Magnetism and Electricity Vocabulary 4.3

Week 3 Advanced – You will need 9 cards

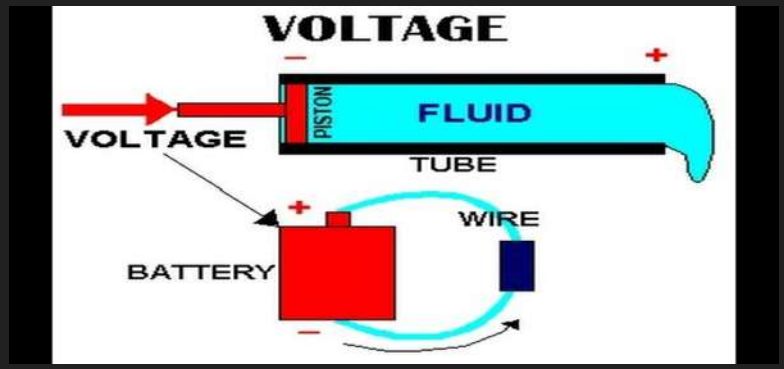
- S8P5c Electromagnetism: Investigate and explain that electric currents and magnets can exert force of each other.

Voltage

- Voltage is the electric force that causes the free electrons to move from one atom to another.
- The unit of measure is called a Volt (V).
- Voltage causes the current in an electric circuit.
- Think of it as the amount of force pushing an electric current.
- https://www.youtube.com/watch?v=sOoNJXqyBGM

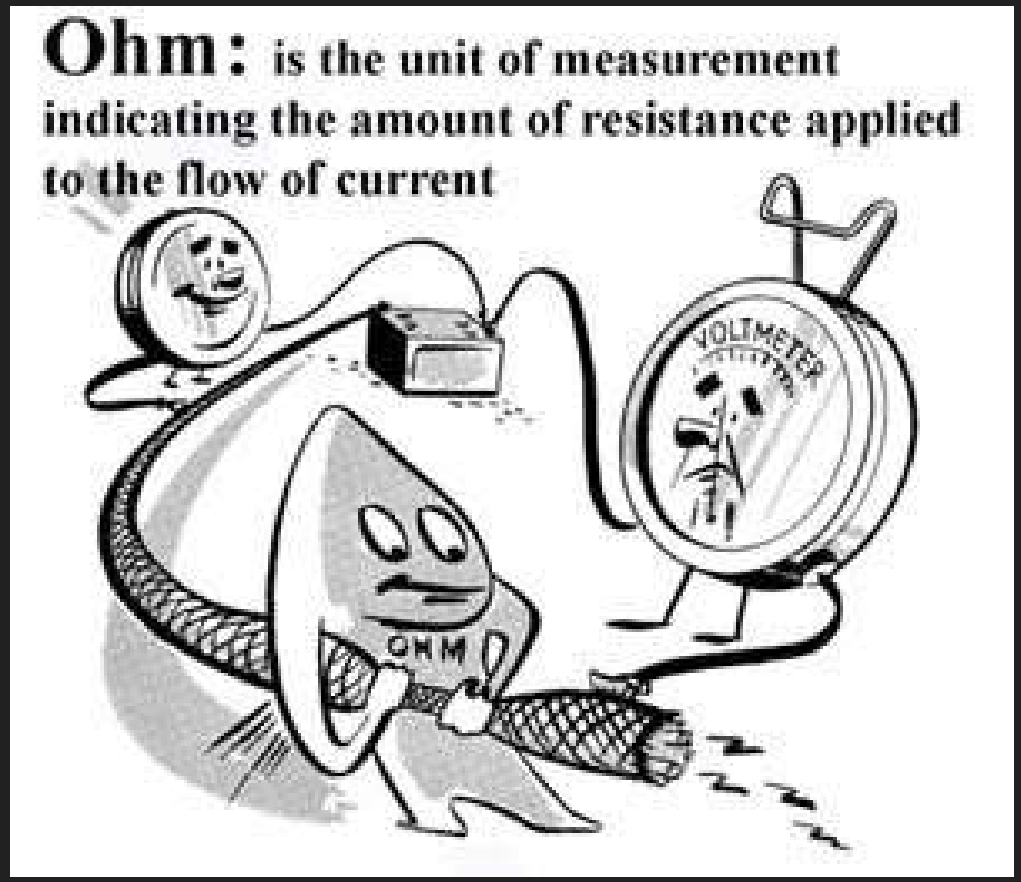
Voltage Continued

- Just like water needs pressure to force it through a hose, electrical current needs some force to make it flow. A volt is the measure of electric pressure. Voltage is usually supplied by a battery or a generator.



