

Foundation Separate version — Higher Tier (★) questions removed.

**Q1. Compare arteries, veins and capillaries in terms of structure and function.**

[4 marks]

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**Q2. Explain why capillaries are described as the most important blood vessels for exchange of substances.**

[2 marks]

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**Total: 6 marks**

**Q1 (4 marks)**

*Compare arteries, veins and capillaries in terms of structure and function.*

- Arteries: thick elastic/muscular walls, small lumen — withstand and smooth high pressure blood from heart [1]
- Veins: valves — prevent backflow; large lumen — less resistance for low-pressure blood [1]
- Capillaries: one cell thick walls — short diffusion distance for exchange of O<sub>2</sub>, CO<sub>2</sub>, glucose [1]
- Capillaries: extensive network — every cell close to a capillary [1]

**Q2 (2 marks)**

*Explain why capillaries are described as the most important blood vessels for exchange of ...*

- Walls are only one cell thick — minimises diffusion distance [1]
- Present in every tissue — bring exchange surface close to all cells [1]