

### 3.3 Active transport

01. 0610\_m21\_qp\_22 Q: 8

Which row describes active transport?

	particles move through a cell membrane		energy from respiration needed
	from a region of	to a region of	
<b>A</b>	higher concentration	lower concentration	no
<b>B</b>	higher concentration	lower concentration	yes
<b>C</b>	lower concentration	higher concentration	no
<b>D</b>	lower concentration	higher concentration	yes

02. 0610\_s21\_qp\_21 Q: 8

Which process is involved in the uptake of glucose by the epithelial cells of kidney tubules?

- A** active transport
- B** osmosis
- C** translocation
- D** transpiration

03. 0610\_s21\_qp\_22 Q: 8

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04. 0610\_s21\_qp\_23 Q: 8

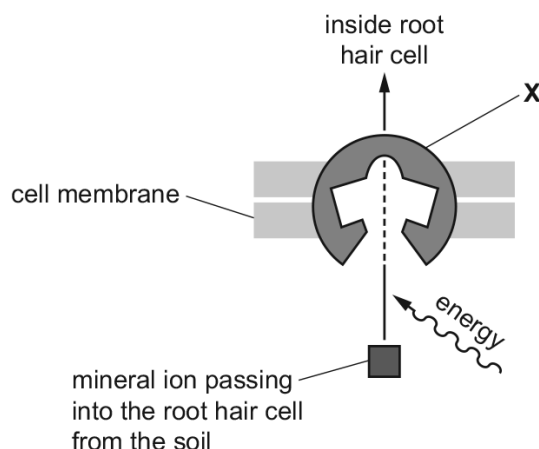
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### 3.3. ACTIVETRANSPORT

05. 0610\_w21\_qp\_22 Q: 7

The diagram shows the uptake of mineral ions by root hair cells.



Which type of molecule is labelled X in the diagram?

- A glucose
- B lipid
- C protein
- D starch

06. 0610\_m20\_qp\_22 Q: 8

A student made the following statements about the movement of ions by active transport.

- 1 It is the net movement of particles from a low concentration to a high concentration.
- 2 It is the net movement of particles from a high concentration to a low concentration.
- 3 It requires the use of energy from respiration.
- 4 It can only take place in living cells.

Which statements are correct?

- A 1, 3 and 4    B 1 and 4 only    C 2 and 4 only    D 2 only

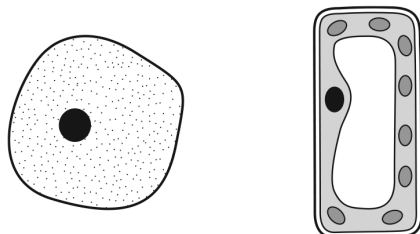
07. 0610\_p20\_qp\_20 Q: 6

Which statement describes active transport?

- A the movement of ions through proteins in a cell membrane, releasing energy
- B the movement of ions through proteins in a cell membrane, using energy
- C the movement of water through lipids in a cell membrane, releasing energy
- D the movement of water through lipids in a cell membrane, using energy

08. 0610\_m19\_qp\_22 Q: 4

The diagram shows two cells.

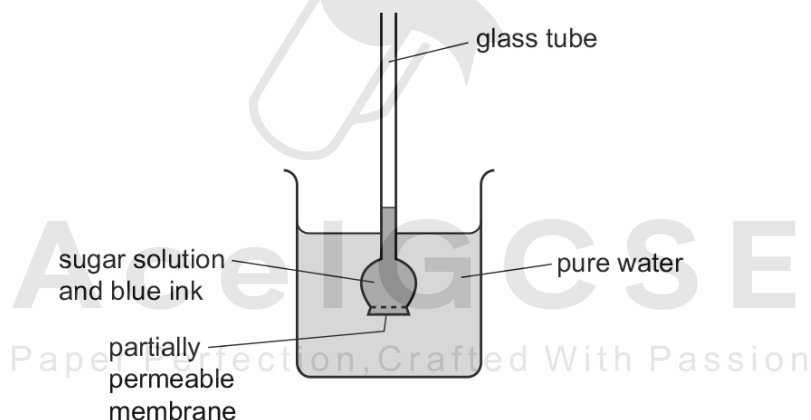


Which process can be carried out by only one of these cells?

- A controlling the chemical reactions in the cell
- B controlling the movement of substances into the cell
- C making starch inside the cell
- D using glucose inside the cell

09. 0610\_s19\_qp\_21 Q: 7

The apparatus shown was set up.



Some hours later, the water in the beaker had turned blue, and the liquid in the glass tube had moved upwards.

Which processes caused these changes?

	water turned blue	liquid in glass tube moved upwards
<b>A</b>	osmosis	diffusion
<b>B</b>	active transport	osmosis
<b>C</b>	diffusion	active transport
<b>D</b>	diffusion	osmosis

### 3.3. ACTIVE TRANSPORT

10. 0610\_s19\_qp\_23 Q: 7

Which row describes active transport?

	movement of water	uses energy from respiration	through a cell membrane
<b>A</b>	yes	no	no
<b>B</b>	yes	no	yes
<b>C</b>	no	yes	no
<b>D</b>	no	yes	yes

11. 0610\_w19\_qp\_21 Q: 7

Some examples of substances moving across membranes are listed.

