Respiration and Breathing Exam Questions
Respiration is the release of energy from digested food e.g. glucose.

Complete the word equation given below using words from the list on the right.

Glucose + _____________ →
Energy + Carbon dioxide +
____________.
Describe **two** changes in the composition of blood after it has passed through the capillaries of the lungs

1 ____________________________________________________
   ____________________________________________________

2 ____________________________________________________
   ____________________________________________________

What feature of capillaries allows these changes to happen?

   ____________________________________________________
   ____________________________________________________
Describe clearly the exchange of gases that occur between the air in the alveoli and the bloodstream.
2010 - Ordinary
2010 - Ordinary

Name the parts labelled A and B in the diagram.
A _______________________
B _______________________

Part A has rings of cartilage. What do the rings of cartilage do?
______________________________________________________

In which part of the breathing system does the gas exchange take place?
______________________________________________________

Why does exhaled air turn limewater milky?
______________________________________________________
2009 - Higher

Blow → exhaled air

Test tube X

Suck → inhaled air

Test tube Y

Liquid A
2009 - Higher

The diagram shows the apparatus used by a pupil when performing an experiment in a school laboratory. The pupil blew (exhaled) air into test tube X. The pupil sucked (inhaled) air from test tube Y. The pupil continued, alternately, blowing and sucking air, as above, until liquid A in one of the test tubes turned milky.

Name **liquid A**.

____________________________________

In **which test tube**, X or Y, did the **liquid turn milky**?

____________

Why did **liquid A turn milky** in one of the test tubes?

____________________________________________
What **conclusion** can be made from the **result of this experiment** regarding the **difference in composition between exhaled and inhaled air**?

___________________________________________________

___________________________________________________

___________________________________________________

Complete the **word equation**, below, for **aerobic respiration**.

Food + ___________ → _____________________ + energy + water
The diagram shows a model of the human breathing system.

Name the part of the breathing system represented by the balloons.
Choose from the list on the right the correct word to complete the sentence below.

The part of the breathing system represented by the bell-jar is the ________________

Rib Cage
Diaphragm
From the list on the right identify the correct word(s) needed to replace each of the numbers 1 and 2 in the equation below so that the equation describes respiration.

Glucose + 1 → 2 + Water + Energy
1 
2 

Oxygen
Carbon Dioxide
Complete the following **word equation** for aerobic respiration.

\[
\text{Glucose (Food)} + \text{____________________} \rightarrow \text{Energy} + \\
\text{_______________________________} + \text{Water}
\]

State how you would show the presence of one of the **products** of aerobic respiration by means of a **chemical test**.

___________________________________________________

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___________________________________________________
In an investigation to compare the amount of carbon dioxide in inhaled and exhaled air a student set up the apparatus drawn below.

Limewater was placed in test tube A and in test tube B.

The student inhaled (breathed in) air through part A of test tube A so that the air was passed through the limewater.

The student then exhaled (breathed out) through part B of test tube B so that the exhaled air was passed through limewater.
Inhale: Test tube A

Air in

Limewater

Air out

Exhale: Test tube B

Limewater
What effect has carbon dioxide on limewater?

The student inhaled through test tube A and exhaled through test tube B twenty times. The student saw no change in the appearance of the limewater in test tube A. The appearance of the limewater in test tube B had changed.

What change would you expect the student to have seen in the limewater in test tube B?

What conclusion should the student have drawn from what he/she saw?
The diagram is of an apparatus used to show that *exhaled air contains carbon dioxide*.

When performing this experiment *a control is required* to show that inhaled air contains *less* carbon dioxide than exhaled air.

Describe, using a labelled diagram, a suitable control procedure.

Blow exhaled air in

Limewater
2006 - Higher

- Trachea
- Bronchus
- Bronchioles

A
2006 - Higher

Name structure A. ______________________

How does **gaseous exchange** take place in the structures labelled A?

___________________________________________________

___________________________________________________

___________________________________________________

___________________________________________________

___________________________________________________
Name the parts of the breathing system labelled X and Y in the diagram.

Name of X

_________________________

Name of Y

_________________________
Complete the sentence below using a word from the list.

There is more ________________ in exhaled air than in inhaled air.

- Oxygen
- Carbon Dioxide
- Hydrogen
A balance of exercise and rest promotes good health.

Name one activity which has a **harmful effect** on the breathing system.

_________________________________________