is mixed up.

Step 6: Let the sediment jar sit and settle.

Photo Credit:Raising Life Long Learners

PART TWO - OBSERVATION

Resources/materials needed: Sediment Jar, magnifying glass

Skills: Classification Communication, Prediction, Observation

DIRECTIONS:

Step 1: After you shook the jar and everything starts settling, it is time to observe!

Step 2: Make a prediction of what you think will happen. Will this match the charts of how waterways distribute sediment?

Step 3: Observe the speed of deposition. After a day has passed, most of everything should be settled. Make drawings and observation notes on what you see. Is there a layer of humus (organic matter) floating on the surface?

Reflection: Does the sediments settle like the diagram? Does it follow the way rivers deposit sediment?

Photo Credit: Science-SJR

Resources:
kidsgeo.com
media.wfyi.org/IndianaExpeditions/IDEXSeason2_2009/IDEX202/IDEX202SedimentJarLesson.pdf
middleschoolscienceresources.weebly.com/weathering-and-erosion.html
thehappyscientist.com/study-unit/sorting-sediments
inspirationlaboratories.com/sediment-jars/
sjrp1.weebly.com/science.html