

NAME  
SCHOOL

INDEX NUMBER  
DATE

## RESPIRATION

**1. 1992 Q7 P1**

Active yeast cells were added to a dilute sugar solution in a container. The mixture was kept in a warm room. After a few hours bubbles of gas were observed escaping from the mixture.

(a) Write an equation to represent the chemical reaction above.

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(b) What is the economic importance of this type of chemical reaction in industry?

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**2. 1993 Q9 P1**

Give the formula for calculating the respiratory quotient (R.Q).

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**3. 1994 Q4 P1**

Explain why a baby uses more heat per unit weight than an adult when to the same environmental conditions?

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**4. 1996 Q14 P1**

(a) Describe the path taken by carbon dioxide released from the tissue of an insect to the atmosphere ( 3 marks)

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(b) Name two structures used for gaseous exchange implants (2 marks)

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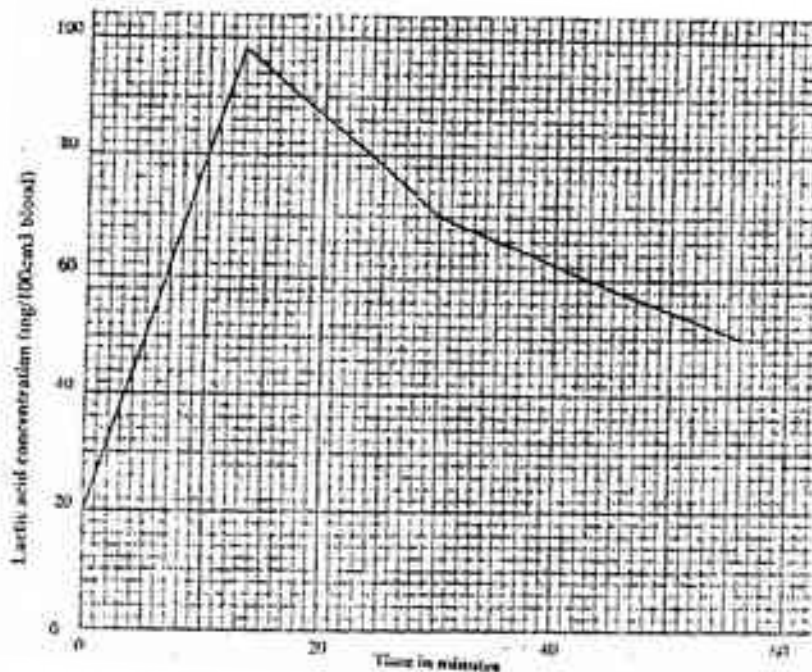
5. 1997 Q3 P1

What are the three end products of anaerobic respiration in plants

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6. 2000 Q15 P1

The concentration of the lactic acid in blood during and after an exercise was determined. The results are shown in the graph below



(a) (i) By how much did the lactic acid increase at the end of 13 minutes?

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(ii) After how many minutes was the lactic acid concentration 71mg/ 100cm<sup>3</sup>?

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(iii) What would be the concentration of lactic acid at the 60<sup>th</sup> minute?

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(b) Give a reason for the high rate of production of lactic acid during the exercise

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(c) Give a reason for the decrease in the concentration of lactic acid after the exercise

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**7. 2002 Q18 P1**

Two person X and Y drunk volumes of concentrated solution of glucose. The amount of glucose in their food was determined at intervals. The results are shown in the table below:

Time (minutes)	Glucose level in blood (Mg / 100cm <sup>3</sup> )	
	X	Y
0	87	84
15	112	123
30	139	170
45	116	188
60	100	208
90	95	202
120	92	144
150	88	123

a) On the grid provided, plot graphs of glucose level in blood against time on the same axes.

b) What was the concentration of glucose in the blood of X and Y at the 20<sup>th</sup> minute?

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c) Suggest why the glucose level in person X stopped rising after 30 minutes while it continued rising in person Y.

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d) Account for the decrease in glucose level in person X after 30 minutes and person Y after 60 minutes (3 marks)

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e) Name the compound that stores energy released during oxidation of glucose.

