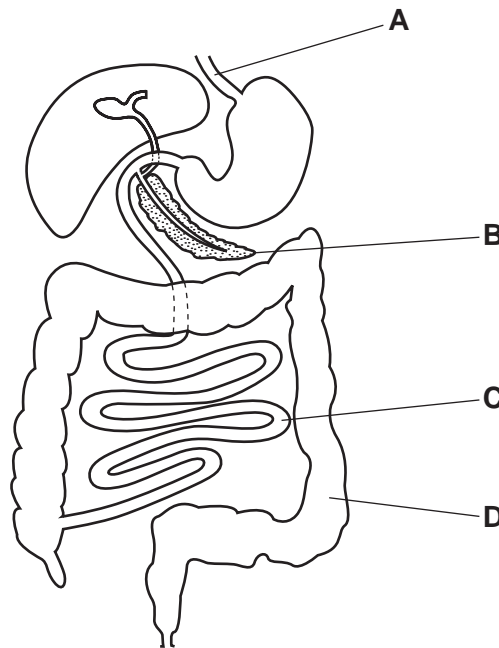


1 Which type of food is **not** digested before being absorbed by the body?

- A carbohydrate
- B fat
- C protein
- D water

2 The diagram shows the human alimentary canal.

In which structure is most glucose absorbed into the blood?



3 Which dietary component is **unlikely** to be deficient in a meat-free diet?

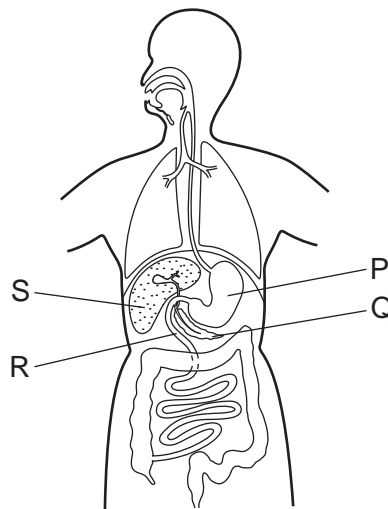
- A fat
- B fibre
- C protein
- D vitamin D

- 4 The bacterium *Salmonella enterica* can cause severe food poisoning and the lining of the alimentary canal may be damaged. In these cases absorption of digested food products cannot easily take place.

Which region of the alimentary canal is most affected?

- A colon
- B ileum
- C oesophagus
- D stomach

- 5 The diagram shows some of the organs of the human body.



In which organs does the digestion of proteins take place?

- A P and Q
- B P and R
- C Q and R
- D Q and S

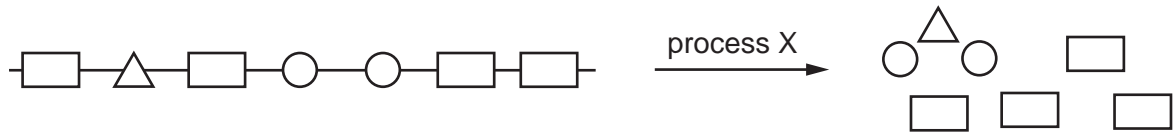
- 6 Which organ produces amylase?

- A gall bladder
- B liver
- C oesophagus
- D pancreas

7 Which treatment is best for a person with persistent diarrhoea?

- A drinking a solution of sugar and salt
- B drinking pure water
- C eating more fibre
- D eating protein such as boiled eggs

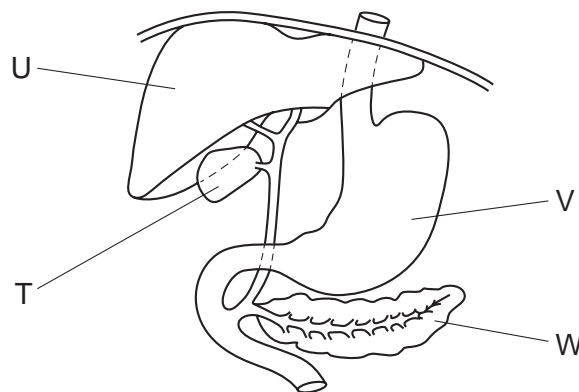
8 The diagram shows a large food molecule changing into smaller molecules.



