

# Circulatory System

By Sharon Fabian

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<sup>1</sup> Blood circulates through your body all the time through a complicated system of large and small pathways. Your heart pumps day and night to transport the blood on its nonstop journey. This is your circulatory system, and it is in constant motion for a very good reason. Your circulatory system is like the freight train that delivers essential supplies to wherever they are needed in your body.

<sup>2</sup> As blood travels to all parts of your body, it delivers food and oxygen to your cells. It removes carbon dioxide and other waste materials. Along the way, it also helps to regulate your body temperature.

<sup>3</sup> The center of your circulatory system is your heart. It is a hollow muscle with two side-by-side pumps. When you are resting, your heart pumps about 70 times each minute. When you are exercising, it pumps even more. The pump on the right side sends a supply of blood to your lungs. The pump on the left side sends blood to all other parts of your body.

<sup>4</sup> Another part of the system is blood vessels, the rubbery tubes that carry the blood from place to place. The three types of blood vessels are arteries, veins, and capillaries. Arteries carry blood from the heart; the main one is the aorta. Veins carry blood to the heart; the two main ones are called the vena cava. Capillaries are very tiny blood vessels that connect arteries to veins.

<sup>5</sup> The third part of the circulatory system is the blood itself. Blood is made up of a liquid called plasma and three types of particles called red cells, white cells, and platelets. An average sized adult has about 5 quarts of blood in his body. A child who weighs 80 pounds has about 2 1/2 quarts of blood.

<sup>6</sup> The circulatory system does its job by working together with other body systems. It works with your respiratory system to deliver oxygen. After your lungs take in a good breath of air, the oxygen passes into your blood stream. The blood travels to your heart, where it is pumped out the left side, through your aorta, to all parts of your body. Blood carries its supply of oxygen through your arteries, then through smaller capillaries, and finally delivers it through the capillary walls to wherever it is needed. Next, carbon dioxide, which you don't need, comes into the capillaries, passing right through the capillary walls just like the oxygen did. It flows through little capillaries, then through larger veins back to the heart through a main vein, the vena cava. The right side of your heart pumps this supply of blood, with its cargo of carbon dioxide, to your lungs, and you breathe out. One journey is finished!

<sup>7</sup> Your circulatory system works with your digestive system in much the same way that it works with your respiratory system. It carries digested food to everywhere it is needed. Food enters the blood stream the same way that oxygen does, right through the wall! Digested food passes through the wall from your small intestine into your capillaries. Your blood stream carries it on a complete path through your body, with a stopover at your liver. It delivers the nutrients, the good parts of the food, to the right places, and carries the waste products on to other places so they can be disposed of.

<sup>8</sup> Blood helps regulate your temperature too. When the weather is hot, lots of blood flows to your skin where it can release heat from inside your body. In cold weather, less blood flows to your skin, to keep more of your heat inside.

<sup>9</sup> Your heart, blood vessels, and blood make up a system that can do all kinds of useful things! In fact, they make up the best transportation system ever invented -- your circulatory system.

Name \_\_\_\_\_

Science Pd: \_\_\_\_\_

## Circulatory System

<p>1. The circulatory system _____. <input type="radio"/> A Includes muscles and tendons <input type="radio"/> B Includes all of the bones <input type="radio"/> C Carries blood throughout the body <input type="radio"/> D Digests food</p>	<p>2. The circulatory system _____. <input type="radio"/> A Delivers supplies <input type="radio"/> B Removes wastes <input type="radio"/> C Regulates temperature <input type="radio"/> D All of the above</p>
<p>3. The parts of the circulatory system are _____. <input type="radio"/> A Heart, blood vessels, blood <input type="radio"/> B Blood vessels, blood, oxygen <input type="radio"/> C Blood vessels, blood, red cells <input type="radio"/> D Heart, muscles, blood</p>	<p>4. The liquid part of blood is _____. <input type="radio"/> A Red cells <input type="radio"/> B Platelets <input type="radio"/> C Plasma <input type="radio"/> D White cells</p>
<p>5. Each system of the body can work independently, with no help from any other systems. <input type="radio"/> A False <input type="radio"/> B True</p>	<p>6. Arteries are _____. <input type="radio"/> A Blood vessels that carry blood to the heart <input type="radio"/> B Blood vessels that carry blood from the heart <input type="radio"/> C The tiniest blood vessels <input type="radio"/> D Parts of the respiratory system</p>
<p>7. The body needs a supply of _____. <input type="radio"/> A Oxygen <input type="radio"/> B Nutrients <input type="radio"/> C Both <input type="radio"/> D Neither</p>	<p>8. If you are exercising outside on a hot day, your face gets red because _____. <input type="radio"/> A Less blood flows to your skin <input type="radio"/> B More blood flows to your skin <input type="radio"/> C Your heart pumps slower <input type="radio"/> D You are breathing slower</p>