

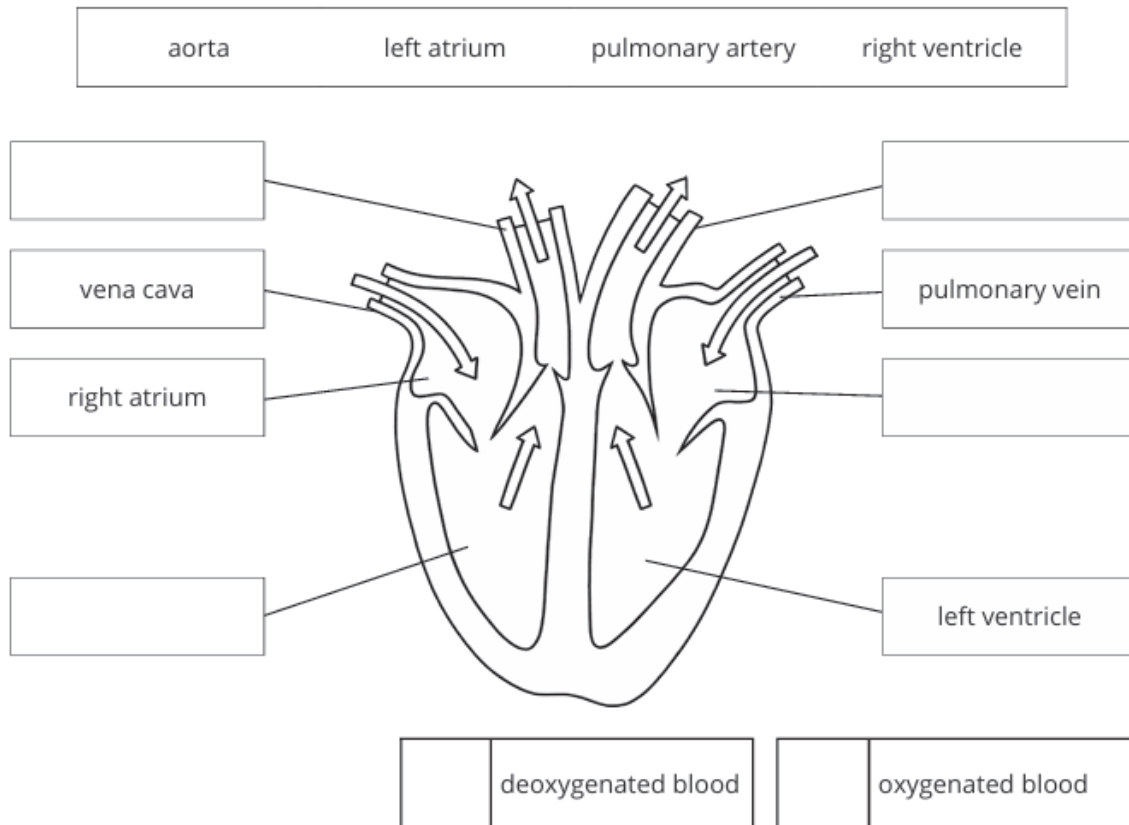
The Heart

The heart is part of the circulatory system. Humans have a double circulatory system; the heart pumps the blood through two circuits. The right side of the heart pumps blood to the lungs and the left side of the heart pumps blood to the rest of the body.

Blood enters the heart through the **vena cava** and passes into the **right atrium**, then into the **right ventricle**. The muscles in the right ventricle wall push the blood through the **pulmonary artery**, which carries the blood to the lungs. At the same time, blood from the lungs enters the heart through the **pulmonary vein**, passes through the **left atrium** and into the **left ventricle**. Muscles in the left ventricle wall push the blood through the **aorta**, which takes the blood to the rest of the body.

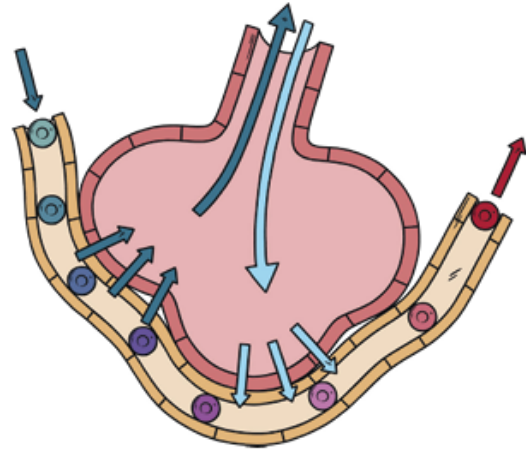
When you look at a diagram of the heart, the right side of the heart will be on the left of the page and the left side of the heart is on the right of the page.

1. Label the parts of the heart in the diagram below. Choose answers from the box.



When blood reaches the lungs, it becomes **oxygenated**. Oxygen diffuses from the air in the lungs into the red blood cells in the blood. Carbon dioxide diffuses from the blood into the lungs to be exhaled.

Blood arriving at the right side of the heart is deoxygenated. The right side of the heart pumps blood to the lungs. Blood returning to the left side of the heart is oxygenated.



The diagram shows blood passing through a capillary close to an alveolus in the lungs.

3. Which gas diffuses from the air in the alveoli into the blood?

Tick **one** box.

carbon dioxide glucose oxygen

4. Which gas diffuses from the blood to the air in the alveoli?

Tick **one** box.

carbon dioxide glucose oxygen

The left side of the heart pumps oxygenated blood to the rest of the body.

5. Complete the sentences to describe what happens to the substances in the blood as it passes close to the body tissues.

carbon dioxide	diffuse	glucose	muscle	oxygen	respiration
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_____ and _____ diffuse from the blood into the _____ cells, where they are used for _____ to release energy. _____ and other waste products _____ from the muscle cells into the blood to be returned to the heart.