

ACTIVITY #1

CREATE A CAVE

Purpose: Demonstrates the process of cave formation through dissolution of limestone.

Materials: Sugar cubes (representing limestone)
Modeling clay (representing top soil)
Glass tank (aquarium)
Toothpick
Spray bottle (representing rainfall)

Procedure:

1. Place sugar cubes in random piles against glass of aquarium.
2. Press clay against sugar cubes, sealing them inside a dome. Be sure clay is pressed tightly against the glass walls and bottom of the aquarium, as well as the cubes themselves. Clay layer should be around 1/8 inch thick.
3. Use toothpick to poke holes through the clay. Be sure holes go all the way through to the sugar cubes.
4. Spray water on top of the clay. If water does not seep into holes, they may need to be made larger.
5. Continue experiment over several days, spraying clay once or twice daily.

Comments:

If the activity is being done as a teacher demonstration, keep the aquarium in a visible area so students may observe changes as the water dissolves pathways through the sugar. Older students may be asked to make drawings of the “cave” at several stages of development (Ex. At the beginning, middle, and end of the activity, or once a day). They may also be asked to predict what will happen as the water seeps through the clay. For younger students, it may be helpful to add food coloring to the water, making the passageways more clearly visible. If several aquariums are available, the class may be divided into groups. The students may then compare their own “cave” to those of other groups, demonstrating the unique qualities of each cave.