An anatomical illustration of a human heart, showing the four main chambers (right and left atria and ventricles) and the major blood vessels (superior and inferior vena cava, pulmonary artery, and aorta) entering and exiting. The heart is rendered in shades of brown and red, with a detailed network of smaller vessels visible on its surface.

Circulatory System Functions

Aim

- I can describe the functions of the main parts of the circulatory system.

Success Criteria

- I can explain the main functions of the heart, blood and blood vessels.
- I can describe the functions of parts of the heart and blood.

The Circulatory System



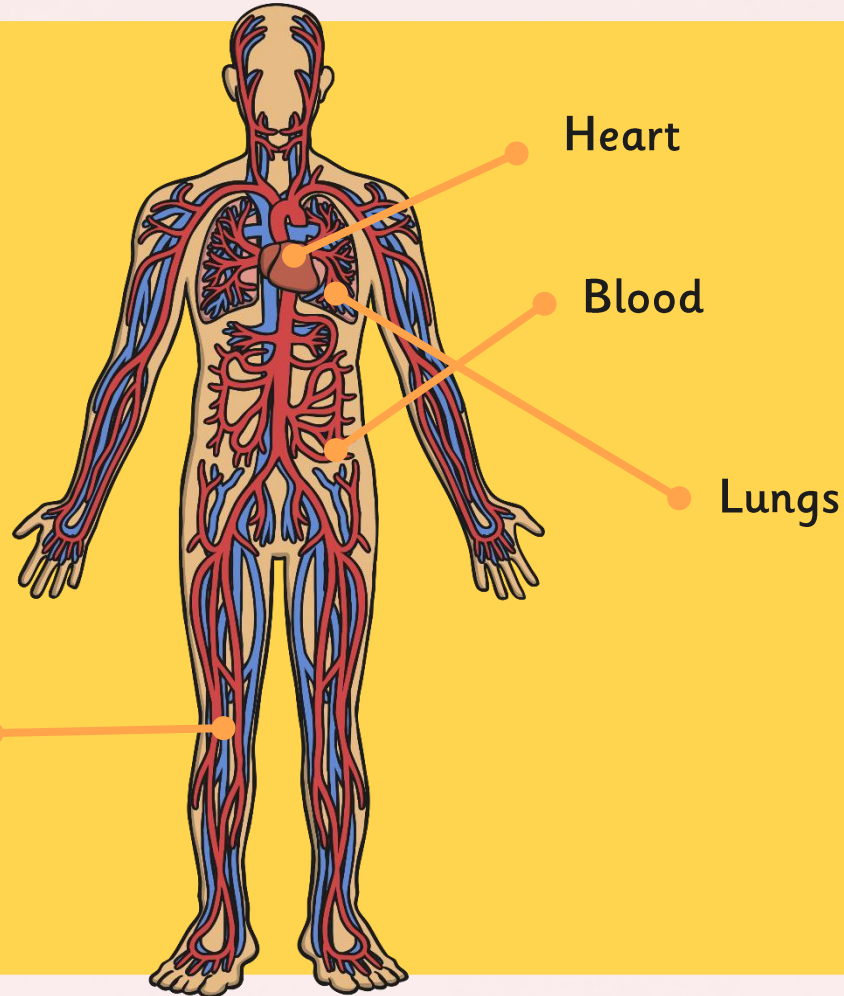
Label the main parts
of the circulatory
system:

