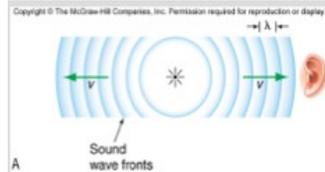


**Sonar** – sound propagation through a medium (sound, navigation and ranging)  
*ex: killer whale sends out sonar waves to find fish. Pattern reveals species of the fish*

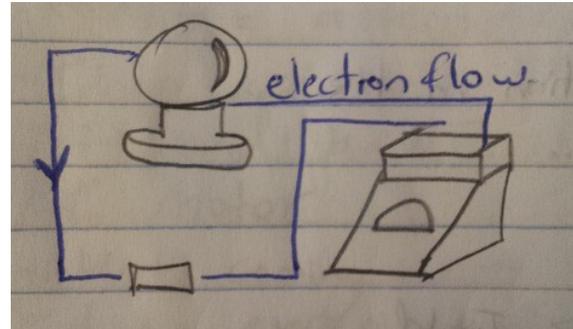
**Echolocation** – sends out vibrations (bi sonar)  
*ex: bat “calls out” to the environment and listens for echos. Transmitter and receiver ears*

**Doppler Effect** – change in frequency caused by a motion of a source wave further away take more time to reach the observer.



**Ohm's Law -**

- the current through a conductor between two points is directly proportional to the potential difference across the two points
- the resistance of a conductor



CHAPTER 6: Electricity & Magnetism

**Electrical Current** – a flow of charge that can be either negative or positive.

$$\text{Electrical Current} = \frac{q}{t}$$

**Conductor** – a substance that allows charges to flow easily (typically metals)

**Insulator** – a substance that does not allow charges to flow (glass, plastic...)

**Transistor** – a semiconductor device used to amplify and switch electronic signals and electrical power

**Static Electricity:**

- the build up of charge
- transferring electrons
- temporarily stored in place

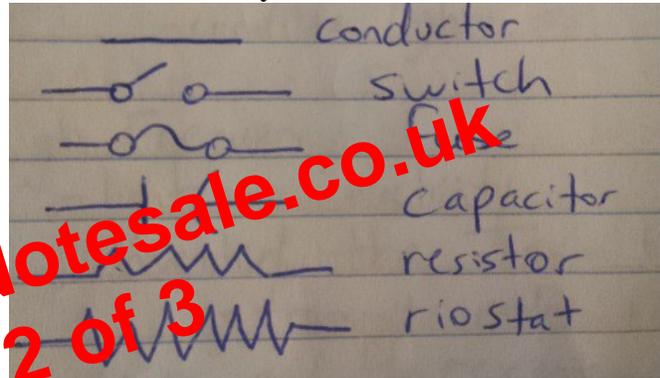
**Electron** =  $1.6 \times 10^{-19}$

**Alternating Current** – (AC) charges moving in different directions

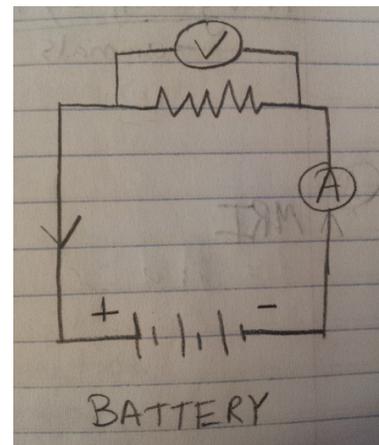
**Direct Current** – (DC) charges only flowing in one direction

**Neuron** – pain receptor, conduction system

**Electric Current Symbols:**



**Battery:**



**Magnetism**

- has polarity
- magnetic poles (north & south) repel
- compass → points towards mag pole N

**Magnetic Field Lines** – strength of magnetic field is greater where the lines are closer together

Preview from Notesale.co.uk Page 2 of 3