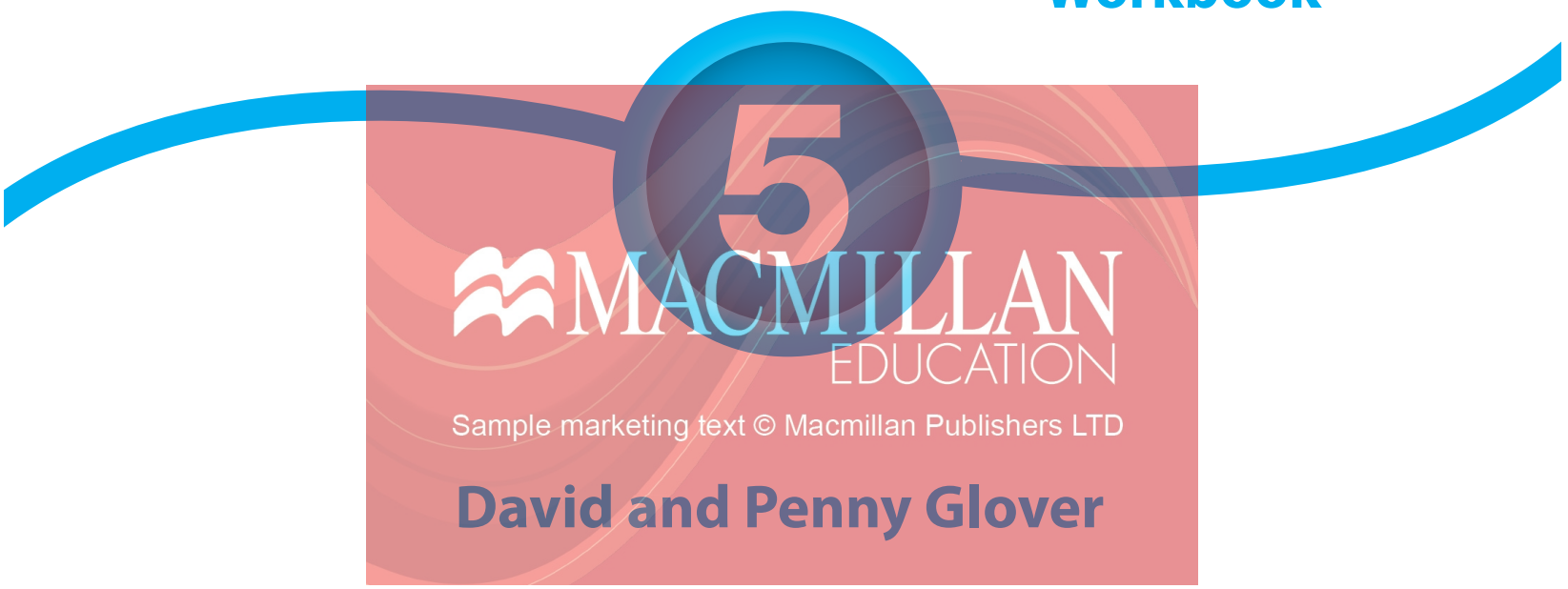
Macmillan Science

Workbook



MACMILLAN EDUCATION

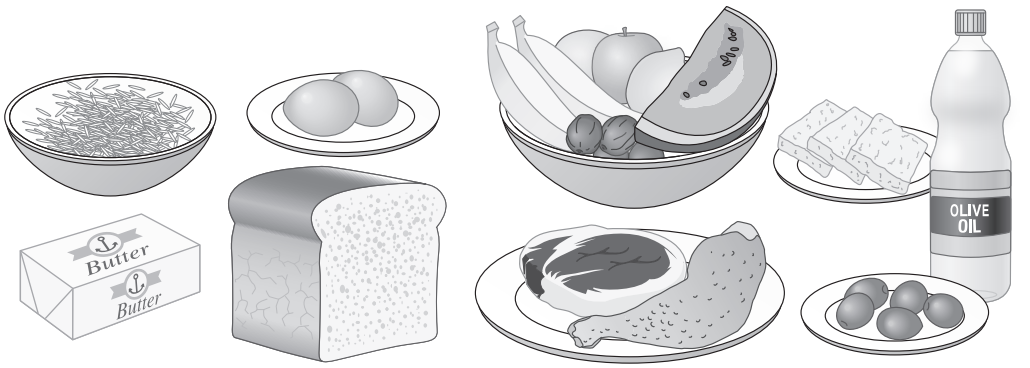
David and Penny Glover

MACMILLAN

Contents

Food and nutrition

1. Label these foods as coming from plants (P) or animals (A).



2. Unscramble the letters to make the names of five nutrients.

(If you are stuck look at this topic in your Pupil's Book for possible words.)

