Lab – Magnetism

Background – Magnetism is a force of attraction or repulsion by magnetic materials. Every magnet has a magnetic field. This is the area around a magnet where magnetic forces act. What if we could actually see a magnetic field? What would it look like? Today we will explore these questions by performing a lab activity.

Hypothesis – We can/cannot (circle one) make a magnetic field visible by sprinkling iron filings around a magnet.

Materials – two bar magnets, a sheet of white paper, iron filings, a folder

Procedure –

1. Place a bar magnet between the open folder and the paper.
2. Sprinkle iron filings onto the sheet of paper. Do not remove filings yet!
3. Each member of your group will sketch what you see. Use Sketch 1 – Bar Magnet in your lab.
4. Carefully fold the piece of paper in half and pour the filings back into the small plastic bowl.
5. Place two magnets onto the open folder with like poles facing each other. Use either two north or two south poles. Place the poles a few centimeters apart. Put the sheet of paper on top.
6. Repeat steps 2-3 (Use Sketch 2 – Like Poles)
7. Place two magnets onto the open folder with opposite poles facing each other. Place the poles a few centimeters apart. Put the sheet of paper on top.
8. Repeat steps 2-3 (Use Sketch 3 – Unlike Poles)

Questions –

1. Based on your sketches, what is the strongest part of a magnet? How can you tell? **Explain**.
2. What did you learn from observing the iron filings placed over like poles?
3. What did you learn from observing the iron filings placed over opposite poles?
4. Was your hypothesis correct? **Explain**.
5. Write a ‘Boxes and Bullets’ for the Cow Magnet blog. The box is your main idea and the bullets are the supporting details. You don’t need to make an actual box.

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