

1 Which structures contain a cell nucleus?

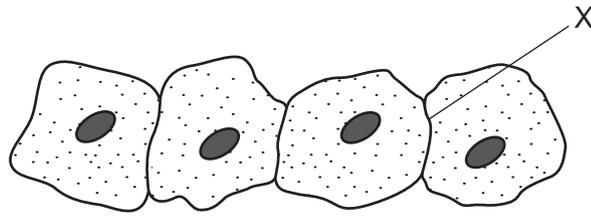
	red blood cell	root hair cell	xylem vessel
A	✓	✓	✓
B	✓	x	x
C	x	✓	x
D	x	x	✓

key

✓ = nucleus

x = no nucleus

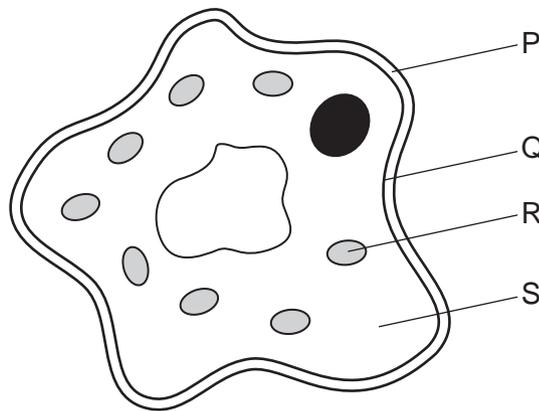
2 The diagram shows some animal cells, as seen under the microscope.



What will be present at X?

- A** one cell membrane
- B** one cell wall
- C** two cell membranes
- D** two cell walls

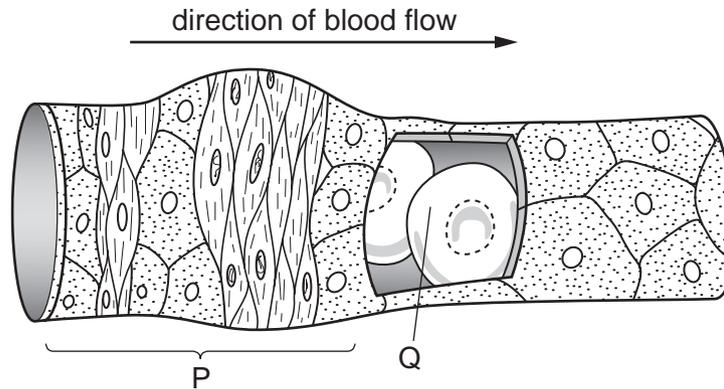
3 The diagram shows a spongy mesophyll cell.



Which structures indicate that this is a plant cell?

- A** P and S
- B** Q and R
- C** R and P
- D** S and Q

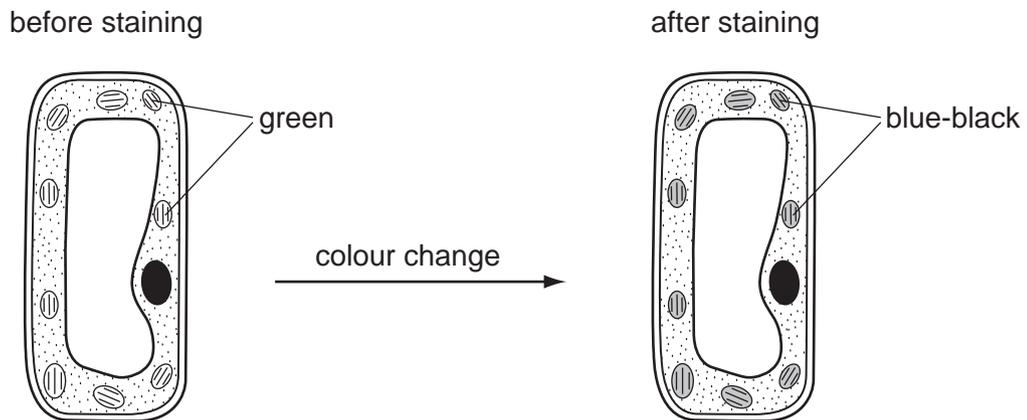
- 4 The diagram shows blood passing through an arteriole into a capillary. Part of the capillary wall has been cut away to show the blood.



What is the level of organisation of the structures labelled P and Q?

