

5 (a) (i) State the balanced chemical equation for photosynthesis.

..... [2]

(ii) Chlorophyll is needed for photosynthesis.

State the name of the mineral ion needed to make chlorophyll.

..... [1]

(iii) State the name of the carbohydrate used for energy storage in a plant.

..... [1]

(b) A plant shoot was placed in a light-proof box. A hole was cut in one side of the box and a light was shone into the box.

Fig. 5.1 shows the plant shoot at the start of the investigation and after one week.

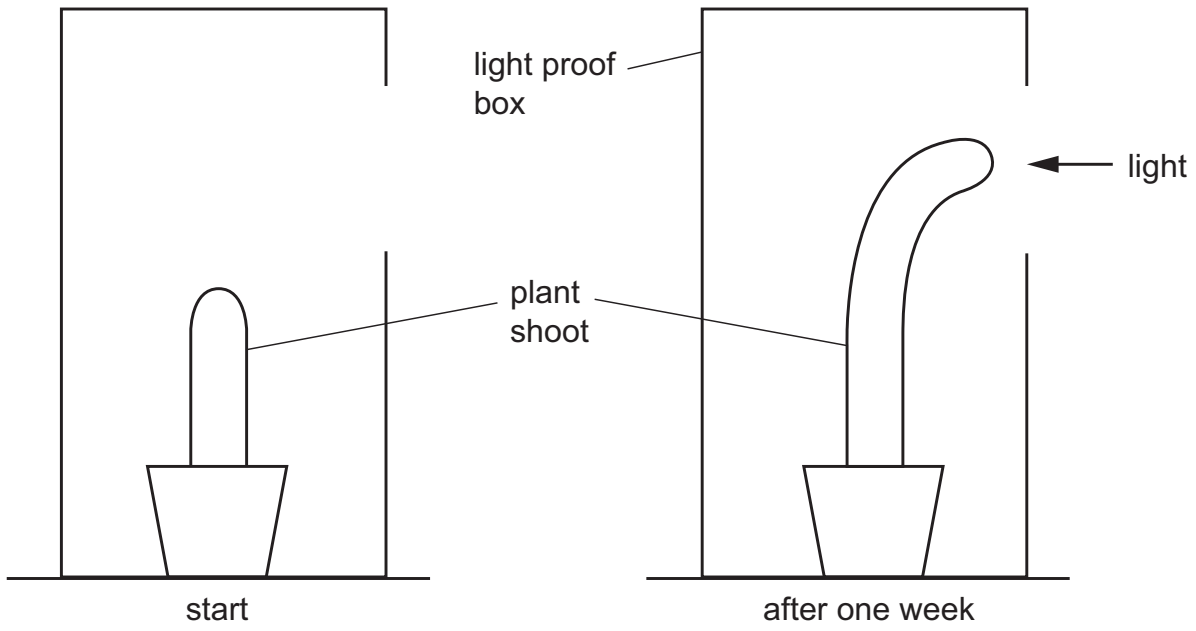


Fig. 5.1

(i) Identify the tropic response shown by the plant shoot in Fig. 5.1.

..... [1]

(ii) Explain the chemical control of the tropic response shown by the plant shoot in Fig. 5.1.

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..... [4]

(iii) Explain how the type of tropic response shown in Fig. 5.1 is an advantage to a plant.

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..... [2]