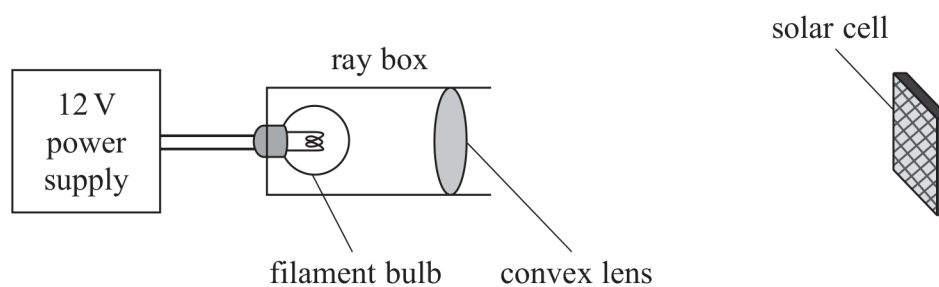


2 A student investigated the properties of a solar cell.

He illuminated the solar cell using the apparatus shown.



(a) (i) Explain the purpose of the convex lens.

(2)

(ii) The power supply provided a constant 12 V potential difference across the filament bulb.

Describe **two** more ways to keep the light intensity incident on the solar cell constant.

(2)

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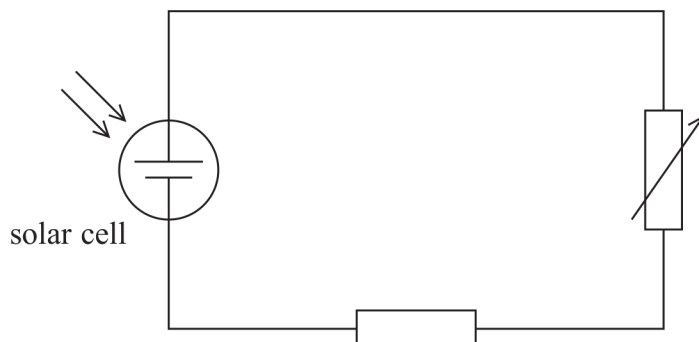
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- (b) The student investigated how the potential difference across the solar cell varied with the current through the solar cell.

The light intensity incident on the solar cell was kept constant during the investigation.

The circuit diagram for the investigation is shown below.



- (i) Add to the diagram to show how an ammeter and a voltmeter should be connected in the circuit.

(2)

- (ii) Suggest a reason for using a fixed resistor in the circuit.

(1)

- (c) Solar cells are used as a source of electrical power.

Describe **two** advantages of using solar cells to power a small water pump in a garden.

(2)