

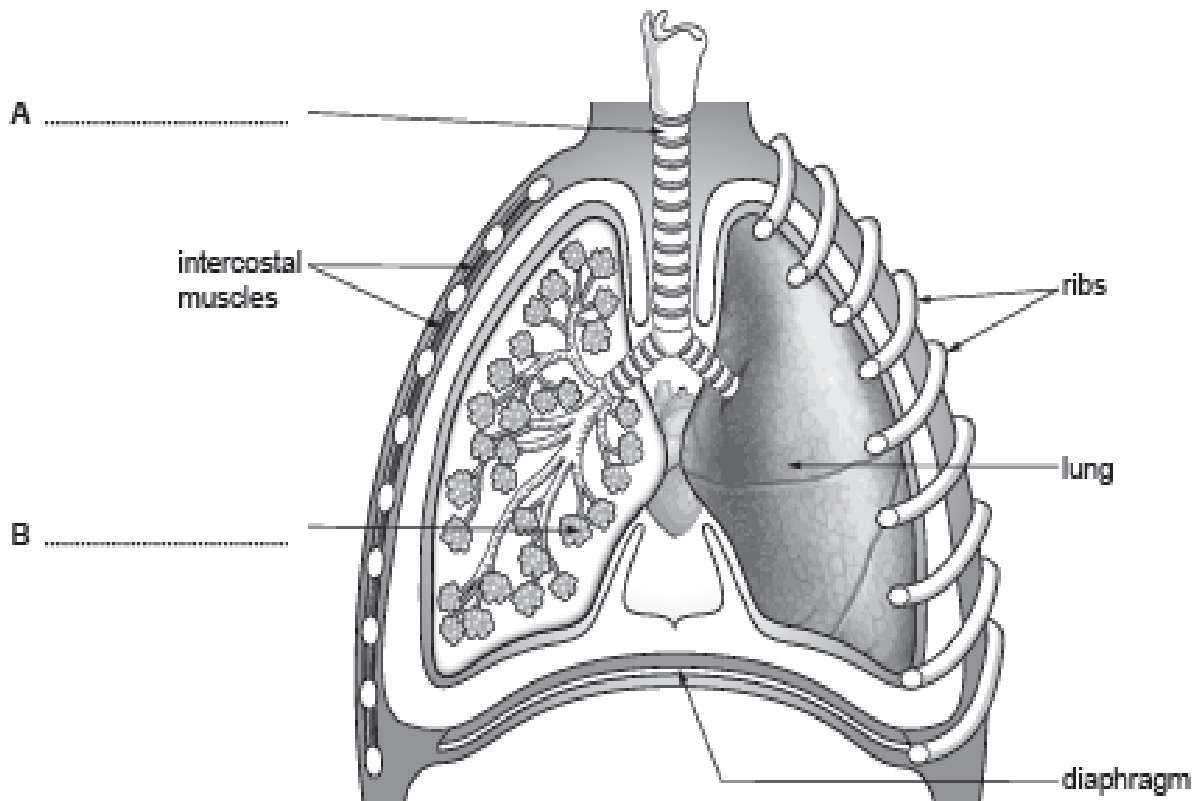
Biology 1.2 - Respiration & Respiratory System in Humans - Foundation Tier

Question 1.

Higher tier

examiner
only

The diagram shows a section through the chest of a human.



(a) Label A and B on the diagram above. [2]

(b) While a person is breathing in, the volume of the lungs increases.

(i) Describe the movements of the diaphragm and ribs as they bring about the increase in volume. [2]

