

Respiratory System

By Sharon Fabian

¹ All of the systems in your body work together. Each system has its own job to do, but each system also depends on the others. You will see how this works as you learn about the respiratory system.



² The respiratory system is the system that takes in air, separates out the oxygen that you need to live, and gets rid of the carbon dioxide that is left. It includes your nose, nasal passages, windpipe, lungs, and diaphragm. Every minute, your respiratory system breathes in about thirteen pints of air.

³ It starts with your nose. You inhale fresh air about twenty times every minute. The air is drawn through your nasal passages, which clean the air by filtering out particles that you wouldn't want in your lungs. Mucus takes care of this part of the job. That's why it's so sticky, to capture unwanted stuff in the air. Sometimes, when your nose feels like getting rid of this yucky stuff fast, you sneeze.

⁴ After you breathe air in through your nose, it travels down your windpipe, also called the trachea. Since your windpipe is right beside the pipe that your food goes down, it has an interesting feature; a little flap called the epiglottis that can close really quickly to keep food from getting into your windpipe.

⁵ Below your ribs, your windpipe splits into two parts, which attach to your two lungs. Your left lung is a little smaller than your right one, to leave space for your heart. Your lungs fill up most of the space in your ribcage. Here is one example of your systems helping each other out. Your rib cage protects your lungs.

⁶ Your lungs are pink, spongy organs. Inside each of them there are tubes, called bronchi, that branch out into smaller and smaller tubes. They must get really small, because all together you have about 1,500 miles of airway tubing! At the very end of the tubes are tiny sacs called alveoli. You have about 300 million of these!

⁷ In the tiny air sacs is where the chemical exchange, oxygen for carbon dioxide, takes place. The air sacs give up their oxygen into the blood stream, which at about the same time, gives up its carbon dioxide to the air sacs. The blood was a dark color when it arrived, but now it's leaving bright red again, thanks to its new supply of oxygen. Here is another example of your systems working together, the respiratory system and the circulatory system. The blood carries the oxygen on its way, and now the lungs have a new job, to send the carbon dioxide up to your nose

to be exhaled.

⁸ A dome-shaped muscle just below your lungs, called the diaphragm, makes your lungs breathe in and out. When your diaphragm pulls down, it leaves space for your lungs to expand, and air pressure brings more air in. When your diaphragm relaxes, the space gets smaller and air is pushed out.

⁹ Your respiratory system is in communication with another system, your nervous system, too. Your brain, which is part of the nervous system, tells your lungs when it needs to breathe faster or slower. For example, if you are running, your lungs need to know to breathe faster to bring in more oxygen.

¹⁰ On its way out, the air passes over your vocal cords. This is where you make sounds to talk, sing, laugh, or yell, but that's another story. So the carbon dioxide goes out the same way the oxygen came in, and that's how your respiratory system works.

Name _____

Science Pd: _____

Respiratory System

<p>1. The average person breathes about _____ times per minute.</p> <p><input type="radio"/> A 5</p> <p><input type="radio"/> B 1,500</p> <p><input type="radio"/> C 20</p> <p><input type="radio"/> D 300 million</p>	<p>2. Another name for your windpipe is your _____.</p> <p><input type="radio"/> A Alveoli</p> <p><input type="radio"/> B Epiglottis</p> <p><input type="radio"/> C Bronchi</p> <p><input type="radio"/> D Trachea</p>
<p>3. Your _____ protects your lungs.</p> <p><input type="radio"/> A Shirt</p> <p><input type="radio"/> B Heart</p> <p><input type="radio"/> C Ribcage</p> <p><input type="radio"/> D Skin</p>	<p>4. The respiratory system brings in a chemical that we need, and gets rid of a chemical that we don't need. Name the two chemicals.</p> <p><input type="radio"/> A Nitrogen and oxygen</p> <p><input type="radio"/> B Oxygen and carbon dioxide</p> <p><input type="radio"/> C Carbon and nitrogen</p> <p><input type="radio"/> D Carbon dioxide and neon</p>
<p>5. The diaphragm is a _____.</p> <p><input type="radio"/> A Muscle</p> <p><input type="radio"/> B Cell</p> <p><input type="radio"/> C Tube</p> <p><input type="radio"/> D Chemical</p>	<p>6. Your respiratory system works along with which other systems?</p> <p><input type="radio"/> A Nervous system and circulatory system</p> <p><input type="radio"/> B Skeletal system and muscular system</p> <p><input type="radio"/> C Both a and b</p> <p><input type="radio"/> D Neither a or b</p>
<p>7. Your brain is part of your _____ system.</p> <p><input type="radio"/> A Skeletal</p> <p><input type="radio"/> B Nervous</p> <p><input type="radio"/> C Circulatory</p> <p><input type="radio"/> D Respiratory</p>	<p>8. Your ribcage is part of your _____ system.</p> <p><input type="radio"/> A Respiratory</p> <p><input type="radio"/> B Nervous</p> <p><input type="radio"/> C Skeletal</p> <p><input type="radio"/> D Circulatory</p>