

Chapter 3

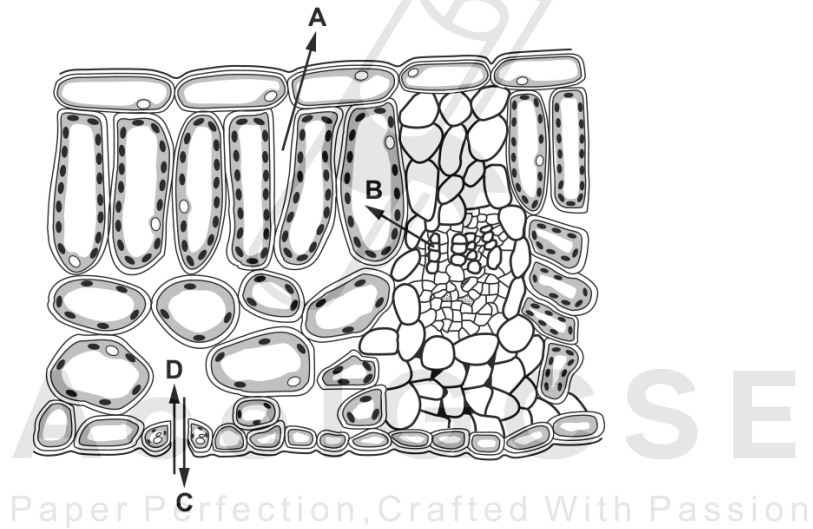
Movement in and out of cells

3.1 Diffusion

01.0610_m22_qp_22 Q:5

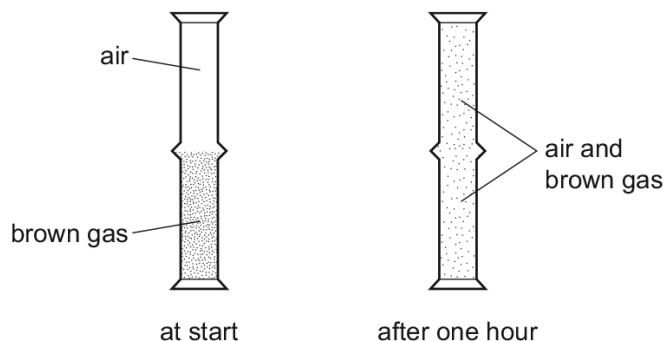
The diagram shows a cross-section through a leaf.

Which arrow shows the direction of diffusion of carbon dioxide on a sunny day?



02. 0610_m21_qp_22 Q: 7

A jar of air was placed upside down on top of a jar containing a brown gas as shown.



Which process has taken place?

- A diffusion both upwards and downwards
- B diffusion downwards only
- C diffusion upwards only
- D diffusion and osmosis

03. 0610_s21_qp_21 Q: 7

By which process do oxygen and carbon dioxide move between cells and capillaries?

- A breathing
- B diffusion
- C excretion
- D respiration

04. 0610_w21_qp_21 Q: 7

Which words complete the definition of diffusion?

'Diffusion is the net movement of particles from a region of their1..... concentration to a region of their2..... concentration,3..... a concentration gradient.'

	1	2	3
A	higher	lower	up
B	higher	lower	down
C	lower	higher	up
D	lower	higher	down

