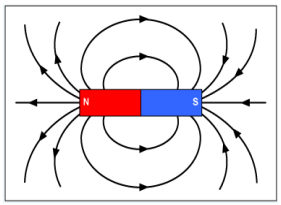
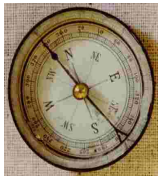
Revision of Magnetism 8J

Exploring Science 8
Pages 116- 127

Magnetism

- Field Lines
  - Show the Strength & Direction of Magnetic Fields
  - The Area Around a Magnet Which Attracts Magnetic Materials
  - Arrows Show North to South
  - 
- Electromagnetism
  - Any Wire Carrying an Electric Current has a magnetic field
    - The Field Around a Wire will be Circular
    - 3 factors to Increase the Field Strength
      - Increase the Number of Coils
      - Increase the Current
      - Add an Iron Core
  - Only Works When Switched On
  - Useful Devices
    - Electric Bell
      - Made of Iron
      - The Armature is Attracted to the Electromagnet When the Current is on
    - Buzzer
    - Relay
      - Two separate Circuits
      - Safe Circuit with Small Current Controls Main Circuit with Large Dangerous Current
    - Car Starter Motors
      - Person only Touches Low Current Ignition Circuit
      - Electomagnetism Operates High Current Starter Motor
  - Reed Switches
    - Switches Operated by Magnetism
- Characteristics
  - Non-contact Force
    - 
  - Poles
    - North Seeking
    - South Seeking
    - Like Poles Repel
      - South/South
      - North/North
    - Unlike Poles Attract
      - North/South
      - South/North
  - 
    - Blocked by Magnetic Materials
- Magnet or Magnetic Material?
  - Only Repulsion Identifies Magnets 100%
  - Attraction Could be Simply Magnet & Magnetic Material
- Magnetic Materials
  - Only 3 Metals
    - Iron
      - Steel is a very common Iron Alloy
    - Cobalt
    - Nickel
  - Can be Made Into Magnets by Repeated Stroking with a Magnet
- Earth Magnetism
  - 
  - Compass
    - One End Always Points North
    - Used to Find Your Way
    - Will be Deflected by Magnets or Magnetic Objects
  - The Earth's magnetic North is Near the True North Pole
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