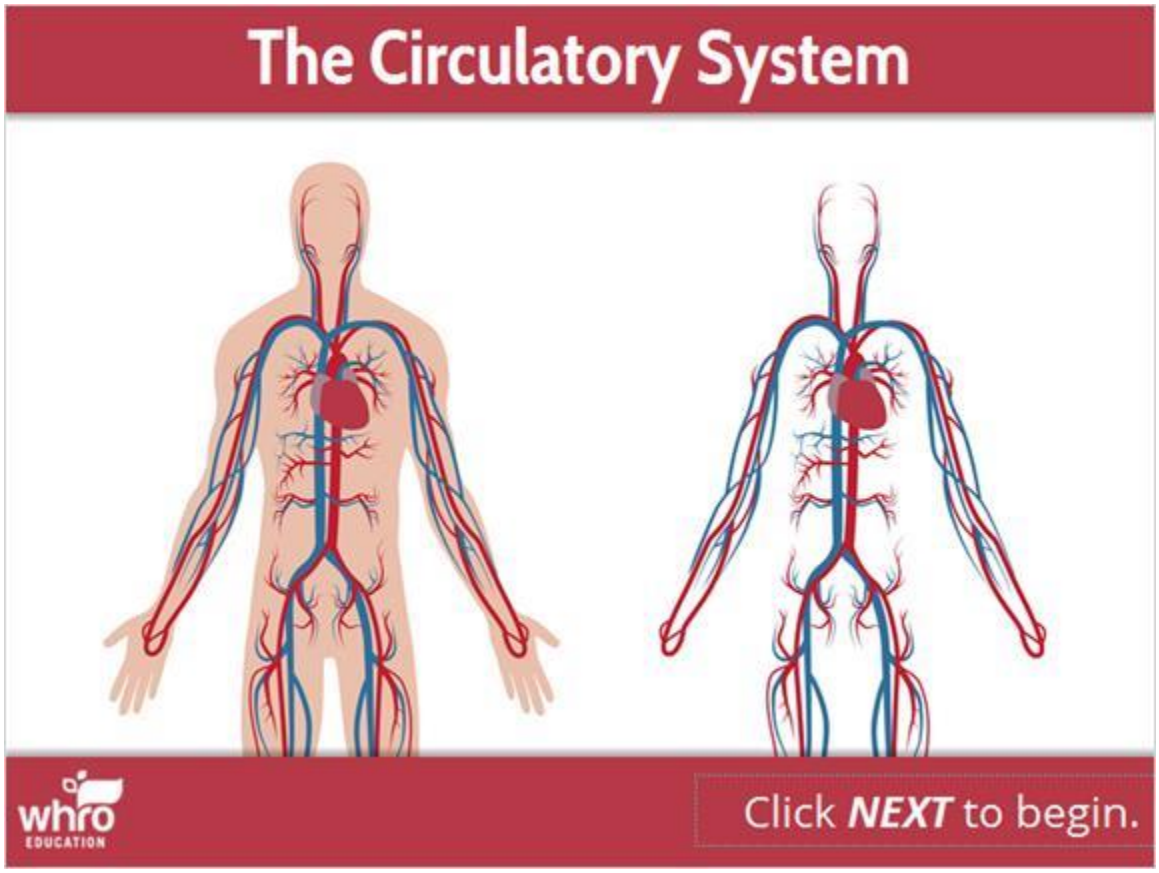
Module 7: Organ Systems and Homeostasis
Topic 1 Content: The Circulatory System Notes

The Circulatory System



The Circulatory System. Click **NEXT** to begin.

