## Laplace's law.

Material:
- 2 erasers
- 2 hard rods (like aluminium nail, hatpins, etc...) approximately 12 cm, which are not ferromagnetic.
- One 4.5 V cell.
- One magnet, preferably horseshoe-shaped, powerful enough (or one magnet coming from the hard disk of a computer).
- One pencil lead (check first that the lead is not ferromagnetic). It can happen!)
- Two copper wires of approximately 15 cm, with both ends stripped.
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Mounting:
- Drill two holes in each eraser, at the same height and distance. The holes diameter must be equal to the diameter of the rods.
- Pass a stripped wire into each hole of one eraser.
- Push the two rods in through the two holes of the second eraser, and then make these two rods pass into the holes of the first eraser, making sure to jam the stripped wires.
- Place the two erasers on a horizontal surface, making sure to keep the two rods perfectly horizontal.
- Connect the other stripped end of one of the wires to the cell.
- Place the pencil lead on the two rods.
- Hold the magnet so the field lines are perpendicular to the plan created by the two rods and the pencil lead.
- Connect the second end of the stripped wire to the other terminal of the cell.
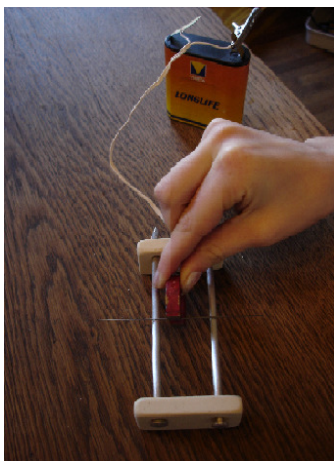
Observation:
When you cut the circuit, you can observe the pencil lead rolling on the two rods. The direction in which the rod moves depends on the current flow direction and on the magnetic field direction (position of the North and south poles with regard to the rod