

# THE CARDIOVASCULAR SYSTEM

## Intro

The cardiovascular system delivers nutrients throughout the body. The three main components of the cardiovascular system are the heart, blood vessels, and blood. Blood is what keeps the rest of our body alive. It must be continuously pumped through the body by the heart. Blood carries nutrients and oxygen to cells in our body.

## Circulation

Blood circulates constantly through our entire body. As it passes through our body it picks up nutrients from our food and drops them off to cells that need them. It also picks up oxygen from our lungs and drops it off at cells to be used for energy. The blood then picks up waste carbon dioxide from the cells and drops it off at the lungs for us to breathe back out.

## Blood Vessels

Blood vessels are tubes throughout our body that carry the blood. There are two main types of blood vessels: arteries and veins. Arteries carry blood from the heart to the rest of the body. Arteries have to be thick and strong as there is more pressure on them from the heart. When you feel your pulse, this is from an artery. Veins carry used blood back to the heart. They don't need to be as thick.

## What is in blood?

Over half of blood is made up of red blood cells carrying oxygen. This is why blood looks red. There are also white blood cells which kill germs and keep the blood clean. Blood also has something called platelets which help the blood to clot when you get a cut. Finally, all these cells float in a watery substance called plasma.

## The Heart

The heart is a large organ about the size of your fist. It sits in your rib cage just to the left of the center of your chest. The heart is made of a lot of muscle that pumps blood through our bodies. Veins bring blood to the heart to pump back out again on arteries. The main artery leaving the heart is called the aorta. In order for blood not to go backwards, there are valves to make sure the blood only gets pumped in the correct direction. There are four sets of valves in the heart. The heart has two main pumps. One sends the blood throughout the body, while the other sends blood from the veins up to the lungs to drop off carbon dioxide and pick up more oxygen. The heart beats at different rates depending on what the body is doing. If you're just sitting around, it will beat slowly. If you are running fast, the heart will beat faster to get oxygen to your muscles.

## What are blood types?

There are four main blood types: A, B, O, and AB. Each blood type is slightly different and has different antibodies and antigens. It's important that blood donors have matched blood types or a person can get very sick.

Name \_\_\_\_\_ Date \_\_\_\_\_

1. The three main components of the cardiovascular system are the \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
2. Blood \_\_\_\_\_ constantly through our entire body.
3. There are two main types of blood vessels: \_\_\_\_\_ and \_\_\_\_\_.
4. The main artery leaving the heart is called the \_\_\_\_\_.
5. The heart is a large \_\_\_\_\_ about the size of your fist.
6. There are four sets of \_\_\_\_\_ in the heart.
7. The heart has two main \_\_\_\_\_.
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