Safety Alert **slippage**
iron filings

Magnetic Salad

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Getting Ready

Your salad or cooking oil isn't magnetic! However this oil can help you understand more about magnetism! (PS pronounce filings as fi-lings, not fill-ings)

Stuff to Make it Happen (Materials)

plastic jar small resealable bag iron filings clear adhesive tape*
salad or cooking oil* gloves* magnet

Making it Happen *(Discard the salad oil when you are done with the activity)*

1. Pour about two teaspoons of iron filings into the clear plastic jar.
2. Fill the jar about half full with the salad or cooking oil. Observe the iron filings.
3. Open the small resealable bag. Slip your magnet inside.
4. Carefully squeeze the bag to remove as much air as you possibly can. Reseal the bag. *Be sure it's sealed*! Fold the bag over to make the bag fit the magnet's shape. Tape it with clear adhesive tape at this point. Gently put the bagged magnet into the plastic container.
5. Put in two more teaspoons of iron filings. DO NOT STIR! Fill the container full with the oil. Put the lid on securely. Clean up any spills or messes you make! Observe!!!
6. When you're finished, remove the bagged magnet. Carefully untape and remove the magnet. *Keep the iron filings away from the magnet!!* Let the filings fall back into the oil. Replace the container's lid and put away everything where the teacher tells you to.

Understanding the Science

Magnets are surrounded by a **Magnetic Field**. (Notice the iron filings surround your magnet.) This shows a magnetic field is **Three-Dimensional**, or **3-D**, meaning it has **Depth**, **Heighth**, and **Width**. A magnetic field has invisible **Lines of Force** connecting the **North** and **South Poles** of the magnet. The iron filings line up with these invisible lines so you can you see them! It's like housedust in early morning sunlight, it shows where the light is. (**Laser** displays show this!) Lay a clear plastic sheet over a magnet. Sprinkle some dry iron filings over the sheet. You still see the magnetic field, but only in **Two Dimensions**, length and width.

Let's Check the View! (Questions and Assessments)

1. What is the large magnetic field which affects all of us?