3.1. DIFFUSION

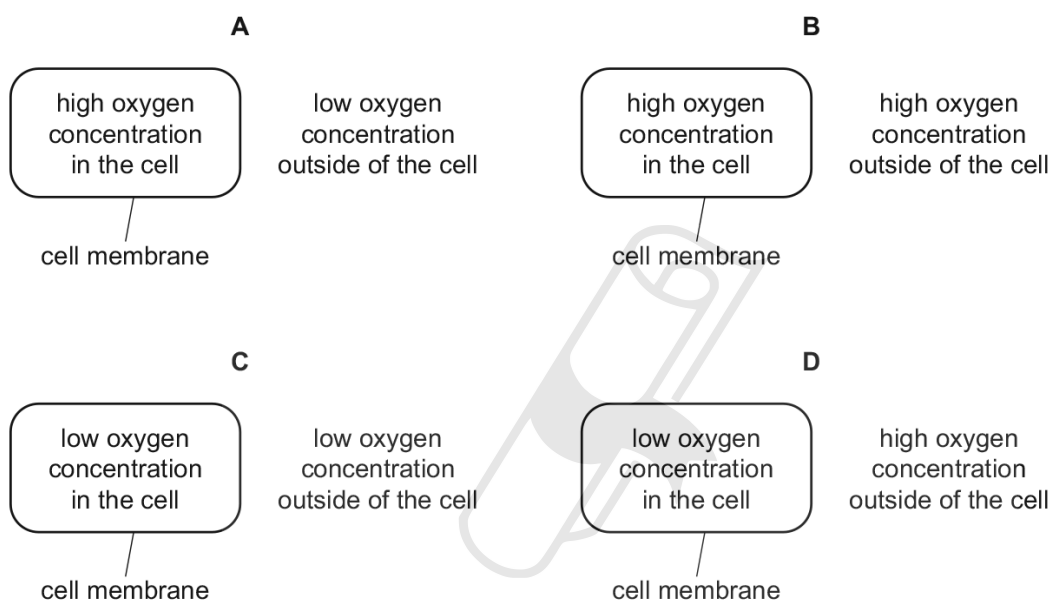
05. 0610_w21_qp_22 Q: 6

Which statement about diffusion is correct?

- A The process requires energy from respiration.
- B The particles must cross a cell membrane.
- C The net movement of particles is up a concentration gradient.
- D The process involves the random movement of particles.

06. 0610_w21_qp_23 Q: 6

In which diagram would oxygen diffuse into the cell?



07. 0610_m19_qp_22 Q: 7

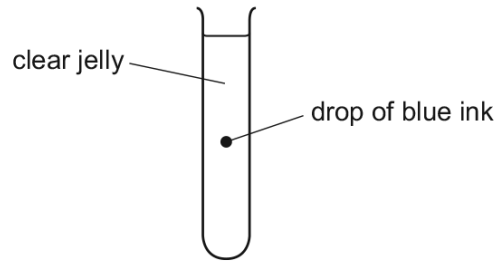
A frog is an animal. A frog's skin is permeable to oxygen and carbon dioxide.

When a frog is swimming in pond water, in which directions will there be a net diffusion of oxygen and carbon dioxide?

	from the frog into the water	from the water into the frog
A	carbon dioxide	oxygen
B	carbon dioxide and oxygen	no movement
C	oxygen	carbon dioxide
D	no movement	carbon dioxide and oxygen

08. 0610_s19_qp_21 Q: 6

The diagram shows a test-tube containing clear jelly. A drop of blue ink is injected into the middle of the jelly.



The blue colour of the ink spreads throughout the jelly.

By which process does the blue ink spread through the jelly?

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

09. 0610_w19_qp_21 Q: 15

What is an example of diffusion?

