

THE HEART AND CIRCULATORY SYSTEM

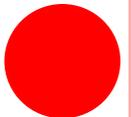
WALT: Describe the role of the heart and main blood vessels

1. All must be able to identify the organs in the circulatory system.
2. Most should be able to describe the heart and the main blood vessels and their role.
3. Some could describe the role of the 'double pump.'



LAST LESSON YOU LEARNT.....

- That the difference between breathing and respiration is.....
- That respiration occurs so that.....
- Today, we will see how the heart enables respiration to occur by controlling the transport of oxygen and nutrients around our bodies



FILL IN YOUR WORKSHEETS AS WE GO
THROUGH THE SLIDES AND ANIMATION



ARTERIES

Carry blood away from the heart.

The blood in the arteries is under high pressure and so:

- Arteries have thick outer walls
- Arteries have thick layers of muscles and elastic fibres

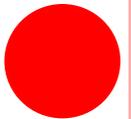
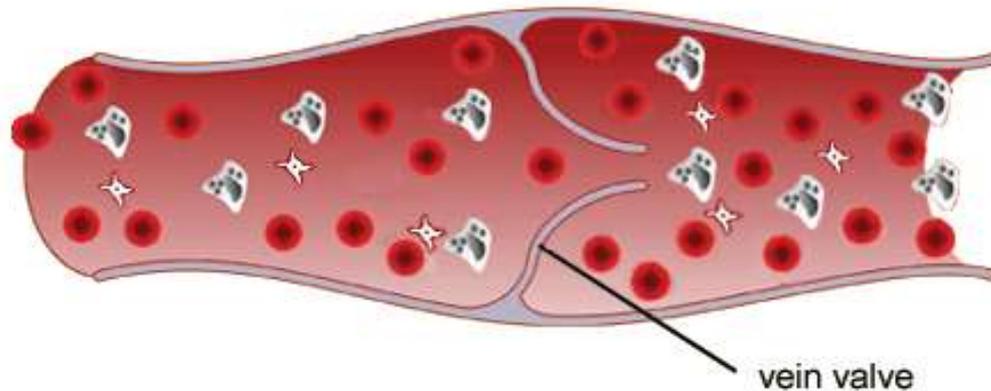
VEINS

Carry blood to the heart.

The blood in the veins is under low pressure and so:

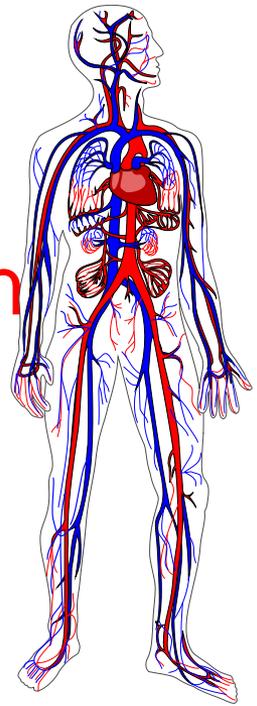
- Veins have thin walls
- Veins have thin layers of muscle and elastic fibres.

Unlike arteries, veins have one-way valves in them to keep the blood moving in the correct direction.