What is process X?

- A absorption
- B chewing
- C digestion
- D secretion

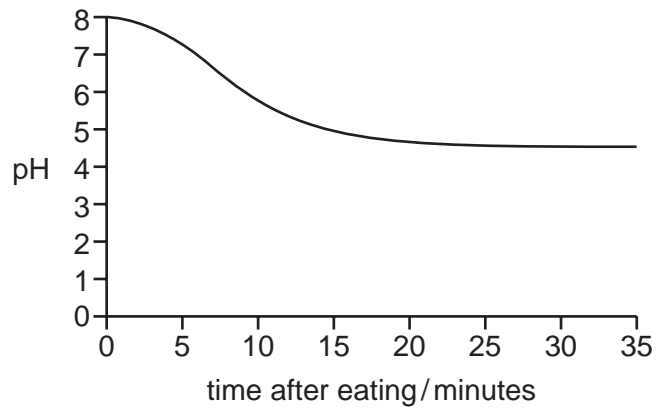
9 The diagram shows part of the alimentary canal and associated organs.



Which structures secrete enzymes that digest proteins?

- A T and U
- B U and V
- C V and W
- D W and T

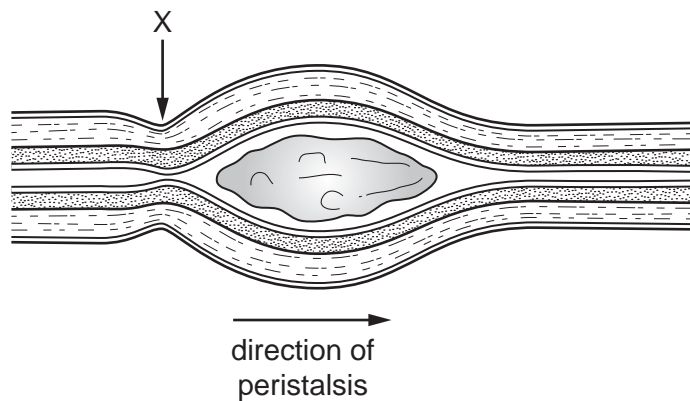
10 The graph shows pH changes in the mouth after eating.



Why is it a good idea to brush teeth after eating?

- A** Acidic conditions help bacteria to grow.
- B** Acids dissolve tooth enamel.
- C** Alkaline conditions help bacteria to grow.
- D** Alkalis dissolve tooth enamel.

11 The diagram shows a piece of small intestine during peristalsis.

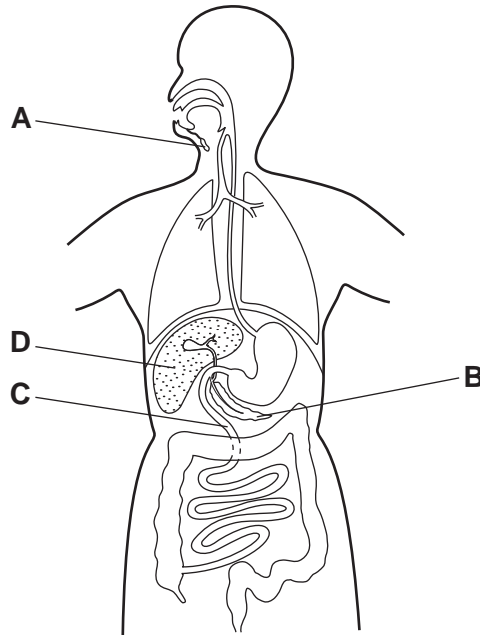


What is happening at X?

	circular muscles	longitudinal muscles
A	contracted	contracted
B	contracted	relaxed
C	relaxed	contracted
D	relaxed	relaxed

12 The diagram shows the human alimentary canal.

Which structure does **not** secrete digestive enzymes?



