

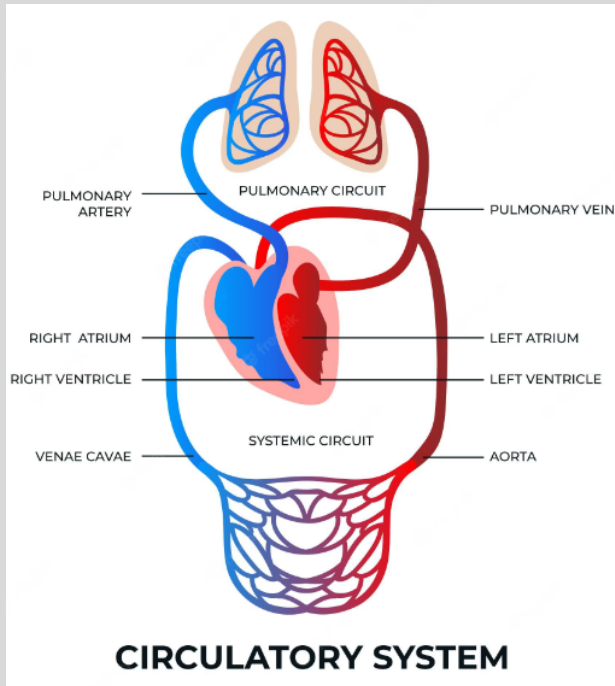


# Animals including humans

KNOWLEDGE MAT

YEAR 6  
SCIENCE

## KEY KNOWLEDGE



1. The right atrium collects the deoxygenated blood from the body, via the vena cava. It sends the blood to the right ventricle.
2. The right ventricle pumps the deoxygenated blood to the lungs. Here the blood picks up oxygen and disposes of carbon dioxide.
3. The lungs send oxygenated blood back to the left atrium which pumps it to the left ventricle.
4. The left ventricle pumps the blood to the rest of the body, via the aorta.

## KEY VOCABULARY

**aorta**- the main artery through which blood leaves your heart before it flows through the rest of your body.

**arteries**- a tube in your body that carries oxygenated blood from your heart to the rest of your body.

**atrium**- one of the chambers in the heart.

**blood vessels**- the narrow tubes through which your blood flows. Arteries, veins and capillaries are blood vessels.

**capillaries**- tiny blood vessels in your body.

**carbon dioxide**- a gas produced by animals and people breathing out.

**circulatory system**- the system responsible for circulating blood through the body, that supplies nutrients and oxygen to the body and removes waste products such as carbon dioxide.

**deoxygenated**- blood that does not contain oxygen.

**heart**- the organ in your chest that pumps the blood around your body.

**lungs**- two organs inside your chest which fill with air when you breathe in. They oxygenate the blood and remove carbon dioxide from it.

**nutrients**- substances that help plants and animals to grow.

**organ**- a part of your body that has a particular purpose.

**oxygen**- a colourless gas that plants and animals need to survive.

**oxygenated**- blood that contains oxygen.

**pulse**- the regular beating of blood through your body. How fast or slow your pulse is depends on the activity you are doing.

**respiration**- process of respiring; breathing ; inhaling and exhaling air.

**veins**- a tube in your body that carries deoxygenated blood to your heart from the rest of your body

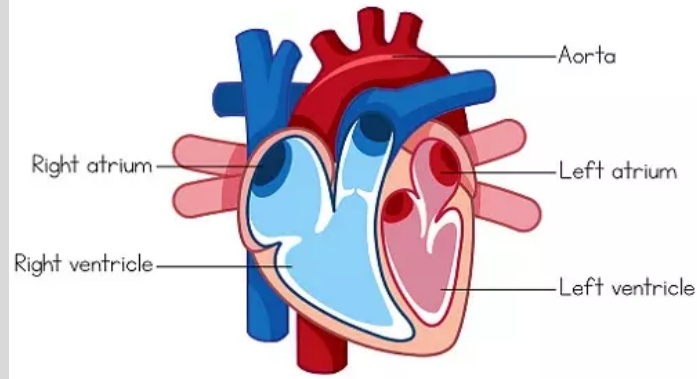
**vena cava**- a large vein through which deoxygenated blood reaches your heart from the body

**ventilation**- The exchange of air between the lungs and the atmosphere so that oxygen can be exchanged for carbon dioxide

ventricle one of the chambers in the heart via through.

## KEY KNOWLEDGE

### Parts of a Heart



The heart pumps blood to the lungs to get oxygen. It then pumps this oxygenated blood around the body.

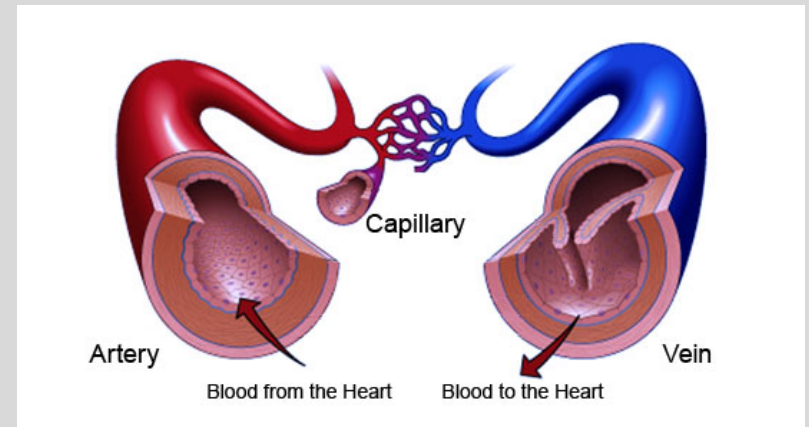
Mammals have hearts with four chambers. Notice how the blood that has come from the body is deoxygenated, and the blood that has come from the lungs is oxygenated again. The blood isn't actually red and blue: we just show it like that on a diagram.

#### Regular exercise:

strengthens muscles including the heart muscle;  
improves circulation;  
increases the amount of oxygen around the body;  
releases brain chemicals which help you feel calm and relaxed;  
helps you sleep more easily;  
strengthens bones. It can even help to stop us from getting ill.

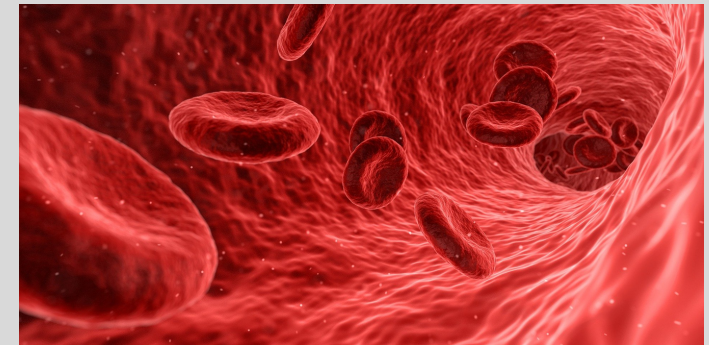


## KEY KNOWLEDGE



Capillaries are the smallest blood vessels in the body and it is here that the exchange of water, nutrients, oxygen and carbon dioxide takes place. Arteries carry oxygenated blood away from the heart.

Veins carry deoxygenated blood toward the heart.



Plasma is liquid. The other parts of your blood are solid.

Red blood cells carry oxygen through your body. Platelets help you stop bleeding when you get hurt. White blood cells fight infection when you're sick.