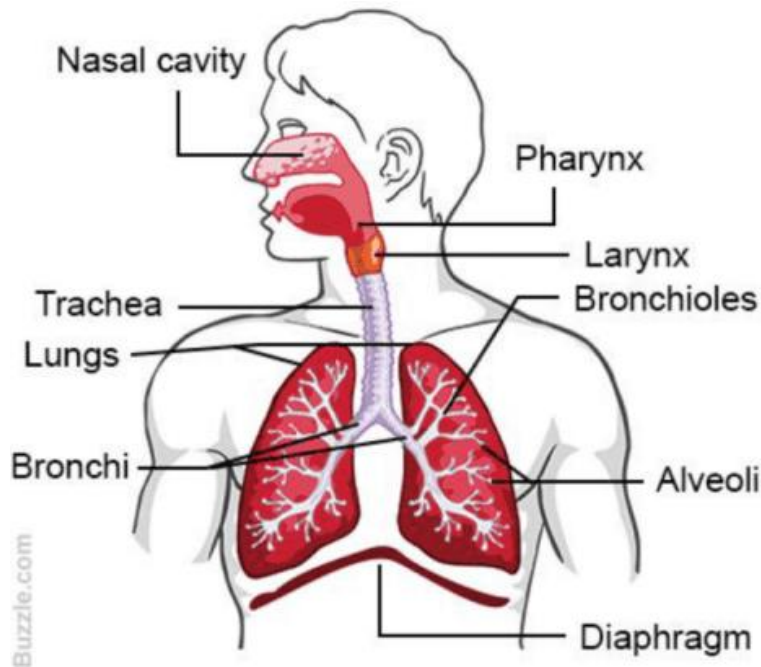# The Human Respiratory System

The **human respiratory system** is responsible for one of the most important functions in our body—**breathing**! It helps us take in **oxygen (O_2)**, which our body needs to survive, and removes **carbon dioxide (CO_2)**, a waste gas that our body does not need.

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Key Parts of the Respiratory System

1. **Nose and Mouth** – These are the entry points where air enters the body. The nose filters out dust and warms the air before it goes into the lungs.
2. **Trachea (Windpipe)** – A tube that connects the throat to the lungs and carries air in and out.
3. **Bronchi** – The trachea splits into two tubes called bronchi, which lead into each lung.
4. **Lungs** – Two large organs where gas exchange happens.
5. **Alveoli** – Tiny air sacs in the lungs where oxygen enters the blood and carbon dioxide leaves the blood.
6. **Diaphragm** – A muscle below the lungs that helps us breathe by moving up and down.

How Does the Respiratory System Work?

When you **inhale (breathe in)**, oxygen travels through the nose or mouth, down the trachea, and into the lungs. Inside the lungs, oxygen moves into tiny blood vessels called

capillaries, where it enters the bloodstream. At the same time, carbon dioxide moves from the blood into the lungs and is **exhaled (breathed out)**.

Real-Life Application

The respiratory system is always working, even when we are sleeping. Here's how it affects our daily life:

- **Talking and Singing** – The air from our lungs helps produce sound.
- **Exercising** – When we run or play sports, our breathing rate increases to bring more oxygen to our muscles.
- **Blowing Balloons** – This activity shows how our lungs push air out with force.
- **Yawning** – When our body needs more oxygen, we yawn to take in a deep breath.

How to Keep Your Lungs Healthy

- **Avoid Smoking** – Smoking damages the lungs and can cause breathing problems.
- **Exercise Regularly** – Activities like running, swimming, and dancing help strengthen the lungs.
- **Breathe Fresh Air** – Staying in clean environments prevents lung problems.
- **Stay Hydrated** – Drinking enough water helps keep the airways clear.
- **Practice Good Hygiene** – Washing hands and avoiding germs can prevent lung infections.

Fun Fact!

Did you know that the **right lung is slightly larger** than the left lung? This is because the heart takes up some space on the left side of the chest!

References:

- National Institutes of Health. (n.d.). The Respiratory System. Retrieved from https://www.nhlbi.nih.gov/
- American Lung Association. (n.d.). How Lungs Work. Retrieved from https://www.lung.org/