

Respiratory System and Deep Breathing

What is the Respiratory System?

Our body needs to breathe to live. The Respiratory System is the team of body parts that work together to help us breathe. What does it do? Its main job is to bring good air into our body and get rid of waste air. Think of it like this: Your body is like a car. A car needs fuel (gasoline) to go. Your body needs a special kind of fuel from the air called oxygen to have energy to run, play, and think!

Key Points and Important Terms

Let's learn the names of the important parts and words for breathing.

Main Parts of the Respiratory System:

Nose and Mouth: These are the "doors" where air enters and leaves your body. Your nose is extra special because it cleans and warms the air before it goes inside.

Windpipe (Trachea): This is the tube that carries air from your nose and mouth down towards your lungs.

Lungs: These are the two main stars of the show! They are like two big, spongy balloons in your chest. They fill up with air when you breathe in and get smaller when you breathe out.

Diaphragm (DYE-uh-fram): This is a strong, dome-shaped muscle that sits right under your lungs. It helps your lungs pull air in and push air out.

Important Words:

- **Breathe In (Inhale):** The action of taking air into your lungs.
- **Breathe Out (Exhale):** The action of pushing air out of your lungs.
- **Oxygen:** The good part of the air that our body needs for energy. We get it when we inhale.
- **Carbon Dioxide:** The waste gas that our body makes. We get rid of it when we exhale.

How Breathing Works

Let's do an activity to understand breathing!

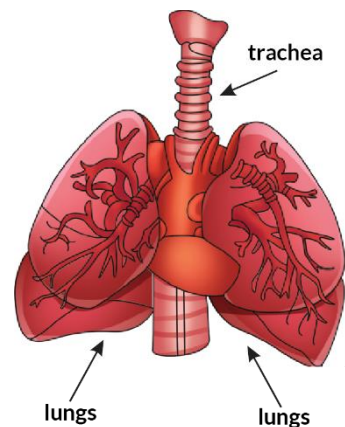
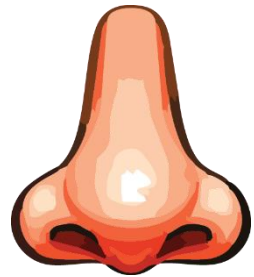
Activity: Feel Your Breathing Place one hand on your chest and one hand on your belly. Now, let's breathe.

Example 1: Breathing In (Inhaling)

Step 1: Take a slow, deep breath in through your nose.

What Happens:

- Air full of oxygen goes into your nose.



- It travels down your windpipe.
- Your lungs fill up with air and get bigger, like you are blowing up a balloon.
- Your diaphragm muscle moves DOWN to make space for your big, full lungs.
- **What You Feel:** You should feel your chest and belly rise and get bigger.

Example 2: Breathing Out (Exhaling)

Step 1: Now, slowly breathe out through your mouth.

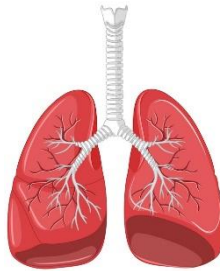
What Happens:

- Your diaphragm muscle moves UP, gently squeezing your lungs.
- Your lungs get smaller, pushing the waste air (carbon dioxide) out.
- The waste air travels up your windpipe.
- The air leaves your body through your mouth or nose.
- **What You Feel:** You should feel your chest and belly go down and get smaller.

Practice Problems with Solutions

Problem 1: Label the Parts Look at a diagram of the respiratory system and label the following parts:

- Lungs
- Windpipe
- Diaphragm



Solution:

Step 1: Find the two big, spongy shapes in the chest. These are the Lungs.

Step 2: Find the tube that leads down to the lungs. This is the Windpipe.

Step 3: Find the muscle underneath the lungs. This is the Diaphragm.

Problem 2: Fill in the Blanks Use the words from the box to complete the sentences. oxygen, exhale, lungs, carbon dioxide

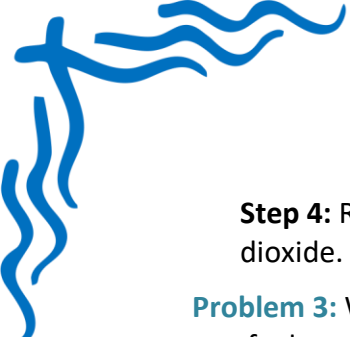
1. When we breathe in, our body takes in a gas called _____.
2. The main organs for breathing are the _____.
3. When we breathe out, or _____, we get rid of waste gas.
4. The waste gas we breathe out is called _____.

Solution:

Step 1: Read sentence 1. What good gas do we breathe in? The answer is oxygen.

Step 2: Read sentence 2. What are the main "balloon" parts in our chest? The answer is lungs.

Step 3: Read sentence 3. What is the word for breathing out? The answer is exhale.



Step 4: Read sentence 4. What is the name of the waste gas? The answer is carbon dioxide.

Problem 3: What is Deep Breathing? Why is taking a slow, deep breath good for you when you feel worried or angry?

Solution:

Step 1: Remember what deep breathing does. It brings in a LOT of oxygen.

Step 2: Think about what oxygen does. It gives our body and brain energy and helps it work well.

Answer: Taking a slow, deep breath brings lots of extra oxygen to your brain and body. This helps your body relax and your mind to calm down, making you feel better.

Summary of Main Concepts

- The Respiratory System helps us breathe.
- We inhale (breathe in) oxygen, which gives us energy.
- We exhale (breathe out) carbon dioxide, which is waste.
- The main parts are the Nose/Mouth, Windpipe, Lungs, and Diaphragm.
- When we inhale, our lungs get bigger. When we exhale, they get smaller.
- Deep breathing is a great way to calm our bodies and focus our minds.