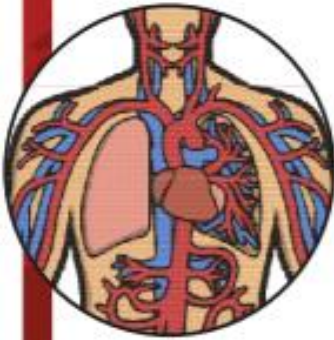


The Circulatory System

The circulatory system is an essential part of our body. 'Circulatory' means something that is going on a continuous circuit. This is exactly what is happening in our bodies all the time.



What Circulates and Why?

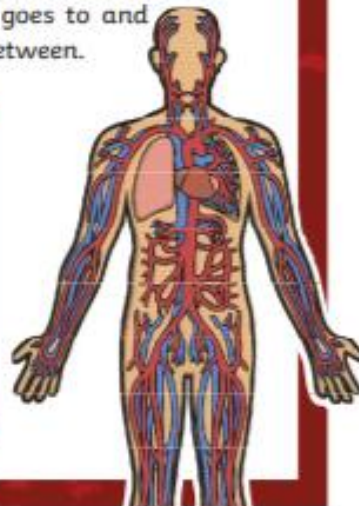
The simple answer is it's your blood that is circulated all around your body, and it is playing a really important role. Your blood takes nutrients, hormones and oxygen (O_2) all around the body to all the places they are required. The oxygen gets collected into your body when we breathe in, and it goes straight to your lungs. It's in the lungs that this oxygen goes into our blood and starts its journey around the body. You could think of the blood cells a bit like delivery drivers that drop off the oxygen to where it needs to be. Oxygen is dropped off all around the body to the capillaries, which are fine blood vessels that transfer the oxygen to all the cells in the body.

The Heart

Literally, the heart is at the heart of it all! Without the heart, no blood would get anywhere around your body. The heart is basically a big pump that constantly pumps the blood around the circulatory system. This has to happen all the time (even when you are asleep) to keep you alive. There are two loops in the circulatory system; the first goes to and from the heart, visiting the lungs to collect oxygen and get rid of carbon dioxide. The other loop is significantly longer and goes to and from the heart, but travels all around the body in between.

Did You Know...?

- In the average person, the heart beats about 2,500,000,000 times during a lifetime.
- Amazingly, it only takes about 20 seconds for one red blood cell to go round the whole body.
- Red blood cells last approximately four months before your body renews them.



The Other Half of the System

We've already talked about the blood in your system collecting oxygen, and delivering it all around the body, but it also carries out an equally important role in taking carbon dioxide (CO₂) from your body and delivering it back to the lungs. The waste product is then expelled from the body when you exhale. If we think of our blood cell delivery drivers again, they also collect the waste and take it away again. So, they are delivery drivers and waste disposal agents all in one!

Did You Know...?

- If you put one adult's veins, capillaries and arteries end to end, it would stretch 60,000 miles which would circle the Earth two and a half times!

1) What word is used in the first paragraph to suggest that the circulatory system is important ?

2)

Tick the boxes to say whether the statements below are **true** or **false**.

Sentence	True	False
Oxygen is dropped off all around the body through the arteries.		
The heart is basically a big pump.		
Red blood cells last about 20 minutes before your body renews them.		
The circulatory system is one big loop around your body.		

3) What do capillaries do ?

4) What are the scientific symbols for oxygen and carbon dioxide ?

5) What simile is used to describe the blood cells ? Why ?

6) In 'The Heart' paragraph, what does the phrase 'at the heart of it all' mean ? Why has it been used ?

7)

How many times does a heart beat in the lifetime of an average person? **Tick one.**

- 2,500
- 2,500,000,000
- 20 billion
- 25,000,000

8) Why do you think the heading 'The Other Half of the System' is used ?

9) In your own words explain how carbon dioxide is removed from the body.