

Attraction or Repulsion is all about similarity.

# Magnetism

# Papers to Hand Out

- Objectives Sheet
- Magnetism Study Sheet (graded, due Tuesday February 28<sup>th</sup>)
- What is a Magnet? Sheet
- Graded homework.
- Warning: we are using magnets and electricity in this unit so any and all electronic devices are strongly discouraged to bring to class!

# Around the Room!

# Magnets and Magnetic Fields

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- Bar Magnet and Iron Filings
- Iron Filings in Oil
- Magnet bottles

# Magnetic Field Lines

- Magnetic fields are generated by Magnets.
- Magnetic field lines are drawn from North Pole to South Pole (All known magnets have two poles to my knowledge).

# Practice Drawing Field Lines

- On your blue worksheet use a compass and bar magnets to draw the field lines.  
Remember arrow points toward south pole.

# Earth as a Magnet

- Earth is a giant magnet with the North Pole actually being a magnetic south pole and the South Pole is actually a magnetic north pole.

# Monopole

- Experiment in College!
- Mathematically possible!
  - Monopoles obey the four Maxwell equations.
- Still elusive
- <http://phet.colorado.edu/en/simulation/magnet-and-compass>