	P	
A	organ	t
B	organ	
C	tissue	
D	tissue	

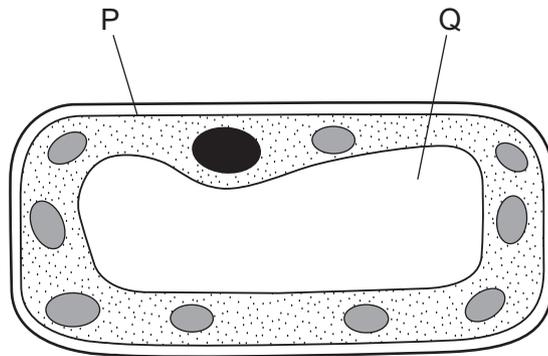
- 5 The diagrams show a leaf cell before and after staining with iodine solution.



Which substance causes the iodine solution to change colour?

- A chlorophyll
- B protein
- C reducing sugar
- D starch

6 The diagram shows a cell seen under the light microscope.



Which labels are correct?

	P	Q
<b>A</b>	cell membrane	cytoplasm
<b>B</b>	cell membrane	vacuole
<b>C</b>	cell wall	cytoplasm
<b>D</b>	cell wall	vacuole

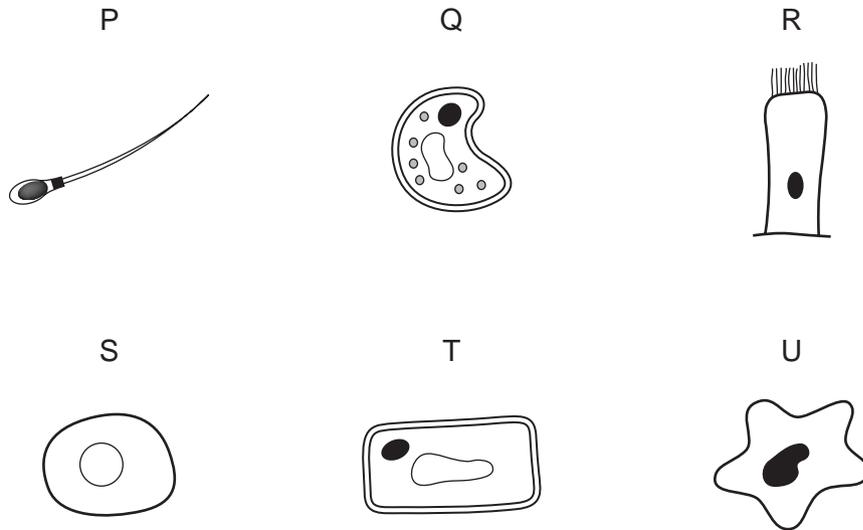
7 Which is a tissue and which is an organ?

	tissue	organ
<b>A</b>	a group of liver cells	xylem
<b>B</b>	a group of palisade cells	the stomach
<b>C</b>	the brain	a root
<b>D</b>	the reproductive system	the liver

8 Which series of terms is listed in order of increasing level of organisation?

- A** cell → organ → tissue → organ system
- B** cell → tissue → organ → organ system
- C** tissue → cell → organ → organ system
- D** tissue → organ → organ system → cell

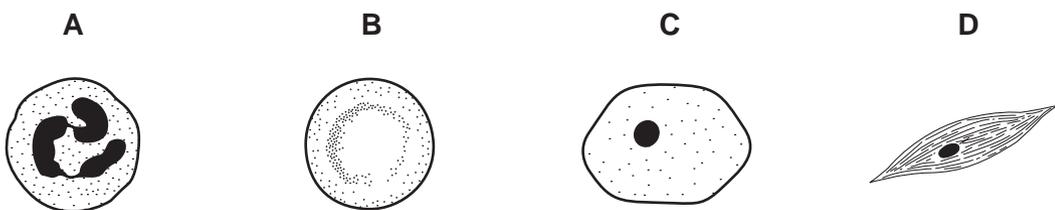
9 The diagram shows six cells.



