

Circulatory System and Health: A Journey with Nova

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

Read each question carefully. Use your scientific knowledge of the human body to provide detailed answers. Remember to use the word bank to help you express your scientific understanding clearly.

Word bank: Heart · Blood vessels · Oxygen · Nutrients · Carbon dioxide · Arteries · Veins · Capillaries · Pump

1. Nova the owl is observing how the human body works. Explain the primary function of the heart in the circulatory system. (2 marks)

2. Describe the difference between arteries and veins. Where does each vessel carry blood in relation to the heart? (3 marks)

3. Why is it essential for blood to transport both oxygen and nutrients to the muscles during exercise? (2 marks)

4. List two lifestyle choices that can have a positive impact on the health of your circulatory system. (2 marks)

5. If a person has a resting heart rate of 70 beats per minute, calculate how many times their heart beats in one hour. Show your working out. (2 marks)

Draw: Draw a simple diagram of the human circulatory system. Use arrows to show the direction of blood flow from the heart to the rest of the body and back again. Label the heart, an artery, and a vein.



Extension challenge: Research what happens to the heart rate of an athlete immediately after a sprint compared to someone who has been sitting still. Write a short paragraph explaining why this change occurs, using the terms 'oxygen demand' and 'muscular activity'.