GCSE Biology 1.4 The circulatory system knowledge organiser

VEINS

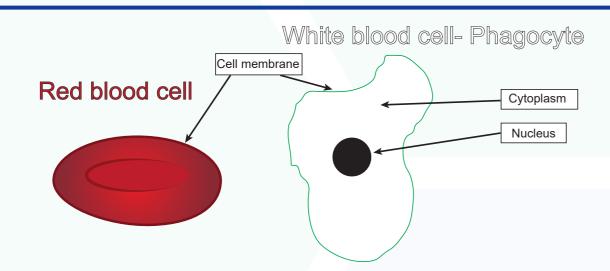
Larger

Yes

Narrower



Blood



Parts of the Blood

Size of Hole (lumen)

Wall Thickness

Valves?

Structure	Function
Red blood cells	Contain haemoglobin for transport of oxygen
White blood cells	Defend against infectious disease
Platelets	Clot the blood
Plasma	Carries dissolved substances e.g. Urea, carbon dioxide, soluble food and distributes heat

Arteries and veins Less Elastic fibers **More Elastic fibers** Less Muscle fibers **More Muscle fibers** - Separate science Thinner Wall **Thicker Wall** No Valves Valves only Small Lumen Large Lumen **Type of Blood** Oxygenated Deoxygenated **Direction** Away from heart Towards heart Higher **Pressure** Lower

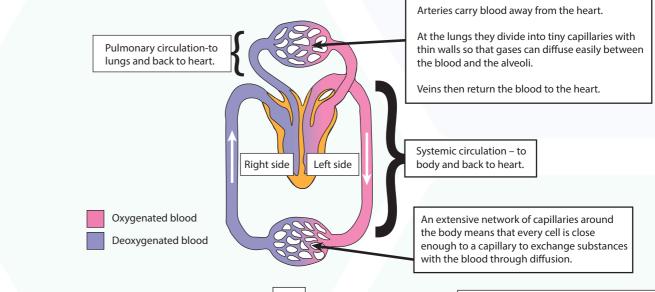
ARTERIES

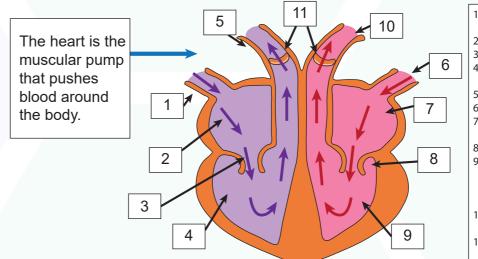
Smaller

Thicker

No

Circulation and the Heart





- Vena cava- returns deoxygenated blood to the heart from the body.
- ... The right atrium contracts to force blood ...
- through the tricuspid valve...
- into the right ventricle which then contracts pushing blood up the ...
- pulmonary artery to the lungs.
- 5. The pulmonary vein returns blood to the heart.
- 7. The left atrium receives the oxygenated blood and contracts...
- 8. forcing blood through the bicuspid valve...
- into the left ventricle. The left ventricle contracts, it has a much thicker muscular wall than the right ventricle to provide enough pressure to push blood all around the body.
- The aorta carries this blood under high pressure out of the heart and to the body.
- 11. The valves in the heart prevent the back flow of blood. These are the semi lunar valves.

Coronary heart disease

- Risk factors
- High fat diet
- High salt diet
- High blood pressure
- High blood cholesterol
- Smoking
- Genetic factors
- Lack of exercise

Treatments separate science only

- Statins
- Angioplasty
- Change of lifestyle

Coronary arteries can be seen on the outside of the heart, they supply the heart with glucose and oxygen for respiration. The heart needs to respire to get the energy for the muscular contractions needed to push blood. An atheroma (fatty deposit) may block these arteries leading to a heart attack.