Blood vessels

Heart

Blood

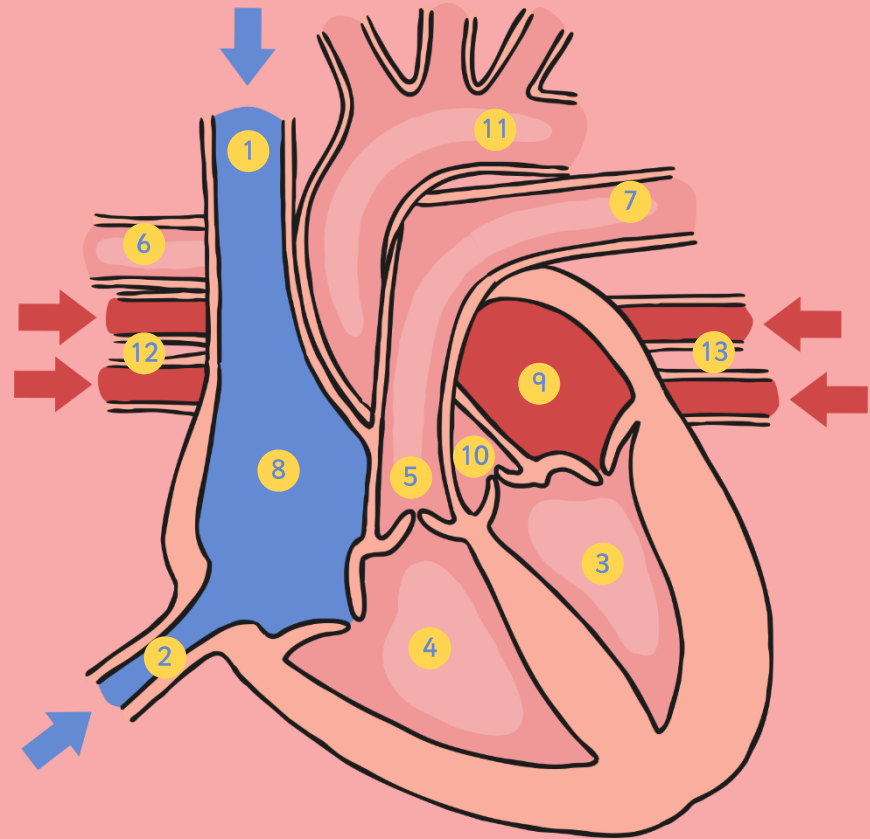
Lungs



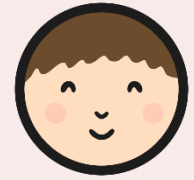
The Circulatory System: Heart



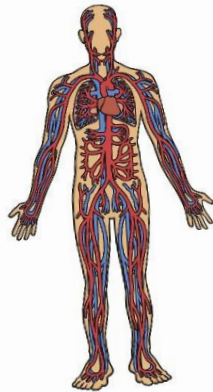
- 1 Superior vena cava
- 2 Inferior vena cava
- 3 Left ventricle
- 4 Right ventricle
- 5 Pulmonic valve
- 6 Pulmonary artery (right)
- 7 Pulmonary artery (left)
- 8 Right atrium
- 9 Left atrium
- 10 Aortic valve
- 11 Aorta
- 12 Right pulmonary veins
- 13 Left pulmonary veins



Functions of the Heart



Functions of the Circulatory System



General Functions of the Circulatory System

Heart:
The heart plays an important role because it keeps all the blood flowing in the circulatory system. The process of exercising results in the body requiring more oxygen, this means that the heart has to circulate more oxygenated blood through the circulatory system. That is why your heart beats faster when you exercise.

Lungs:
When we breathe, we inhale air containing oxygen into our lungs. It is in the lungs that blood vessels pick up oxygen and leave carbon dioxide to be released.

Blood Vessels:
Blood vessels are tubes that carry the blood around the body.

There are three main types of blood vessels:

Arteries – these carry oxygenated blood away from the heart to the rest of the body.

Veins – these carry deoxygenated blood back to the heart to be pumped to the lungs to become oxygenated.

Capillaries – these are blood vessels that connect to both arteries and veins. They are also connected directly to cells. Blood with nutrients and oxygen passes from the artery, through the capillary to a cell. Any waste is passed through capillary to the vein.

Science | Year 6 | Animals Including Humans | The Circulatory System: Functions | Lesson 2



inferior vena cava

right ventricle

...veins which supply the heart), **aortic arch** (arteries branch off from here to the head, neck and arms), the **descending thoracic aorta** (which branches off to supply blood to the ribs and chest) and the **abdominal aorta** (which branches off to supply major organs in the body).

