

LET'S MAKE A CAVE

Adapted from: Carlsbad Caverns National Park's Teacher Guide: *About Bats, Caves, & Deserts*.

GRADE LEVEL: Elementary / Intermediate

SUBJECT: Science (Unifying Concepts, Physical, Conservation)

Related Colorado Content

Standards: SC1, SC2.1, SC(1-6).5, SC6

TIME: 1 ½-hour session plus Field Trip

OBJECTIVE: Students will demonstrate how to avoid touching artificial speleothems while using large motor skills to negotiate an obstacle course. Students will practice good stewardship behavior, such as not touching speleothems during their field trip.

MATERIALS:

- Large cardboard box (such as furniture or appliance box)
- Yarn
- Large nail
- Plastic drinking straws
- Wooden dowel (height of the box's width)
- Tape

BACKGROUND:

Speleothem is the name given to any formation inside of a cave.

Stalactites are speleothems that hang down from the cave ceiling, and stalagmites are speleothems that rise up from the cave floor.

Formation of any speleothem takes a long period of time. As each drop of water leaves a tiny amount of

mineral residue on a cave ceiling, floor, wall or other feature, it adds to speleothem growth. When a speleothem is broken, it will not be replaced within our lifetime, if ever! Therefore, people should be extremely careful while exploring caves.

Suggested Pre-Visit Procedure

Note: This project will require a lot of preparation and time; however, the end result can be worthwhile.

1. The cave obstacle course is made up of drinking straw stalactites, plastic cup stalagmites and a large cardboard box.
2. Lay the box down so that two ends are open. Brace the center of the box with the wooden dowel column.
3. Punch a hole in the top of the cave with the nail. Thread yarn through one drinking straw and then through the nail hole; knot it to secure it. Hang numerous straws, at various levels, in one area of the cave. Allow enough room for the students to wriggle around without touching them.
4. Make the stalagmites by taping large plastic cups together end to end, or mouth to mouth. Stalagmites can be one to three cups high.

LET'S MAKE A CAVE (continued)

5. Mark a trail with the stalagmites leading to one open end of the box, through it, and out the other end to represent an area of the cave where the explorer can stand upright. The cavers will need to crawl in the area represented by the box.
6. Talk about the definitions of the words stalactites and stalagmites.
7. Ask students to pretend that they are cavers exploring a newly discovered cave. It is their responsibility to not damage any speleothems.
8. Individually, the student will approach the cave in an upright position being careful not to kick any stalagmites. When he/she reaches the box, the student will crawl through, not hitting any stalactites or stalagmites.
9. When each student has had a chance to negotiate the cave, lead a short discussion on maneuvering methods that they invented or used.
10. Have students try another trip through the cave to see if there has been any improvement from their first trial.

Suggested Field-Trip Procedure

1. As you tour Glenwood Caverns, remind students of their obstacle course experience.
2. Point out speleothems that have been touched or broken. Look for signs of renewed growth of broken speleothems.
3. Encourage students to protect the cave as they go through it, and to be aware of their impact upon the cave.

