

VERIFICATION OF OHM'S LAW

OBJECTIVE: To establish relation between potential difference across the ends of a conductor and current flowing through the conductor.

APPARATUS REQUIRED: A resistor, Ammeter (0A - 1.5A), Voltmeter (0V - 3V), rheostat, key, connecting wire, 3 x 4.5V Battery.

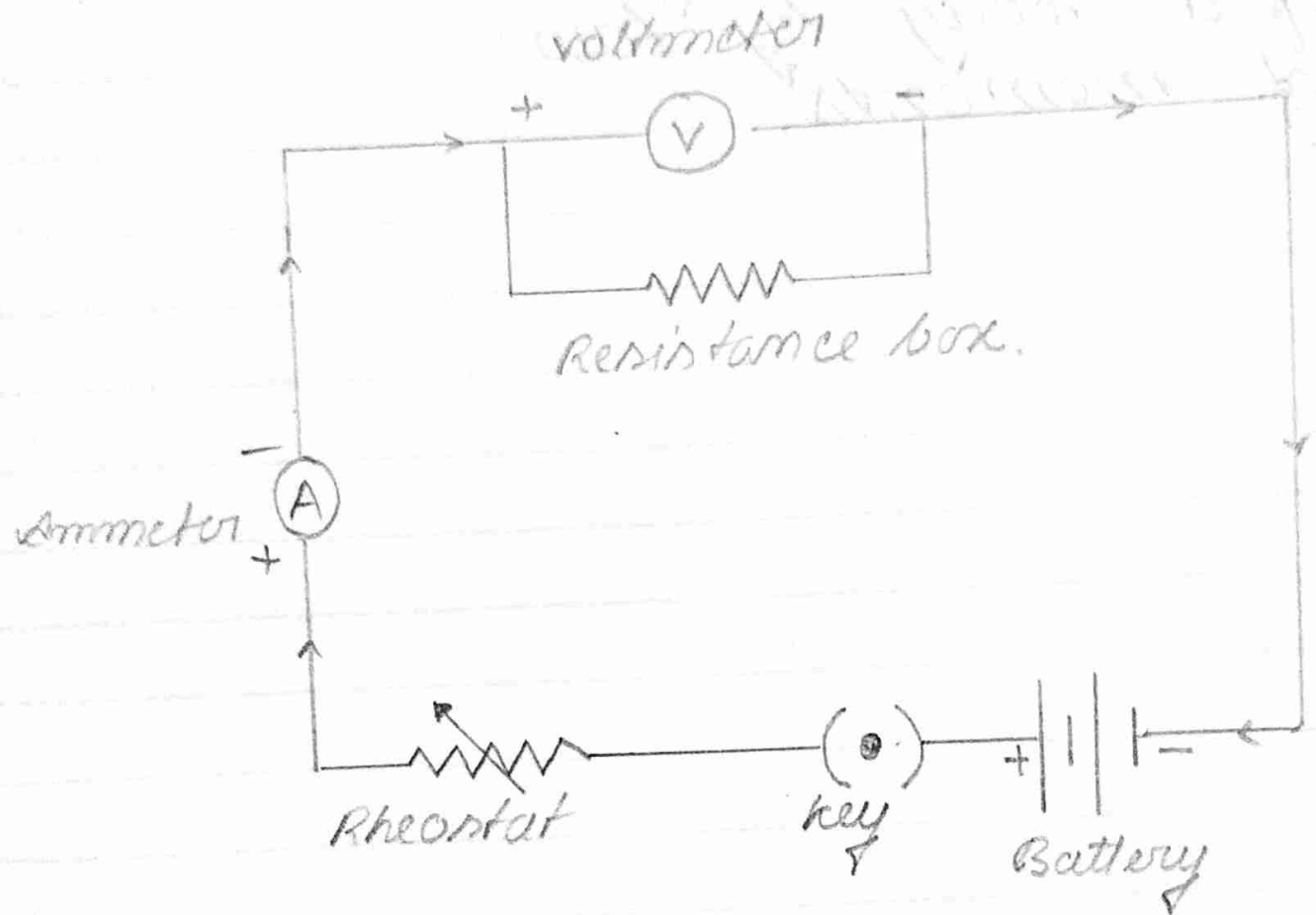
THEORY: Potential difference across the ends of a conductor is directly proportional to the current flowing through the conductor provided physical condition of the conductor (such as length, area of cross section, material of conductor, temperature) remains constant.

Potential Difference \propto Current

\Rightarrow Potential Difference = $R \times$ Current, where R is the resistance of the conductor.

$$\therefore V \propto i$$

$$\Rightarrow V = iR$$



Circuit Diagram