Ohm's Law

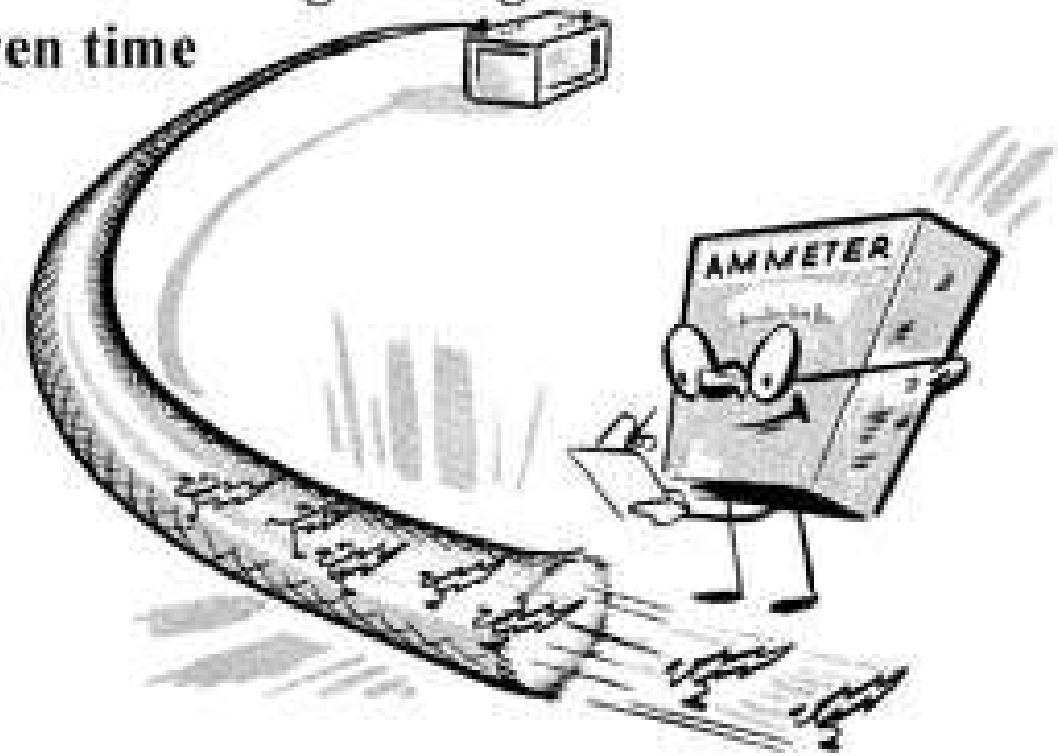
- States that resistance is equal to voltage divided by current.
- Resistance = Voltage/Current
- https://www.youtube.com/watch?v=iLzfe_HxrWI


Ohm: is the unit of measurement indicating the amount of resistance applied to the flow of current
VOLTMETER
OHM

Ampere

- An ampere is a unit of measure of the rate of electron flow or current in an electrical conductor.
- The ampere is named after Andre Marie Ampere, French physicist (1775-1836).
- Electrical current is measured in **amperes** or "amps" for short. Amperes is like the amount of water flowing through a hose in a certain amount of time or the amount of electricity flowing through a wire.
- The scientific symbol for amps is the letter "I".
- https://www.youtube.com/watch?v=8gvJzrjwjds

Amps: is the term for the amount of current flowing through the wire in a given time

