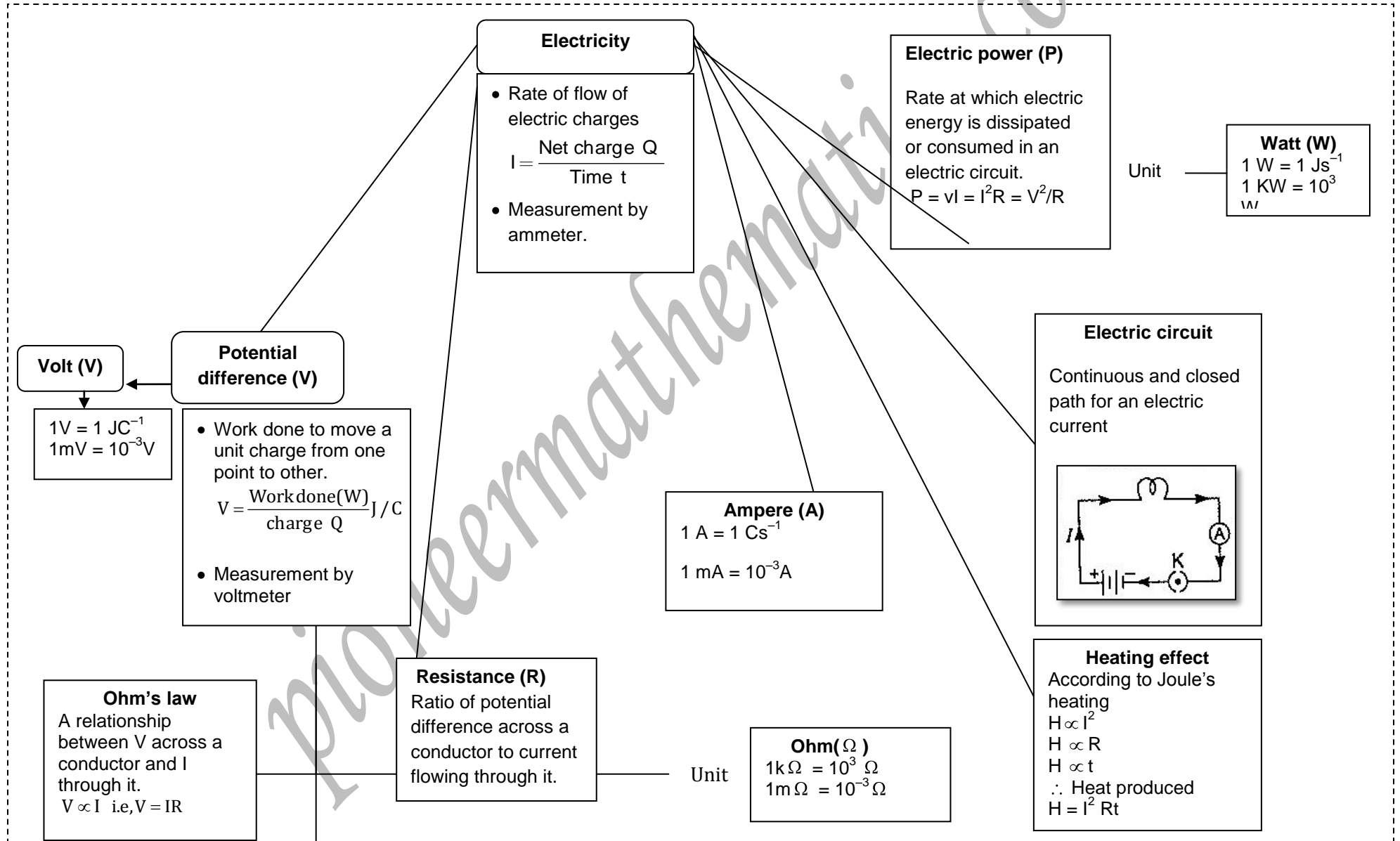


Electricity

Chapter Flowchart

The Chapter Flowcharts give you the gist of the chapter flow in a single glance.

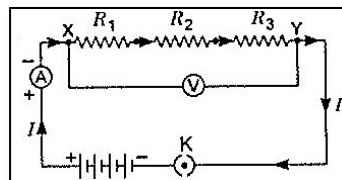


Factors affecting resistance

- Length ($R \propto l$)
- Area of cross-section

$$\left(R \propto \frac{1}{A} \right)$$
- Nature of material
- Temperature ($R \propto T$)

Resistors in series

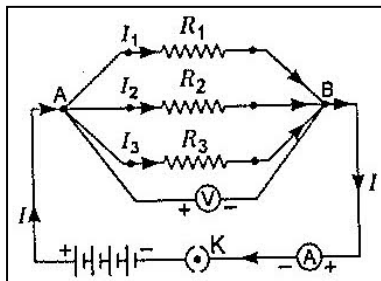


- Current remains constant but voltage varies.
- $V = V_1 + V_2 + V_3$
- $R_s = R_1 + R_2 + R_3$

Practical applications of heating effect

- To produce light (electric bulb)
- Electric fuse that protects circuit and applications.
- In electrical heating application. (electric iron, toaster, room heater, etc.)

Resistors in parallel



- Current remains constant but voltage varies.
- $I = I_1 + I_2 + I_3$
- $\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$

Commercial unit of electric energy is kilowatt hour (kWh), commonly known as 'unit'

$$1 \text{ kWh} = 3.6 \times 10^6 \text{ J}$$