



**battery (cell)** is portable and a stored form of energy



**negative (-)**  
(end of battery)

**positive (+)**  
(end of battery)

**electricity** is a form of energy that can be powered from a **battery** or the **mains**

**mains electricity** supplied to a building by wires

**sockets and plugs**  
connect **appliances** and devices to the electrical power source

**sockets**



**plug**



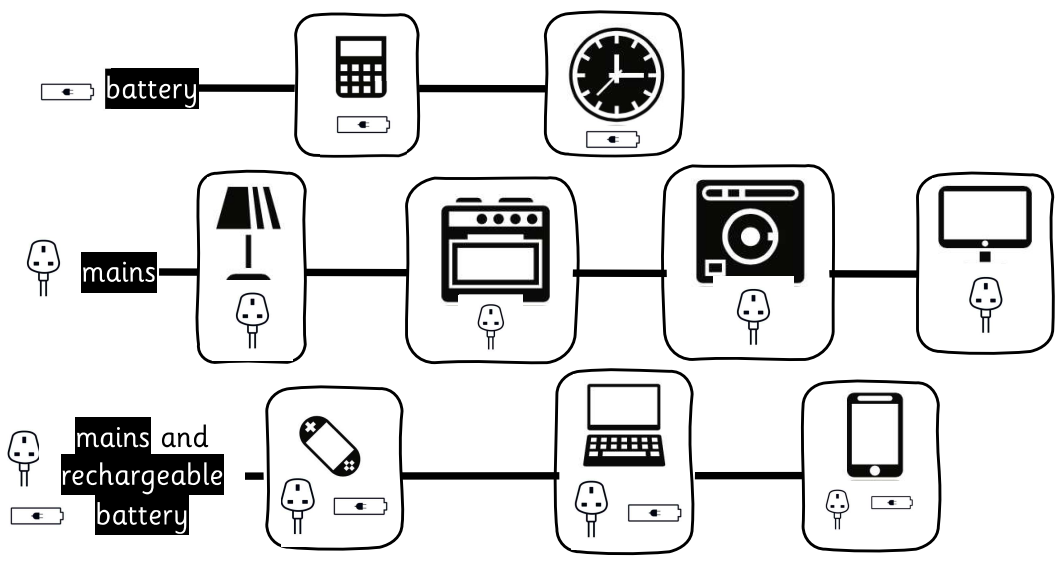
**appliance (kettle)**



**appliances and devices** require different electrical power:

- battery
- mains
- both battery and mains

**National Grid** manages electricity and gas distribution for England, Scotland and Wales

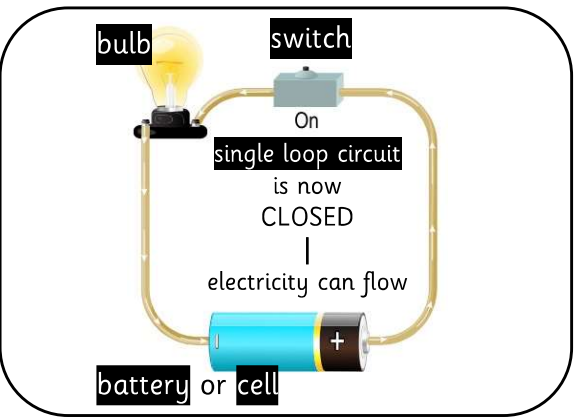


**current** the 'flow' of electricity through the circuit

**simple series circuit (single loop circuit)** - electrical current follows one path

**electrical components**

- battery or power cell** (Image)
- bulb** (Image)
- motor** (Image)
- switch** (Image)
- buzzer** (Image)



**conductors** - materials that **allow** electricity to flow

- aluminium** (Image)
- copper** (Image)
- graphite** (Image)
- steel** (Image)
- tap water** (Image)

**insulators** - materials that **do not** allow electricity to flow

- air** (Image)
- glass** (Image)
- wood** (Image)
- rubber** (Image)
- paper** (Image)
- plastic** (Image)

**⚡** It is dangerous to play with plugs  
Never put liquids near electrical items  
Never touch exposed wires

**⚡** Never touch switches with wet hands  
Don't fly kites near overhead power lines