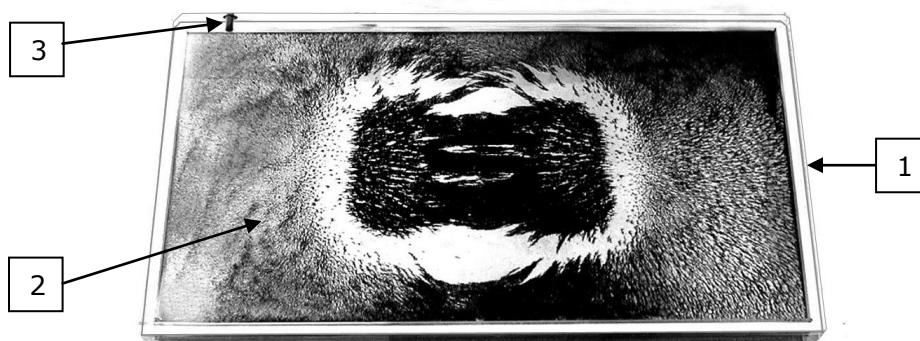


OPERATING INSTRUCTIONS

AND SUGGESTED ACTIVITIES

LARGE MAGNETIC FIELD DEMONSTRATOR

MGFD03



DESCRIPTION

The Magnetic Field Demonstrator (MGFD03) offers a quick and clean way to visualize the magnetic fields of permanent magnets. The demonstrator consists of a transparent acrylic case (1) that holds iron filings in a fluid of proper viscosity (2). The filler hole (3) is permanently sealed to prevent leakage. The unit can be viewed directly and can also be placed on an overhead projector for classroom demonstration.

The demonstrator is used with user-supplied magnets in various shapes and combinations. The size of the unit is 8" x 4½" x ¾" and it weighs 11 oz.

BACKGROUND

A permanent magnet is a piece of a special metal or other special material that can attract and pick up small iron objects. Permanent magnets can also make these objects into temporary magnets. However, the magnetism of a temporary magnet, such as the iron filings in the demonstrator, will disappear after the permanent magnet is removed.

Every magnet has two ends, a North Pole and a South Pole. The North Poles of two magnets will repel each other (push each other apart). However, the North Pole of a magnet will always attract the South Pole of another magnet.

Since a magnet can exert a force on an object without being contact with it, we say it produces a magnetic field. Magnetic fields cannot be seen, but they can be detected by observing their effect on magnetic materials.