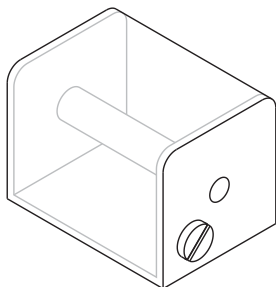


# 3-D Magnetic Field Demonstrator

SE-8603

## Introduction

The 3-D Magnetic Field Demonstrator lets students observe magnetic field lines in three dimensions. The clear acrylic vessel contains iron filings suspended in paraffin. One or two cylindrical bar magnets (not included) can be inserted into the hole that runs through the axis of the vessel. The filings will then line up along the magnetic field lines.



The bar magnets used should be about 10 mm in diameter and between 45 and 50 mm long. The Bar Magnets (2 Pack) (SE-8604) available from PASCO fulfill these requirements.

## Equipment

### Included equipment:

- 3-D Magnetic Field Demonstrator

### Required equipment:

- Bar Magnets (2 Pack) (SE-8604) or other bar magnets with similar dimensions

## Usage

To distribute the filings evenly, shake the vessel slowly and gently, as shown in Figure 1. (More vigorous shaking may produce bubbles in the paraffin, making it difficult to see the filings.)

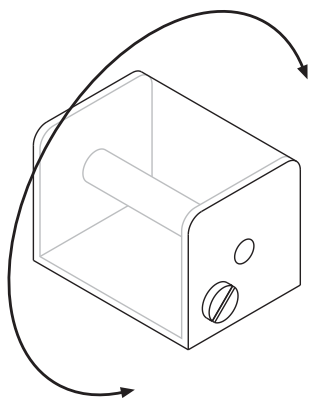


Figure 1: Shake the vessel to distribute filings.

Once the filings have been distributed, place one or more magnets into the demonstrator. At first, the filings will arrange themselves along the lines of the magnetic field. After a short time, they will cluster around the magnetic poles. Figure 2 shows the magnetic field lines, and thus the paths the filings will take to the poles, for three magnet configurations.

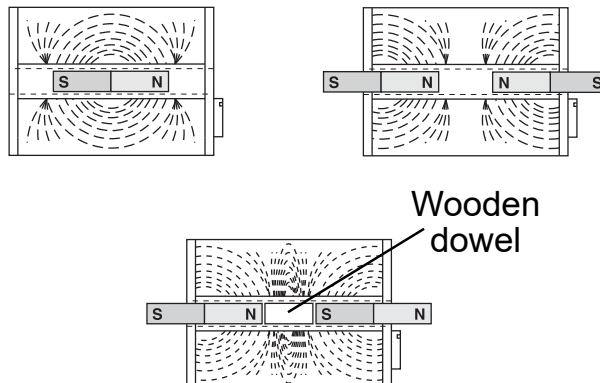


Figure 2: Magnet positions inside the vessel.

## Specifications and accessories

Visit the product page at [pasco.com/product/SE-8603](https://www.pasco.com/product/SE-8603) to view the specifications and explore accessories. You can also download experiment files and support documents from the product page.

## Technical support

Need more help? Our knowledgeable and friendly Technical Support staff is ready to answer your questions or walk you through any issues.

- ☐ Chat [pasco.com](https://www.pasco.com)
- ☎ Phone 1-800-772-8700 x1004 (USA)  
+1 916 462 8384 (outside USA)
- ✉ Email [support@pasco.com](mailto:support@pasco.com)

## Limited warranty

For a description of the product warranty, see the Warranty and Returns page at [www.pasco.com/legal](https://www.pasco.com/legal).

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