Which are plant cells and which are animal cells?

	plant cells	animal cells
<b>A</b>	P, Q and U	R, S and T
<b>B</b>	P, R, S and T	Q and U
<b>C</b>	Q and T	P, R, S and U
<b>D</b>	R, S and U	P, Q and T

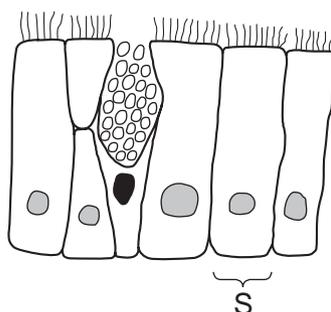
10 Which diagram shows a liver cell?



11 What is a feature of both plant and animal cells?

- A a cell membrane
- B a cell wall
- C a large vacuole
- D chloroplasts

12 The diagram shows structures that form the surface of the trachea.



Which level of organisation is the structure labelled S?

- A cell
- B organ
- C organ system
- D tissue

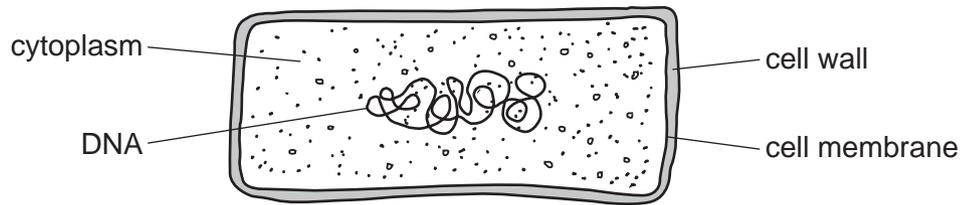
13 What is a correct description of red blood cells?

	thin region in the cell centre	large nucleus
A	✓	✓
B	✓	x
C	x	✓
D	x	x

14 Which statement about xylem is correct?

- A It carries sucrose.
- B It converts light energy to chemical energy.
- C It divides actively to help the plant to grow.
- D It is no longer living.

15 The diagram shows a bacterial cell.

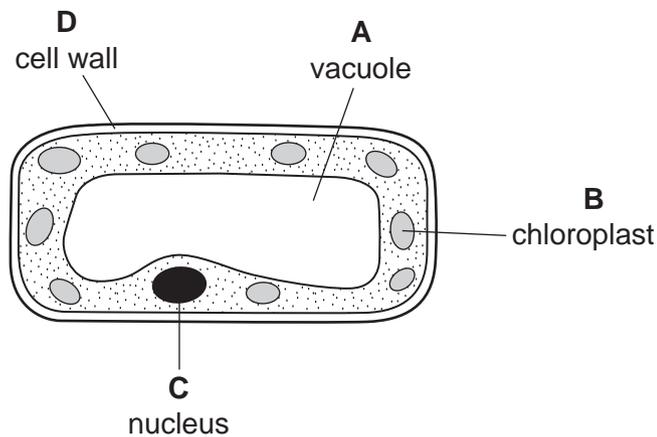


How is this cell different from a typical animal cell?

- A It has a cell membrane.
- B It has cytoplasm.
- C It has no chloroplasts.
- D It has no nucleus.

16 The diagram shows a plant cell.

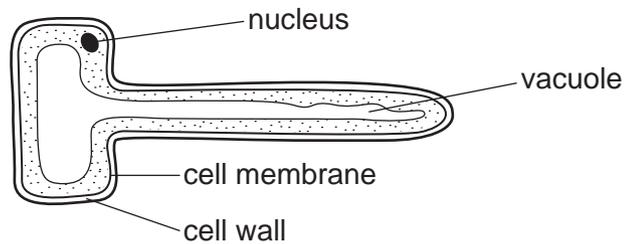
In which labelled part of the cell is sugar made?



17 Which of these tissues is **not** part of the organ with which it is paired?

	tissue	organ containing this tissue
<b>A</b>	ciliated	int
<b>B</b>	muscle	
<b>C</b>	nervous	
<b>D</b>	xylem	

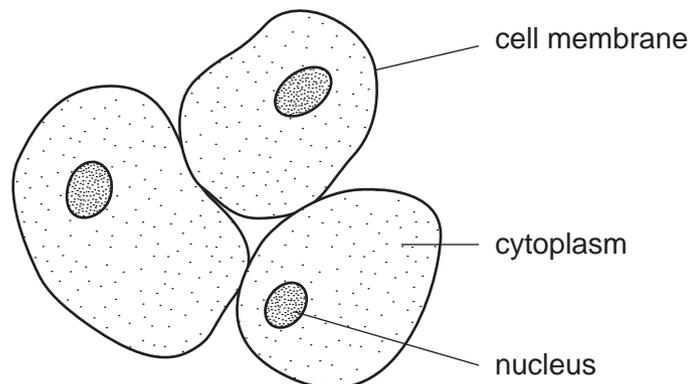
18 The diagram shows a specialised cell.



