Know your switches

Background knowledge

Electricity will only flow through a circuit that has no gaps in it. A switch is a useful device because it allows you to open or close a circuit. When a circuit is open, electricity cannot flow through the circuit to run a load in it. When a switch is turned on, it closes the circuit so that loads in the circuit can operate. Loads such as light bulbs and appliances in your home are turned on and off with switches.

This is the symbol for an open switch. It is off.
This is the symbol for a closed switch. It is on.

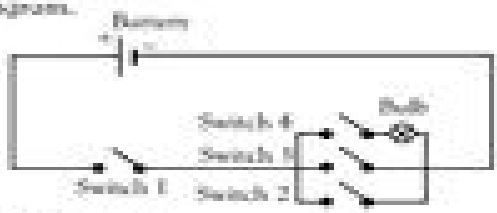
These are different types of switches.

This switch is closed by pressing down the metal bar

This one is closed by turning the lever and sliding it into the clip.

Science activity

Look at this circuit diagram.



What is the least number of switches you would need to light up the bulb? _____

Identify the switches you would need. _____

Science investigation

One type of switch is called a *pressure switch*. You have to press the switch to close it. Design and build your own pressure switch and then connect it to a circuit with a load on it, such as a buzzer or light bulb. Some pressure switches work by stepping on them. Can you name any common pressure switches in your home?