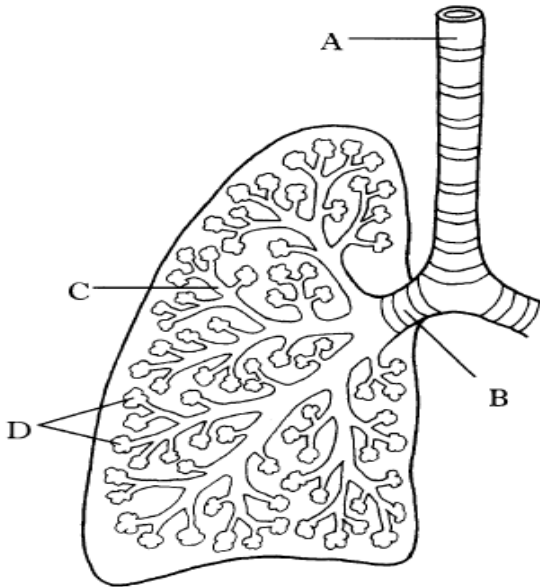1. The diagram shows part of the breathing system.
(a)   Use letters from the diagram to complete the table below.   KU2

Structure	Letter
bronchus	
windpipe	
air sac	
bronchiole	

(b)   Name the gas which passes from the blood into the lungs to be breathed out.   KU1

(c)   In an investigation into breathing rates, a pupil had his number of breaths per minute recorded when exercising at different levels.

The procedure was repeated three times and the results are shown in the table below.

	Breathing rate (breaths per minute)			
Exercise	1st Trial	2nd Trial	3rd Trial	Average
standing still	16	15	17	16
walking	19	17	18	18
jogging	27	25	29	27
running quickly	33	31	32	32

(i)   Calculate the percentage change in the average breathing rate when running quickly compared to standing still.
Space for calculation

_____ % increase   PS1

(ii)   What is the relationship between the level of exercise and breathing rate?

<div align="right">PS1</div>

(iii)   Why was the investigation repeated three times and an average calculated?

<div align="right">PS1</div>

2. (a)   Decide if each of the following statements about the breathing system is
             True or False and tick (✔) the appropriate box.
             If the statement is False, write the correct word in the Correction box to
             replace the word underlined.   KU3

Statement	True	False	Correction
The trachea is supported by rings of lignin.			
The air passages are lined by tiny hair-like cilia.			
Special cells produce sticky plasma which prevents dust entering the lungs.			

(b)   The following statements refer to gas exchange between the blood capillaries
         and the air sacs in the lungs.

             1 Carbon dioxide diffuses in.
             2 Carbon dioxide diffuses out.
             3 Oxygen diffuses in.
             4 Oxygen diffuses out.

         Complete the tables by inserting the number of each statement in the correct
         box.

Air sacs	

Blood capillaries	

<div align="right">KU1</div>