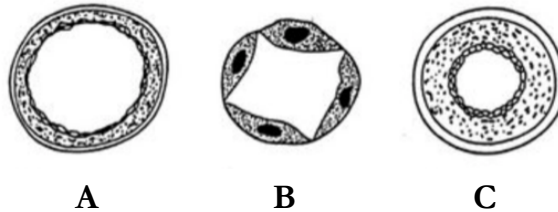




Blood Vessels

- 1 State which type of vessel each of the images corresponds to, and state that vessels function



Arteries - C - Carries blood away from the heart to the tissues or lungs

Capillaries - B - Exchange oxygen, nutrients and waste products between the blood and tissues.

Veins - A - Carry blood back to the heart

[6 marks]

- 2 Which vessel has valves, and what is the role of a valve?

- Veins have valves
- They ensure that blood only flows in one direction (back to the heart)

[2 marks]

- 3 The blood in arteries flows under high pressure. Explain how are arteries adapted to their function

- Thick muscular walls which provide strength (and allow them to control blood flow)
- Thick elastic layer so that they can stretch and spring back

[2 marks]

- 4 Explain how capillaries are adapted to their function of exchanging nutrients with the tissues

- Single cell thick walls so short diffusion distance for exchange
- Walls are permeable

[2 marks]

- 5 Sheba ran a 1500m race, which took her 6 minute 30 seconds. During that time, 2860ml of blood passed through her vena cava into her right atrium. Calculate her rate of blood flow during the race.

$$2860 / 6.5 = 440$$

Rate of blood flow = 440 ml/min

[3 marks]

[Total 15 marks]