For which function is the cell adapted?

- A** absorption of water
- B** contraction of muscles
- C** movement of dust particles
- D** transport of oxygen

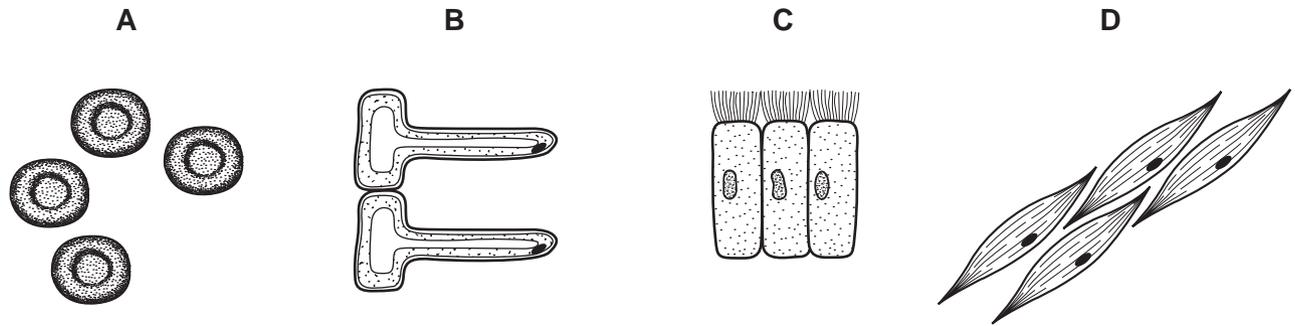
19 The diagram shows some cells.



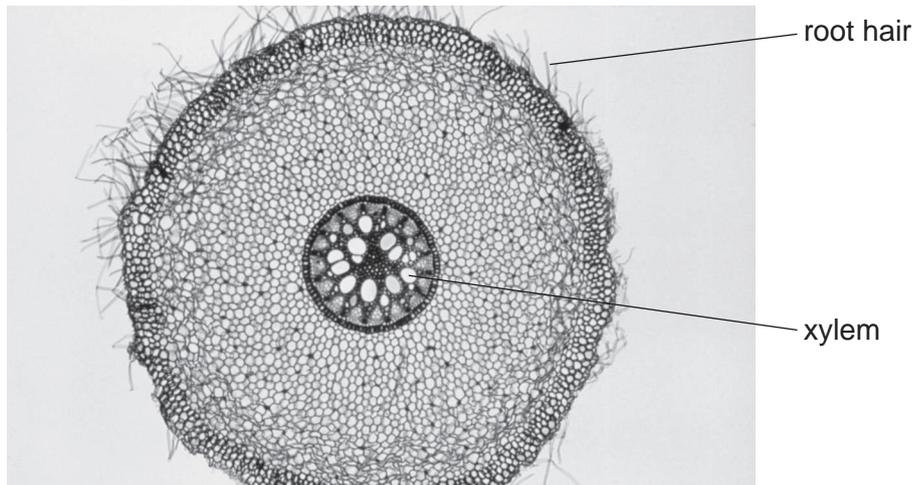
What are these cells?

- A** liver cells
- B** palisade cells
- C** red blood cells
- D** white blood cells

20 Which cells line the trachea?



21 The photograph shows a cross-section of a root.

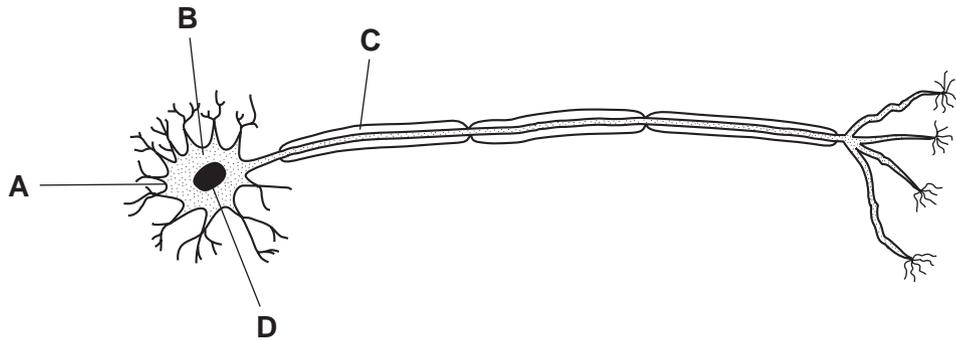


The root hair and the xylem are part of the same

- A cell and organism.
- B cell and tissue.
- C organ and organism.
- D tissue and organ.