13 Which substance catalyses the breakdown of fats to fatty acids and glycerol?

- A adrenaline
- B alcohol
- C bile
- D lipase

14 Poor nutrition can lead to a condition called rickets in which bones fail to develop properly.

The table shows some minerals and vitamins present in four foods.

Which food would be best for a child who has rickets?

	calcium	iron	vitamin C	vitamin D
A	✓	x	✓	x
B	✓	x	x	✓
C	x	✓	✓	x
D	x	✓	x	✓

key

✓ = substance present

x = substance absent

15 Which components make up most of the dry mass of a balanced diet?

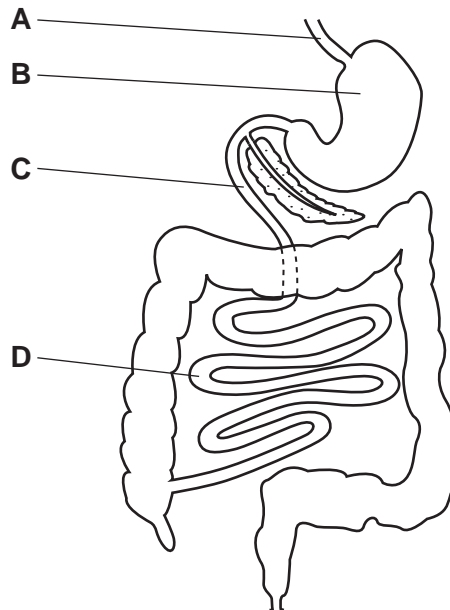
- A calcium compounds, carbohydrates and fats
- B carbohydrates, fats and proteins
- C fats, proteins and vitamins
- D proteins, vitamins and calcium compounds

16 Why does chewing food speed up digestion?

- A Bacteria in the food are killed.
- B Food is mixed with protease.
- C The surface area of the food is increased.
- D The taste of food is improved.

17 The diagram shows part of the human alimentary canal.

In which part does protein digestion begin?



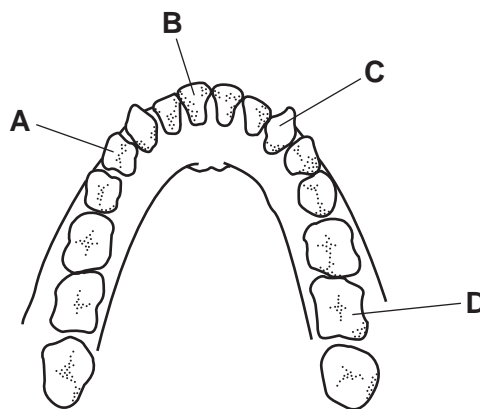
18 A person ate food X. Food X was **not** affected by enzymes until it reached the duodenum.

What was in food X?

- A fat
- B mineral ion
- C protein
- D starch

19 The diagram shows the teeth of the lower jaw of a human.

Which tooth is an incisor?



20 What is the function of the anus?

- A assimilation
- B digestion
- C egestion
- D excretion

21 A person has their gall bladder removed.

Which statement is correct?

- A They cannot eat carbohydrates.
- B They can eat fat only in small amounts.
- C They can eat only liquid food.
- D They must not eat more than one large meal a day.

22 The small intestines of cows are similar in general structure and function to the small intestines of humans.

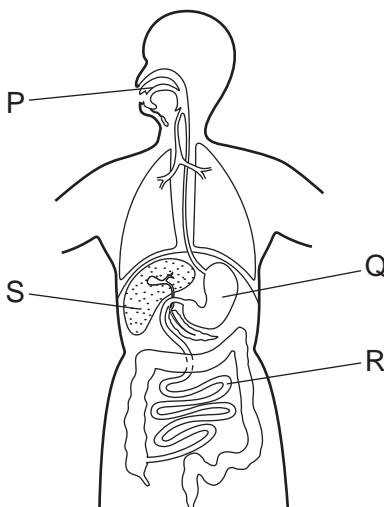
A disease in cows reduces the number of villi in their small intestines.

