

# INVISIBLE FORCE

## Lesson Summary:

Students use iron filings to bring out the force fields around magnets and learn that the shape of Earth's magnetic field is similar to the shape of the force field around a rectangular magnet. They also learn that magnetic fields exist in three dimensions.

## Objectives:

The student will:

- observe magnets have an invisible force field;
- determine the invisible force field around a magnet exists in three dimensions;
- explain magnets of different shapes have force fields of different shapes;
- identify a force field around a rectangular magnet that is strongest at the top and bottom; and
- conclude that the shape of the force field around Earth is similar to the shape of the force field around a rectangular magnet.

## GLEs Addressed:

Science

- [5-8] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.
- [3] SB4.2 The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by recognizing that objects can be moved without being touched (e.g., using magnets, falling objects, static electricity).

## Search Terms:

- magnet
- magnetic field