

Science Subject Knowledge Bank

Year 6: Electricity

| Vocabulary | Definition |
|------------|--|
| Cell | A device that converts chemical energy into electrical energy. |
| Voltage | The pressure that electricity is pushed through a circuit. |
| Current | A flow of electricity |

What happens when you add more cells to a circuit?

- Adding more cells to a complete circuit will make a bulb brighter, a motor spin faster or a buzzer make a louder sound.
- If you use a battery with a higher voltage, the same thing happens.

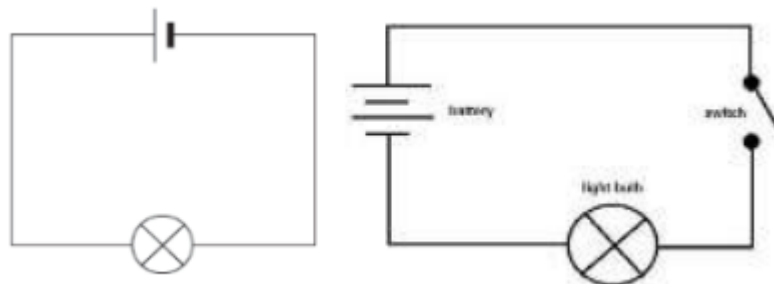
How do you test components impact on a circuit?

- Create a circuit, one by one change each component and observe what happens each time.

| Circuit Symbols | |
|-----------------|-----------------|
| Symbol | Component |
| | ammeter |
| | battery |
| | bulb |
| | buzzer |
| | cell |
| | motor |
| | resistor |
| | switch (open) |
| | switch (closed) |

What happens when you add more components to a circuit?

- Increasing the number of bulbs/motors/buzzers in a series circuit decreases the brightness of the bulbs, the volume of buzzers and the power of motors.
- In a series circuit, the voltage is equally distributed among all of the components.



Electricity

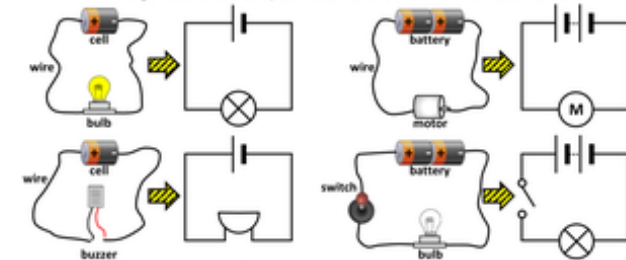
Circuit Symbols

Circuit symbols are used to represent different elements and components in an electrical circuit



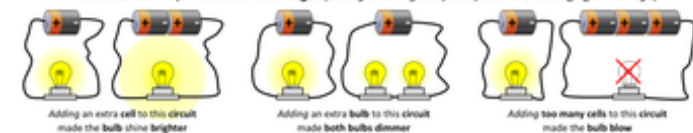
Circuit Diagrams

Circuit diagrams can be used to represent electrical circuits. It makes them easier to draw!



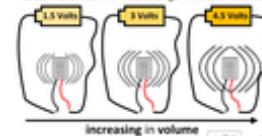
Changing Circuits

There are several ways a circuit can be changed (adding or taking away components OR changing cell voltage)



Voltage

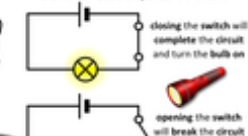
Increasing or decreasing the voltage of the cell used in a circuit will also change how it functions



WARNING: The voltage in mains electricity is dangerously high. NEVER fiddle with, or attempt to repair, an electrical appliance when it is plugged in

Switches

Switches are a very simple way of controlling the flow of electricity around a circuit



Circuits In Use

All appliances that run on electricity will have a circuit inside of them

