

## THE CIRCULATORY SYSTEM

The circulatory system (also called the cardiovascular system) consists of the **heart**, **blood vessels**, and **blood**. The job of the circulatory system is to carry needed materials *to* cells and carries waste products *away* from cells.

### The Heart

The **heart** is a hollow, muscular organ that pumps blood throughout the body. Each time the heart beats, it pushes blood through blood vessels.

The heart has a right side and a left side. The right side of the heart is separated from the left side by a wall of tissue called the **septum**. Each side of the heart has two compartments, or chambers. Each upper chamber, or **atrium**, receives blood that comes into the heart. Each lower chamber, or **ventricle**, pumps blood out of the heart. The atrium and ventricle are separated by a valve. A **valve** is a flap of tissue that prevents blood from flowing backward.

The **pacemaker** is a special group of cells in the right atrium that sends out electrical signals that make the heart contract. The pacemaker adjusts the heart rate according to how much oxygen the body needs. When the body needs more oxygen, the heart beats faster.

### Blood Vessels

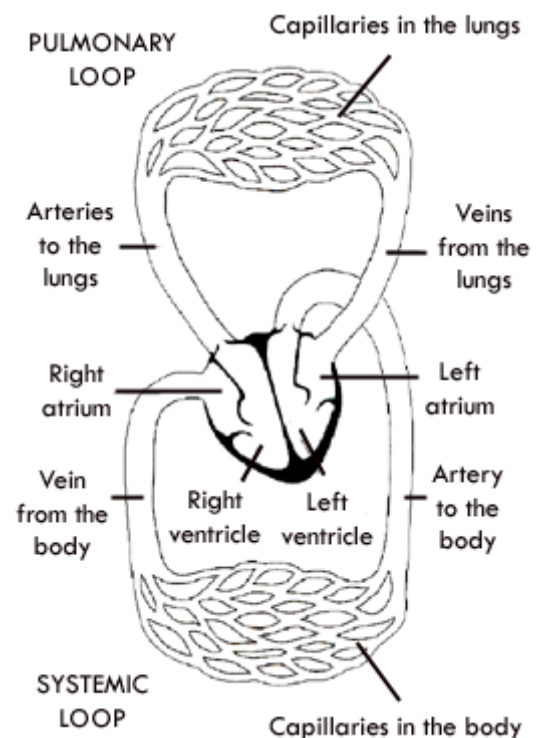
After leaving the heart, blood travels through 3 kinds of blood vessels. **Arteries** carry blood away from the heart and into the capillaries. **Capillaries** are tiny blood vessels where important substances are exchanged between the blood and body cells. Blood flows from capillaries into veins. **Veins** carry blood back to the heart.

### Loops of the Circulatory System

The circulatory system of the body consists of two major loops. In the first loop, blood travels from the heart to the lungs and back again. This is called the **pulmonary loop**. In the second loop, blood is pumped from the heart to the rest of the body and back to the heart. This is called the **systemic loop**.

In the pulmonary loop, oxygen-poor blood flows from the right atrium into the right ventricle, where it is pumped to the lungs. In the lungs, the blood picks up oxygen. Blood then flows from the lungs to the left atrium of the heart.

In the systemic loop, the oxygen-rich blood moves from the left atrium to the left ventricle. The left ventricle pumps the oxygen-rich blood to the rest of the body. Blood leaves the heart through the **aorta**, the largest artery in the body. After the blood has travelled through the body, oxygen-poor blood comes back to the right atrium of the heart.



Name: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

## **REVIEW QUESTIONS - THE CIRCULATORY SYSTEM**

1. What is the main job of the circulatory system?


2. What are the 3 components of the circulatory system?

a.	b.	c.
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3. Complete the table about the chambers of the heart.

Questions	Upper Chambers	Lower Chambers
What are the chambers called?		
How many are there?		
What is the job of the chambers?		

4. A flap of tissue that prevents blood from flowing backwards is called a(n) \_\_\_\_\_.

5. A group of cells that adjusts the heart beat of the heart is called the \_\_\_\_\_.

6. Name the three kinds of blood vessels.

a.	b.	c.
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7. The largest artery in the body is called the \_\_\_\_\_.

8. Draw arrows on the diagram to show the direction of blood flow throughout the body.

