0 1

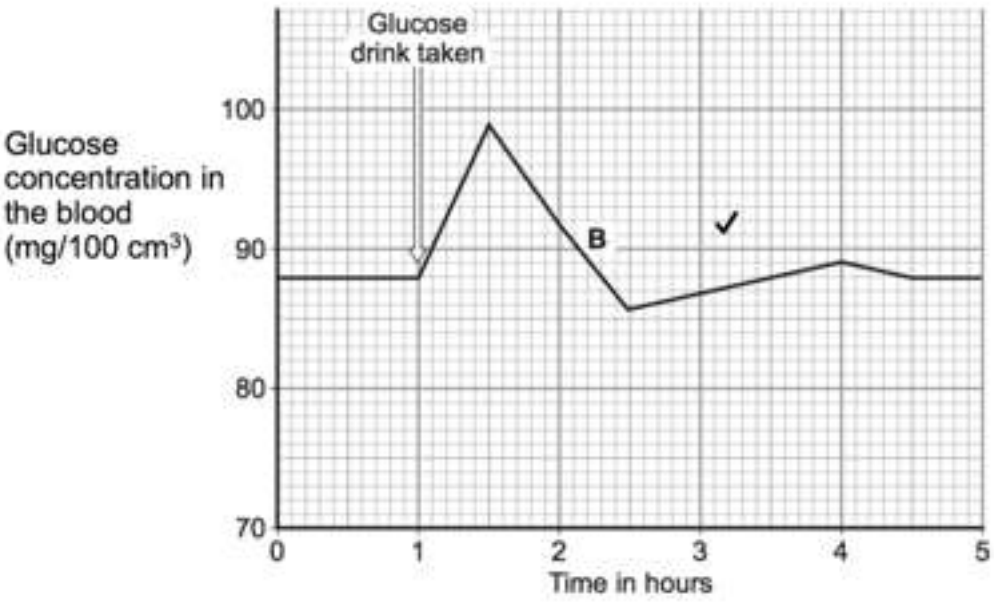
Levels of glucose in the blood (blood sugar) are controlled by the body. In healthy individuals, the levels are controlled by automatic processes, involving chemicals produced in glands.

0 1 . 1 Name one function of glucose in the body **[1 mark]**

Provide energy [1]

TOP TIP: as always, be careful not to say 'produces' here. 'Provide' or 'release' is the correct term.

The graph below shows the levels of blood glucose for a healthy person before and after taking a glucose drink.



0 1 . 2 Explain the changes in glucose concentration in the blood over the time period shown.

[3 marks]

Glucose absorbed into the blood [1 mark]

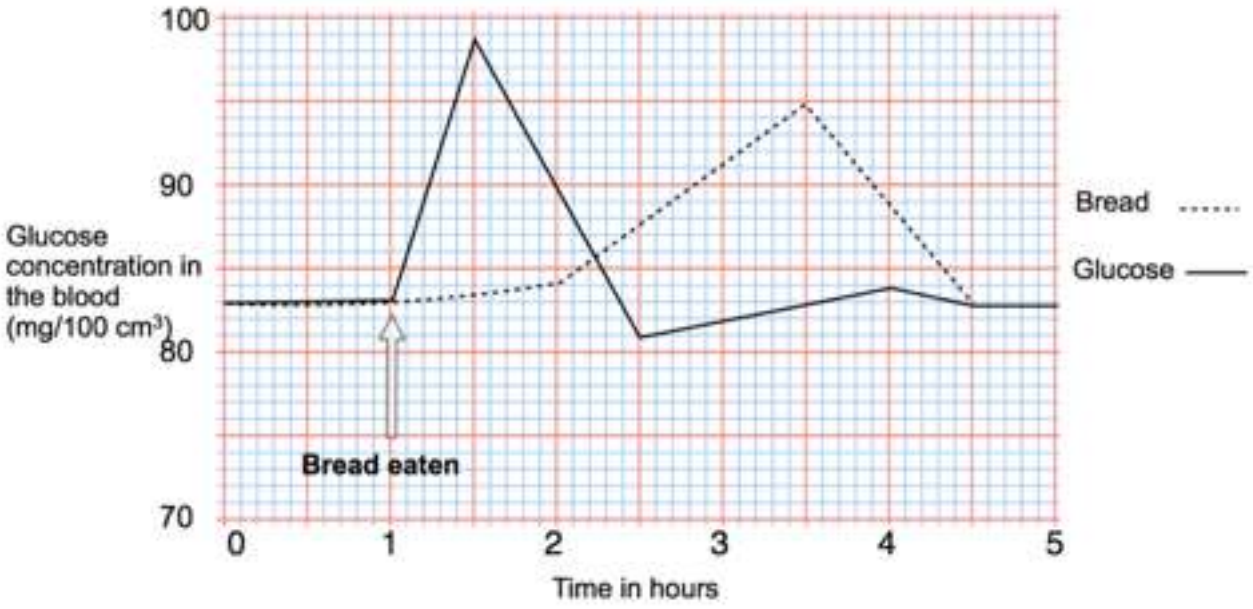
insulin produced by the pancreas [1 mark]

Insulin causes cells to take up glucose, so levels drop. [1 mark] Glucose converted to glycogen [1 mark]

(glycogen) stored in muscles/liver [1 mark]

TOP TIP: the command word is **explain** here, so give reasons **why** the changes are happening, not just what is happening

0 1 . 3 In a similar experiment, the same person was given some bread to eat instead of a sugar drink. Another graph was drawn to show the changes in the blood glucose when the bread was eaten compared to when the sugar drink was taken



Explain, as fully as you can, the reasons for the differences in blood glucose concentration over time when the person ate the bread. **[3 marks]**

Bread contains starch [1]
(starch/carbohydrate) is broken down to glucose [1]
takes time (to release the glucose) [1]
so glucose levels rise more slowly [1]

TOP TIP: You may not need to know about starch directly but it is worth a mark because it is a valid response.