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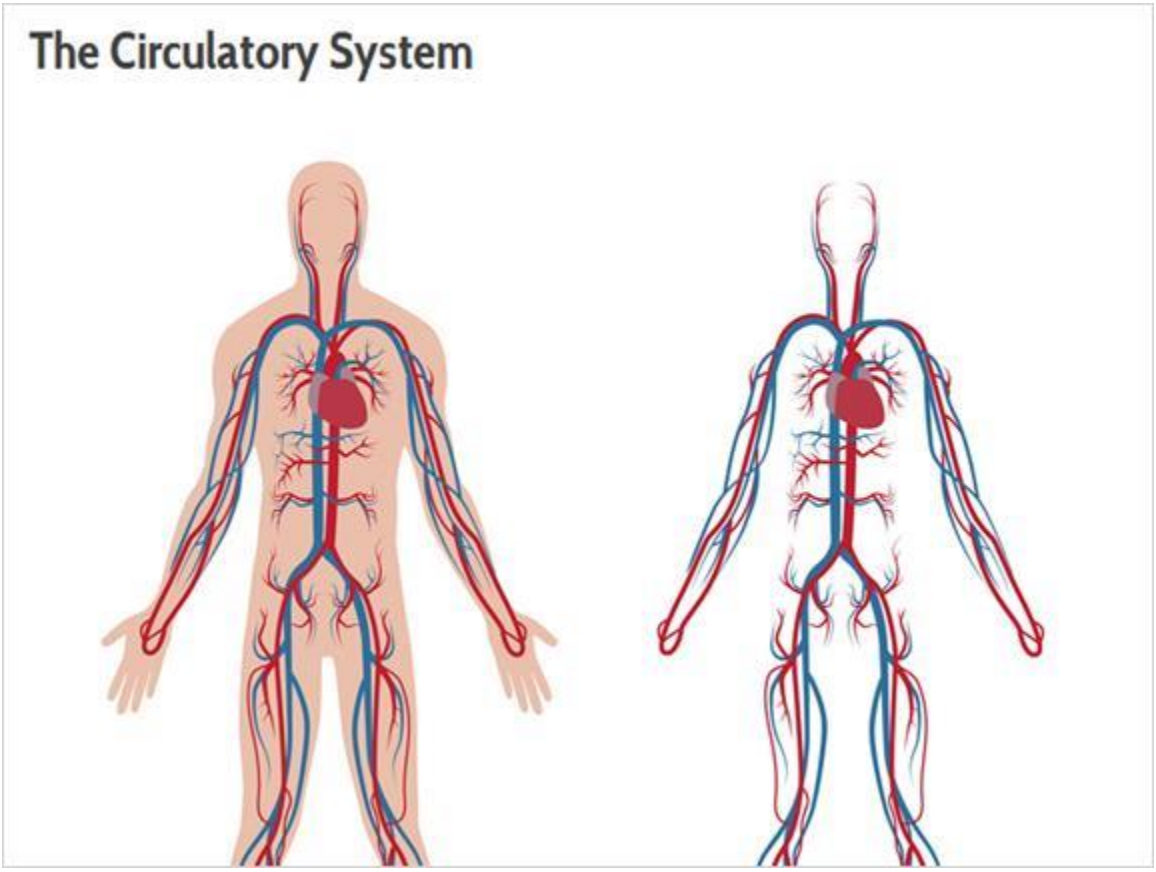
What comes to mind?



When you think about the circulatory system, what comes to mind? Perhaps you think of the heart, arteries, veins, or blood? There are many unique structures that run throughout your entire body that function as the circulatory system.

