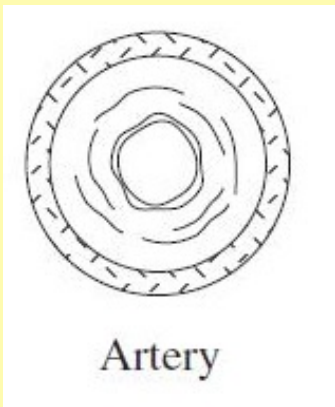
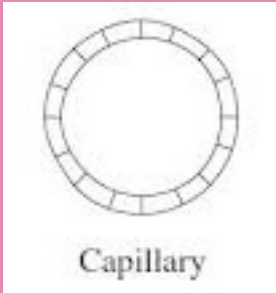


## 2.1 (d) - Circulatory System in Mammals

| Blood Vessel                                               | Diagram                                                                                              | Features                                                                                                                                                                                                                              | Function                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Artery - Blood away from heart                             |  <p>Artery</p>      | <ul style="list-style-type: none"> <li>• Outer layer of fibrous tissue</li> <li>• Thick middle layer containing elastic tissue</li> <li>• Muscle tissue</li> <li>• Endothelium</li> <li>• Narrow lumen</li> </ul>                     | <ul style="list-style-type: none"> <li>• <u>Outer layer</u> = protection</li> <li>• <u>Middle layer</u> = stretches when blood surges (systole) &amp; recoils (diastole)</li> <li>• <u>Muscle</u> = vasoconstriction/vasodilation</li> <li>• <u>Endothelium</u> = smooth inner surface - reduces friction</li> <li>• <u>Lumen</u> = maintains high blood pressure</li> </ul> |
| Vein - Blood into the heart                                |  <p>Vein</p>      | <ul style="list-style-type: none"> <li>• Outer layer of fibrous tissue</li> <li>• Thin middle layer containing some smooth muscle &amp; few elastic fibres</li> <li>• Endothelium</li> <li>• Large lumen</li> <li>• Valves</li> </ul> | <ul style="list-style-type: none"> <li>• <u>Outer layer</u> = protection</li> <li>• <u>Middle layer</u> = small due to low pressure</li> <li>• <u>Endothelium</u> = smooth inner surface</li> <li>• <u>Lumen</u> = makes it easier for blood to enter from capillaries with reduced friction</li> </ul>                                                                      |
| Capillary - Exchange of blood between blood & tissue cells |  <p>Capillary</p> | <ul style="list-style-type: none"> <li>• Squamous endothelium</li> <li>• One cell thick walls</li> <li>• Large surface area</li> </ul>                                                                                                | <ul style="list-style-type: none"> <li>• <u>Squamous endothelium</u> = permeable to water &amp; thin for a short diffusion distance &amp; facilitating exchange</li> </ul>                                                                                                                                                                                                   |