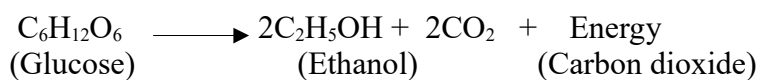
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f) Explain what happens to excess amino acids and development of plants.

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**8. 2003 Q1 P1**

A process that occurs in plants is represented by the equation below.



a) Name the process.

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b) State the economic importance of the process named in (a) above

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**9. 2004 Q4 P1**

Other than carbon dioxide, name other products of anaerobic respiration (2 marks)

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**10. 2005 Q6 P1**

Name the substance which accumulates in muscles when respiration occurs with insufficient oxygen. (1 mark)

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**11. 2006 Q13 P1**

a) In what form is energy stored in muscles (1 mark)

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b) State the economic important of anaerobic respiration in plants. (2 marks)

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**12. 2006 Q24 P1**

State four ways in which respiratory surfaces are suited to their function. (4 marks)

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**13. 2006 Q25 P1**

A dog weighing 15.2kg requires 216kj while a mouse weighing 50g requires 2736kj per day. Explain. (2 marks)

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**14. 2007 Q13 P1**

(a) Name the products of anaerobic respiration in

(i) Plants (1 mark)

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(ii) Animals (1 mark)

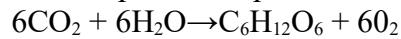
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(b) What is oxygen debt? (1 mark)

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**15. 2008 Q3 P2**

The equation below represents a process that takes place in plants



(a) Name the process (1 mark)

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(b) State two conditions necessary for the process to take place (2 marks)

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(c) State what happens to the end- products of the process (5 marks)

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16. 2009 Q27 P1

State two ways in which anaerobic respiration is applied in industries (2 marks)

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17. 2010 Q5 P1

State three ways in which a respiratory surface is adapted to its function. (3 marks)

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18. 2011 Q10 P1

a) Give two differences in the products of anaerobic respiration between plants and animals. (2 marks)

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b) Name the site of anaerobic respiration in a cell. (1 mark)

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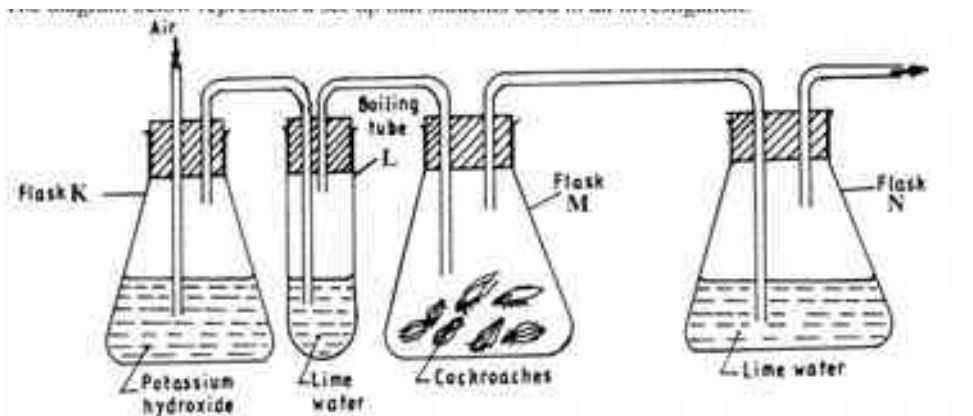
19. 2011 Q19b P1

Write an equation that summarizes the process of aerobic respiration (1 mark)

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20. 2012 Q7 P1

The diagram below represents a set-up that students used in an investigation.



(a) Name the physiological process that was being investigated. (1 mark)

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(b) State the role of potassium hydroxide in flask **K**. (1 mark)

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(c) Account for the observation in boiling tube **L** and flask **N**. (2 marks)

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**21. 2012 Q14 P1**

(a) Name the type of respiration that is most efficient. (1 mark)

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(b) Giving a reason for your answer in (a) above (1 mark)

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