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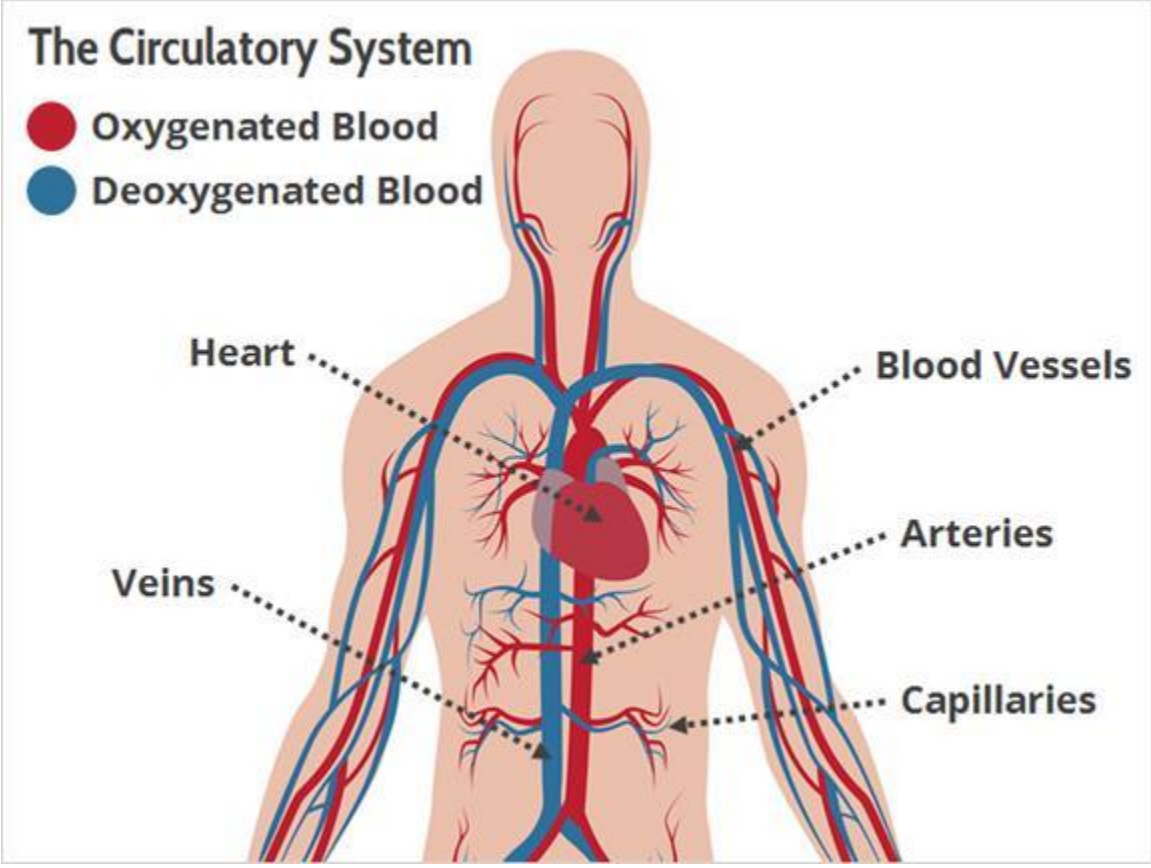
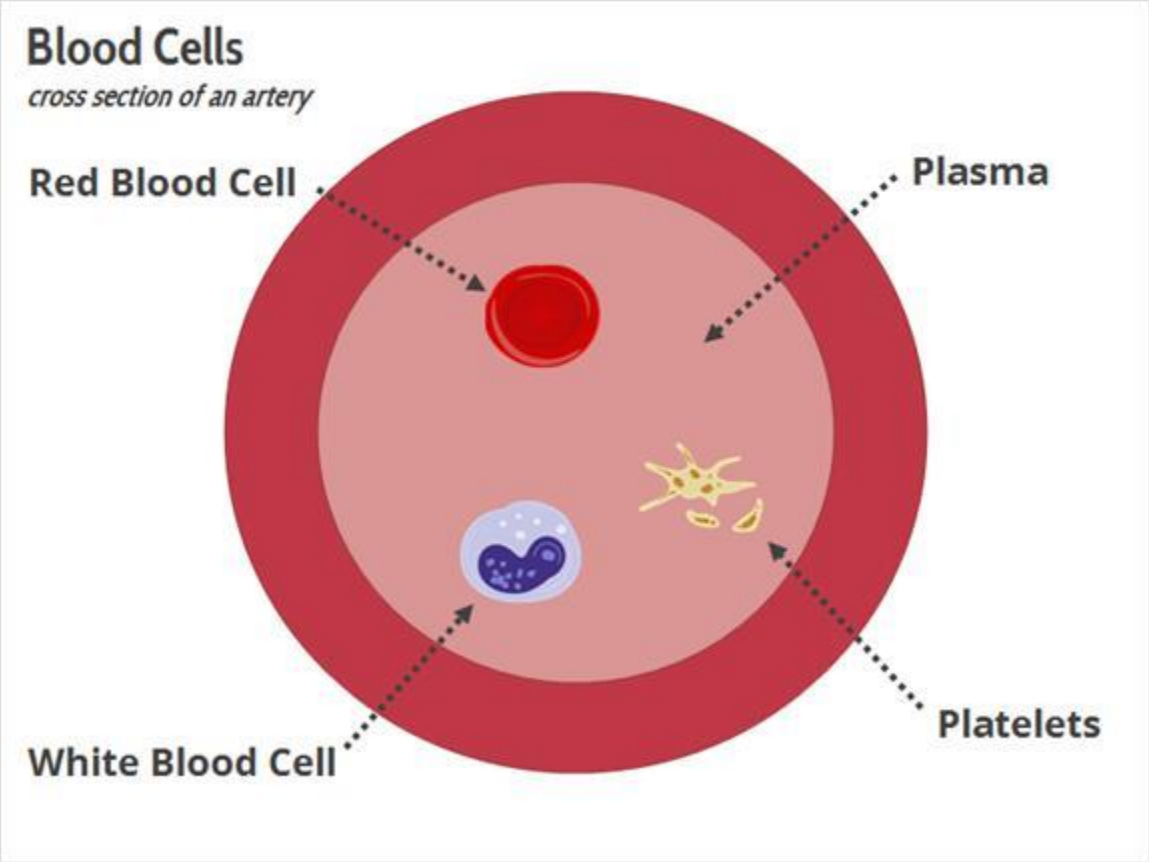
Parts of the Circulatory System



The human circulatory system includes the heart, blood vessels, and blood. Your body has three types of blood vessels: arteries, capillaries, and veins.

