

Parts of the Circulatory System: Have a Heart

One of the most important parts of the circulatory system is the heart. If a person is very nice, we might say the person has a heart "as big as all outdoors." Sometimes we say that a person is so mean, they are "heartless." Of course these are just expressions. Everyone must have a heart to stay alive. Let's see what a heart is.

Organ

Your heart is an organ. It is a group of cells and tissues working together to do the jobs you have already learned about. Your heart may be the most important organ in your body. Without your heart, you would not be alive. Certainly, your heart is the hardest working organ in the body, it never stops working even for one minute during your whole lifetime!

Size

Take your hand and make a fist. (Do not hit anyone!) Take a good look at your fist. That is about how big your heart is! Your heart is almost the same shape as your fist, too. Look around the room, does everyone have the same size fist? Of course not, some fists are larger and some fists are smaller! Do all of you have the same size hearts? Of course not, some hearts are larger and some hearts are smaller.

Your heart changes size as you grow. A baby has a tiny heart, the same size as the baby's tiny fist. A grown man will have a much larger heart. Remember, your heart has to carry things all around your body. As your body grows, your heart needs to grow too, just to keep up the extra work!

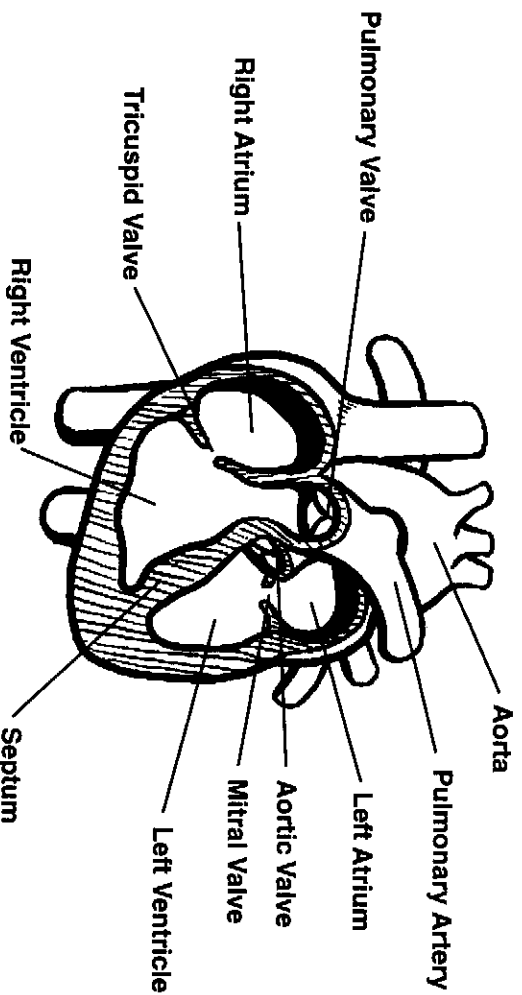
Location

Your heart is in the middle of your chest. It is behind the ribs and breastbone. When you say the Pledge of Allegiance to the flag of the United States, you are supposed to put your hand over your heart. Most people put their hands over the left side of their chests. Actually, the heart is more in the middle, but it is tilted. The very bottom tip of your heart is pointed toward the left side of your body.

Parts

Your heart is a combination of several important parts. The first group of parts you should know about are the chambers of your heart. Chambers are a bit like rooms. You could say that your heart has four rooms, because you have four chambers: two upper chambers and two lower chambers. The upper chambers are called the **right atrium** and the **left atrium**. The two lower chambers are called the **right ventricle** and the **left ventricle**.

Your heart also has **valves** between the chambers. Valves are like doors that only open one way. The tricuspid valve opens from the right atrium into the right ventricle. The pulmonary valve opens from the right ventricle letting blood flow into the pulmonary artery leading out of the heart. The mitral valve opens one way from the left atrium to the left ventricle. Finally, the aortic valve lets blood flow from the left ventricle out of the heart through the aorta.



It is important for the blood on the right side of your heart not to mix with the blood on the left side of your heart. There is a thick wall of muscle between the two sides of the heart. It is called the **septum**.

Two Pumps

Remember from the skeletal system that your heart is made of special involuntary muscle. It is called cardiac muscle. The muscle in your heart works to pump your blood. Your heart is actually two pumps that work together to move your blood all around your body. One pump moves the blood from the upper chambers, or atria, into the lower chambers, or ventricles. The other pump moves the blood out of the heart and into the lungs or into the body.

