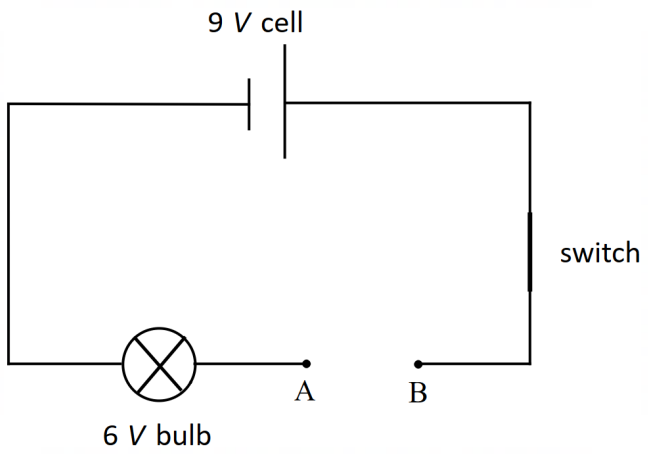
Lesson 3: Student's worksheet

Aim: To develop an understanding of the operation of a fuse in a series circuit

Procedure:

1. You are provided with pre-connected circuit as shown below.



You are also provided with a piece of steel wool wire and a thin piece of bare wire.

2. Ensure that the switch is Off.
3. Connect a piece of steel wool between the terminals (crocodile clips) A and B.
4. Switch on the circuit and observe what happens to the steel wool and to the bulb. Record your observations in the table below. Tick ONE option in each column.

Bulb		Steel wool	
Does not light up	☐	Melts and breaks	☐
Lights up briefly	☐	Does not melt and break	☐
Lights up and remains lit	☐		

5. Switch Off the circuit. Wait for about 30 seconds for it to cool down.
6. Remove the (pieces) of steel wool from the terminals A and B.
7. Now connect the thin piece of bare wire between the terminals A and B.

8. Switch on the circuit and observe what happens to the piece of bare wire and to the bulb. Record your observations in the table below. Tick ONE option in each column.

Bulb		Piece of bare wire	
Does not light up	☐	Melts and breaks	☐
Lights up briefly	☐	Does not melt and break	☐
Lights up and remains lit	☐		