Homemade Compass

Introduction

Compasses have been used for centuries to help people navigate. If you have ever played with a compass you know that the compass needle always points toward the North Pole. The earth can be thought of as a giant magnet with the North and South Poles and the compass needle, since it is magnetic, is attracted to the Earth's magnets.

Purpose

- Reinforcement of curriculum in Science
- Participate in science activities and discussions

Time

This activity will take about 20 minutes to make two different compasses.

Materials

- Clear plastic cup
- Pencil or pen
- Pin
- Magnet
- Thread
- Needle or small nail
- Cork or small piece of foam

Directions

- Floating Compass
    - Rub one end of the magnet along a needle. Always rub in the same direction. Do this about 30 times to magnetize the needle and test it by picking up a pin.
    - Cut a small piece of cork off and push the magnetized needle through it.
    - Fill the plastic cup with water.
    - Carefully place the cork with the magnetized needle into the cup so it is floating in the center. Which direction is north?
- Chinese Hanging Compass
    - Rub one end of the magnet along a needle. Always rub in the same direction. Do this about 30 times to magnetize the needle and test it by picking up a pin.
    - Tie one end of a short piece of thread to the center of your magnetized needle. Attach the other end to a pencil and place it over the rim of the plastic cup.
    - Once you complete your compass, place it on a table and wait for the needle to come to a rest. The thickest end of the needle will point north.
    - Now try moving the compass to a new place on the table. The needle will resettle and point north again.

Other Information and Resources

- For more homemade science toy ideas, go to www.scitoys.com