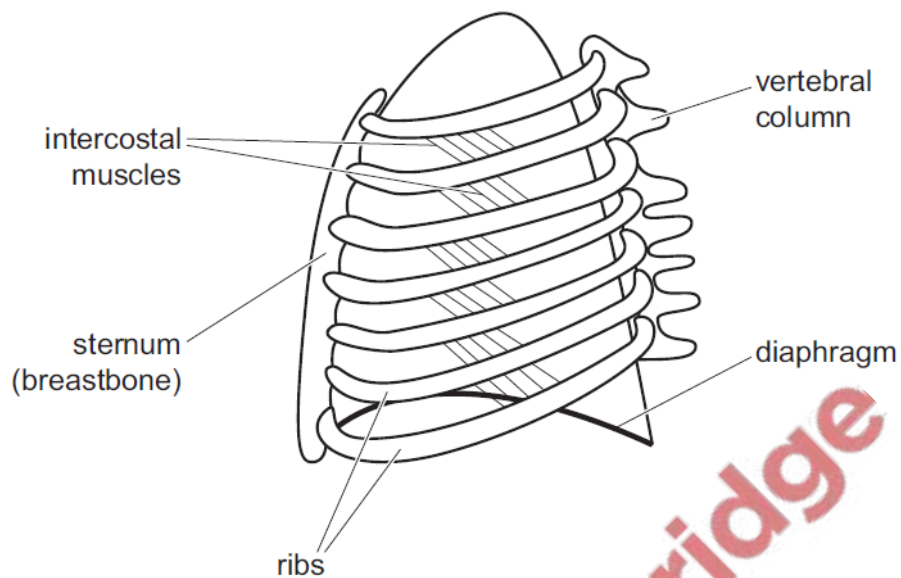


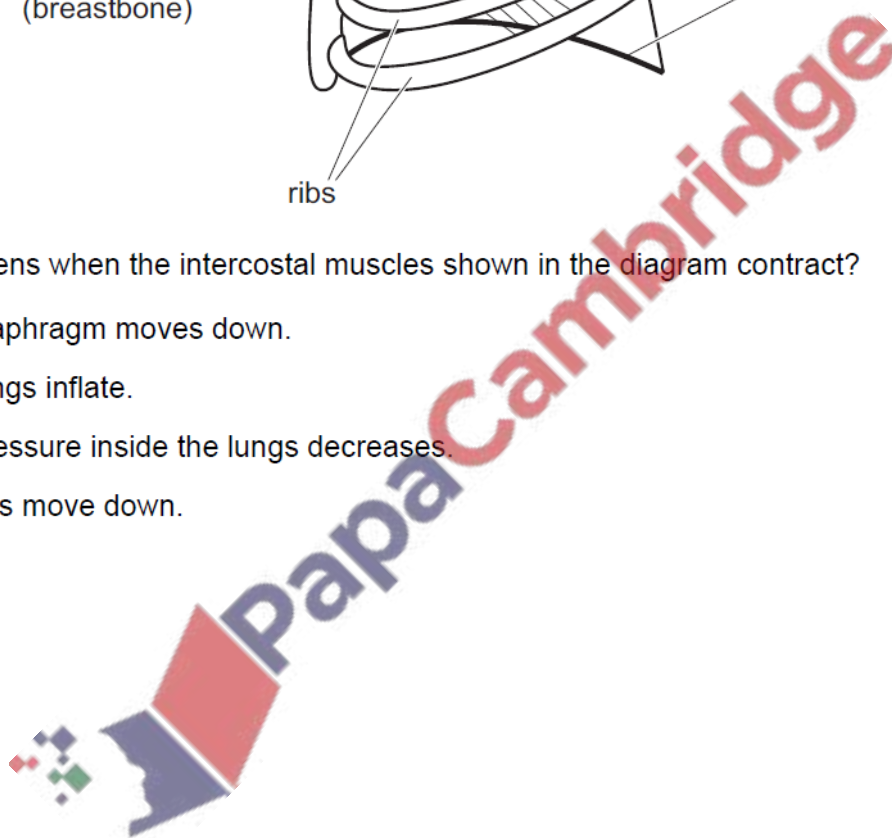
1. **Nov/2020/Paper_11/No.18**

The diagram shows the rib cage and some of the muscles involved in breathing as seen from the side.



What happens when the intercostal muscles shown in the diagram contract?

- A The diaphragm moves down.
- B The lungs inflate.
- C The pressure inside the lungs decreases.
- D The ribs move down.



Atmospheric air contains several gases.

(a) Complete the table to show the approximate percentage of each gas listed.

gas	percentage in atmospheric air
carbon dioxide	
oxygen	
nitrogen	

[3]

(b) (i) Name a gas **not** listed in the table which will be present in a higher concentration in an industrial region than in the countryside.