Diaphragm

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Ribs

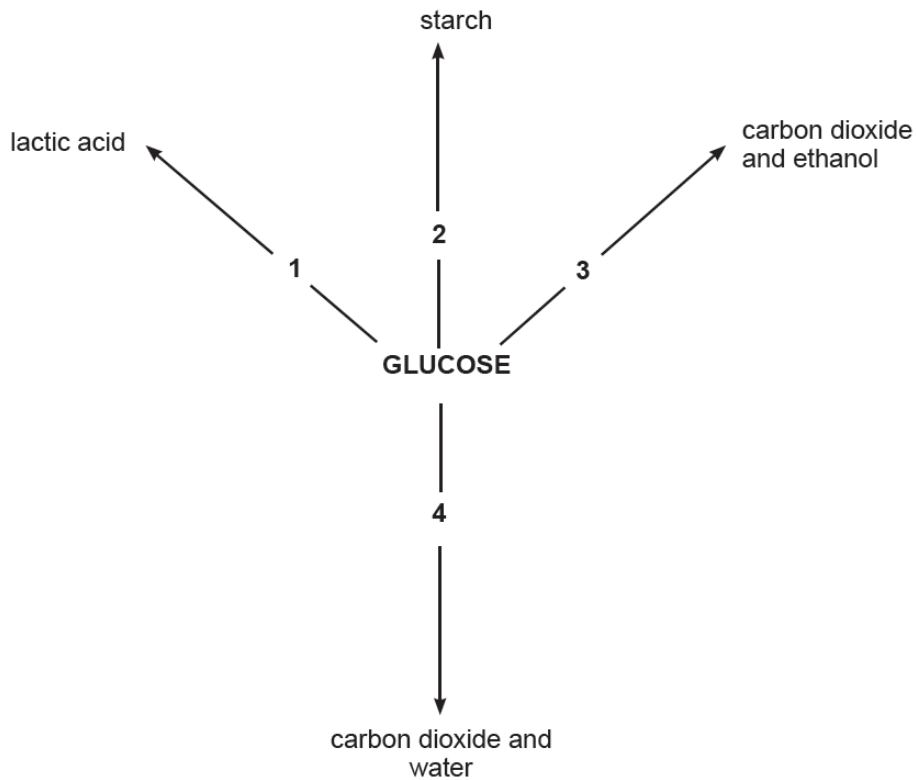
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(ii) How does the *pressure* in the lungs change when the volume increases? [1]

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Question 2.

The diagram below shows a summary of how glucose is used by different organisms.



Examiner only

(a) From the diagram above, use a number to show the process which

[3]

- (i) does NOT release energy;
- (ii) releases most energy per molecule of glucose;
- (iii) takes place in yeast without using oxygen.

3

Question 3.

Examiner
only

The diagrams show side views of the chest cavity.

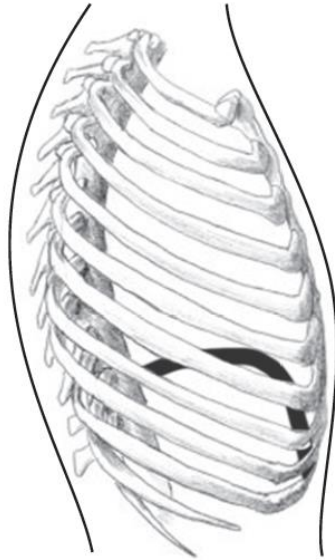


Diagram A

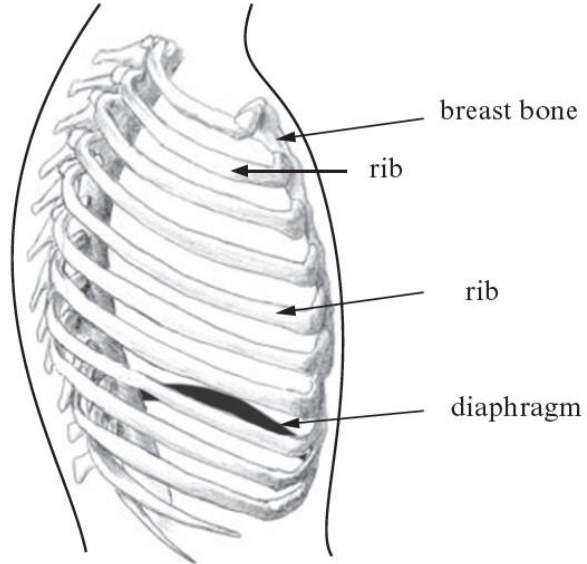


Diagram B

(a) State, with reasons, which of the diagrams A or B shows the chest after inspiration. [2]

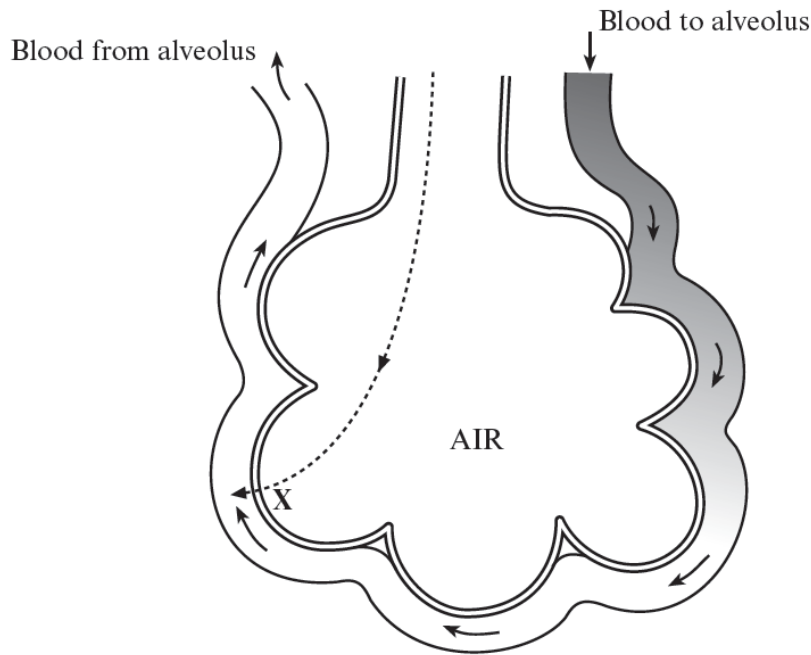
Diagram

Reasons

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(b) The diagram below shows an alveolus in a lung. The dotted line shows the movement of a gas.