The cows lose weight and become weak.

What explains this?

- A** less amylase produced
- B** less peristalsis
- C** slower absorption of nutrients
- D** slower digestion of proteins

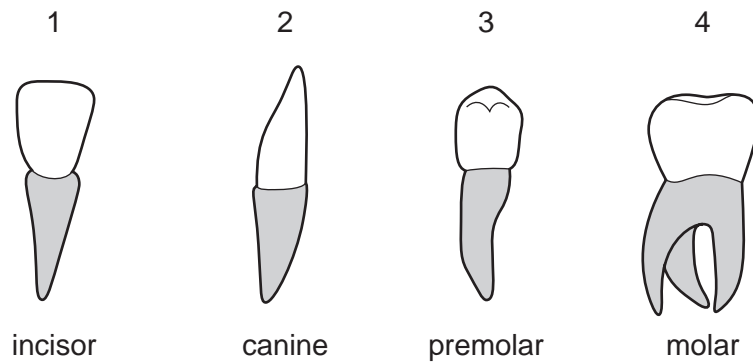
23 The diagram shows some of the organs of the human body.



In which organs does the digestion of carbohydrates take place?

- A** P and Q
- B** P and R
- C** Q and R
- D** Q and S

24 The diagram shows the four types of human tooth.



Which teeth are used for cutting rather than grinding food?

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

25 What is the result of a diet lacking iron?

- A** bleeding gums
- B** poor wound healing
- C** reduced number of red blood cells
- D** weak bones and teeth

26 A child decided to eat only meat, oily fish, cheese and bread, and drink only water.

Which nutrient would be in low levels in this diet?

- A** calcium
- B** iron
- C** vitamin C
- D** vitamin D

27 Which chemical reaction takes place in the stomach?

- A** Proteins are digested by protease.
- B** Proteins are digested into fatty acids.
- C** Starch is digested into amino acids.
- D** Starch is digested by lipase.

28 A person has bleeding gums.

This could be caused by a lack of which nutrient?

- A calcium
- B iron
- C vitamin C
- D vitamin D

29 The table shows the main contents of four meals.

Which meal will be the most effective at preventing constipation?

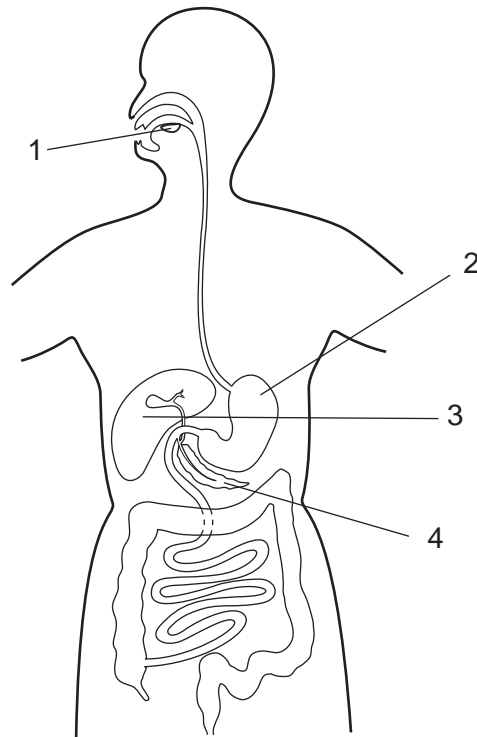
	g/100g			
	carbohydrate	fat	fibre (roughage)	protein
A	18	12	8	25
B	30	32	2	12
C	38	4	22	10
D	48	15	10	5

30 The activity of lipase is measured in four parts of the gut.

Which part has the most lipase activity?

