

Lesson

Turn That Bone To Stone

Fossils

Summary

Most of the time when a plant or animal dies, its remains are recycled by nature's processes. If we are lucky, the remains are buried in sediment in a wet place, like the muddy bottom of a lake where they have a chance of being preserved and becoming a fossil. Layers of sediment gradually accumulate and eventually turn to stone. During this process, water containing dissolved minerals seeps into the empty spaces of the organism. The minerals crystalize and slowly replace the original materials that made up the plant or animal or fill the spaces where decay has taken place-leaving us with a rock replica.

Objectives

Students will be able to:

1. Describe how fossils form
2. Explain the process of permineralization and petrification

Estimated teaching time

2 sessions/ One for creating the model and the other for analyzing the results.

1 hour total

Materials Needed

Scissors

Sponges

A cup

Shallow Pan

Epsom salts

Food coloring (optional)

Student Background

Students should have completed the rocks and minerals section, plus the how fossils form section.

Introducing the activity

1. Begin with a series of questions to see what the students remember from past lessons. These might include:

*What is a fossil?

*How do fossils form?

Facilitating the Activity

1. Divide the students into groups. Each group will “make” their own “fossil”.
2. Give the students 2 sponges. Have them cut 2 bone shapes from the sponges.
3. Have them set one sponge aside for a comparison.
4. The teacher should go around and fill each cup with hot water.
5. The students will then stir in Epsom salts until no more will dissolve (might need explanation).
6. They will then add a few drops of food coloring; maybe each group can use a different color.
7. They will then pour this solution into the shallow pan.
8. Put one sponge bone into the pan and watch the water travel through the holes.
9. They will then need to set the pans in a location where it won't get disturbed for several days or even a few weeks.
10. When the sponge is dry, have the students feel it.

Post Experiment

Ask the students if their sponge that was placed in the solution is harder or softer than the comparison piece. Have them look carefully in the holes. Have them explain what they see.

Talk about how all living things have holes in them. (The pores in your skin). Petrified fossils are made when water that has lots of minerals in it seeps into the holes found in natural items (like bones, plant parts, or seashells). The minerals cling to the sides of the holes. When the water dries up, the minerals crystallize in the holes, replacing the original material that may have rotted away. The minerals in the Epsom salts formed crystals, petrifying your sponge “bone”!

References

Geology Rocks – A Kaleidoscope Kids Book