

EARTH ACTIVITY: Planet Explorer

This experiment teaches methods geologists use to locate structures inside the Earth. This experiment shows two methods used to determine

the shape and composition of geologic structures deep inside the Earth—drilling and using instruments to detect magnetic attraction.



Things you will need:

- Modeling clay
- Newspaper
- Toothpicks
- Compass
- At least two objects to go inside spheres of clay. At least one object should attract a magnet. Why not use an actual magnet?



1. Begin by dividing the class into at least two groups. Each group spreads newspaper on a work surface. They place at least two objects, one magnetic and one non-magnetic, in a block of clay and roll the clay into a ball.

2. Before starting, discuss how probing and using the magnetic needle of the compass can provide clues to what is inside. Relate this to the methods of drilling into the Earth and using magnets to guess where iron ore and other structures are buried underground.



3. The groups exchange clay spheres and use the methods of probing with toothpicks and magnetic detection to guess what is inside. They can move the clay around a compass. If the needle moves, the clay contains a magnetic object inside.

4. Students should keep a record of their observations. Helpful information would include recording the depth of each toothpick probe. Each hole can be numbered and marked with a small piece of paper. The measurements can provide clues to the shape of the object buried inside. The compass will give a clue to the composition of the object (iron or iron alloys will cause the compass needle to move.)

After investigating, each group arrives at their best guess to the identity of the buried object. Findings are announced. Then each sphere is broken to reveal the object inside. Did these two methods of investigation give clues to the object's identity?