slneamri _____ bcaohyrdtaes _____ afst _____

optiners _____ tavimnis _____

3. Write the name of the nutrient for each of these descriptions.

a They provide energy. Digestion breaks them into simple sugars. _____

b Needed for growth and repair. _____

c They supply energy and are used to build some body parts; excess is unhealthy. _____

d Special substances the body needs in small amounts but cannot make itself. _____

e Simple substances the body needs to build bones and perform other tasks. _____

4. Explain briefly the importance of each of these minerals in the diet.

a iron

_____

b calcium

_____

c salt

_____

Use the library and the Internet to learn more about the different minerals the body needs, and the foods that provide them.

Choose a mineral and write a brief report on it to present to the class.

_____

_____

_____

_____

_____

5. Circle the word that matches the description.

a These living things obtain nutrition from sunlight, air, water and soil.

plants / animals / bacteria

b These living things obtain nutrition by eating other living things.

plants / animals / bacteria

c This process breaks the food we eat into simpler substances that the body can use.

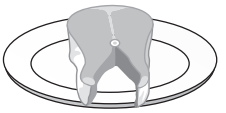
digestion / respiration / excretion

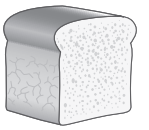
d This substance does not provide nutrition, but helps waste pass through the digestive system.

protein / fat / fibre

Food groups

1. Write the name of the main nutrient in each of these foods.

a 

b 

c 

_____ _____ _____

2. Mark each of these statements as true (✔) or false (✘).

a Rice is a good source of protein. ☐

b Milk contains carbohydrate, protein, fat, minerals and vitamins. ☐

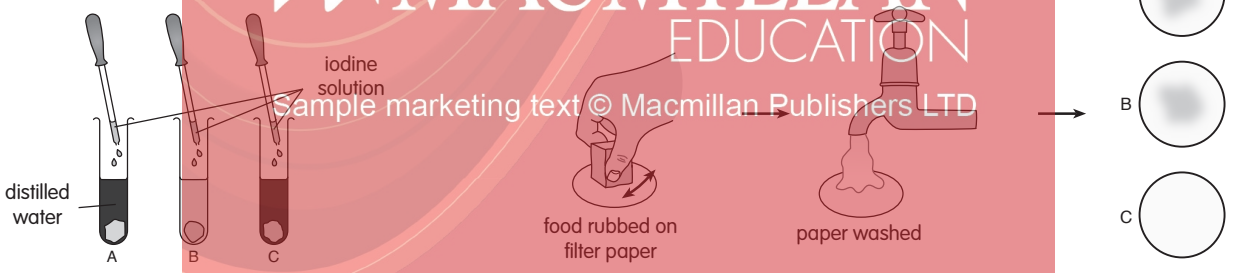
c Humans are adapted to survive by eating only one type of food. ☐

d Foods that contain fat turn an iodine solution black. ☐

3. Look at the results of these food tests on foods A, B and C. Answer the questions.

a Which food (or foods) contains starch? _____

b Which food (or foods) contains fat? _____



4. What foods have you eaten in the past 24 hours? What nutrients do these foods contain? Write the name of the food you have eaten for each of the food types listed below.

a A food from a plant. _____

b A food from an animal. _____

c A protein-rich food. _____

d A carbohydrate-rich food. _____

e A fatty food. _____

f A mineral-rich food. _____

g A vitamin-rich food. _____

h A food that contains fibre. _____

A balanced diet

1. Unscramble the words to make sentences that describe a balanced diet.

healthy to We mixture stay must eat a of foods different

_____

contains A diet balanced carbohydrates, proteins, vitamins, minerals and some fat

_____

2. Label the diagram. Label foods in this meal with the nutrients they provide. The chicken, for example, provides protein and some fat.