- A colon
- B duodenum
- C oesophagus
- D stomach

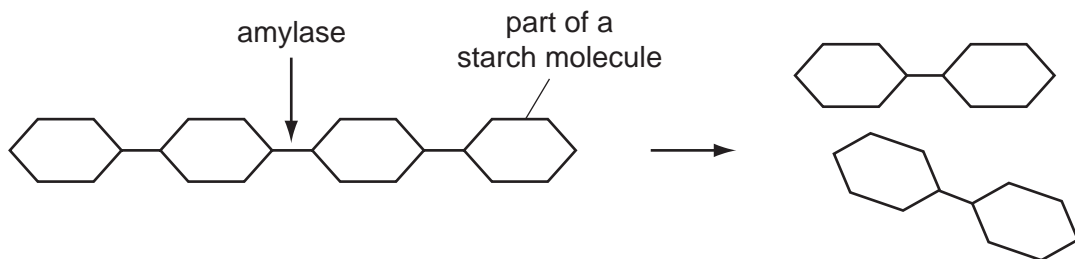
31 The diagram shows some organs of the digestive system.



Where is amylase made?

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

32 The diagram shows the action of amylase.



What is the function of the enzyme amylase?

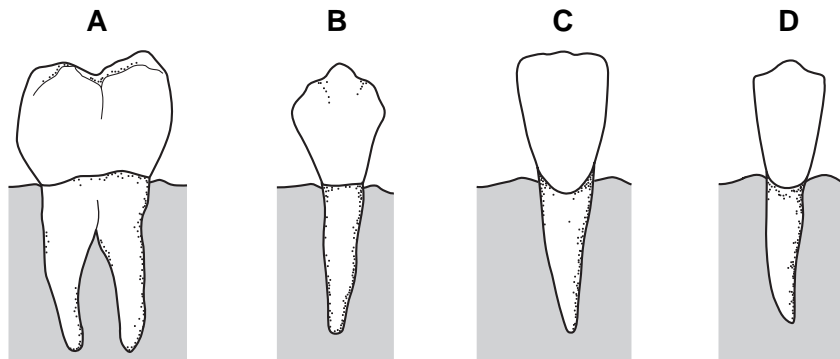
- A** breaks down the substrate into amino acids
B changes the product into the substrate
C increases the rate of starch breaking down into glucose
D increases the rate of starch breaking down into maltose

33 Dietary fibre passes through several structures after leaving the stomach.

In which order does the dietary fibre pass through these structures?

- A duodenum → ileum → colon → rectum
- B duodenum → ileum → rectum → colon
- C ileum → duodenum → colon → rectum
- D ileum → duodenum → rectum → colon

34 Which type of tooth is used for crushing food?



35 The table shows vitamin and mineral salt content of four foods.

food	vitamin C	vitamin D	calcium	iron
1	low	high	low	low
2	low	low	low	high
3	low	low	high	low
4	high	low	low	low

Which foods would stop a person from suffering from anaemia (lack of haemoglobin) and scurvy (bleeding gums)?

	anaemia	scurvy
A	1	2
B	1	3
C	2	4
D	3	4

36 Which condition can sometimes be prevented by eating plenty of fresh fruit and vegetables?

- A bleeding gums
- B brittle bones
- C diabetes
- D soft bones

37 A protease is added to a suspension of egg protein in a test-tube and kept at 37°C.

After 8 minutes, the protein changes from cloudy to transparent.

