



KNOWLEDGE ORGANISER

SCIENCE: BODY PUMP

YEAR SIX

KEY KNOWLEDGE:

QUESTION 1: What does the Circulatory System do?

ANSWER

The blood **circulatory system** (cardiovascular **system**) delivers nutrients and oxygen to all cells in the body. It consists of the heart and the blood vessels running through the entire body. The arteries carry blood away from the heart; the veins carry it back to the heart.

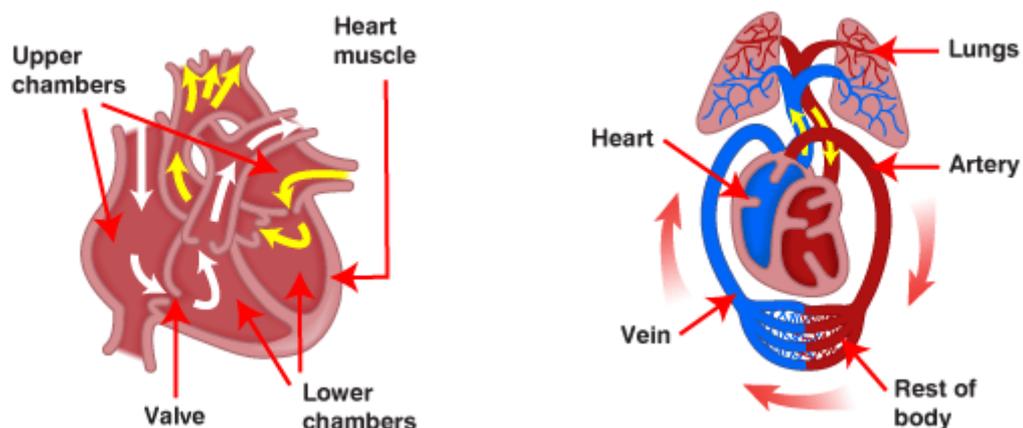
QUESTION 2: What does a heart do?

ANSWER

Your heart plays an important part in being healthy. It keeps all the blood in your circulatory system flowing. Blood helps oxygen get around your body. When you exercise you can feel your pulse, it tells you how fast your heart is pumping. Your heart plays an important part in being healthy. It keeps all the blood in your circulatory system flowing. Blood helps oxygen get around your body. When you exercise you can feel your pulse, it tells you how fast your heart is pumping.

The tubes that carry blood away from your heart are called **arteries**. The tubes that carry blood back to your heart are called **veins**. Your pulse is a measure of how fast your heart is beating. It is the number of beats your heart makes in one minute. Your heart beats faster or slower depending on what you are doing. You can feel your pulse at certain points on your body. The easiest place to feel it is in your wrist, using the first two fingers of your other hand.

When you sit, the average heart beats about 80 times per minute. However, everybody is different, so your pulse could be higher or lower than this. When you exercise, your heart beats more quickly. This is because your muscles are working harder and need more oxygen to keep going. Your lungs also work harder, making you breathe more quickly to get more oxygen. When you sleep, your muscles need less oxygen, so your heart slows down.



QUESTION 3: What is blood?

ANSWER

Blood is a body fluid in humans and other animals that delivers necessary substances such as nutrients and oxygen to the cells and transports metabolic waste products away from those same cells



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QUESTION 4: What do Blood Vessels do?

ANSWER

Blood vessels are found throughout the body. There are five main types of blood vessels: arteries, arterioles, capillaries, venules and veins.

Arteries carry blood away from the heart to other organs. They can vary in size. The largest arteries have special elastic fibres in their walls. This helps to complement the work of the heart, by squeezing blood along when heart muscle relaxes. Arteries also respond to signals from our nervous system, either tightening or dilating.

Arterioles are the smallest arteries in the body. They deliver blood to capillaries. Arterioles are also capable of constricting or dilating and, by doing this, they control how much blood enters the capillaries. Capillaries are tiny vessels that connect arterioles to venules. They have very thin walls which allow nutrients from the blood to pass into the body tissues. Waste products from body tissues can also pass into the capillaries. For this reason, capillaries are known as exchange vessels.

Groups of capillaries within a tissue reunite to form small veins called venules. Venules collect blood from capillaries and drain into veins. Veins are the blood vessels that carry blood back to the heart. They may contain valves which stop blood flowing away from the heart.