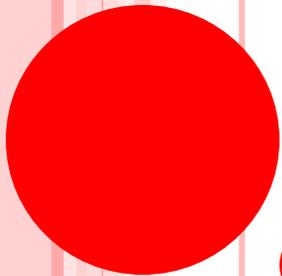
Oxygenated blood -

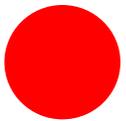
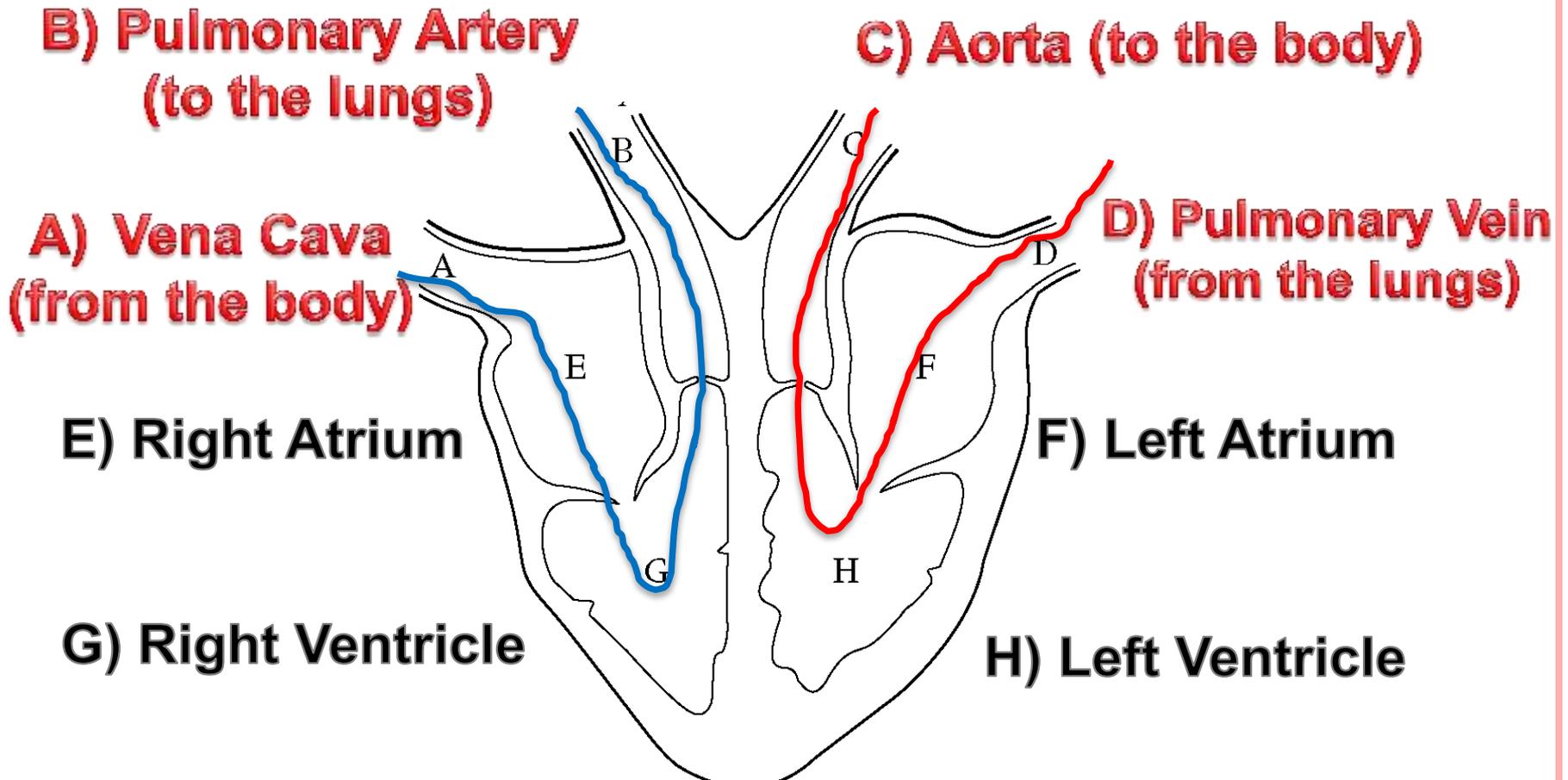
- Blood that contains oxygen
- Mainly found in arteries



Deoxygenated blood -

- Blood that does not contain oxygen
- Mainly found in veins





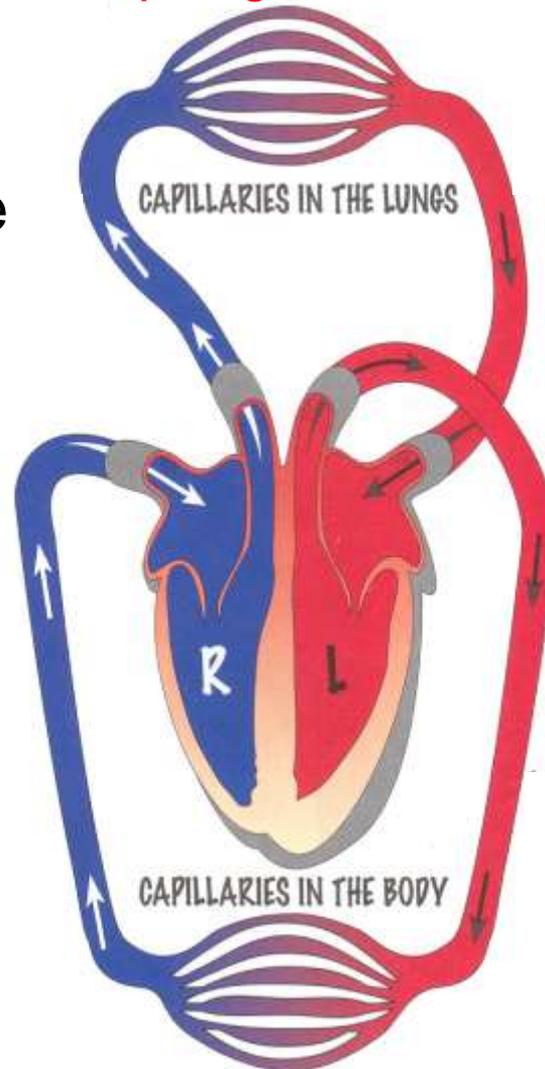
The heart is a **DOUBLE PUMP**:

1st - blood is pumped to the lungs & returns to the heart,

2nd - blood is pumped to respiring muscles & back to the heart again.

