

Magnets and Magnetism

CONCEPT: *Magnets have very special properties. They can attract or repel one another, they have two “poles” where the attractive or repulsive forces are concentrated, and they respond to the earth’s natural magnetism.*

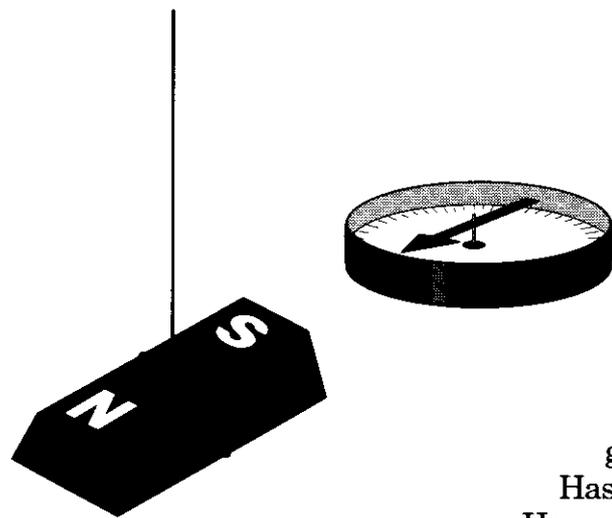
DIRECTIONS/LAB: Hand out a magnet and magnetic compass to each student. Allow the students to work in groups to answer the inquiry questions posed below.

INQUIRY: Have students record their observations and questions. Which end of the magnet attracts the North-pointing compass needle? Does the other end attract it too? Find similar poles of a magnet— what is similar about them? Hang a magnet by a string, which end points North? How does the earth act like a magnet? How would you label the two poles of a magnet?

If we label the end that points North the “North” magnetic pole, is the earth’s North geographic pole near the North, or South magnetic pole? (if the end of the magnet that points North is labeled the N pole, then there must be an S pole at the North geographic pole to attract it in that direction).

Has anyone found a magnet with just one pole?

How could you tell the difference between a magnet with one pole and a magnet with two poles? (Scientists believe that a single pole magnet is theoretically possible, but no one has yet observed one).



CONCLUSIONS: Magnetism can be observed, but explaining how it works is more difficult. It isn’t necessary to introduce the atomic theory of magnetism for students to gain an intuitive feeling for the properties of magnets. Magnetism is a common, yet intriguing phenomenon. Allow students to theorize about how magnetism arises in matter.