When the doctor puts a stethoscope up to your chest, he or she may be listening to your heart. They want to hear the lub-dub of the pumps working. If they hear the right sounds, they can be pretty sure your heart is working correctly. The doctor may count the number of times you heart beats in one minute. If you have a good healthy heart, it should be beating between 60 and 80 times every minute. Of course, the heartbeat is different for every person, depending on the person's age, sex, and physical condition.

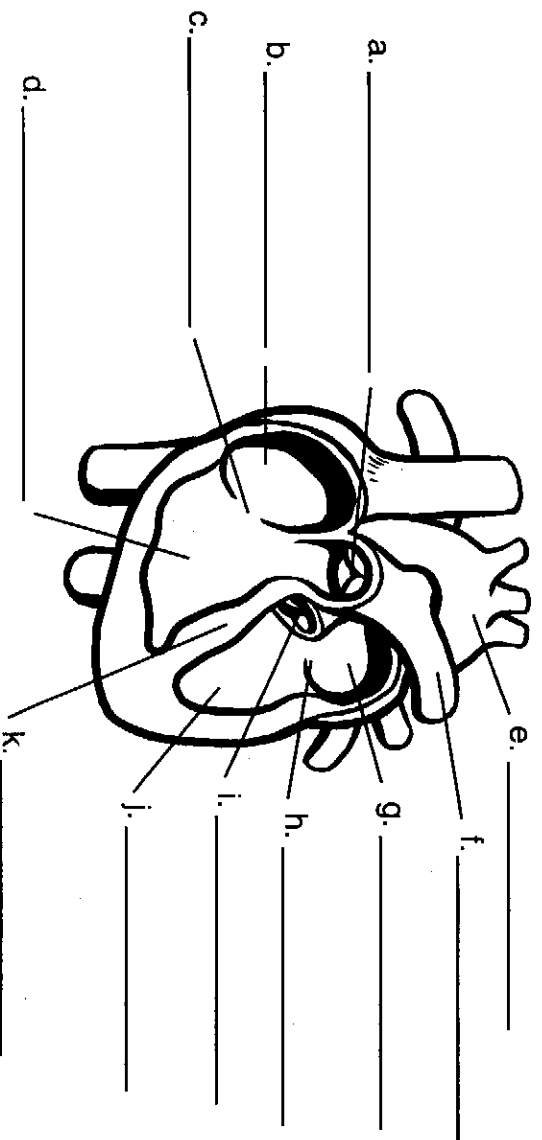
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Activity

Using the information from pages 55–56, label this diagram of the heart.

Word Bank:

| | | | |
|------------------|-----------------|-----------------|--------|
| right atrium | left atrium | right ventricle | aorta |
| left ventricle | pulmonary valve | aortic valve | septum |
| pulmonary artery | mitral valve | tricuspid valve | |

**Vocabulary Review**

Write a good definition for each of the following words.

1. Atrium: _____

2. Chamber: _____

3. Septum: _____

4. Valve: _____

5. Ventricle: _____

Name: _____

Date: _____

Questions

Read the following sentences. If a sentence is true, write LUB on the line. If a sentence is false, write DUB on the line.

- _____ 1. A person can really be heartless.
- _____ 2. Your heart is a group of cells and tissues working together.
- _____ 3. Your heart never stops working for your whole lifetime.
- _____ 4. Your heart is the same size as your fist.
- _____ 5. Your heart stays the same size for your whole lifetime.
- _____ 6. Everyone has the same size heart.
- _____ 7. Your heart is on the left side of your chest.
- _____ 8. Your heart is straight up and down in your chest.
- _____ 9. Your heart has four chambers.
- _____ 10. The upper chambers of the heart are called atria.
- _____ 11. The lower chambers of the heart are called the septum.
- _____ 12. Blood can go both ways between the atria and ventricles in your heart.
- _____ 13. Valves control the flow of blood from the atria to the ventricles.
- _____ 14. Valves control the flow of blood from the ventricles out of the heart.
- _____ 15. The thick wall between the right and left sides of the heart is the septum.
- _____ 16. Your heart is made of voluntary muscle called cardiac muscle.
- _____ 17. Your heart is really two pumps.
- _____ 18. One pump in your heart moves blood from the atria into the ventricles.
- _____ 19. The other pump in your heart moves blood from the ventricles to the atria.
- _____ 20. When a doctor hears your heart's lub-dub sounds, it means your heart is probably working properly.