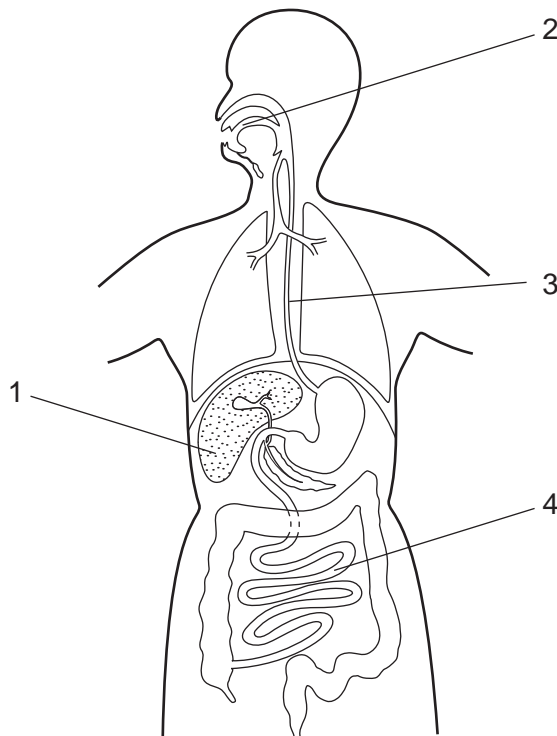
Which product, or products, will now be present in the test-tube?

- A amino acids
- B a simple sugar
- C fatty acids and glycerol
- D water

38 What is the optimum pH for stomach protease?

- A pH2
- B pH7
- C pH9
- D pH12

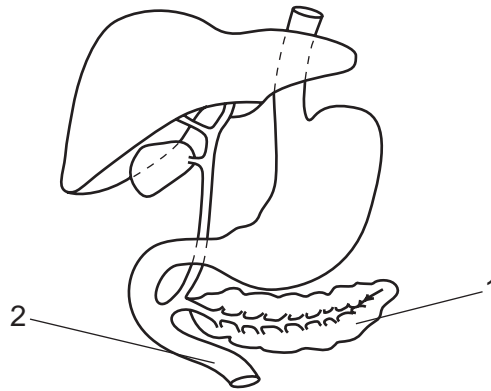
39 The diagram shows the human alimentary canal.



In which parts does peristalsis take place?

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

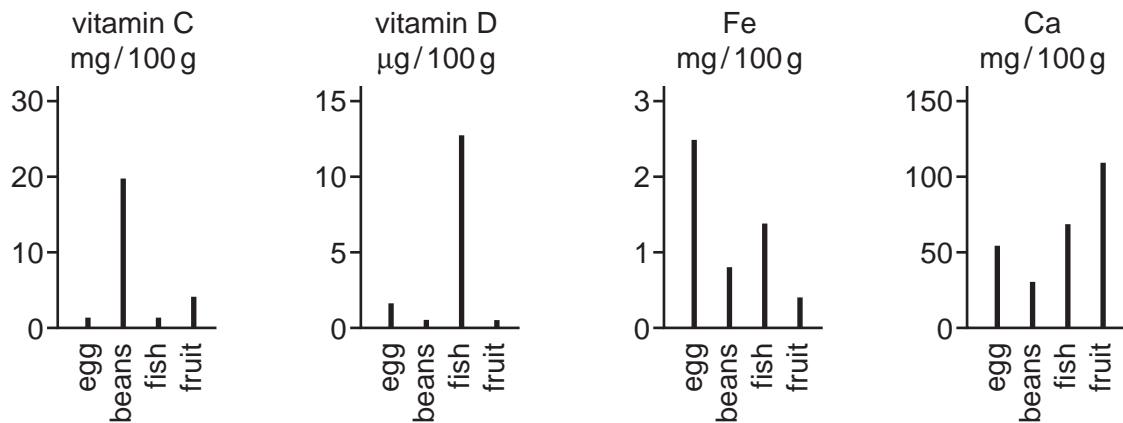
40 The diagram shows part of the digestive system.



What is a function of the liquid produced by part 1 and released into part 2?

