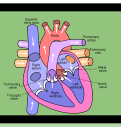
Year 6 - Swans

Science -Animals including Humans: The heart & the circulatory system

Essential Question - -Is your heart the most important pump in your body?



Summer 2B

What I should already know : In Year 1 children identified, named, drew and labeled the basic parts of the human body and said which part of the body is associated with each sense. In year 2, children described the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. In year 3 children identified that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. They identified that humans and some other animals have skeletons and muscles for support, protection and movement, In Year 4, children described the simple functions of the basic parts of the digestive system in humans.

Enquiry Questions:

What is the function of the heart and its role in the circulatory system?

What are blood vessels and why are they important?

What is the composition of blood?

How does the body transport water and nutrients?

What affects your heart rate?

Key Vocabulary

Aorta - the main artery that carries blood away from your heart to the rest of your body.
Artery - a vessel in the circulatory system which transports blood away from the heart
Atrium - the upper chambers of the heart
Capillary - a microscopic blood vessel connecting arteries and veins
Circulatory system - the system that controls the flow of blood around the body
Concentration - how much of a substance is present
BPM - beats per minute measuring heart rate
Deoxygenated - not containing oxygen
Depressant - a drug that slows the rate of the body's functions: Alcohol is a depressant.
Diet - the kind of food an animal usually eats
Diffusion - diffusion is the movement of all liquids and gases
Hallucinogen - a type of drug that changes a person's perception of reality.
Plasma - the fluid part of blood that carries other substances
Platelet - cell fragments in the blood involved in clotting
Pulse - the rhythmical throbbing of the arteries as blood is pumped through them
Pulmonary artery - transports deoxygenated blood from the right side of the heart to the lungs for oxygenation.
Osmosis - osmosis is the movement of water only
Oxygenated - containing oxygen
Red blood cell - disc shaped cell that carries oxygen
Stimulant - a substance, such as a drug, that makes the mind or body more active
Valve - flaps which open and close to allow blood flow
Vein - a vessel in the circulatory system which transports blood back to the heart
Ventricle - the lower chambers of the heart
Vessel - tube which circulates the blood through the body
White blood cell - cells in the blood involved with the immune system

Scientific Skills

Skills and Knowledge

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

Describe the ways in which nutrients and water are transported within animals, including humans

Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function

Working Scientifically

.

Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs and bar and line graphs

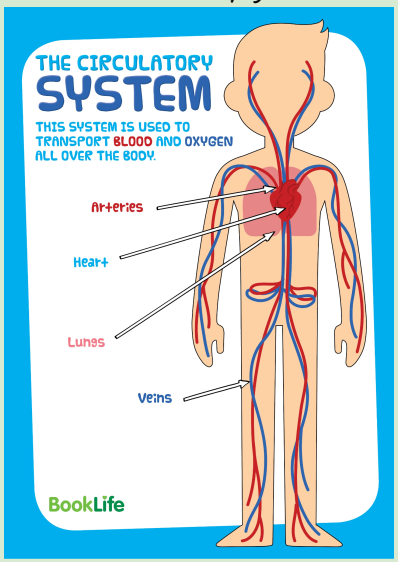
Taking measurements and using a range of scientific equipment, with increasing accuracy and precision; taking repeat readings when appropriate

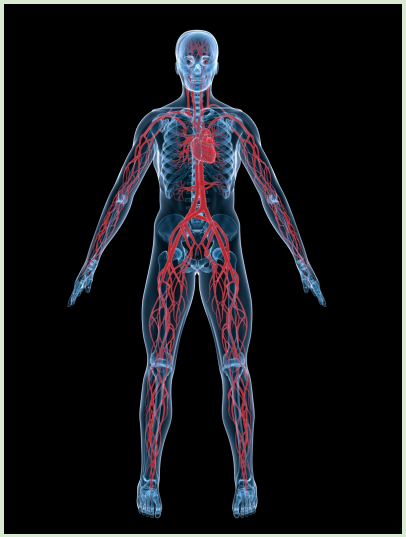
Identifying scientific evidence that has been used to support or refute ideas or arguments

Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary

Reporting and presenting findings from enquiries - including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations

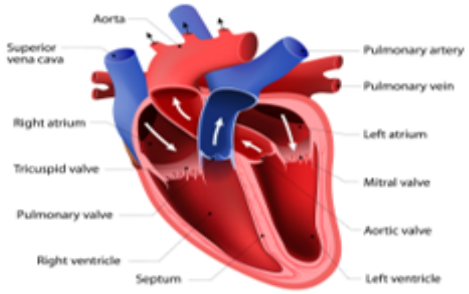
The Circulatory system



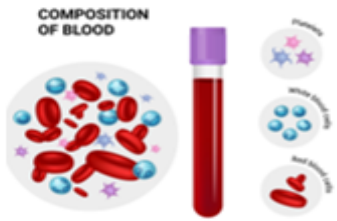


The Heart

The **heart** pumps **blood**, carrying nutrients and oxygen, around every part of the body.



The red vessels are **arteries** and the blue vessels are **veins**. **Arteries** have thick, muscular walls and carry **oxygenated** blood from the **heart** to the rest of the body. **Veins** carry **deoxygenated** blood back to the heart and have thinner walls. **Capillaries** are microscopic vessels which link the veins and arteries together.



Red blood cells carry **oxygen**.
White blood cells fight infection as part of the immune system.
Platelets help to clot (thicken) the blood and form a scab.
Plasma is the fluid part of the blood, which transports

Looking After Our Heart

Healthy Food Pyramid

To keep our **heart** and body healthy, we need to:

- eat a balanced diet (not too much sugar or fat);
- exercise regularly;
- drink approximately 2 litres of water a day;
- limit alcohol intake, in adults;
- get approximately 8 hours of sleep.

Drugs, including alcohol, can cause liver damage, poor sleep, high blood pressure, and different types of cancer. Drugs can be classified into four groups – painkillers, stimulants, depressants and hallucinogens.

Links to Other Areas of the Curriculum: PSHE: Drugs and the effect on our body/ Keeping Healthy