• **Electricity** is a **form of energy** that helps in lighting, heating, running fans, machines, etc. It flows through **wires** and **circuits** to power devices.

• **Electric Circuit**

- An **electric circuit** is a path through which electric current flows.
- It includes:

  a. Cell or battery – Source of electricity
  b. **Wires** – Carry current
  c. **Bulb/device** – Uses electricity
  d. **Switch** – Opens or closes the circuit

✓ **Closed circuit** – Electricity flows and the bulb glows
✗ **Open circuit** – Electricity doesn't flow and the bulb does not glow

• **Magnetic Effect of Electricity**

- When current flows through a wire, it behaves like a **magnet**.
- This is called the **magnetic effect of electricity**.

Example:

- When a **compass needle** is placed near a wire carrying current, it deflects.
- Applications:

  a. **Electric bell**
  b. **Electromagnets** (used in cranes to lift heavy metal objects)
  c. **Motors and speakers**

• **Heating Effect of Electricity**

- When electric current flows through a wire, it gets **heated**. This is called the **heating effect of current**.
- Applications:

  a. **Electric iron**
  b. **Electric heater**
  c. **Electric bulb filament** glows due to heat

• Safety with Electricity

- Do not touch electrical appliances with **wet hands**.
- Never insert metal objects into plug points.
- Always turn off appliances when not in use.
- Use **insulated wires** and proper fuses.

• Conductors and Insulators

Material	Type	Example
Allows current	**Conductor**	Copper, iron, water
Doesn't allow	**Insulator**	Plastic, rubber, wood

• Electric Cell and Bulb

- An **electric cell** has two terminals: **positive (+)** and **negative (–)**.
- The **bulb** has a **filament** that glows when current passes through it.
- If the filament breaks, the bulb is **fused** and won't glow.