- A to digest proteins to amino acids
- B to increase the surface area of fat droplets
- C to acidify the contents of part 2
- D to prevent further digestion of starch

41 The graphs show the quantities of selected vitamins and minerals in four foods.



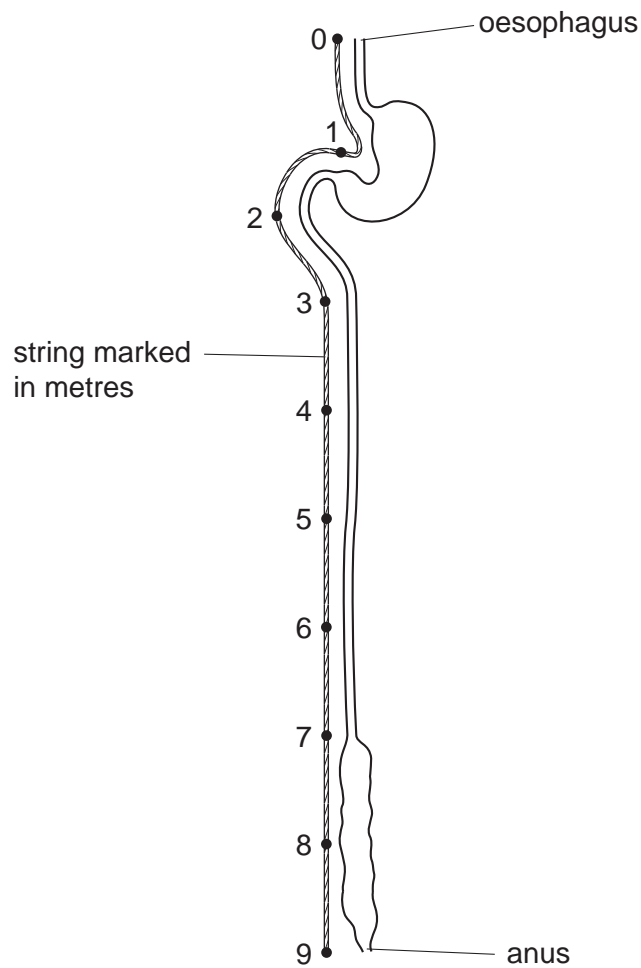
Which food is the richest source of the vitamin or mineral essential for the transport of oxygen by the blood?

- A beans
- B eggs
- C fish
- D fruit

42 What is the definition of *digestion*?

- A Large insoluble molecules are changed into faeces.
- B Large insoluble molecules are changed into smaller soluble molecules.
- C Small soluble molecules are carried to the liver.
- D Small soluble molecules are passed through the wall of the intestine.

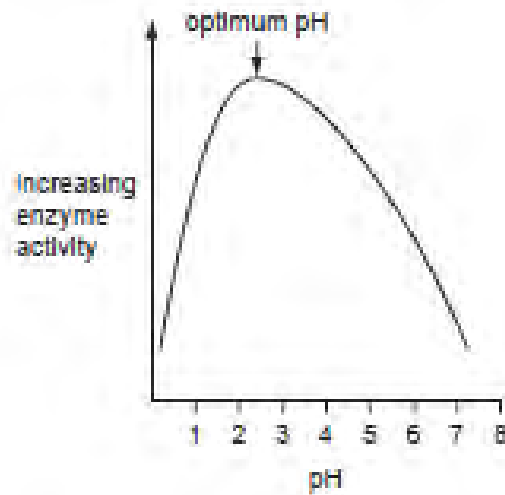
43 The diagram shows the human alimentary canal, with a string marked in metres beside it.



How long is the small intestine?

- A 2m
- B 6m
- C 8m
- D 9m

- 44 The graph shows the results of experiments in which the activity of an enzyme was measured at different pH values.



In which part of the alimentary canal would this enzyme be likely to work?

- A mouth cavity
 - B oesophagus
 - C small intestine
 - D stomach
- 45 In humans, where does most absorption of digested food take place?
- A colon
 - B kidney
 - C liver
 - D small intestine

46 The table shows nutrients found in a biscuit.

Which nutrient needs no digestion?

A	fat	3.0g
B	glucose	2.8g
C	protein	3.5g
D	starch	5.5g

47 By which process is food moved through the alimentary canal?

- A** assimilation
- B** digestion
- C** ingestion
- D** peristalsis