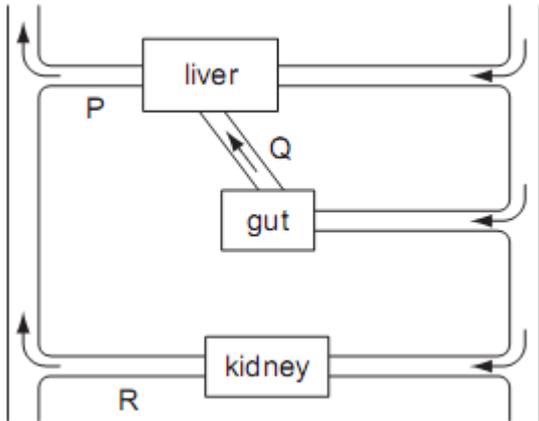
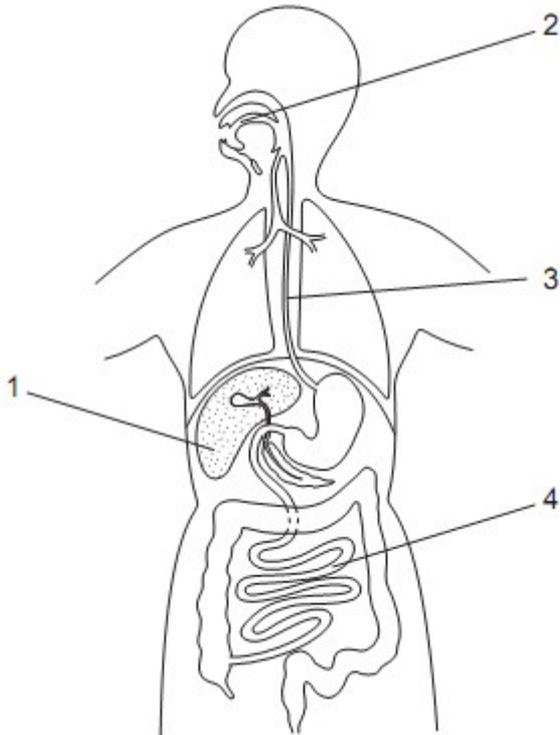


1 The diagram represents some human organs and their blood vessels.



Immediately after taking an alcoholic drink, how would the levels of alcohol compare in blood vessels P, Q and R?

2 The diagram shows the human alimentary canal.



In which parts does peristalsis take place?

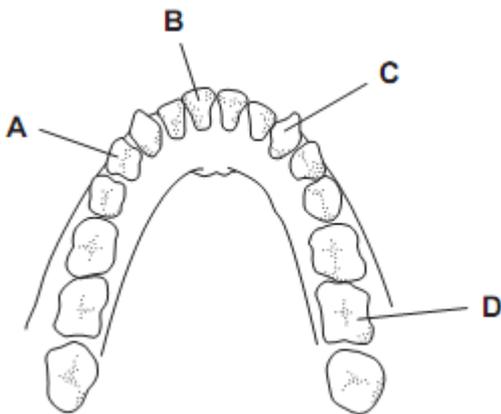
- A 1 and 2
- B 2 and 3
- C 3 and 4
- D 4 and 1

3 What are the levels of organisation of

	wall of a villus	small intestine
A	cell	organ
B	cell	organ system
C	tissue	organ
D	tissue	organ system

- A cell organ
- B cell organ system
- C tissue organ
- D tissue organ system

4 Which is an incisor tooth?



5 Fig. 2.1 shows a villus from the small intestine of a mammal and an enlarged view of a cell from region A.

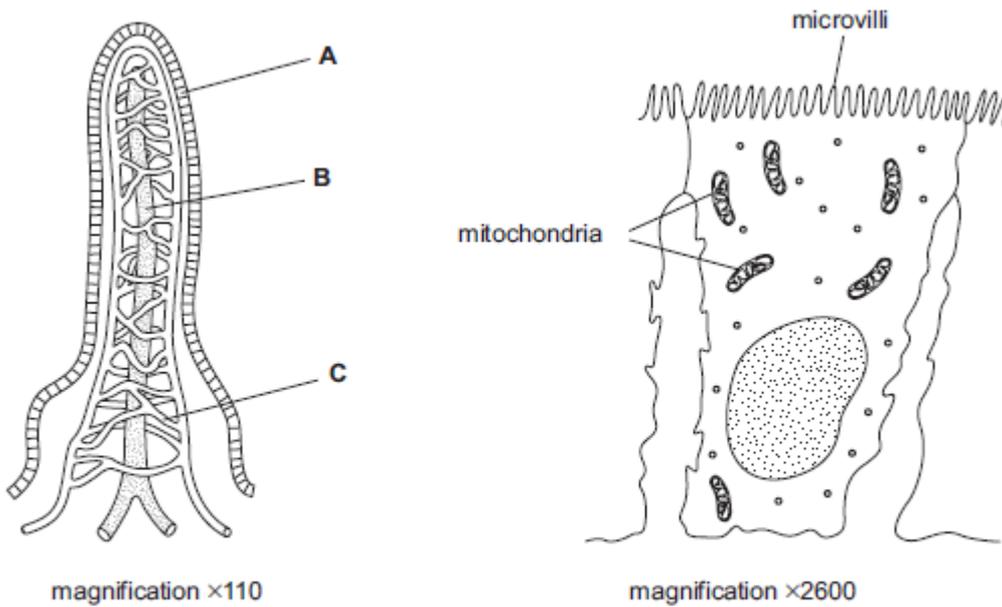


Fig. 2.1

(a) Name regions A, B and C. [3]

(b) Explain why the cells from region A have many microvilli and mitochondria. [4]

(c) The Food Standards Agency in the UK defines a food additive as:

‘any substance intentionally added to food for a specific function that is not normally eaten as a food or used as a characteristic ingredient in food.’