3. List *four* important uses of water in the body.

a _____

b _____

c _____

d _____

4. The tables below give the water intake and water losses for two people during a day. Answer the questions.

Person A

Water intake in cm^3	Water losses in cm^3	
2800	urine	1500
	sweat	1000
	breathing out	400
	faeces	150

Person B

Water intake in cm^3	Water losses in cm^3	
2400	urine	1400
	sweat	550
	breathing out	370
	faeces	80

a Which person may be dehydrated? _____

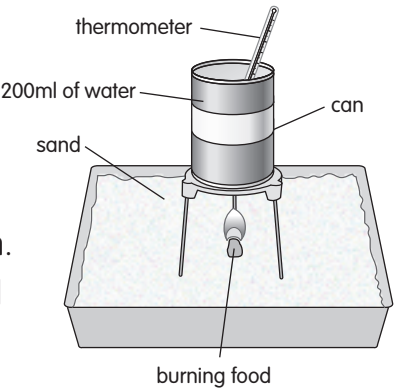
b Which person's water is in balance? _____

c Explain how you know.

_____

_____

Food and energy



Activities 1, 2 and 3 refer to the experiment below.
Class five compared the energy content of different foods.
They used a candle to set fire to a 2 g sample of each food.
They used the burning food to heat 200 ml of water in a tin can.
They measured the initial temperature of the water and its final temperature when the sample had stopped burning.
These are their results.

Food	Initial water temperature (°C)	Final water temperature (°C)	Temperature rise (°C)
dry bread	22	40	
nut	25	63	
chocolate	24	78	

1. **Complete the table by calculating the rise in water temperature each sample produced.**

2. **Answer the questions.**
   a Which food sample contained the greatest amount of energy per gram? _____
   b Which food sample contained the least amount of energy per gram? _____
   c Explain how you know.
   _____
   _____

3. **Explain briefly why the class took care to use the same mass of food and the same volume of water for each test.**
   _____
   _____

4. **Look at these food labels. Explain why it is better to snack on bread or dates than on chocolate.**

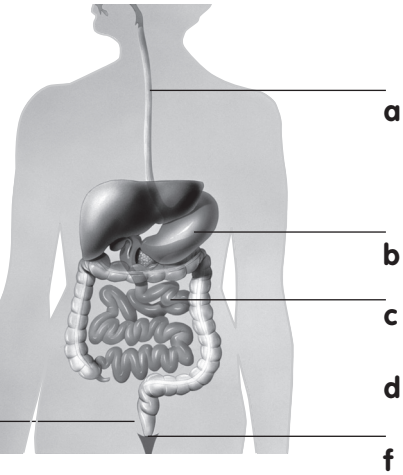
Pitta bread	Dates	Chocolate
Energy per 100 g	Energy per 100 g	Energy per 100 g
275 calories	280 calories	504 calories

   _____
   _____

Digestion

1. Label the parts of the alimentary canal.

stomach	gullet	small intestine
anus	rectum	large intestine



a _____

b _____

c _____

d _____

e _____

f _____

2. Mark each of these statements as true (✔) or false (✘).

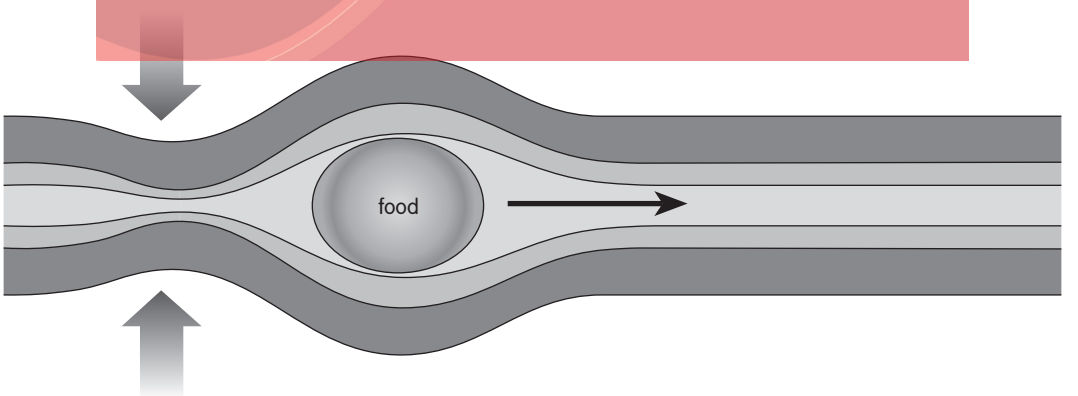
a The alimentary canal is about 7 m long. ☐

b You cannot swallow food when you are upside down. ☐

c Digested food is absorbed in the stomach. ☐

d Bacteria help to digest food in your intestines. ☐

3. You swallow a ball of food. Label this diagram to explain how the food is moved through your gullet.



4. You eat some bread and some dates. Describe briefly what happens to this food after you put it into your mouth.

_____

_____