Blood Cells



Your body also produces two types of blood cells: red blood cells for carrying oxygen to the cells and tissues, and white blood cells for fighting infection. Plasma is the fluid part of your blood and allows it to flow through your vessels with ease. Platelets enable your blood to clot when you get a cut or wound.

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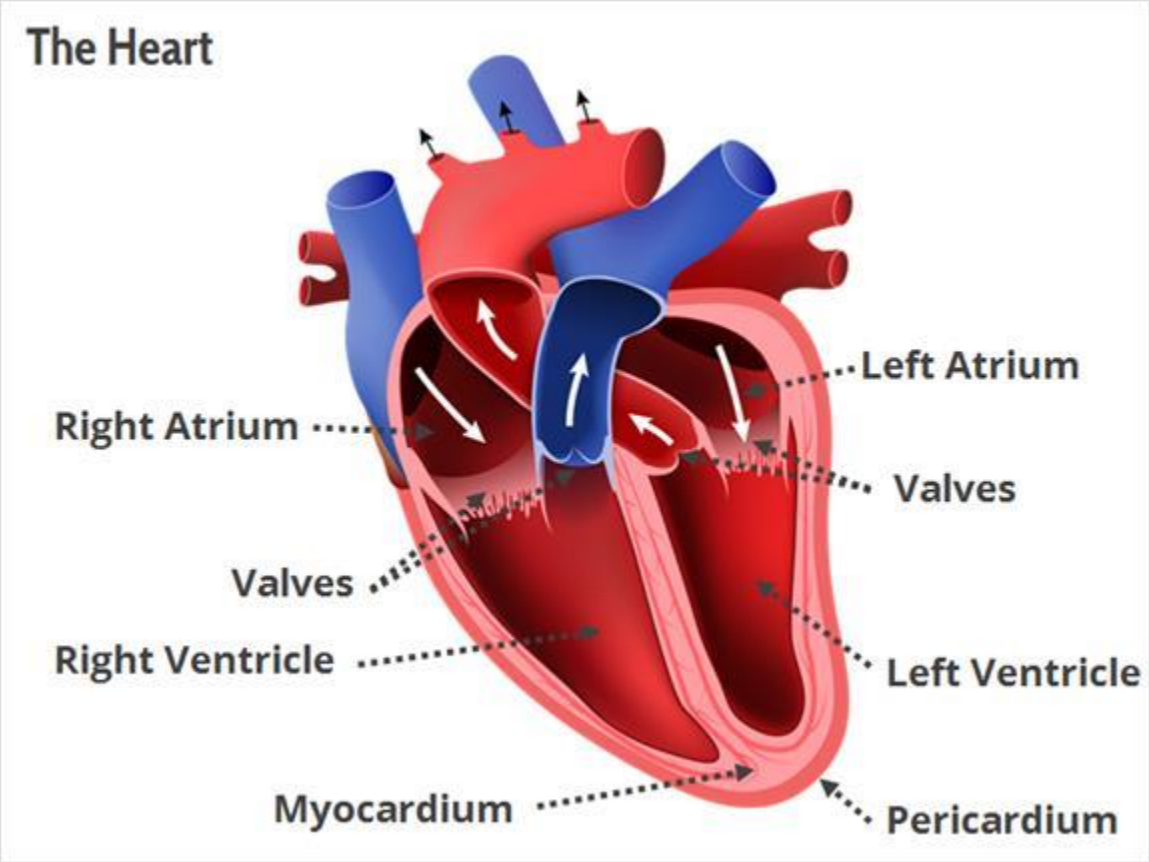
The Heart