Some additives are naturally occurring substances, but others are man-made. Some additives have been identified as a risk to people’s health.

(i) State two benefits of using food additives in processed foods. [2]

(ii) State four possible risks to health that have been linked to food additives. [4]

[Total: 13]

6 Australia has added fluoride to much of its drinking water since 1953. Other countries, such as Chile, do not add fluoride to their drinking water.

(a) Outline the arguments for and against the addition of fluoride to public drinking water. [3]

Studies of the relationship between sugar consumption, tooth decay and fluoridation of drinking water have been carried out. Data was collected on tooth decay in 12 year-old children in Australia and Chile.

Fig. 5.1 shows changes in sugar consumption in Australia and Chile between 1970 and 2006.

PPQ units 7.5-7.9 - digestion

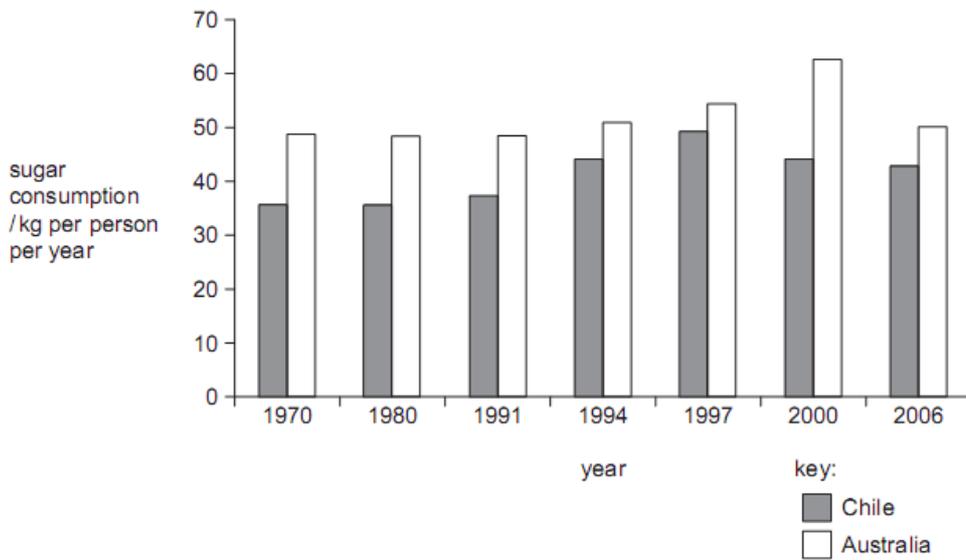


Fig. 5.1

Fig. 5.2 shows changes in tooth decay in the same countries over a similar time period.

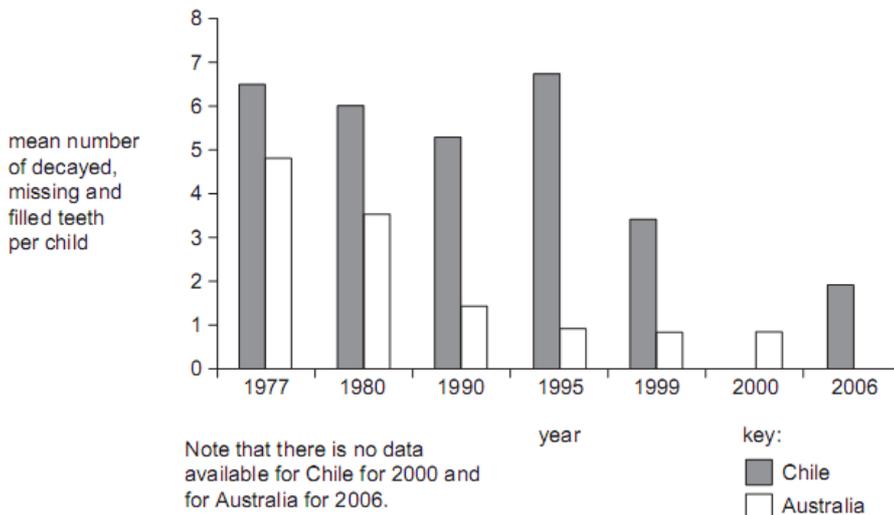


Fig. 5.2

(b) Describe the changes in sugar consumption and tooth decay in Australia and Chile between 1970 and 2006.

sugar consumption [4]

tooth decay [4]

(c) The peaks for sugar consumption and tooth decay in 12 year-old children in Chile occurred at about the same time. It has been suggested that an increase in sugar consumption in children caused an increase in tooth decay. Explain how an increase in sugar consumption may cause tooth decay. [4]

(d) Fig. 5.1 shows that sugar consumption in these two countries is similar. Fig. 5.2 shows the changes in tooth decay in 12 year-old children.

Suggest explanations for the similarities and differences in tooth decay in 12 year-old children in Australia and Chile. [3]

[Total: 14]