22 The diagram shows a motor (effector) neurone.

Which structure is also found in white blood cells, but **not** in red blood cells?



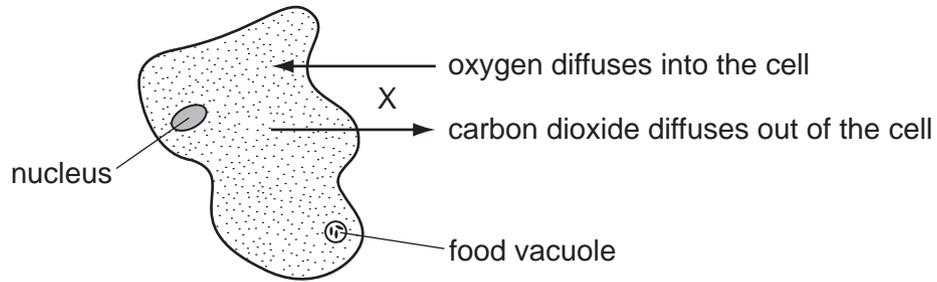
23 Which structures are found in a liver cell?

	cell membrane	cell wall	chloroplast	large vacuole	cytoplasm	nucleus
<b>A</b>	✓	✓	x	x	x	x
<b>B</b>	x	x	✓	✓	x	x
<b>C</b>	✓	x	x	x	✓	✓
<b>D</b>	x	✓	x	x	x	✓

24 At what level of organisation is a leaf?

- A** organ
- B** organism
- C** organ system
- D** tissue

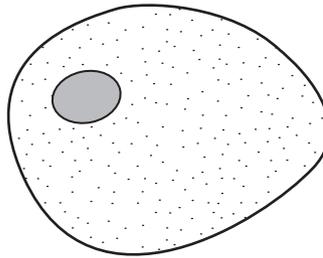
25 The diagram shows an amoeba, a single-celled living organism.



The movement of gases at X indicates the occurrence of which process or processes in the cell?

- A excretion and nutrition
- B excretion and respiration
- C nutrition and respiration
- D respiration only

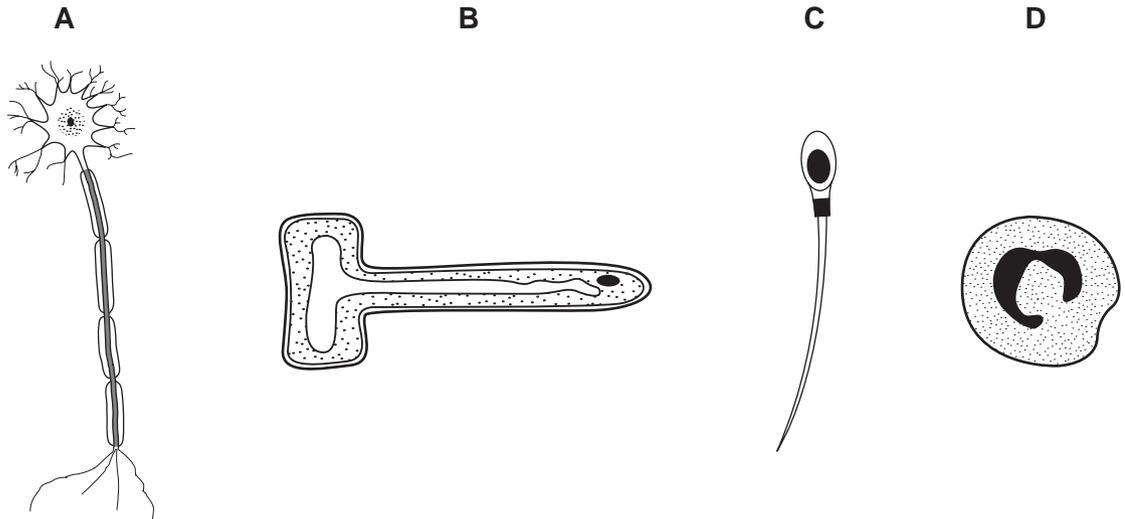
26 The diagram shows a liver cell.



