

6 (a) Some maize seeds were pinned on a board and provided with light from all directions.

The board was placed in a clinostat that rotated the board.

The board was rotated continuously as the seeds germinated and the roots grew.

Fig. 6.1 shows the apparatus and results after 5 days.

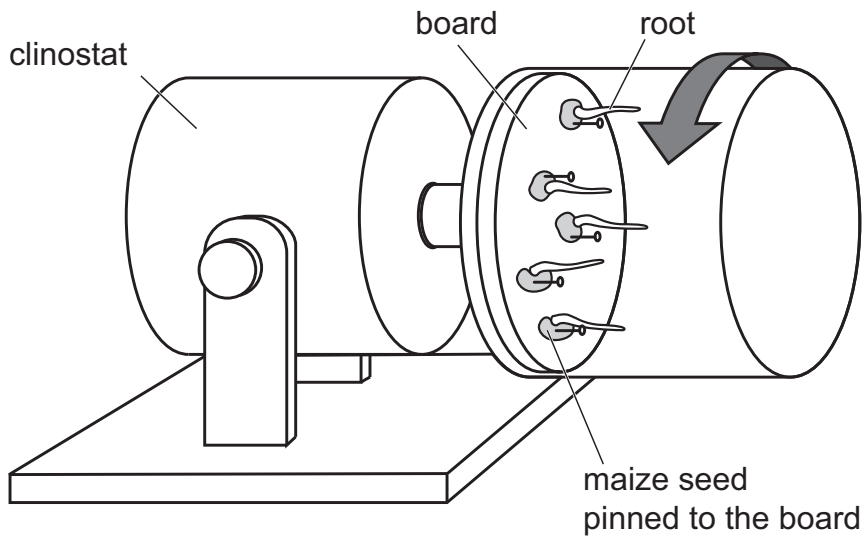


Fig. 6.1

(i) Complete the sentences to explain the root growth in Fig. 6.1.

Auxin is produced in shoot and root ..... The auxin travels down the root by the process of .....

As the clinostat rotates, the effect of ..... on all sides of the root is equal.

This causes the distribution of auxin in the root to be .....

Auxin stimulates cell ..... causing the roots to grow horizontally. [5]

(ii) The rotation of the clinostat was stopped.

Predict the change in growth that will occur in the germinating maize seeds in Fig. 6.1.

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..... [1]

(iii) State the name of the tropic response to light.

..... [1]

(b) A student observed cells from a plant that had wilted.

State **and** explain the expected appearance of the cells.

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..... [3]