C Plants and photosynthesis

Test yourself Answers

1 Complete these sentences by crossing out the words that are wrong.

a Plants ~~**do**~~**/do not** take in soil from the ground as they grow.

b During photosynthesis plants take in water through their ~~**leaves**~~**/roots**.

c Plants also take in **carbon dioxide/**~~**oxygen**~~ to make glucose.

2 Complete the following word equation for photosynthesis.

carbon dioxide + water → glucose + oxygen

3 The following steps were carried out by a student who was doing an experiment to see if light is needed for photosynthesis. The steps are in the wrong order. Write a number next to each step to show its correct order.

5 Boil the leaf in hot alcohol.	4 Place the leaf in boiling water.
1 Cover part of leaf with black paper.	3 Remove the black paper.
6 Add iodine solution to the leaf.	7 Make a note of whether the iodine turns black.
2 Leave the leaf in the light for 24 hours.	

4 Draw lines to match each process with the correct reason for doing it.

Process	**Reason**
boil the leaf in water	turns black if starch is present
boil the leaf in alcohol	breaks down the cell walls
add iodine solution	dissolves out the chlorophyll

5 Complete the sentences below. Choose from these words to fill in the gaps. You may use each word once, more than once, or not at all.

chlorophyll | increases | light | oxygen | upper

As the amount of light increases, the rate of photosynthesis increases.

The rate of photosynthesis in some water plants can be determined by counting the number of oxygen bubbles given off.

Plants use a green pigment called chlorophyll to carry out the process of photosynthesis.

Most photosynthesis takes place in the cells in the upper part of the leaf, because they receive more light.

Plants and photosynthesis (continued)

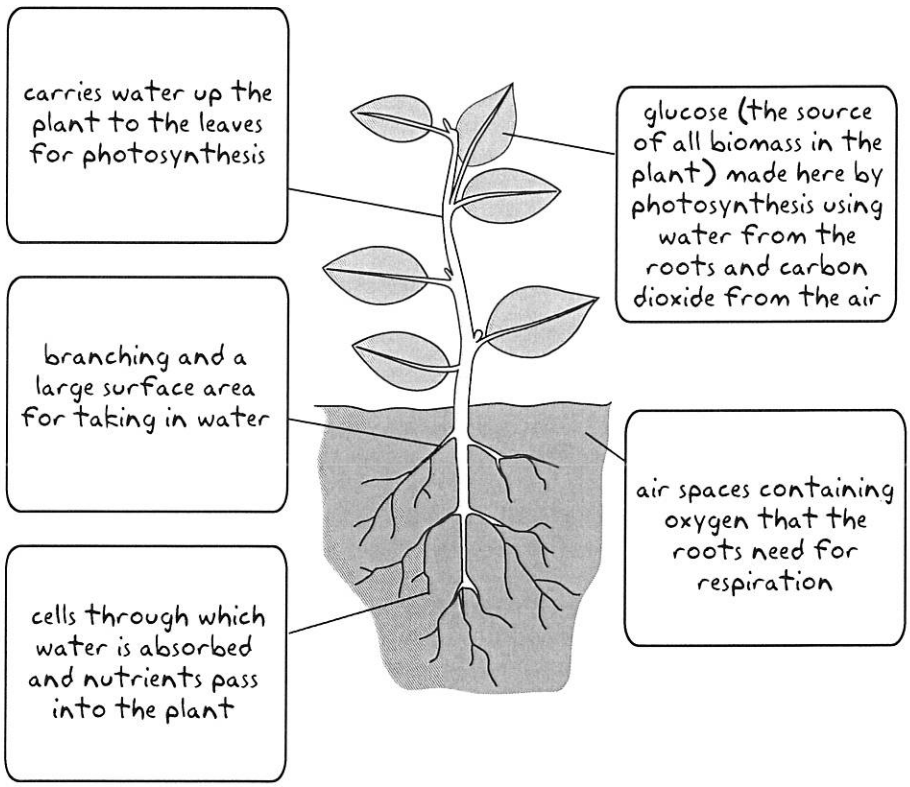
Test yourself Answers

6 Put a tick against the following substances if you think they are made from biomass of plants.

☐	plastic	☑	rubber
☑	wood	☐	nylon
☑	cotton	☑	starch

7 The diagram shows the different parts of a plant. However, the labels are missing.

Complete the label boxes by copying out the correct descriptions from the boxes below.



C

Plants and photosynthesis (continued)

Test yourself Answers

8 Complete the sentences below to describe the effects of plants on the environment. Choose from these words to fill in the gaps. You may use each word once, more than once, or not at all.

respiration | constant | rising | falling | plants

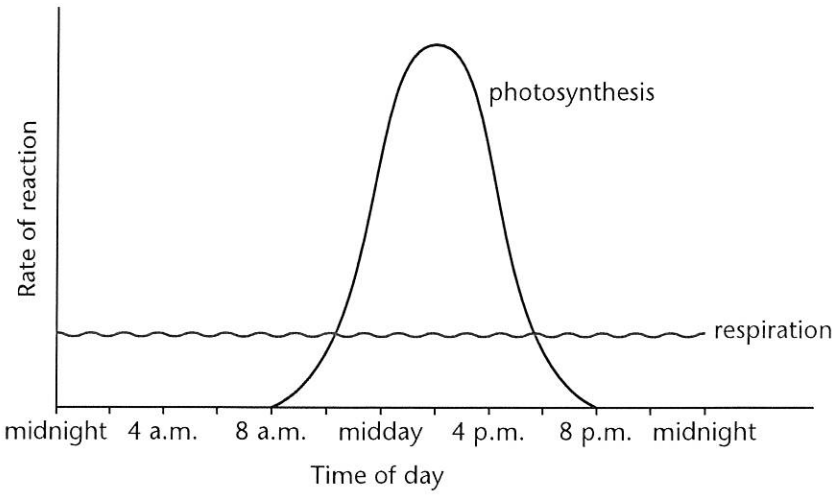
Photosynthesis and respiration together ensure that the level of carbon dioxide in the atmosphere is ..constant.. .
However, because modern societies burn a lot of fuels, the level of carbon dioxide is ..rising.. .

Cutting down and burning rainforest is also responsible for ..rising.. levels of carbon dioxide. Only by reducing the amount of fuel that we burn and conserving the rainforests can we ensure ..constant.. levels of carbon dioxide.

Plants release energy from food by ..respiration.. .

Humans and animals rely on ..plants.. to use carbon dioxide and produce oxygen for them to respire.

9 The graph shows both the rate of respiration and the rate of photosynthesis in a flowering plant.



a During what period of time is photosynthesis faster than respiration?

Between 10 a.m. and 6 p.m.

b At which two times does the rate of photosynthesis equal the rate of respiration? At 10 a.m. and 6 p.m.