Vena Cavae: The **superior vena cava** and **inferior vena cava** are the two largest veins in the body. The **superior vena cava** brings deoxygenated blood from the head, neck, arms and chest to the heart. The **inferior vena cava** brings deoxygenated blood from the legs, back, abdomen and pelvis to the heart.



Science | Year 6 | Animals Including Humans | The Circulatory System: Functions | Lesson 2

The Circulatory System Reading Comprehension

Read the questions and specific instructions carefully. Refer to the Functions of the Circulatory System Information Sheet.

1. What are the three main parts of the circulatory system?

2. Which is the most important part of the circulatory system? Give reasons for your answer.

3. Why is it called the 'circulatory' system?

4. 'The capillaries just connect arteries and veins so aren't very important.' Is this statement a fact or an opinion?

5. Which part of the lungs are directly connected to another part of the circulatory system? How do you know?

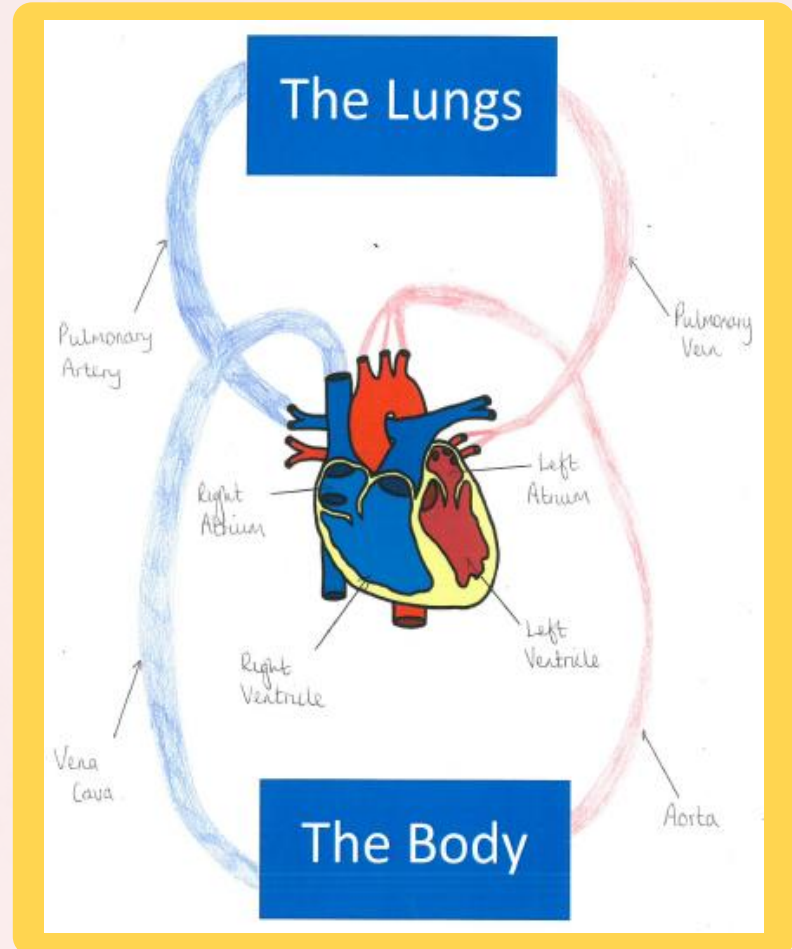
6. What is the role of the intercostal muscles and diaphragm?



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Task 2 – Explain the path the blood takes around the body.

- 1) Print off the sheet on the right.
- 2) Draw on your blood vessels: aorta, pulmonary artery, pulmonary vein & vena cava
- 3) Label each of these blood vessels.
- 4) Label the different chambers of the heart.
- 5) Record a video of yourself explaining the path the blood takes around the body – this can have you on the screen or it can be a voice over.
- 6) Finally, in the box at the side of your picture, write out your explanation.



Next week – the blood & blood vessels