4. Deoxygenated blood is pumped from the heart to the lungs where the gases in the blood are breathed out

3. The oxygen leaves the blood to be used for respiration in the body and the blood goes back to the heart



1. The blood receives oxygen from the lungs and is pumped back to the heart

2. The oxygenated blood is then pumped to the rest of the body

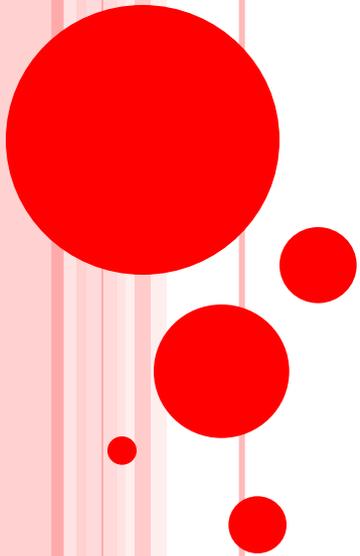


WATCH THE ANIMATION OF THE HEART AND THE VIDEO ABOUT HEART TRANSPLANTS

- http://www.nhlbi.nih.gov/health//dci/Diseases/hhw/hhw_pumping.html
- <http://www.doobybrain.com/2011/09/02/video-of-a-real-human-heart-beating-inside-a-clear-box/>



DISSECTION



IN GROUPS OF FIVE

- You will each have a role:
 - 1) A dissector – one who will point out the major parts of the heart
 - 2) A reader – one who will then point out the particular part of the heart from the text book
 - 3) Identifier (X3) – Identifier 1 must state what each part of the heart does. Identifiers 2 and 3 must decide whether Identifier 1 is correct.
 - 4) SWAP ROLES every 2 minutes!
 - 5) **When you have finished.** Return to your desks and label your diagrams.



Aorta

Anterior Vena Cava

Valve

Right Atrium

Right Ventricle

Pulmonary Artery

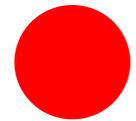
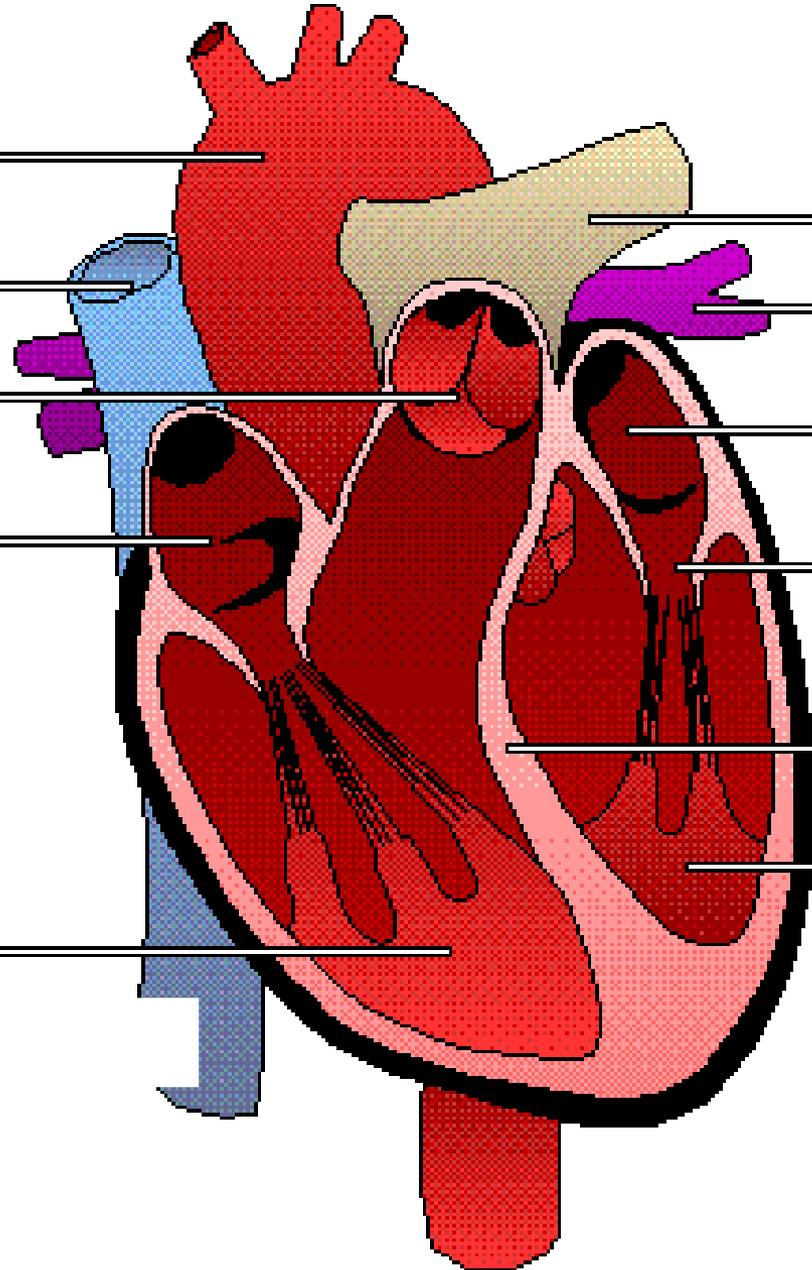
Pulmonary Vein

Left Atrium

Valve

Septum

Left Ventricle



PLENARY

- In pairs, swap books and mark your partner's answers
- Explain to each other the path blood takes from the lungs and through the heart and body and back to the lungs again