(i) Describe what is happening at point X on the diagram. [2]

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(ii) Explain how **two** of the adaptations of alveoli enable them to perform their function. [2]

I

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II

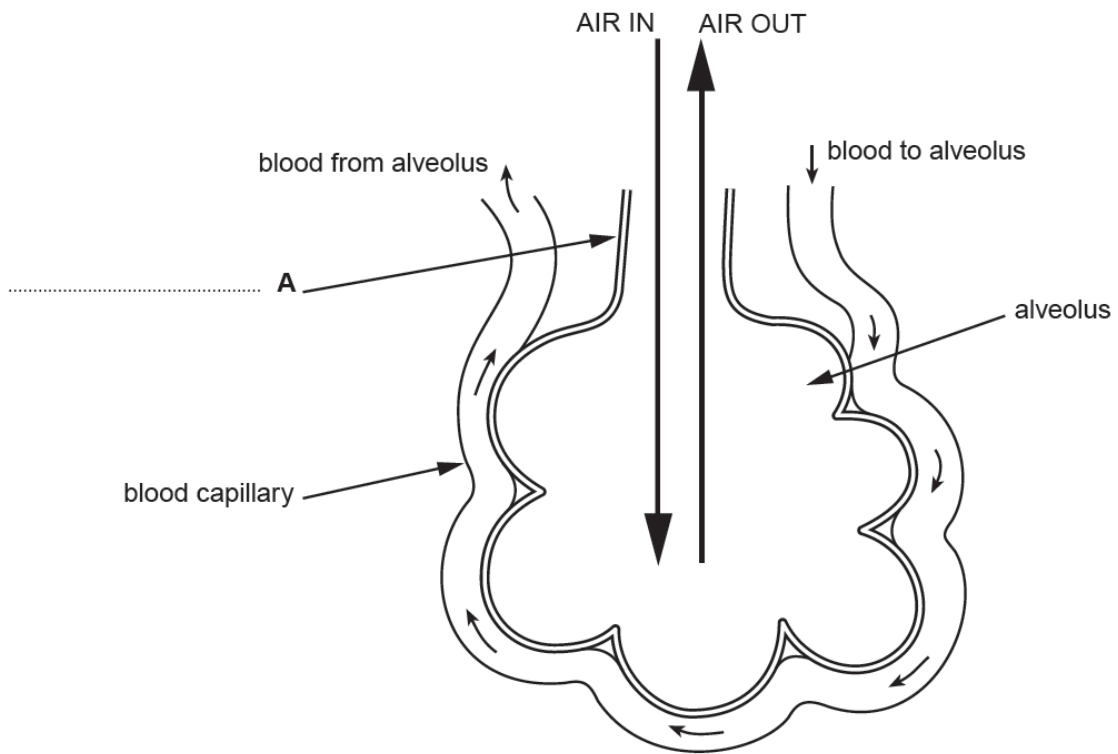
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Question 4.

The diagram shows an alveolus and its blood supply.

Examiner
only



(a) Complete label **A** on the diagram above.

[1]

Question 5.

Examiner
only

The following information appeared in a newspaper in Wales in 2010.



- Some parents who smoke in the car with the window open when travelling with their children think that the smoke will have no effect on their children's health.
- The British Lung Foundation states that smoking just one cigarette, even with the car window open, creates a greater concentration of second-hand smoke than a whole evening's smoking in a pub or a bar.
- Levels of second-hand smoke in cars can be as much as 27 times greater than in a smoker's home.
- Young children breathe faster than adults, their lungs are smaller and are still growing.

(a) (i) Using the information above, explain why the lungs of young children in particular are in danger from breathing in second-hand smoke. [3]

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- (ii) The Welsh Government is considering introducing strict new laws where parents who smoke while driving with their children face prosecution. Using the information given previously suggest **two** *other* important pieces of evidence that the Welsh Government may consider in coming to a decision about introducing these new laws. [2]

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- (b) State **two** effects that cigarette smoke has on the cleaning mechanism of the lungs. [2]

- (i)
- (ii)