Plants and Photosynthesis

Understanding how plants produce their own food from sunlight is essential knowledge for KS3 biology and GCSE Science too.

(ii) Why is an oak tree called a producer?
Tick the correct box.

It loses its leaves in autumn.	☐	It makes food by photosynthesis.	☐
Its flowers are tiny.	☐	Its leaves will **not** rot.	☐

KS3 Science SATs, Tier 3-6, Paper 1 (2005) - Q3(a)(ii)

(d) Tick **one** box in each row to show whether the statement is true for photosynthesis **or** for respiration.

statement	photosynthesis	respiration
carbon dioxide is produced		
light is needed		
it occurs in plants and animals		
oxygen is produced		

14d
1 mark

14d
1 mark

KS3 Science SATs, Tier 3-6, Paper 2 (2008) - Q14(d)

14. Joe bought a potted plant. He kept it well watered but some of the leaves turned yellow.



Joe thought that the plant did **not** have enough light for photosynthesis.
He moved the plant closer to the window but more leaves turned yellow.

(a) He then thought that the plant did **not** have enough minerals.

The table below gives information about minerals.

mineral	why the mineral is needed
magnesium	to make chlorophyll
nitrogen	to make protein
phosphorus	to grow and transfer energy
potassium	to make fruit

(i) Joe's plant did **not** have enough of one of the minerals in the table.
Use the information in the table to suggest which mineral this was.

14ai

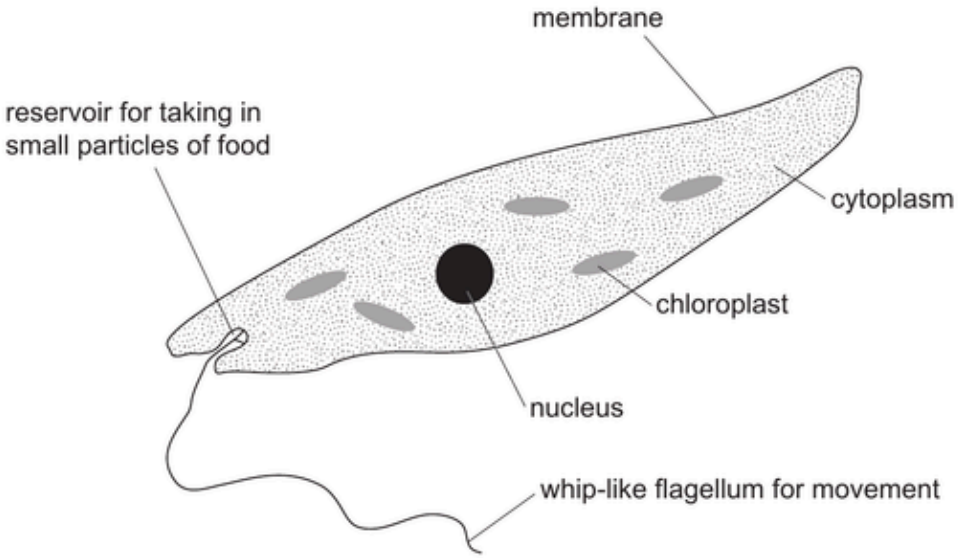
1 mark

(ii) A plant growing in a pot is more likely to be affected by a shortage of minerals than a plant growing in a garden.
Give the reason for this.

14aii

Modern Tuition

12. The diagram below shows an organism called Euglena.
It is made of only one cell. It lives in ponds and streams.
Euglena have features of both plants and animals.



(a) Look at the diagram of Euglena.

Give **two** pieces of evidence which suggest it is an **animal** cell and **not** a plant cell.

1. _____

2. _____

12a
1 mark

12a
1 mark

(b) Plant cells can carry out photosynthesis.
How can you tell from the diagram that Euglena can carry out photosynthesis?

_____

12b
1 mark

(c) Complete the word equation for photosynthesis.

carbon dioxide + _____ → glucose + _____

12c
1 mark

12c
1 mark

KS3 Science SATs, Tier 3-6, Paper 1 (2009) - Q12