Nova’s Guide to the Circulatory System

Learning objective: Identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood.

Read the passage below carefully. Use the information to answer the questions in full sentences.

Nova the owl spent the evening observing the night sky, but tonight she was focused on something much closer: the human body. 'The circulatory system is like a busy transport network,' Nova explained to her friends. At the centre of this system is the heart, a powerful muscle that acts as a pump. It pushes blood through a vast network of vessels. Arteries carry oxygen-rich blood away from the heart to every part of the body, delivering vital oxygen and nutrients to our muscles and organs. Once the oxygen has been delivered, the blood becomes deoxygenated. It then travels back to the heart through veins. To ensure this blood is ready to work again, the heart pumps it to the lungs, where it picks up a fresh supply of oxygen. Connecting these two types of vessels are tiny, thin-walled capillaries, where the actual exchange of gases and nutrients happens. Without this constant, rhythmic cycle, our bodies would not be able to function, grow, or keep us warm. It is truly the most efficient delivery service in existence!

Word bank: circulatory · oxygenated · deoxygenated · arteries · veins · capillaries · nutrients · ventricles

1. According to the text, what is the main function of the heart? (2 marks)

2. What is the specific role of the capillaries within the circulatory system? (2 marks)

3. Why does blood need to travel to the lungs after it has circulated around the body? (2 marks)

4. Based on the description of arteries, what might happen if a person’s arteries were blocked? (3 marks)

5. Nova compares the circulatory system to a 'transport network'. Do you think this is an effective comparison? Explain your reasoning. (3 marks)

Draw: Draw a diagram of the human heart and label the arteries, veins, and capillaries using arrows to show the direction of blood flow.

Extension challenge: Research why exercise causes your heart rate to increase and write a short paragraph explaining the link between physical activity and the circulatory system.