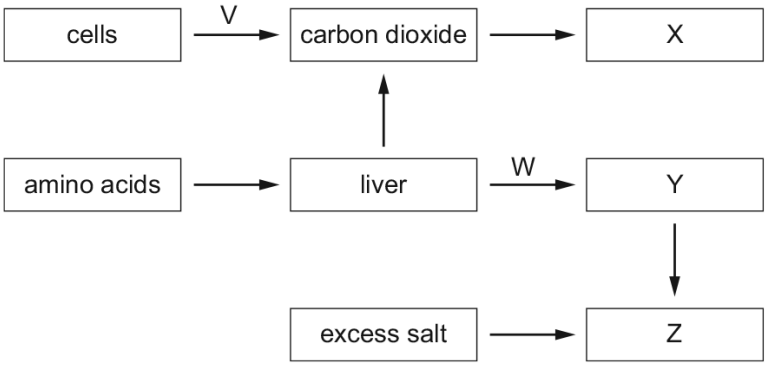
12.2 Aerobic respiration

01. 0610_m21_qp_22 Q: 24

The diagram shows the production and excretion of materials from the human body.



What are V, W, X, Y and Z in the diagram?

	V	W	X	Y	Z
A	anaerobic respiration	deamination	kidneys	urea	lungs
B	anaerobic respiration	filtration	lungs	kidneys	urea
C	aerobic respiration	deamination	lungs	urea	kidneys
D	aerobic respiration	filtration	urea	lungs	kidneys

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02. 0610_s21_qp_21 Q: 24

Which equation is aerobic respiration?

A $6CO_2 + 6H_2O \rightarrow 6C_6H_{12}O_6 + 6O_2$

B $6O_2 + 6CO_2 \rightarrow 6H_2O + C_6H_{12}O_6$

C $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$

D $C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$

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03. 0610_s21_qp_22 Q: 24

After vigorous exercise, an athlete continues to breathe deeply during the recovery period.

During this recovery period the oxygen debt is removed.

Which reaction is used to remove the oxygen debt?

A aerobic respiration of lactic acid in the liver

B aerobic respiration of lactic acid in the muscles

C anaerobic respiration of lactic acid in the liver

D anaerobic respiration of lactic acid in the muscles

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04. 0610_w21_qp_21 Q: 22

In a balanced chemical equation for aerobic respiration, what are the products?

A $6O_2$ and $6H_2O$

B $C_6H_{12}O_6$ and $6O_2$

C $6O_2$ and $6CO_2$

D $6CO_2$ and $6H_2O$

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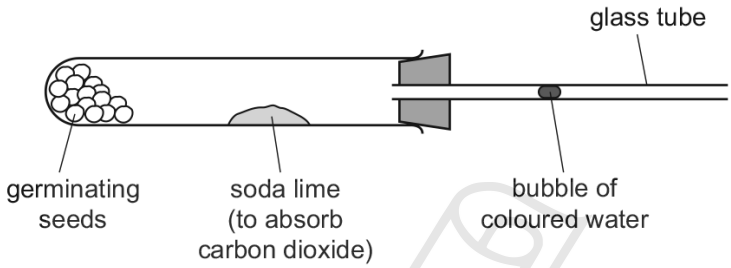
05. 0610_w21_qp_22 Q: 22

The diagram shows the apparatus used to measure the rate of respiration in germinating seeds.
As the seeds respire, the bubble of coloured water moves along the glass tube.



The temperature is increased from 20 °C to 40 °C.

What happens to the movement of the bubble as the temperature increases?

A The bubble moves more quickly towards the seeds at 40 °C than at 20 °C.

B The bubble moves more quickly away from the seeds at 40 °C than at 20 °C.

C The bubble moves more quickly towards the seeds at 20 °C than at 40 °C.

D The bubble moves more quickly away from the seeds at 20 °C than at 40 °C.

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06. 0610_s20_qp_21 Q: 22

Which row correctly completes the balanced equation for aerobic respiration?

$$X + 6O_2 \rightarrow 6CO_2 + Y$$

	X	Y
A	$6C_6H_{12}O_6$	H_2O
B	$C_6H_{12}O_6$	$6H_2O$
C	$6H_2O$	$C_6H_{12}O_6$
D	$C_6H_{10}O_6$	$6H_2O$

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07. 0610_s20_qp_22 Q: 21

The substances listed are associated with aerobic respiration.

1 carbon dioxide

2 glucose

3 oxygen

4 water

Which substances are the products of aerobic respiration?

A 1 and 3 **B** 1 and 4 **C** 2 and 3 **D** 3 and 4

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08. 0610_s20_qp_23 Q: 21

The symbol equation for aerobic respiration is shown.

$$C_6H_xO_y + 6O_2 \rightarrow 6CO_z + 6H_2O$$

Which numbers represent the letters shown in the equation as x, y and z?

	x	y	z
A	2	12	6
B	6	2	12
C	6	12	2
D	12	6	2

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09. 0610_s19_qp_22 Q: 23

Oxygen is required for aerobic respiration.

How many molecules of oxygen are required for the aerobic respiration of three molecules of glucose?

