



The Respiratory System



EQ: How does respiration occur?



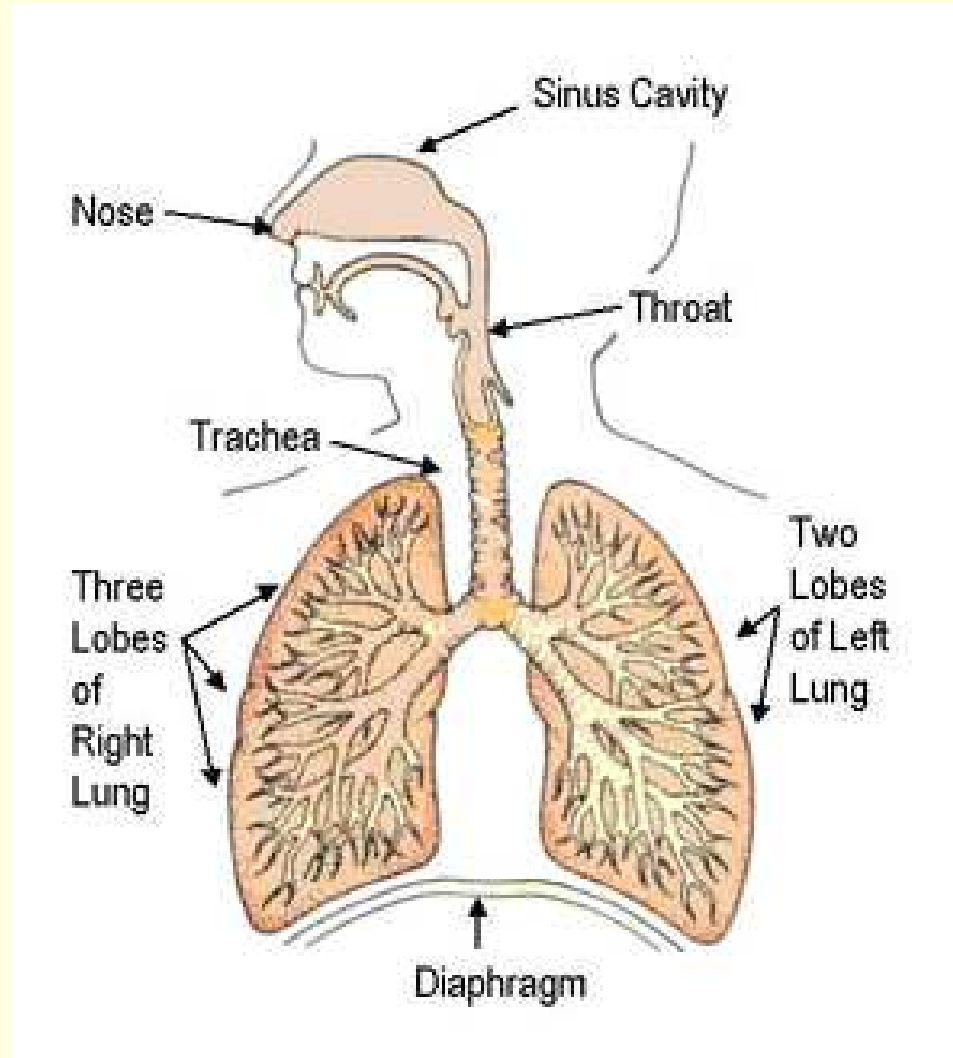
- 1. Main function – exchange gasses between the body and the environment

- A. Body removes carbon dioxide and takes in oxygen
- 2. Respiration is divided in two parts
 - A. External respiration – O₂ moves from the lungs (**alveoli**) into the blood and CO₂ moves from the blood into the lungs (**alveoli**)
 - B. Internal respiration – O₂ moves from the blood into the **cell** and CO₂ moves from the **cell** to the blood

How Respiration Works

- 1. As you breath in, air enters either the nose or mouth
- 2. Air then passes through the larynx – voice box which contains your vocal cords
- 3. We then enter the trachea – or windpipe
- 4. The trachea extends into two tubes which lead into the lungs – these are called bronchi