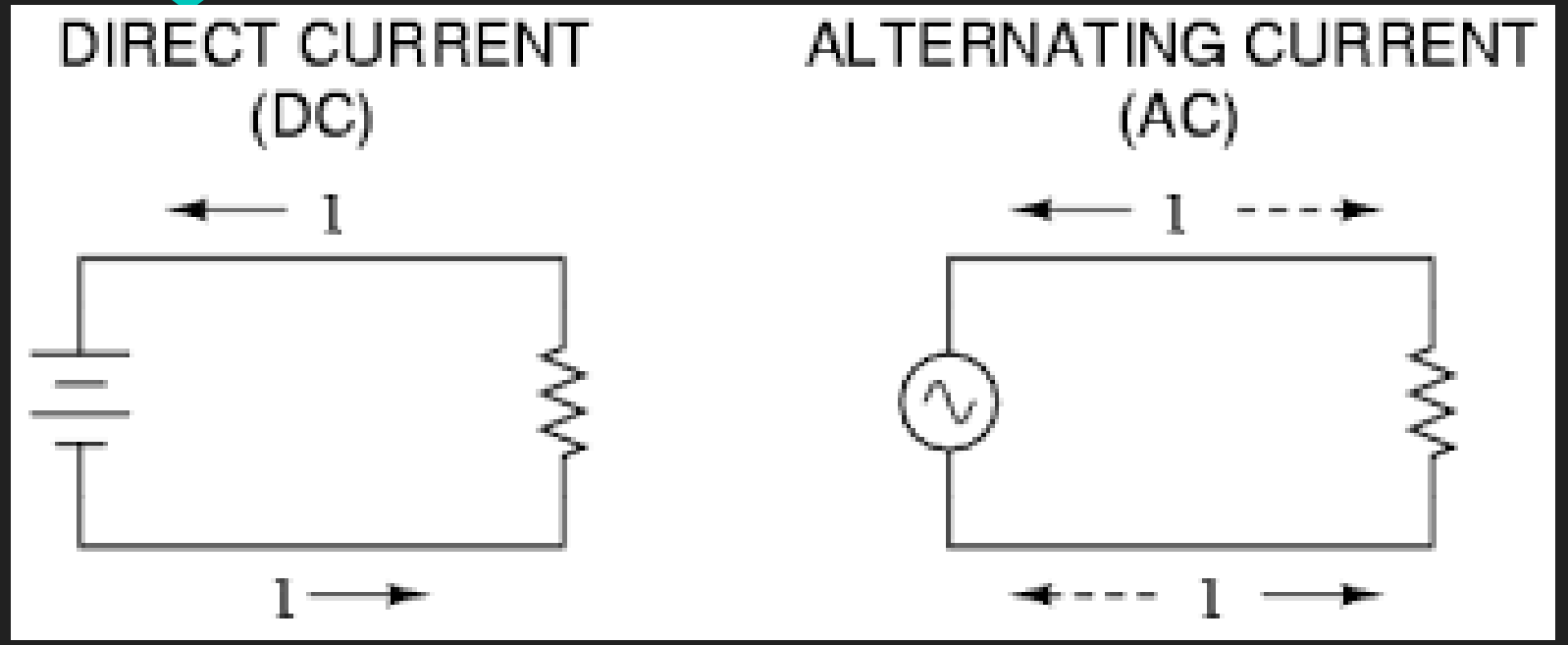


D/C – Direct Current

- This is a current in which the charges flow in only one direction.
- It can be created from a changing magnetic field or energy source like a battery.
- When a battery is placed in a circuit, the energy flows away from one end of the battery, around the circuit, and back into the other end of the battery.
- https://www.youtube.com/watch?v=g17f9J1-r-k

A/C – Alternating Current

- Alternating Currents consist of charges that move back and forth in a circuit.
- The electric current in homes, schools, are alternating currents.
- Alternating current has an advantage of D/C.
- A/C Voltage can be easily raised or lowered. High voltage sends a current over longer distances. It can be reduced for basic, everyday use.
- https://www.youtube.com/watch?v=vN9aR2wKv0U


DIRECT CURRENT
(DC)
I
I
ALTERNATING CURRENT
(AC)
I
I

Generator

- An electric generator is a device that converts mechanical energy obtained from an external source into electrical energy as the output.


