

Women in Mining

Cupcake Core Sampling

GEOLOGY INTERMEDIATE 3-6, Earth Science & Math (Adaptable for K-12)

PURPOSE:

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 some coal bearing 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 Needed:

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

Directions:

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 cannot see the interior of the earth. If making cupcakes is not an option, purchased cakes with cream filling inside can be substituted.

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.) Fresh cupcakes do not work as well as cupcakes that are dryer.

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.

Teacher Hints:

Keep relating what the students are doing to what real life geologists do. Nobody eats until the discussion is complete!

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