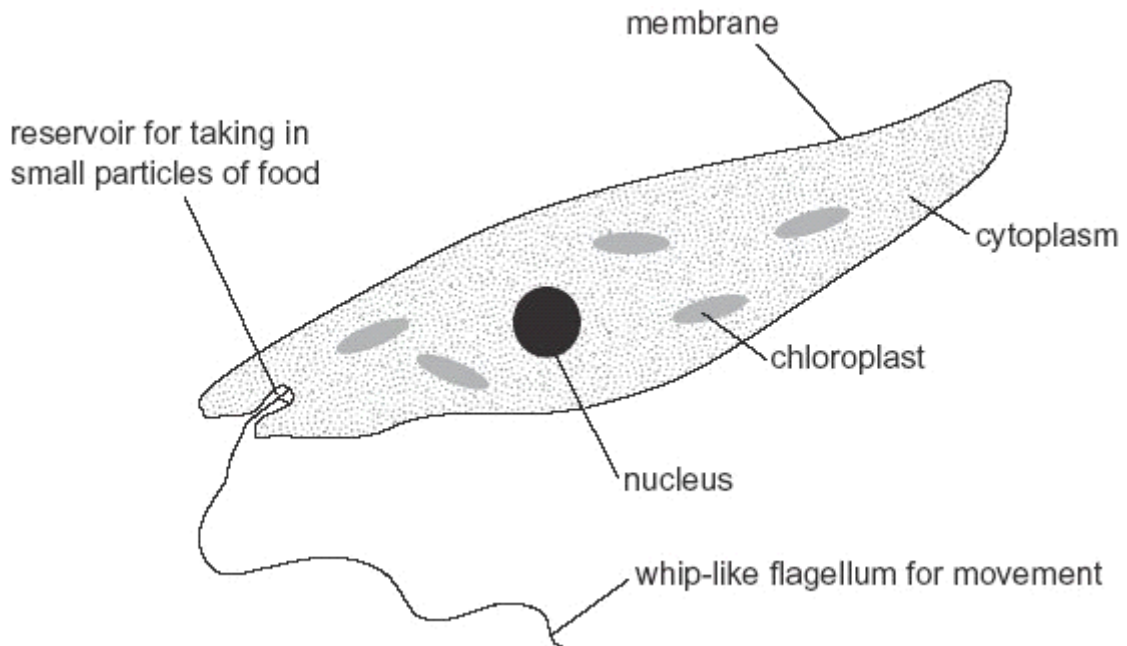


Unicellular organisms question

1. 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.

1 mark

2.

1 mark

- (b) Plant cells can carry out photosynthesis.

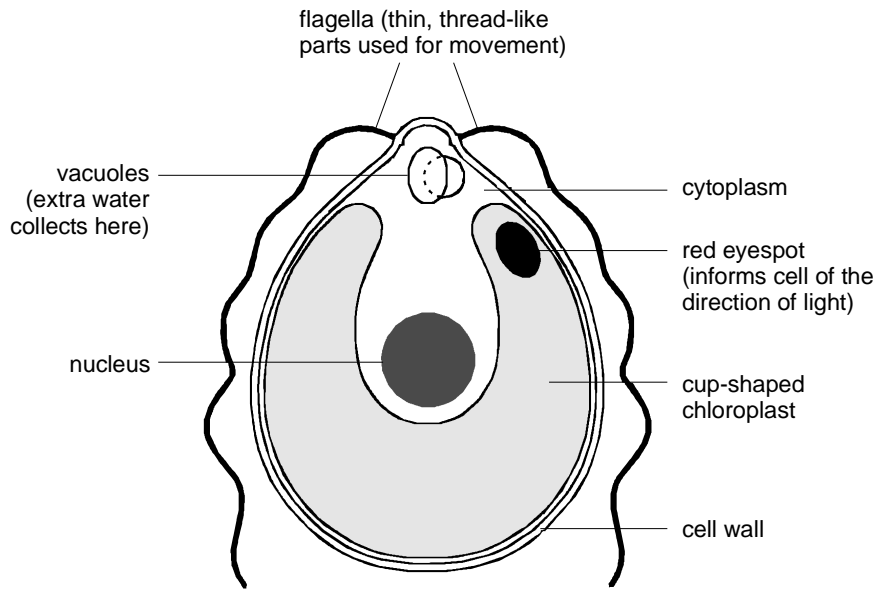
How can you tell from the diagram that Euglena can carry out photosynthesis?

.....

1 mark

maximum 3 marks

2. The diagram below shows details of Chlamydomonas which is a single-celled organism adapted for living in ponds and ditches.



× 1000

- (a) Explain how the eyespot, the flagella and the chloroplast enable Chlamydomonas to photosynthesise.

.....

.....

.....

.....

.....

3 marks

- (b) (i) Water diffuses into Chlamydomonas from the pond. Water is also produced by respiration inside the cell. Give **one** function of water inside the cell.

.....

.....

1 mark

- (ii) If there is too much water in the Chlamydomonas cell, the water collects in two small vacuoles. The vacuoles can contract to get rid of the water. What effect does extra water have on the cell?

.....

.....

1 mark

M1. (a) any **two** from

- it has a flagellum or tail to help it move
accept 'can move or swim'
accept 'it has a tail'
'whip' is insufficient
- it does not have a (cell) wall
accept 'it does not have a fixed shape' or 'it changes shape'
*do **not** accept 'it does not have a membrane'*
'it only has a cell membrane' is insufficient
- it does not have a vacuole
- it has a reservoir (for taking in food)
accept 'it takes in or eats food'
accept 'it has a mouth-like structure'
'it has a mouth' is insufficient

2 (L6)

(b) • it has chloroplasts

- accept 'chlorophyll'*
'it makes food' is insufficient

1 (L6)

[3]

M2. (a) light is detected by the eyespot

1

the flagella are used to move towards light

1

the chloroplast absorbs light

- accept 'the photosynthesis takes place in the chloroplast'*

1

(b) (i) any **one** from

- it is a solvent
- for photosynthesis
- it maintains the shape of the cell
- it provides a medium for chemical reactions to take place
- it is a constituent of cytoplasm
accept 'it is part of cytoplasm'

1

(ii) it dilutes the cytoplasm

accept 'it makes the cell swell up' or 'it makes the cell turgid'

1