

Rocks

Investigation Data Sheet



Observing Sediments In A Flood

When sediments enter the relatively still water of a lake or ocean, they settle out of the water at different rates, depending on their density. Large, heavy rocks will drop almost instantly, followed quickly by gravel and pebbles. Sand takes a bit longer to settle to the bottom, and clay may take days.

Objective

Observe how sedimentary rocks form using a simple model.

Materials

- a clear, tall canister
- one liter of tap water
- a measuring cup
- a one-liter jar with a lid
- a timer
- flour
- dry rice
- black beans

Safety Notice: All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

Procedure

1. Pour about 500 milliliters of water into the canister. Put the rest of the water into the jar. The still water in the canister will represent our still lake or ocean. The water in the jar will be our flood.
2. Measure out 250 milliliters each of beans, rice, and flour. Pour each into the jar. They'll represent our different-sized sediments; the beans represent larger rocks, the rice represents sand, and the flour represents clay and the smallest particles of rock and soil.
3. Screw the lid of the jar on and shake the jar vigorously to mix everything up. This is our flood.

4. As soon as you stop shaking the jar, quickly take off the lid and pour the entire mixture into the water in the bottom of the canister. This represents our flood entering the relatively still water of an ocean or lake. What do you think you will see?

5. Observe what is happening in the canister right after you pour the mixture in, and jot this down. Then observe 45 minutes later. Wait four hours and observe the sediment again. Record all your observations in the data table.

Conclusions

- How do your observations relate to the formation of sedimentary rocks over a long time period?

Data Table

	Initial observations	45 minutes later	4 hours later
Sediment observations			