Magnetism –Let's Stick Together

Magnets are fun so let's explore the magnetic property of common objects using a strong magnet.

Materials:

- Very strong magnet: Neodymium (Rare Earth), Ceramic, or cow (Alnico) magnet
- Cloth objects (wool, cotton, synthetic)
- Glass objects (plates, glasses)
- Metal objects (coins, nails, keys, paper clips, brass tacks or fasteners, copper wire, aluminum foil, fridge door, cutlery)
- Plastic objects (pens, comb, plastic wrap,
- Organic things (house plants, your fingers, grapes, paper, cardboard, wood, dollar bills)

Procedure: (Remember to have your parent's permission and have them watch and help you.)

- Neodymium or ceramic magnets may be purchased at hobby or hardware stores or very large very strong magnets called cow magnet are available at farm supply stores such as COOP or UFA. Ask them why they are called cow magnets?
- Using your magnet, test various objects around your house to see if they can be attracted or repelled or show no sign of either force. Keep the magnets away from credit/debit cards as they can erase the data on the cards and don't use it on expensive electrical items in your house (just in case).
- Keep a record of the items you are testing for future experiments.

What's Happening:

Did the magnet attract everything? Which things were attracted the most? Did you notice if anything was repelled? Can you come up with a theory as to whether or not a magnet will be attracted to an object?

Magnetism is the pulling force a magnet exerts on an object. Everything is made out of electrons and these electrons are arranged in an object so that their magnetic moment that is, the push-pull forces cancel each other out, making it non-magnetic or nonpermeable. Occasionally some materials allow for some of these push-pull forces to line up causing it to be magnetic or permeable. The more the forces line up, the stronger the magnet.

Metals such as iron, nickel and cobalt can be easily attracted by magnets. Most other things can't but some will if they get cold enough to line up the electrons (closer to minus 273 degrees).

Extension:

Hang a Canadian bill on a string and see it a magnet will attract it. Now try it with an American bill (the black ink is magnetic and is part of their security system).

This activity is based on our Magnetism kit. For more information about magnetism see http://en.wikipedia.org/wiki/Magnetism. Our teaching kits (described on our website) are loaned out FREE to provide classroom teachers and parents of home schooled children an opportunity to explore Science in interesting ways. Please consider volunteering as a classroom guest speaker or allow your business as a field trip location.

Lorne Cooper, Regional Executive Director

PRAXIS, "Making Science Fun". Contact Praxis at praxis@praxismh.ca, www.praxismh.ca, Tweet or follow us @PraxisMedHat, or friend us on Facebook. Address: c/o 200 7th Street S.W., Medicine Hat, AB, T1A 4K1 Phone: 403-527-5365, Fax: 403-527-6570.