

Making a Compass

Gallery: My Big Back Yard

Course Name: Magnet Mania

Grade Level: 3rd

Activity: Pre

Approximate Time Required: 30 minutes

Vocabulary: **MAGNET, ATTRACT, REPEL, MAGNETIC FIELD, NONMAGNETIC, POLE, NORTH POLE, SOUTH POLE, PREDICTION**

Objective:

Investigate to find common objects that are attracted to magnets.
Investigate how magnets attract and repel each other.

Materials Needed:

Small nail
Strong magnet
Paper clips
Cork (large and squatty)
Tape
Basin of Water
Compass
Markers
String
Scissors

Procedure:

1. Using a strong magnet, stroke the nail about 40 times in one direction only (large to small end is easiest). Be sure the student is lifting the nail at the end of each stroke and not making a back and forth motion.
2. Have students test the nail to be sure it is magnetized by picking up paper clips.
3. Tape the magnetic nail to the top of the cork and place in the basin of water.
4. When the nail stops moving, compare the direction it is pointing to that of a compass pointing north.
5. Mark the North end of the nail magnet.
6. Tie a piece of string approximately two feet long to the nail. Hold end of string, allowing the nail to hang freely. Compare to the compass to see if the North end of the nail magnet is pointing north.

Observations:

Have students share facts learned from experience with one another.
Guide discussion about compasses and earth being magnetic.

Evaluation:

Observe nail magnets for students success in magnetizing the nail and using the earth as a magnet.

Modifications:

Have students predict and draw how they think the magnetic field of the earth would look.

Georgia Standards: S3P2 a, b, S3CS1b, c, S3CS3a, c, S3CS7a