..... [1]

(ii) Explain why this gas will be present in a high concentration in an industrial region.

.....
.....
.....
..... [3]

(c) Suggest why there are usually fewer species of wildlife in industrial regions than in the countryside.

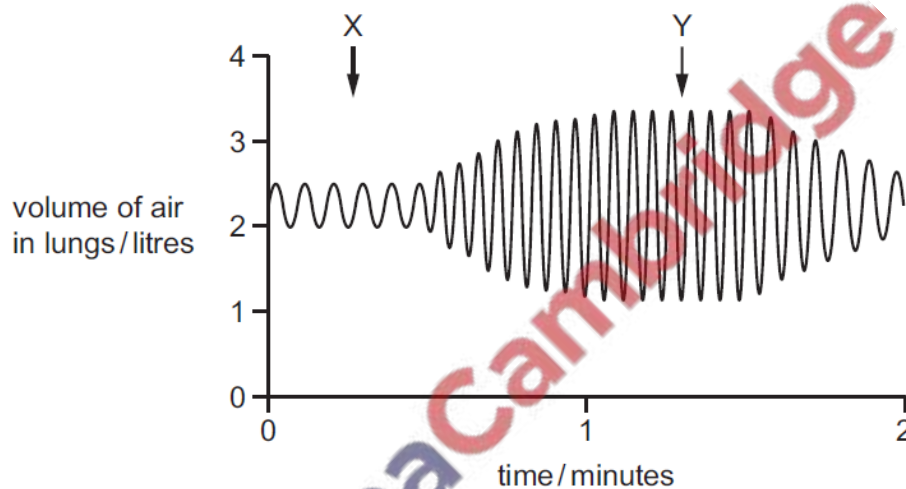
.....
.....
.....
..... [4]

[Total: 11]

3. Jun/2020/Paper_11/No.17
What lines the walls of alveoli?

- A a carpet of cilia
- B a film of moisture
- C a network of veins
- D a thin sheet of muscle

4. Jun/2020/Paper_11/No.18
The graph shows changes in the volume of a person's lungs over a period of two minutes.



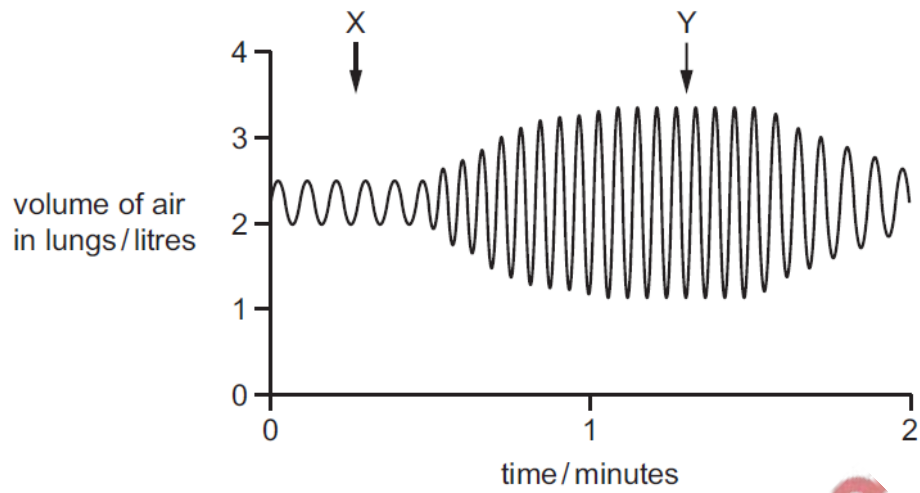
What could cause the change in the pattern of the graph between X and Y?

- A changing from running to walking
- B changing from walking to running
- C decreased frequency of contractions of the internal intercostal muscles
- D decreased strength of contractions of the internal intercostal muscles

