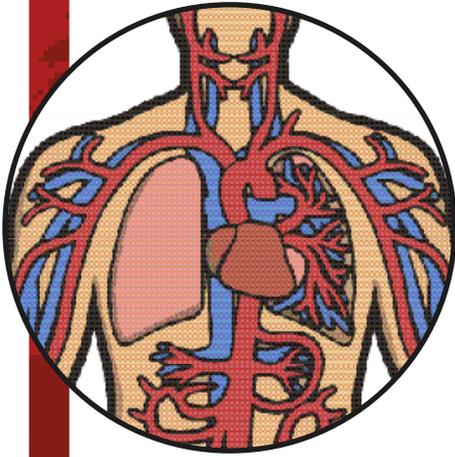


# The Circulatory System

The circulatory system is a really important part of our body. The word 'circulatory' means something that is going round and round in a circle or loop. This is exactly what is happening in our bodies all the time.

## What Circulates and Why?

The simple answer is your blood is circulated all around your body. The blood is doing a really important job - it is taking nutrients, hormones and oxygen all around the body to all the places they need to go. The oxygen comes into your body when we breathe in and it goes into our lungs. Then, inside the lungs, 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 thinner blood vessels, which transfer (move across) the oxygen to the cells in the body.

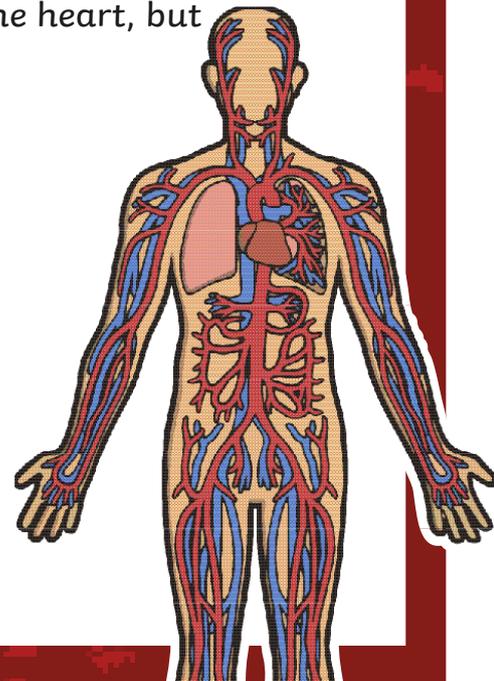


## The Heart

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 much larger and goes to and from the heart, but travels all around the body in between.

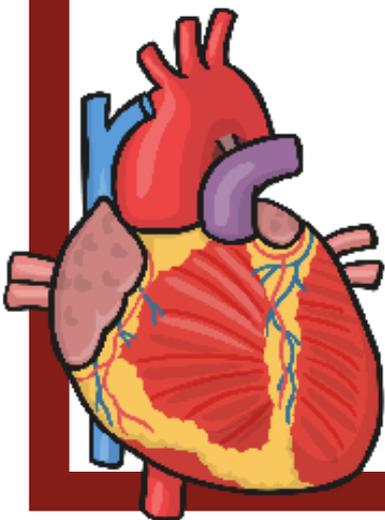
## Did You Know...?

- The average person's heart will beat 2.5 billion times during a lifetime.
- Amazingly, it takes under 20 seconds for one red blood cell to go round the whole body.
- Red blood cells last about 4 months before your body makes new ones.



## The Other Half of the System

We've talked about the blood in your system collecting oxygen, nutrients and hormones and delivering them all around the body, but it also does another important job. It also takes carbon dioxide from your body back to the lungs to be let out when you breathe out. If we think of our red blood cell delivery drivers again, they also collect the waste and take it away again. So, they are delivery drivers and waste disposers all in one!



# The Circulatory System Questions

1. What does 'circulatory' mean?

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2. What is circulated around the body with our blood? **Tick one.**

- nutrients
- oxygen
- hormones
- all of the above

3. In which organ does the oxygen go into the blood?

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4. Why are there two loops in the circulatory system? What does each one do?

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5. What waste product is removed through the lungs?

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6. How long does it take for one red blood cell to go round the body? **Tick one.**

- 20 seconds
- 20 minutes
- 24 hours
- 24 minutes

7. What are the blood cells compared to?

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8. Why is the heart so important? Use evidence from the text to explain fully.

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# The Circulatory System **Answers**

1. What does 'circulatory' mean?

**Travelling in a circle or continuous loop.**

2. What is circulated around the body with our blood? **Tick one.**

nutrients

oxygen

hormones

**all of the above**

3. In which organ does the oxygen go into the blood?

**The Lungs.**

4. There are there two loops in the circulatory system. What does each one do?

**There are two loops in the circulatory system – one that pumps the blood to the lungs to get oxygen, and another where the oxygenated blood is pumped around the rest of the body.**