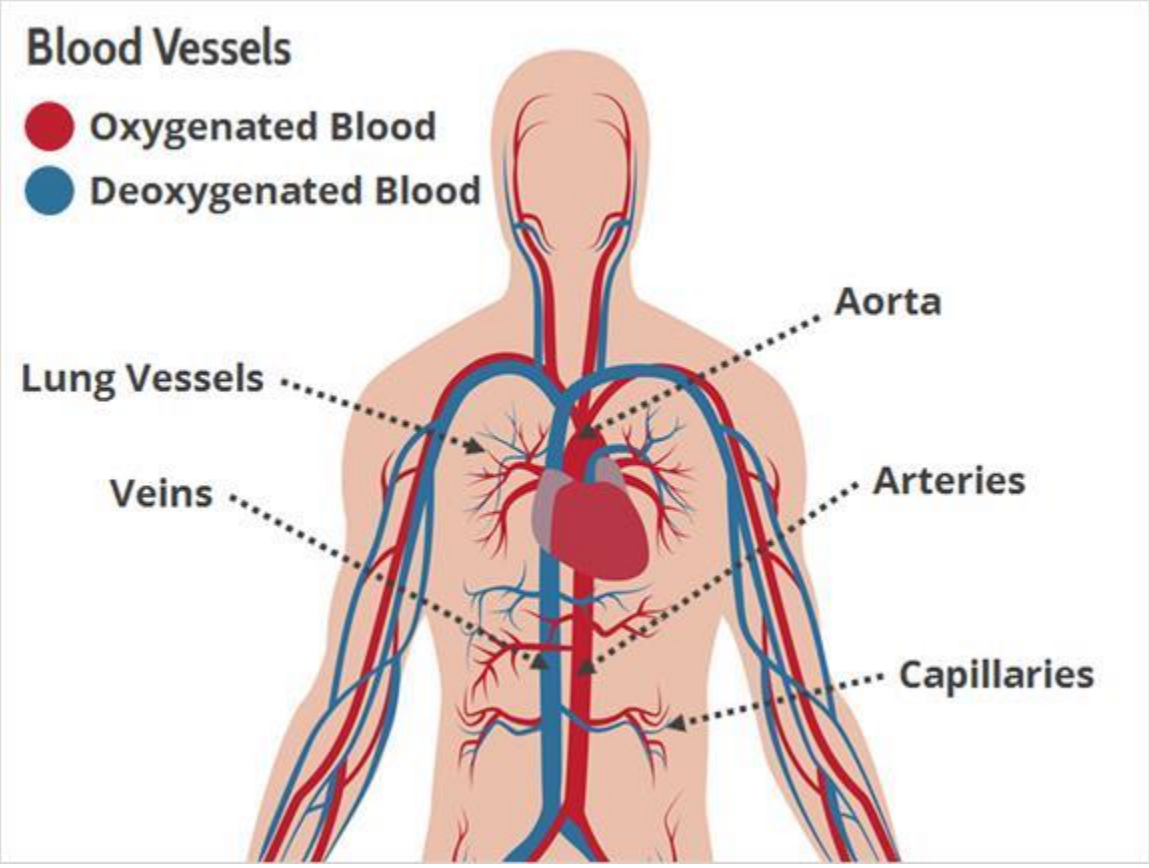


Let's take a closer look at your heart. You are likely familiar with its beat and may have even felt it in your chest when you have been nervous or excited. The heart is a strong, yet delicate, organ.

The pericardium is a thick tissue sac that protects your heart. Your heart beats an average of 60-100 times each minute. As it beats, the muscular tissue of your heart, known as the myocardium, pumps blood throughout your body.

Your heart has four chambers, which include the atria and the ventricles. The atria pump blood into your heart and the ventricles pump blood out of your heart. Your heart also has four valves, which prevent your blood from flowing backwards. The right ventricle pumps blood from your heart to your lungs, connecting the circulatory system to the respiratory system. Once oxygenated, blood flows from the left atrium of your heart into the left ventricle, and is pumped throughout the rest of your body where your cells absorb the oxygen for vital functions.

Blood Vessels



As blood leaves your heart, it enters into the aorta, which is the main blood vessel of the body. It flows from the aorta to other large vessels called arteries. Next, your blood flows through capillaries, which are smaller than arteries, but powerful enough to deliver oxygen to the tissues in your body.

Blood flow assists in the internal balance of body temperature and thermoregulation, known as homeostasis. Different blood vessels constrict when your body cools and dilate when your body warms.

After your body tissues use the oxygen, your blood makes its way to your veins. The oxygen depleted blood, now full of carbon dioxide from respiration, flows through your veins and back to your heart through the right atrium. Your blood is then sent out of the right ventricle into your lungs to be oxygenated, which completes the circulatory process.