Which structure is found in a palisade cell that is **not** present in this liver cell?

- A cell membrane
- B chloroplast
- C cytoplasm
- D nucleus

27 Which diagram shows a plant cell?



28 Which statement about cells or tissues, is correct?

- A Cells in the respiratory tract are long and thin.
- B Muscle cells are biconcave.
- C Red blood cells have no nucleus.
- D Xylem vessels have ciliated cells.

29 Why do some root cells have root hairs?

- A for the maintenance of the temperature of the cell sap
- B to increase the surface area of the cells
- C to increase the volume of the cell sap
- D to provide a place for cell nuclei

30 Some cells have cell walls.

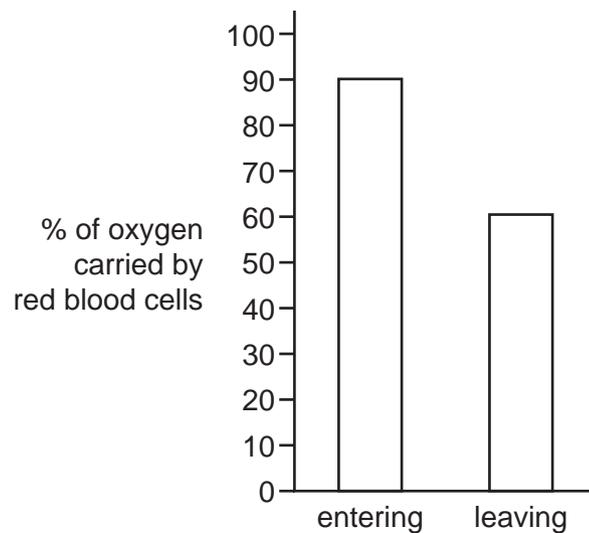
Which statements are correct for cell walls?

	in animals	in plants
<b>A</b>	absent	present inside cell membrane
<b>B</b>	absent	present outside cell membrane
<b>C</b>	present inside cell membrane	absent
<b>D</b>	present outside cell membrane	absent

31 In a mesophyll cell, where are chloroplasts found?

- A between the cell wall and the cell membrane
- B in the cytoplasm
- C in the nucleus
- D in the vacuole

32 The bar chart compares the percentage of oxygen carried by red blood cells entering and leaving a relaxed muscle. On the bar chart, 100% is the amount of oxygen carried by red blood cells as they leave the lungs.



How much oxygen would red blood cells be likely to carry when leaving the same muscle after contraction?

- A 40%
- B 60%
- C 90%
- D 100%

33 Root hair cells are found on plant roots.

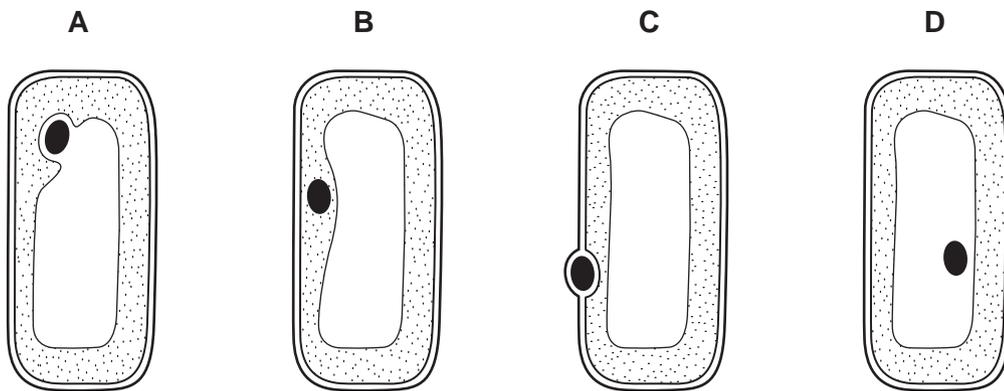
Which feature would be present in a root hair cell but **not** a sperm cell?