- 1 glucose molecules into the epithelium that lines the small intestine
- 2 nitrate ions from a dilute solution in soil into a more concentrated solution in root hair cells
- 3 water molecules from mesophyll cells into the air spaces of a leaf

For which must oxygen be present?

- A** 1, 2 and 3    **B** 1 and 2 only    **C** 1 and 3 only    **D** 2 and 3 only

12. 0610\_w19\_qp\_22 Q: 7

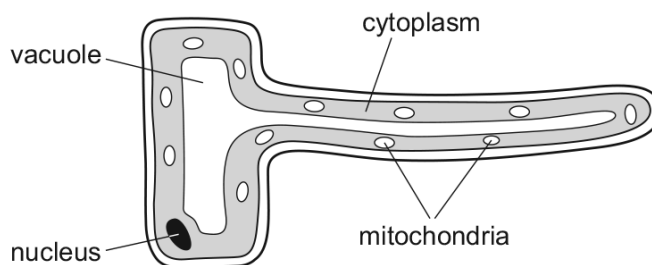
Which process depends on active transport?

- A** absorption of carbon dioxide by plant leaves  
**B** reabsorption of glucose by kidney tubules  
**C** removal of carbon dioxide in the alveoli  
**D** uptake of water by plant roots

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13. 0610\_w19\_qp\_23 Q: 7

The diagram shows a root hair cell.



Why does a root hair cell contain a large number of mitochondria?

- A** to provide energy for the absorption of water from the soil  
**B** to provide energy for the diffusion of mineral ions from the soil  
**C** to provide energy for osmosis  
**D** to provide energy for the active transport of mineral ions from the soil

### 3.3. ACTIVE TRANSPORT

14. 0610\_w18\_qp\_23 Q: 6

Which process is involved in the uptake of glucose by the epithelial cells of kidney tubules?

- A active transport
  - B diffusion
  - C osmosis
  - D transpiration
- 

15. 0610\_s17\_qp\_21 Q: 16

Which processes are used by root hairs to take up ions and water?

	ion uptake	water uptake
A	active transport	osmosis
B	diffusion	active transport
C	osmosis	diffusion
D	osmosis	osmosis

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16. 0610\_s17\_qp\_22 Q: 6

Which is an example of active transport?

- A carbon dioxide entering a leaf
  - B ion uptake by root hair cells
  - C oxygen moving from the alveoli into the blood
  - D water uptake by root hair cells
- 

17. 0610\_m16\_qp\_22 Q: 7

What is **not** an example of active transport?

- A absorption of water by root hairs
  - B reabsorption of glucose by kidney tubules
  - C uptake of glucose by villi
  - D uptake of ions by root hairs
-

18. 0610\_p16\_qp\_20 Q: 6

Which statement describes active transport?

- A the movement of ions through proteins in a cell membrane, releasing energy
- B the movement of ions through proteins in a cell membrane, using energy
- C the movement of water through lipids in a cell membrane, releasing energy
- D the movement of water through lipids in a cell membrane, using energy

19. 0610\_s16\_qp\_21 Q: 7

Active transport is the movement of

- A molecules from a region of their higher concentration to a region of their lower concentration.
- B particles from a region of lower concentration to a region of higher concentration using energy from respiration.
- C urine by relaxation of a sphincter muscle in the bladder.
- D water through a partially permeable membrane from a more dilute to a more concentrated solution.

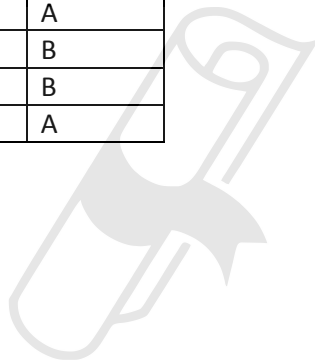
20. 0610\_w16\_qp\_23 Q: 7

What describes active transport?

	energy required	particles move against concentration gradient
A	✓	✓
B	✓	x
C	x	✓
D	x	x

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SN	Paper	Q. No.	Answer
01	0610_m21_qp_22	8	D
02	0610_s21_qp_21	8	A
03	0610_s21_qp_22	8	A
04	0610_s21_qp_23	8	A
05	0610_w21_qp_22	7	C
06	0610_m20_qp_22	8	A
07	0610_p20_qp_20	6	B
08	0610_m19_qp_22	4	C
09	0610_s19_qp_21	7	D
10	0610_s19_qp_23	7	D
11	0610_w19_qp_21	7	B
12	0610_w19_qp_22	7	B
13	0610_w19_qp_23	7	D
14	0610_w18_qp_23	6	A
15	0610_s17_qp_21	16	A
16	0610_s17_qp_22	6	B
17	0610_m16_qp_22	7	A
18	0610_p16_qp_20	6	B
19	0610_s16_qp_21	7	B
20	0610_w16_qp_23	7	A



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