

Circulatory systems: practice questions

5 questions • 13 marks • mark scheme at the back

For Cambridge IGCSE Biology 0610 (and 0970, which has the same content). **Supplement** is Extended content, only examined on Papers 2 and 4.

Name

Total / 13

1 Which statement describes the circulatory system? [1 mark]

- A. ☐ A pump and valves only
- B. ☐ Blood vessels, a pump and valves that ensure one-way flow of blood
- C. ☐ Blood vessels and a pump that allow blood to flow in both directions
- D. ☐ A pump that moves blood and air

2 (a) Name the pump of the circulatory system. [1] (b) State the job of valves in the circulatory system. [1] [2 marks]

3 **Supplement** Describe the single circulation of a fish. [3 marks]

4 **Supplement** Describe the double circulation of a mammal, starting with blood leaving the right ventricle. [4 marks]

5

Supplement

[3 marks]

Explain the advantages of a double circulation compared with a single circulation.

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Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [1]

B B (1) Vessels, pump and valves for one-way flow

2. [2]

- heart (1)
- stop blood flowing backwards / ensure one-way flow of blood (1)

3. [3] **Supplement**

- blood is pumped from the heart to the gills (1)
- then flows to the body / organs (1)
- then returns to the heart / passes through the heart once per circuit (1)

4. [4] **Supplement**

- right ventricle pumps blood to the lungs (1) allow via pulmonary artery
- blood returns to the left atrium (1) allow via pulmonary vein
- left ventricle pumps blood to the body (1) allow via aorta
- blood returns to the right atrium (1) allow via vena cava

5. [3] **Supplement**

- blood returns to the heart after the lungs (1)
- so can be pumped again / pressure is increased (1)
- blood reaches body at high pressure so substances are delivered faster (1)
- lower pressure in the lungs does not damage capillaries (1)
- mammals have a high (metabolic / respiration) rate so need fast oxygen supply (1)
- Max 3