- A cell membrane
- B cell wall
- C chloroplasts
- D cytoplasm

34 Which structure is found in a palisade cell but **not** in a liver cell?

- A cell membrane
- B central vacuole
- C cytoplasm
- D nucleus

35 Which cell shows the position of the nucleus correctly?



36 What are the levels of organisation of

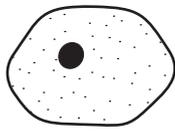
- the wall of a villus,
- the small intestine?

	wall of a villus	small intestine
<b>A</b>	cell	organ
<b>B</b>	cell	organ system
<b>C</b>	tissue	organ
<b>D</b>	tissue	organ system

37 Phloem is an example of

- A a cell.
- B a tissue.
- C an organ.
- D an organ system.

38 The diagram shows four specialised cells.



liver cell



white blood cell



muscle cell

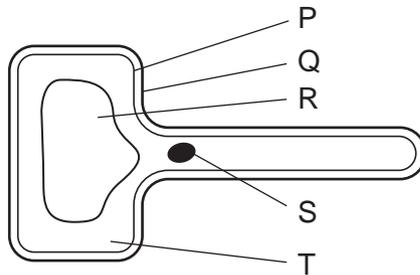


sperm cell

Which feature is **not** common to all of these cells?

- A cell membrane
- B cytoplasm
- C diploid number of chromosomes
- D nucleus

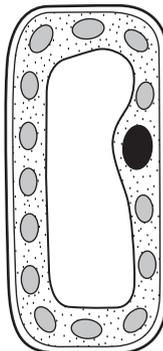
39 The diagram shows a plant cell.



Which labelled structures are found in plant cells but **not** in animal cells?

- A P and Q
- B Q and R
- C R and S
- D S and T

40 The diagram shows another plant cell.



Which feature shows that it is a palisade cell?

- A a large nucleus
- B a large vacuole
- C a thick cell wall
- D many chloroplasts

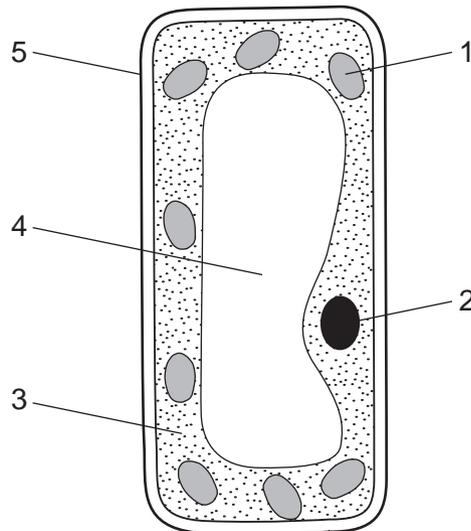
41 Which structures are adapted for supporting a plant?

- A phloem tissues
- B root hair cells
- C stomata
- D xylem vessels

42 Which describes the structure and function of a red blood cell?

	structure	function
A	cell contents are dead	transport of water
B	has a nucleus	produces antibodies
C	has cilia	moves particles in the respiratory tract
D	has no nucleus	transport of substances

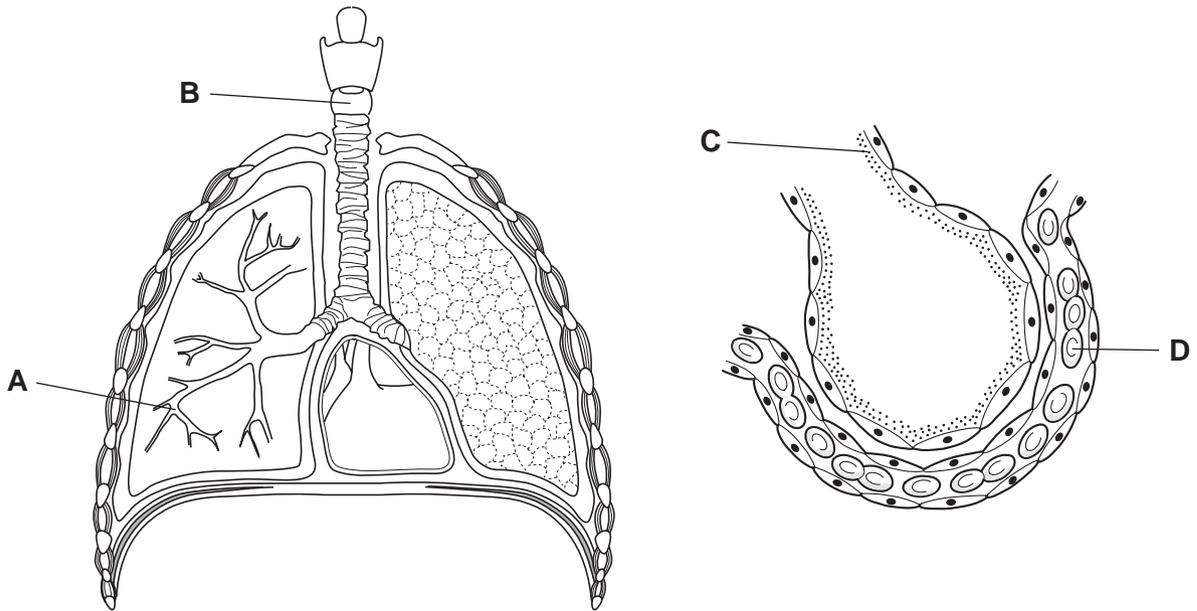
43 The diagram shows a cell from a plant leaf.