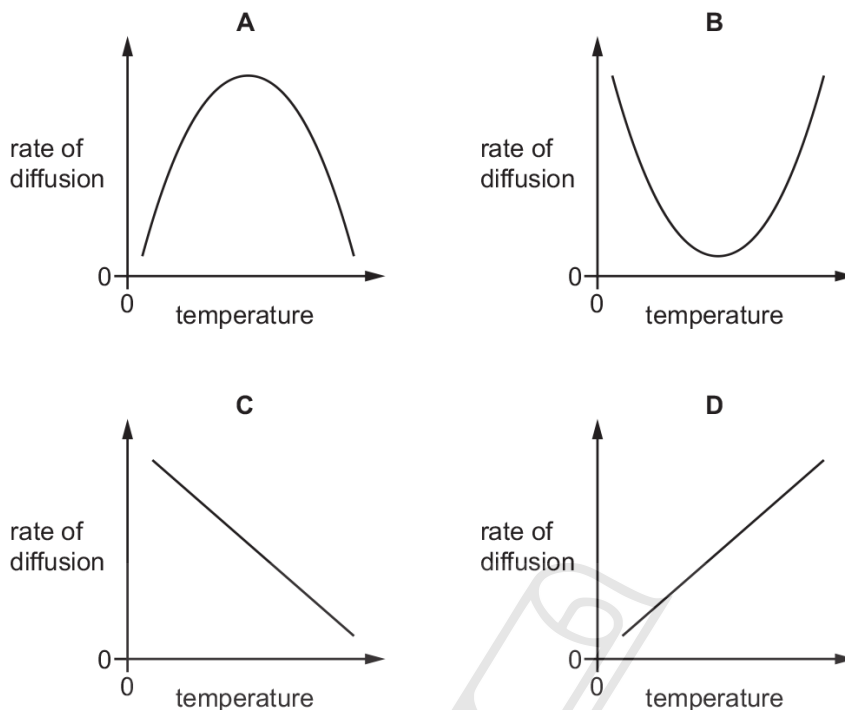
- A dust particles being moved by ciliated cells in the trachea
- B oxygen molecules moving into a red blood cell in the lungs
- C pollen grains moving from anthers to stigmas in the wind
- D red blood cells moving in a blood capillary in a muscle

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3.1. DIFFUSION

10. 0610_m18_qp_22 Q: 6

Which graph represents the effect of increasing temperature on the rate of diffusion?



11. 0610_s18_qp_21 Q: 7

Which words correctly complete the paragraph?

Diffusion may be defined as the net movement of particles from a region of their1..... concentration, to a region of their2..... concentration, where movement is3..... a concentration gradient.

	1	2	3
A	higher	lower	down
B	higher	lower	up
C	lower	higher	down
D	lower	higher	up

12. 0610_w18_qp_21 Q: 5

How do carbon dioxide and oxygen move into and out of a mesophyll cell?

- A** active transport
- B** diffusion
- C** respiration
- D** transpiration

13. 0610_w17_qp_21 Q: 5

Different factors affect the rate of diffusion of molecules across a membrane.

Which row represents changes to factors that will increase the rate of diffusion?

	concentration gradient across a membrane	thickness of membrane	surface area of membrane	temperature
A	decrease	decrease	increase	increase
B	decrease	increase	increase	decrease
C	increase	decrease	increase	increase
D	increase	increase	decrease	decrease

14. 0610_w17_qp_22 Q: 5

What would increase the rate of diffusion of oxygen into an animal cell?

- A** decreasing the concentration gradient between the inside of the cell and the outside
- B** decreasing the temperature of the cell and its surroundings
- C** increasing the distance that the oxygen molecules have to travel
- D** increasing the surface area of the cell membrane

15. 0610_m16_qp_22 Q: 6

What causes the diffusion of oxygen into a plant cell?

- A** active transport
- B** movement of molecules
- C** osmosis
- D** photosynthesis

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16. 0610_w16_qp_22 Q: 7

What would lead to a decrease in diffusion rate into a cell?

- A** greater concentration gradient
- B** higher temperature
- C** larger surface area of cell
- D** thicker cell wall

SN	Paper	Q. No.	Answer
01	0610_m22_qp_22	5	D
02	0610_m21_qp_22	7	A
03	0610_s21_qp_21	7	B
04	0610_w21_qp_21	7	B
05	0610_w21_qp_22	6	D
06	0610_w21_qp_23	6	D
07	0610_m19_qp_22	7	A
08	0610_s19_qp_21	6	C
09	0610_w19_qp_21	15	B
10	0610_m18_qp_22	6	D
11	0610_s18_qp_21	7	A
12	0610_w18_qp_21	5	B
13	0610_w17_qp_21	5	C
14	0610_w17_qp_22	5	D
15	0610_m16_qp_22	6	B
16	0610_w16_qp_22	7	D



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