

# Year 6: Rise of the Robots

1. Terms	Definitions
<b>Electrical energy</b>	Electrons (the particles in atoms) move to make a current.
<b>Volts</b>	A unit of electricity
<b>Circuit</b>	It is a path through which an electrical <b>current</b> flows. It can be closed (electricity flows all the way around the circuit) or open (electricity cannot flow around the circuit).
<b>Electrons</b>	They carry electrical energy from one place to another, when they move around a circuit.
<b>Precaution</b>	Taking steps to make sure something dangerous does not happen.
<b>Conductor</b>	Objects that allow electricity to flow through them easily.
<b>Insulator</b>	Objects that do not allow electricity to easily flow through them.
<b>Cell/ battery</b>	It converts chemical energy into electrical energy.
<b>Circuit diagrams</b>	A drawn scientific representation of a circuit.
<b>Series circuit</b>	A circuit where there is only one path for the electricity to flow.
<b>Parallel circuit</b>	A circuit where there are multiple paths for the electricity to flow.

## 2. Knowledge Recap from Previous Learning:

- Appliances in the home, such as microwave, fridge, mobile phone, kettle, lights, run on electricity.
- **Conductors**: items made out of copper, iron or steel, for example: a copper penny or a paper clip.
- **Insulators**: items made out of plastic, glass, wood and rubber. This is why wires are covered in plastic.
- These are pictures of electrical **components**.



## 3. Key Scientific Facts:

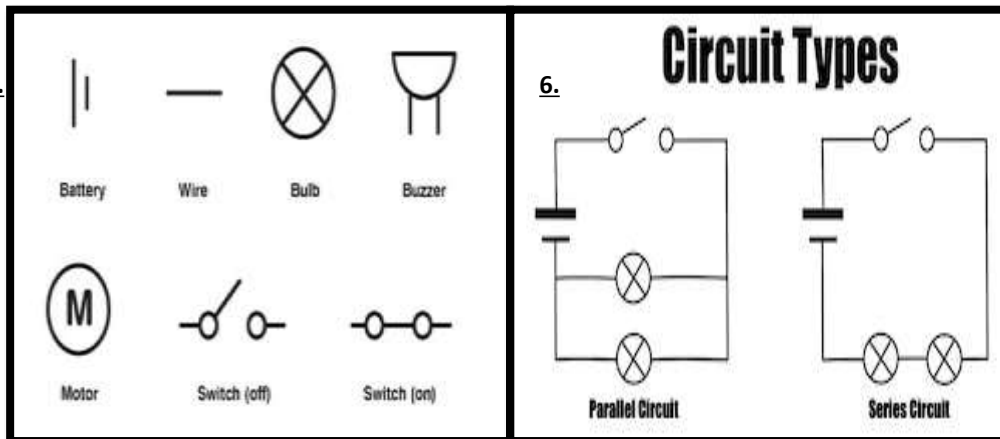
- The amount of volts impact the brightness of the **bulb** and the volume of the **buzzer**.
- The more cells used in a circuit, the brighter the lamp, louder the buzzer or faster the **motor**.
- If the circuit is open, the **components** will not work, because electricity cannot flow around the circuit.

### Electrical safety:

- Do not touch uncovered wires
- Never put fingers or other objects in a plug socket.
- Never use anything with a cord or plug around water.
- Stay away from substations and power lines



5.



## 4. DT

**Prototypes**: the first version of a product.

**Design criteria**: a list requirements, explaining what the product is and who it is for.

**Annotated sketches**: drawings of a design with clear labels.

**Saw**: used to cut materials.

**Dowels**: a cylindrical rod made out of wood.

**Belt system**: use a simple circuit with a battery, motor, elastic band and bobbin to make a belt rotate.