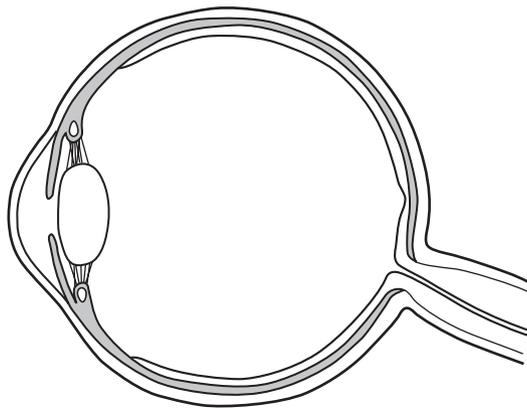
Which parts are not found in animal cells?

- A 1 and 2
- B 2 and 3
- C 3 and 4
- D 4 and 5

- 44 The diagram shows the breathing system and a section of an alveolus surrounded by a capillary. Which label shows a cell?



- 45 The diagram shows a structure found in the human body.



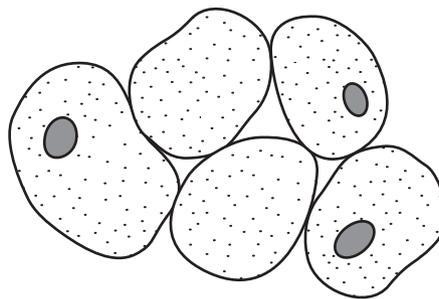
This is an example of

- A an organ.
- B an organism.
- C an organ system.
- D a tissue.

46 Which row shows the most likely number of chloroplasts in three types of cell in a leaf?

	epidermis	palisade mesophyll	guard cells
<b>A</b>	0	6	17
<b>B</b>	0	17	6
<b>C</b>	6	17	0
<b>D</b>	17	6	6

47 The diagram shows some liver cells as they appear under the microscope.



How many cell walls can be seen?

- A** 0                      **B** 2                      **C** 3                      **D** 5

48 Which row shows the structures present in plant and animal cells?

		cell wall	cytoplasm	nucleus	cell membrane
<b>A</b>	plant cell	x	✓	✓	✓
	animal cell	✓	✓	x	✓
<b>B</b>	plant cell	✓	✓	✓	✓
	animal cell	x	✓	✓	✓
<b>C</b>	plant cell	✓	✓	x	✓
	animal cell	x	✓	✓	x
<b>D</b>	plant cell	x	x	✓	✓
	animal cell	✓	✓	✓	x

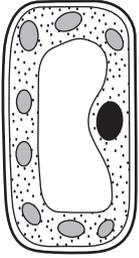
key  
 ✓ = present  
 x = absent

49 Which structure is at a different level of organisation from the other three?

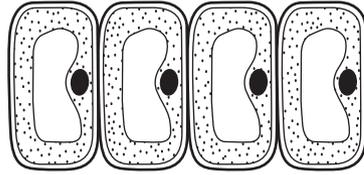
- A** kidney  
**B** liver  
**C** neurone  
**D** testis

50 Which diagram shows one organ only?

**A**



**B**



**C**



**D**

