

Exploring Magnets

Procedure

- 1. Experiment** Place the bar magnet in the tray. Cover the magnet with a sheet of wax paper. Sprinkle iron filings onto the paper and observe what happens.
- 2. Record Data** In the space below, sketch the pattern of the filings around the magnet. Include a written description of how the filings are arranged.

- 3. Use Variables** Pick up the wax paper with the filings. Be careful not to spill any. Replace the bar magnet with the horseshoe magnet. Put the wax paper, with the filings, on top of the horseshoe magnet.
- 4. Compare** In the space below, sketch the pattern of the filings and include a written description. Note any differences between the two patterns.

- 5. Use Variables** Repeat steps 3 and 4, replacing the horseshoe magnet with the disc magnet. Draw and record your observations in the space below.

Conclusion

Write the answers to the questions below.

- 1. Compare** How were the iron filing patterns different for each magnet? How were they similar?

- 2. Infer** What can you infer from the patterns about how each type of magnet attracts filings?

Investigate More!

Research Research how a battery, an iron nail, and a wire can be used to make a simple electromagnet. With your teacher's approval, build the electromagnet. Use iron filings to investigate the magnetic field it creates.