5. What waste product is removed through the lungs?

**Carbon Dioxide**

6. How long does it take for one red blood cell to go round the body? **Tick one.**

**20 seconds**

20 minutes

24 hours

24 minutes

7. What are the blood cells compared to?

**The blood cells are compared to delivery drivers as they transport important things all around our bodies.**

8. Why is the heart so important? Use evidence from the text to explain fully.

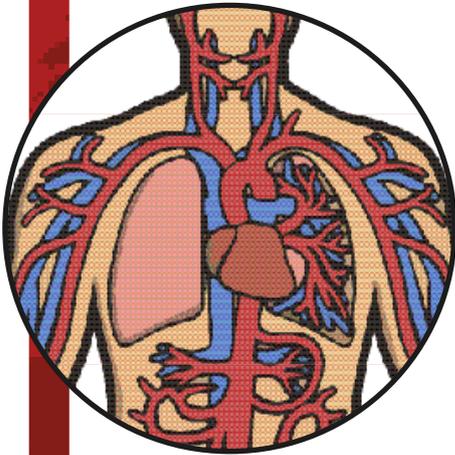
**The heart is really important because it pumps the blood all around the body. If the heart wasn't there pumping the blood, none of our organs would get the things they need like oxygen, nutrients and hormones.**

# The Circulatory System

The circulatory system is in our body. The word 'circulatory' means something that is going round and round in a circle or loop. This is exactly what is happening in our bodies all the time.

## What Circulates and Why?

Your blood is circulated all around your body, and it is doing a really important job. Your blood takes nutrients, hormones and oxygen all around the body to all the places they need to go. 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.

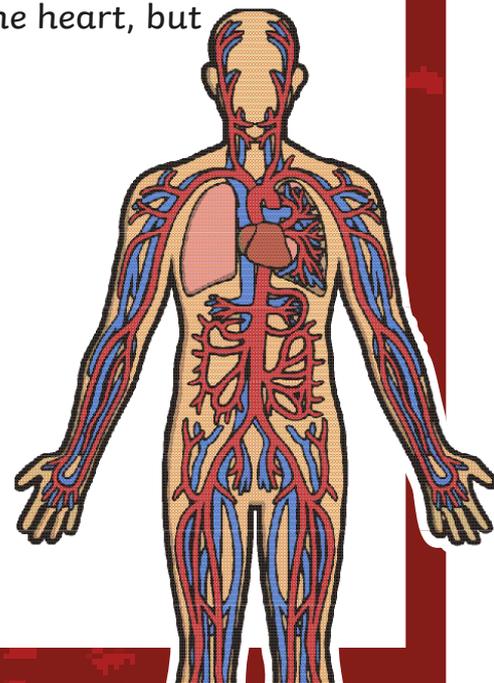


## The Heart

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 happens 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 much larger 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 about 4 months before your body makes new ones.

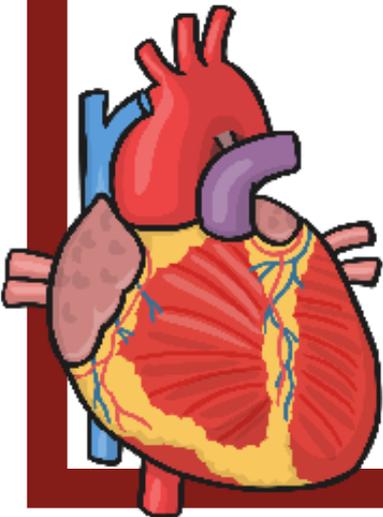


## The Other Half of the System

We've talked about the blood in your system collecting oxygen, and delivering it all around the body, but it also does another important job. It takes carbon dioxide from your body and back to the lungs to be let out when you breathe out. If we think of our red blood cell delivery drivers again, they also collect the waste and take it away again. So, they are delivery drivers and waste disposers all in one!

### Did You Know...?

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



# The Circulatory System Questions

1. Name three things that are transported around the body with your blood.

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2. How long do red blood cells last for? **Tick one.**

- 4 months
- 20 seconds
- 20 days
- 4 weeks

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

Sentence	True	False
Oxygen gets collected into our bodies when we breathe out.		
There are two loops in the circulatory system.		
Your heart pumps blood around your body for 22 hours of the day.		
It takes around 20 seconds for a red blood cell to travel around the body.		

4. Why do you think the paragraph 'The Heart' begins with the words 'Literally, the heart is the heart of it all!'?

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5. According to the text, what would circle around the Earth two and a half times?

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6. What simile is used to explain the function of the blood?

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7. What are the functions of the two different 'loops' in the circulatory system?

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8. What are capillaries?

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9. What is the most interesting piece of information you have read in this text and why?

