



LENScience I Love My Heart

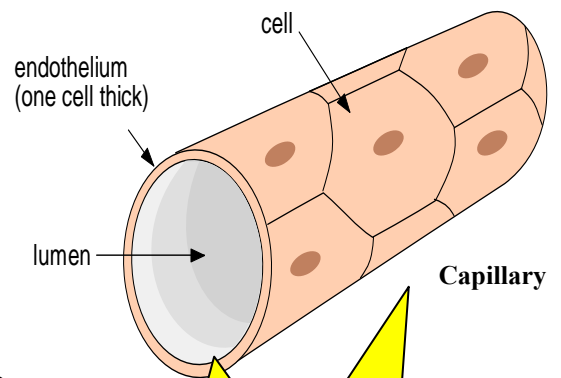
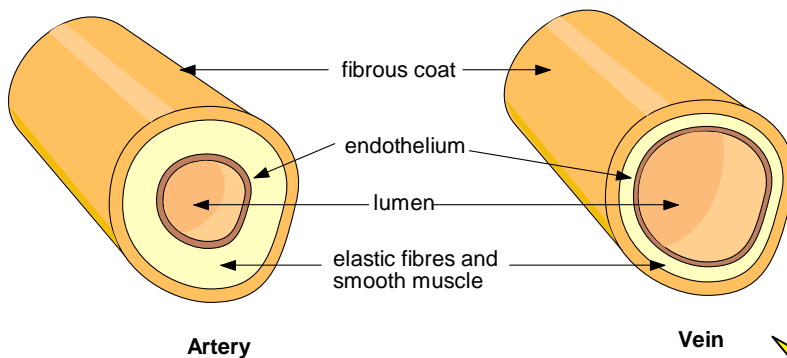
WORKSHEET 5

Vessels of the body

Blood is carried around the body in vessels.



Arteries carry blood away from the heart
Veins carry blood towards the heart
Capillaries take blood to individual cells



Activity

Arteries veins and capillaries carry out different functions so they have different structures.

Use the diagrams above to match the structures and functions in the table. You will cut out the second column and place them beside the correct structure.

Remember **LORD** - this tells you (left oxygenated right de-oxygenated)
Arteries carry blood **away** (AA)

Vessels of the body

ARTERIES STRUCTURE (Carry blood away from heart)	HOW THE STRUCTURE HELPS THE FUNCTION
<i>Have thick elastic walls.</i>	Blood moves due to push (pressure) from heart so valves are not needed.
<i>Have a narrow lumen (empty space in the middle of the artery) This can expand when a lot of blood passes through.</i>	Walls are very thin to allow easy diffusion
<i>No valves</i>	Strong enough to carry blood at high pressure – prevents rupture.
VEINS STRUCTURE <i>(carry blood to the heart)</i>	
<i>Thin walls Little or no fibrous muscular tissue</i>	A large lumen helps blood to flow despite low pressure.
<i>Lumen large</i>	Thick wall not needed because blood is at low pressure
<i>Valves present</i>	Blood cells pass through slowly so that full diffusion can take place
CAPPILLARIES	
<i>Permeable wall – one cell thick</i>	Valves are needed because backflow can be a problem due to low pressure.
<i>Lumen approx 1 red blood cell wide</i>	Valves not needed as blood at high pressure
<i>Valves absent</i>	Narrow enough to maintain blood pressure