7 HP

Electric Motor

- An electric motor is a device that uses an electric current to turn an axle.
- An electric motor transforms electrical energy into mechanical energy.

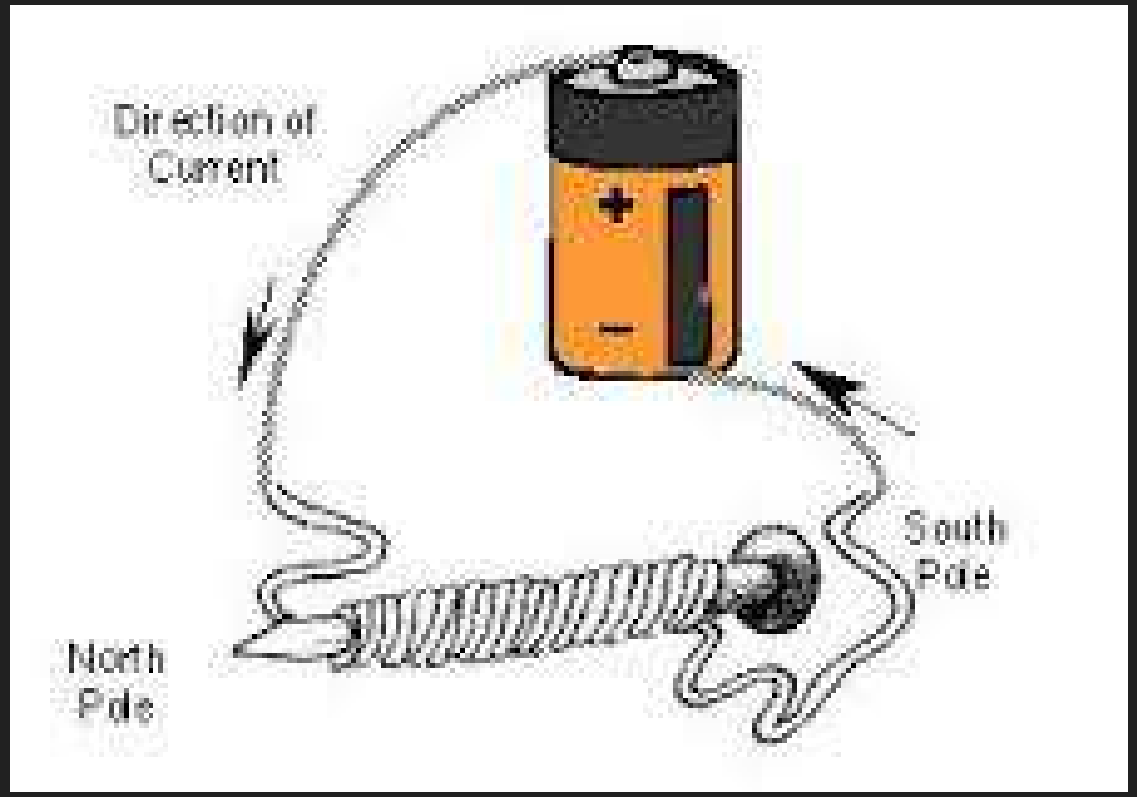

Terminal Box
Hood to Ventilation fan
Rotor Core
+
Winding
Bearings
Output Shaft
Ribbed Housing
End Shields
Mounting Base
BASIC COMPONENTS

Electromagnet

- A magnet created by wrapping a coil of wire with a current around a ferromagnetic core.
- The magnetic field is produced by both the current in the wire and the magnetized core.
- It is a strong magnet that can be turned on and off.
- https://www.youtube.com/watch?v=emlzh9XXWgQ

Magnetic Force

- The push or pull that us exerted by a magnet.


Direction of Current
+
-
South Pole
North Pole

Summary

- https://www.youtube.com/watch?v=20Vb6hlLQSg

Quizlet

- https://quizlet.com/_2yhldy