KS3 SCIENCE · BIOLOGY

Food and digestion: exam questions

Name _____

Total: 22 marks

1 State what the body uses carbohydrate for, and what it uses protein for. **[2 marks]**

2 Name the mineral needed for red blood cells, and the mineral needed for strong teeth and bones. **[2 marks]**

3 Explain what is meant by a balanced diet. **[2 marks]**

4 A breakfast cereal has 1600 kJ of energy in 100 g. Calculate the energy in a 25 g serving. **[2 marks]**

5 Give two reasons why one person may need more energy from food each day than another. **[2 marks]**

6 Name the deficiency disease caused by too little vitamin C, and the one caused by too little iron. **[2 marks]**

7 Describe two things that happen to food in the stomach. **[2 marks]**

8 State where in the gut digestion is completed, and where water is absorbed from undigested food. **[2 marks]**

9 Explain why starch has to be digested before the body can use it. **[2 marks]**

10 Enzymes are biological catalysts. State what a catalyst does. **[1 mark]**

11 Explain how villi help the small intestine to absorb food quickly. **[2 marks]**

12 Give one way in which gut bacteria help the body. **[1 mark]**

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Food and digestion: mark scheme

Total: 22 marks

1 [2 marks]

- Carbohydrate: a source of energy **(1)**
- Protein: growth and repair (accept: building new tissue) **(1)**

2 [2 marks]

- Red blood cells: iron **(1)**
- Teeth and bones: calcium **(1)**

3 [2 marks]

- It contains carbohydrates, lipids, proteins, vitamins, minerals, fibre and water (accept: all the nutrients the body needs) **(1)**
- In the right amounts (accept: not too much and not too little of each) **(1)**

4 [2 marks]

- 1600 ÷ 4 (accept: 1600 × 25 ÷ 100) **(1)**
- 400 kJ **(1)**

Give both marks for a correct answer with no working.

5 [2 marks]

- Any one from: they are more active; they are still growing; they have a bigger body **(1)**
- A second, different reason from the same list (accept: a difference in age, if its effect is explained) **(1)**

6 [2 marks]

- Vitamin C: scurvy **(1)**
- Iron: anaemia **(1)**

7 [2 marks]

- It is churned (mixed) with acidic juices **(1)**
- The acid kills microorganisms **(1)**
- The digestion of protein starts **(1)**

Any two of the three points.

8 [2 marks]

- Digestion is completed in the small intestine **(1)**
- Water is absorbed in the large intestine **(1)**

9 [2 marks]

- Starch molecules are too big to pass through the wall of the small intestine (accept: too big to be absorbed into the blood) **(1)**
- Digestion breaks them into small (sugar) molecules, which can pass into the blood **(1)**

10 [1 mark]

- It speeds up a chemical reaction (accept: it speeds up digestion) **(1)**

11 [2 marks]

- They give the small intestine a large surface area **(1)**
- So more food molecules can pass into the blood at the same time (accept: their thin walls give a short distance to the blood; their blood supply carries the food away) **(1)**

12 [1 mark]

- Any one from: they help to break down food (such as fibre); they make some vitamins; they make it hard for harmful microorganisms to grow **(1)**