A 3 **B** 6 **C** 12 **D** 18

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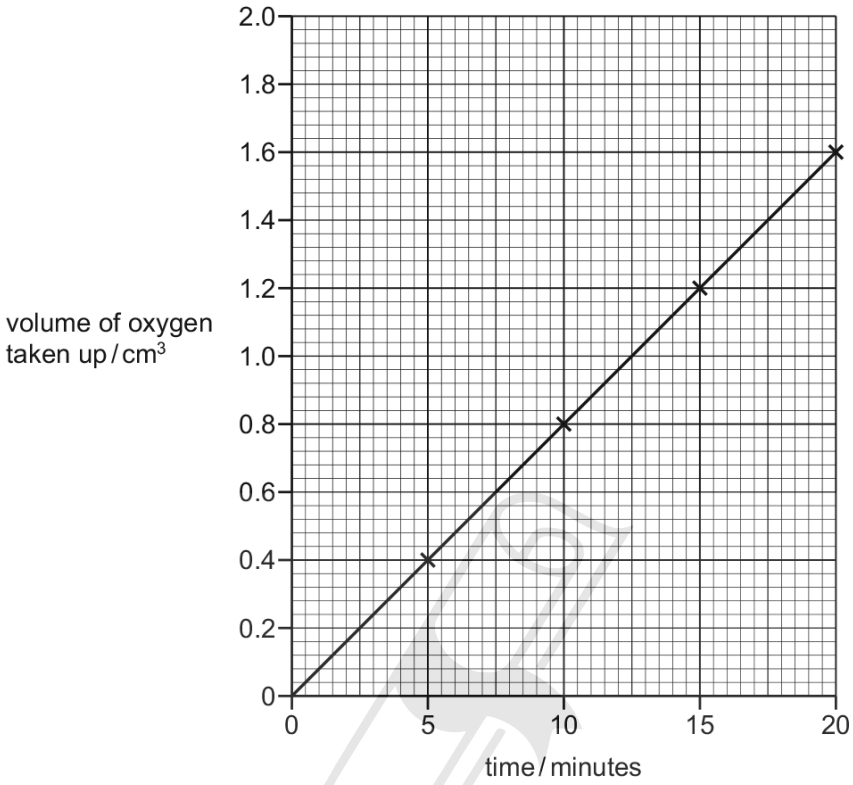
10. 0610_s19_qp_23 Q: 23

The volume of oxygen taken up by germinating seeds was measured.

The graph shows the results.



What is the rate of oxygen uptake?

A 0.08 cm^3 per minute

B 8.00 cm^3 per minute

C 10.8 cm^3 per minute

D 12.50 cm^3 per minute

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11. 0610_w19_qp_21 Q: 20

What is the correct equation for aerobic respiration?

A $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

B $C_6H_{12}O_6 + 6CO_2 \rightarrow 6O_2 + 6H_2O$

C $C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O$

D $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$

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12. 0610_w19_qp_22 Q: 20

What is the effect on germinating seeds of increasing the temperature from 10 °C to 20 °C?

A a decrease in the production of oxygen

B a decrease in the respiration rate

C an increase in the respiration rate

D an increase in the transpiration rate

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13. 0610_s18_qp_22 Q: 21

Aerobic respiration involves the break down of glucose.

$$C_6H_{12}O_6 + ...x...O_2 \rightarrow ...y...H_2O + ...z...CO_2 + \text{energy}$$

Which values for x, y and z balance the equation?

	x	y	z
A	6	4	6
B	6	6	6
C	6	12	6
D	12	12	12

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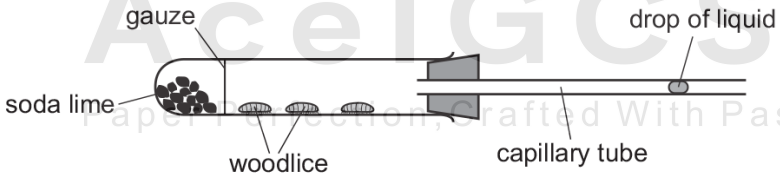
14. 0610_s18_qp_23 Q: 21

A student investigated aerobic respiration.



Soda lime absorbs carbon dioxide.

If the woodlice are respiring aerobically, what will happen to the drop of liquid?

A It will move towards the woodlice as oxygen is used up and carbon dioxide is released.

B It will move away from the woodlice as oxygen is used up and carbon dioxide is released.

C It will not move as carbon dioxide is used up and oxygen is released.

D It will not move as oxygen is used up and carbon dioxide is released.

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15. 0610_w18_qp_23 Q: 21

Glucose is required for respiration.

Which other molecule is required for aerobic respiration?

A carbon dioxide

B nitrogen

C oxygen

D water

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16. 0610_s16_qp_21 Q: 23

What is the word equation for aerobic respiration in plants?

A carbon dioxide + water → glucose + oxygen

B glucose + carbon dioxide → water + oxygen

C glucose + oxygen → carbon dioxide + water

D glucose + water → carbon dioxide + oxygen

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17. 0610_s16_qp_23 Q: 21

When the external intercostal muscles contract, how do the pressure and the volume inside the lungs change?

	pressure	volume
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

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18. 0610_s16_qp_23 Q: 22

What is the equation for aerobic respiration?

A $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$

B $C_6H_{12}O_6 \rightarrow 2C_3H_6O_3$

C $C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$

D $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

SN	Paper	Q. No.	Answer
01	0610_m21_qp_22	24	C
02	0610_s21_qp_21	24	C
03	0610_s21_qp_22	24	A
04	0610_w21_qp_21	22	D
05	0610_w21_qp_22	22	A
06	0610_s20_qp_21	22	B
07	0610_s20_qp_22	21	B
08	0610_s20_qp_23	21	D
09	0610_s19_qp_22	23	D
10	0610_s19_qp_23	23	A
11	0610_w19_qp_21	20	D
12	0610_w19_qp_22	20	C
13	0610_s18_qp_22	21	B
14	0610_s18_qp_23	21	A
15	0610_w18_qp_23	21	C
16	0610_s16_qp_21	23	C
17	0610_s16_qp_23	21	B
18	0610_s16_qp_23	22	A