

# Gas Exchange

## Cross-Curricular Focus: Life Science

Did you know that your body has its very own gas exchange program that runs 24 hours a day? It's called the **respiratory system**. It is one of your body's vital systems, which means you could not live without it. Every time you take a breath, oxygen enters your lungs and is carried around to all the body's cells by the circulatory system. Waste products, like carbon dioxide gas, are picked up by the circulatory system as well. Carbon dioxide is dropped off at the lungs so you can breathe it out.

The respiratory and circulatory systems need each other. The respiratory system brings in oxygen and pushes out carbon dioxide. The circulatory system transports these gases where they need to go. The two systems work together to make sure that your body gets what it needs to survive. That is why we say that the respiratory and circulatory systems are **interdependent**. They need each other.

The respiratory system is not just your lungs. It also includes your nose, mouth, and the air passageways that connect them to your lungs. After you inhale air through your nose and mouth, it enters a tube in your throat called the trachea. Right before the trachea gets to your lungs, it splits into two smaller tubes called the bronchi. The deeper you go into your lungs, the smaller and smaller the tubes become as they keep dividing in two. The very smallest tubes end with tiny sacs. These sacs look like grape clusters under the microscope. These are called alveoli. They diffuse oxygen into the blood and receive carbon dioxide being returned to the lungs from the blood. Carbon dioxide travels out of your body when you exhale.

Your body has a special way of making sure that you can get the oxygen that you need when you breathe. Your chest actually changes size when you inhale. You have muscles that are attached to your ribs. These muscles pull up when you inhale. Your diaphragm, a large muscle under your lungs, pulls down. This gives plenty of room so you can get the air you need.

Name: \_\_\_\_\_

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) What is the purpose of the circulatory system?

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2) Identify the parts of the respiratory system.

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3) What is the function of the alveoli?

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4) How does the body get rid of carbon dioxide?

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5) How does your body make room for a deep breath? \_\_\_\_\_

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Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

**Actual wording of answers may vary**

1) What is the purpose of the circulatory system?

**It carries oxygen throughout the body and picks up waste products.**

2) Identify the parts of the respiratory system.

**lungs, nose, mouth and air passageways**

3) What is the function of the alveoli?

**They diffuse oxygen into the blood and receive carbon dioxide from the blood.**

4) How does the body get rid of carbon dioxide?

**The circulatory system takes it to the lungs, The lungs release it when we exhale.**

5) How does your body make room for a deep breath? **The muscles attached to the ribs pull**

**up and the diaphragm pulls down.**