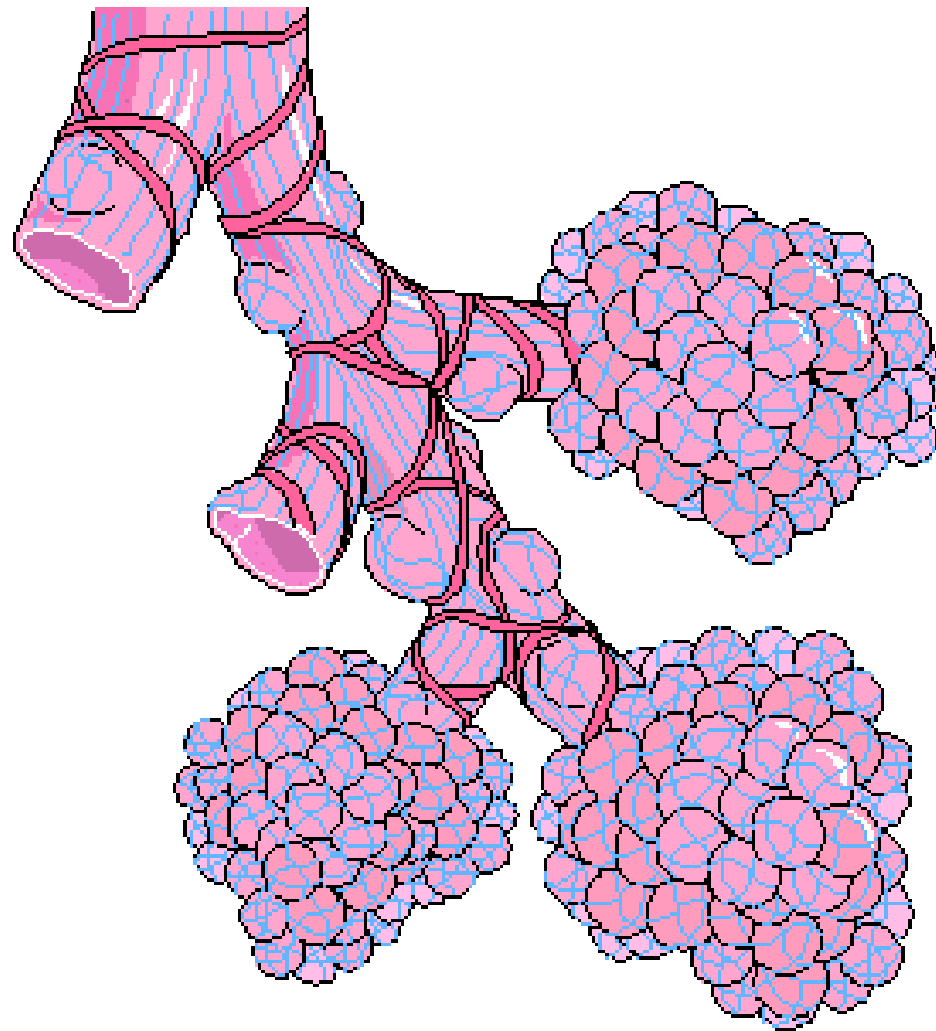
So lets see how this works...



How Respiration Works

- 5. The bronchi are broken down into smaller passageways called bronchioles
 - a. think of this as a tree with branches
- 6. Air then enters alveoli – tiny sacs at the end of bronchioles
 - A. This is where external respiration takes place!!!

Alveoli - site of gas exchange



How Respiration Works

- 7. From here, O₂ is transferred to capillaries – tiny vessels that surround each alveolis
- 8. A vein takes O₂ to the cell
- 9. The cell uses O₂ for energy. When this happens CO₂ is produced. The body needs to get rid of CO₂. This process is called internal respiration!
- 10. CO₂ goes back to lungs through an artery
- 11. The same process occurs in reverse!

Lets put it all together...

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- 1. Air comes in the nose or mouth
 - 2. Larynx
 - 3. Trachea
 - 4. Bronchi (in lungs)
 - 5. Bronchioles
 - 6. Alveoli (external respiration)
 - 7. Capillaries
 - 8. Vein
 - 9. Cell (Internal Respiration)
 - 10. Artery
 - 11. Capillaries
 - 12. Alveoli
 - 13. Bronchioles
 - 14. Bronchi
 - 15. Trachea
 - 16. Larynx
 - 17. Out nose or mouth
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- RED- WITH O₂
 - BLUE- IS WITHOUT O₂ (CO₂)

Some more terms...

- 1. Pleura – thin mucous membrane film that covers the lungs
- 2. Diaphragm – muscle which separates the lungs from the abdominal cavity
- 3. Cilia – tiny hairs that line the respiratory tract to filter dust and other bacteria from inhaled air.