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# The Circulatory System Answers

1. Name three things that are transported around the body with your blood.

**Oxygen, nutrients and hormones.**

2. How long do red blood cells last for? **Tick one.**

- 4 months**  
 20 seconds  
 20 days  
 4 weeks

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

Sentence	True	False
Oxygen gets collected into our bodies when we breathe out.		<input checked="" type="checkbox"/>
There are two loops in the circulatory system.	<input checked="" type="checkbox"/>	
Your heart pumps blood around your body for 22 hours of the day.		<input checked="" type="checkbox"/>
It takes around 20 seconds for a red blood cell to travel around the body.	<input checked="" type="checkbox"/>	

4. Why do you think the paragraph 'The Heart' begins with the words 'Literally, the heart is the heart of it all!'?

**I think the paragraph about the heart begins with 'Literally, the heart is the heart of it all!' because something being 'the heart' is a phrase that means it is really important. The author has used the phrase because the heart is really important, and also because it is a heart.**

5. According to the text, what would circle around the Earth two and a half times?

**An adult's veins capillaries and arteries would circle the Earth two and half times if they were put in one long line.**

6. What simile is used to explain the function of the blood?

**The function of the blood is likened to delivery drivers as it transports important things all around our bodies.**

7. What are the functions of the two different 'loops' in the circulatory system?

**There are two different loops in the circulatory system – one that goes to and from the heart, passing through the lungs to collect oxygen, and another, much larger loop that goes to and from the heart, but goes all around the body.**

8. What are capillaries?

**Capillaries are fine blood vessels that transfer oxygen to cells in the body.**

9. What is the most interesting piece of information you have read in this text and why?

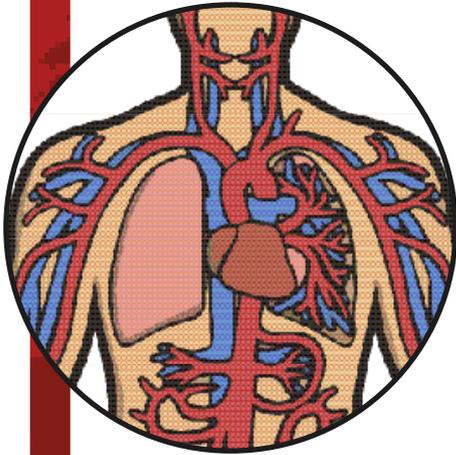
**Pupil's own response.**

# 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<sub>2</sub>) 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.

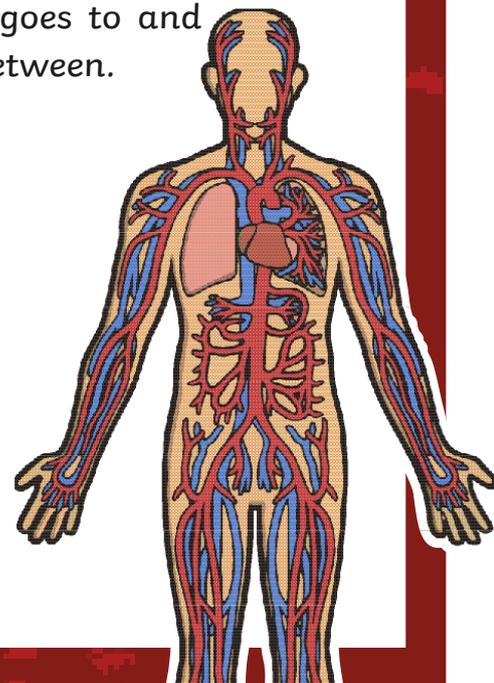


## The Heart

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.

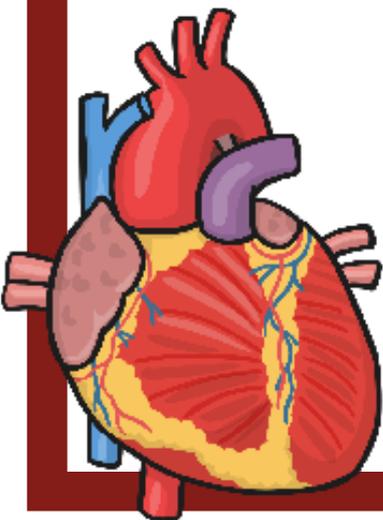


## The Other Half of the System

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 (CO<sub>2</sub>) 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!



# The Circulatory System Questions

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

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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?

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

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

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

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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?

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

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10. What is the most interesting piece of information you have read in this text and why?

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# The Circulatory System Answers

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

**Essential**

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.		<input checked="" type="checkbox"/>
The heart is basically a big pump.	<input checked="" type="checkbox"/>	
Red blood cells last about 20 minutes before your body renews them.		<input checked="" type="checkbox"/>
The circulatory system is one big loop around your body.		<input checked="" type="checkbox"/>

3. What do capillaries do?

**Transfer oxygen (and carbon dioxide) from (and to) the blood to (and from) the cells.**

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

**Oxygen = O<sub>2</sub>    Carbon dioxide = CO<sub>2</sub>**

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

**The blood cells are compared to delivery drivers as they transport important things all around our bodies.**

6. In 'The Heart' paragraph, what does the phrase, 'at the heart of it all' mean?

**The phrase 'at the heart of it all' means something that is at the centre/the most important/focus point of an activity or process. It has been used because the heart is the most important part of the circulatory system.**

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?

**I think the heading 'The Other Half of the System' has been used because earlier in the text it refers to the blood cells transporting oxygen and nutrients to the cells. However, this paragraph is about transferring the waste product (carbon dioxide) out of the body.**

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

**Carbon dioxide is removed from the body through it being transported to the lungs by the red blood cells, once at the lungs, it is expelled from the body as it is exhaled (breathed out).**

10. What is the most interesting piece of information you have read in this text and why?

**Open-ended for discussion.**