

TITLE: Introduction to Caves & Karst and How They Form, Lesson 2

TOPIC: Cave formation

GRADE LEVEL: Middle

TIME REQUIRED: 45 minutes (Combine lessons 1&2 for a 90 minute block)

MATERIALS NEEDED:

Images on Explore Caves & Karst CD

Drip, Drip, Drip Activity

Making Cave Speleothems Activity – see activity for list of materials

DIRECTIONS FOR INSTRUCTION:

This lesson refers to pages 4-8 of the teacher Caves & Karst text.

1. Review the types of caves briefly, maybe quick “quiz”.
2. Have them look at their finished models. How do they think this cave was formed? Have students describe some of the features they see in the cave.
3. Optional: How are caves formed? Visit PBS Nova site and have students do the interactive, or show it on a projector. <http://www.pbs.org/wgbh/nova/caves/form.html>
4. Project the “Other Cave Images” on the CD to show a glacier, a sea cave, and a number of lava caves to students.
5. Have students do the Drip, Drip, Drip Activity. This activity is a paper one, and emphasizes the relationship between time and erosion. It also uses millimeters and so will require metric rulers. Graphing is also required.
6. Discuss how speleothems are formed, and all the various types. Show some of the Cave Formations images from the CD in a PowerPoint presentation (show more in the next class period). Encourage note taking on how these features form. Define stalagmite versus stalactite. Also may go to the Web site for The Virtual Cave: <http://www.goodearthgraphics.com/virtcave/virtcave.html>, which has amazing photos of speleothems, but make sure you leave enough time for the students to start the next activity – it needs to be set up today.
7. Start the lab activity “Making Cave Speleothems”. The class should end with students making initial observations of their experiment set-up, prepared to come in and record observations on the next class day.

Speleothem - A calcite deposit created when the calcium carbonate dissolved in water seeping through limestone cave walls is redeposited within the cave environment.

Stalactite - A deposit of calcium carbonate resembling an icicle hanging from the roof or sides of a cavern.

Stalagmite - A deposit of calcium carbonate formed on the floor of a cave by the drip of calcareous water.

Other Speleothems to cover: flowstone, dripstone, cave pearls, rafts, coralloids, shelf stones, helictites.

