

Cupcake Core Sampling

Title: **Cupcake Core Sampling**

Level: **K-12**

Day/Time:

[Academic Expectations](#)

[Core Content for Assessment:](#)

Objective:

Trying to "see" what is beneath the surface of the earth is one of the jobs of a geologist. Rather than digging up vast tracts of land to expose an oil field, or to find coalbearing strata, core samples can be taken and analyzed to determine the likely composition of the earth's interior. In this activity students model core sampling techniques to find out what sort of layers are in a cupcake.

Materials:

- Cupcake mix
- Plastic knives
- Foil baking cups
- Food coloring
- Drawing paper
- Toothpicks
- Frosting
- Plastic transparent straws

Activity:

Make cupcakes with at least three layers of colored batter. Provide each student with a cupcake, straw, toothpick, and drawing paper. Foil baking cups and frosting will prevent the students from seeing the interior of the cupcakes in much the same way that a geologist can't see the interior of the earth. Ask the students to fold a piece of drawing paper into four sections and in one of the sections draw what they think the inside of the cupcake would look like. Ask the students how they might get more information about the cupcake without peeling the foil or cutting it open with a knife. Someone may suggest using the straw to take a core sample. If not, show them how to push the straw into the cupcake and pull out a sample (straws can be cut to a length slightly longer than the depth of the cupcake.) The students should make a second drawing of the cross section of their cupcake based on the information from three core samples. Each new drawing should be carefully labeled and placed in a different section of the recording paper. Finally, the students should cut open the cupcakes with a knife to compare them to the drawings. Keep relating what the students are doing to what real life geologists do. Nobody eats until the discussion is complete!

Adapted from materials provided by Women In Mining