5. Jun/2020/Paper_12/No.17
Which structure is lined with cilia?

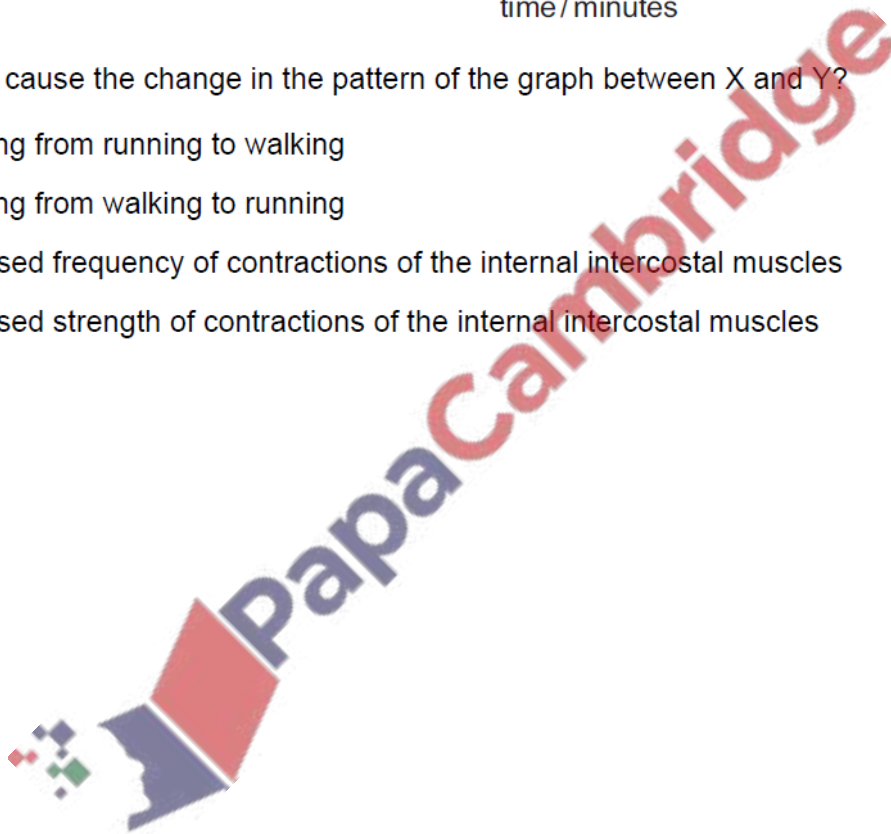
- A alveolus
- B bronchus
- C oesophagus
- D small intestine

The graph shows changes in the volume of a person's lungs over a period of two minutes.

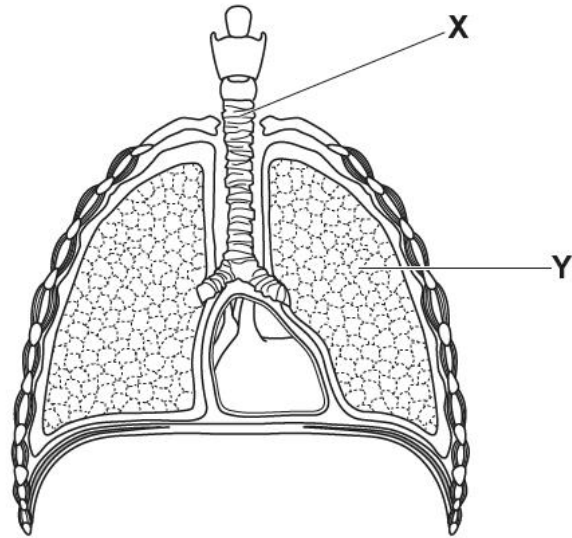


What could cause the change in the pattern of the graph between X and Y?

- A changing from running to walking
- B changing from walking to running
- C decreased frequency of contractions of the internal intercostal muscles
- D decreased strength of contractions of the internal intercostal muscles



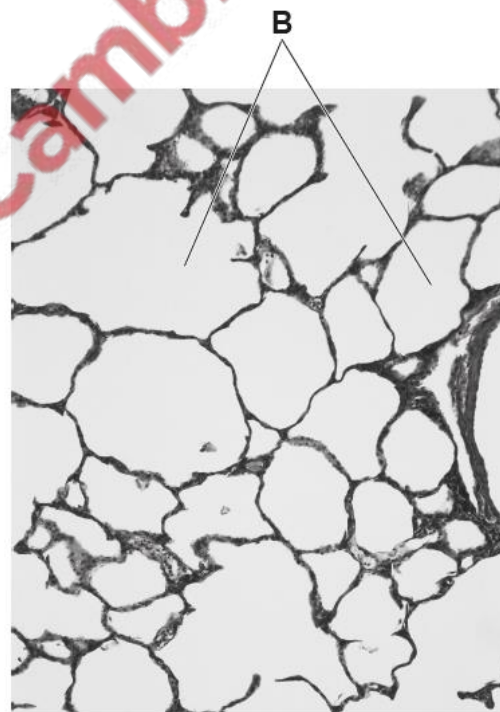
The diagram shows the human breathing system.



The photomicrographs below show further details of the two components labelled X and Y, from the breathing system of a non-smoker seen using a light microscope.



magnification of X



magnification of Y

(a) (i) Name the structures labelled **A**.

.....

[1]

(ii) Describe the role of the structures labelled **A**.

.....
.....
.....
..... [2]

(b) (i) Name the structures labelled **B**.

.....

[1]

(ii) Describe the changes to the structures labelled **B** that would be caused by tobacco smoke **and** explain the possible effects on a smoker of these changes.

.....
.....
.....
.....
.....
.....
.....
.....
.....
..... [4]

(iii) Outline **two** reasons why many people regard smoking as socially unacceptable.

1

2

.....

[2]

[Total: 10]