Animals Including Humans

Year 6 - Term 4

Things that can harm the circulatory system

- Smoking and drinking alcohol can be harmful to our health.
- Tobacco can cause short-term effects such as shortness of breath and loss of taste and long term effects such as lung disease and cancer.
- Alcohol can cause short term effects such as addiction and long term effects such as organ damage and cancer.

Things that can maintain a healthy circulatory system

Exercise helps to improve health by

- Removing fatty deposits from the body.
- Toning muscles and reducing fat.
- Increasing fitness (ability to do high intensity activities for longer).

At the end of this unit, you will -

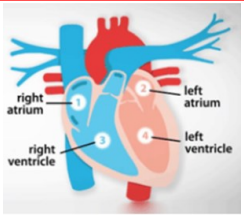
- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.
- Recognise the impact of exercise and lifestyle on the way their bodies function.
- Describe the ways in which nutrients and water are transported within animals, including humans.

You will work scientifically by -

- Planning different types of scientific enquiries to answer questions, including recognising, and controlling variables where necessary.
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar/line graphs.
- Using test results to make predictions to set up further comparative and fair tests.
- Reporting and presenting findings from enquiries, including conclusions, causal relationships, and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
- Identifying scientific evidence that has been used to support or refute ideas or arguments.

Diagram - The Heart

The heart is comprised of four chambers; the right atrium; the right ventricle; the left atrium and the left ventricle.



The rate that your heart pumps is called your pulse.

Deoxygenated

Oxygenated

The Function of the Heart

1	Deoxygenated blood flows into the heart from the body through the veins.
2	This blood is pumped out of the lungs through the pulmonary artery.
3	Blood is then oxygenated in the lungs.
4	Blood returns to the heart through the pulmonary veins.
5	The oxygenated blood is then pumped out of the heart through the aorta.
6	The blood then travels around the body delivering oxygen and nutrients to the organs.

Key Scientist

Barbara Casadei

A researcher helping the British Heart Foundation find cures for cardiovascular conditions.

The Circulatory System

The circulatory system is made up of the **heart**, **lungs** and **blood vessels**.

Arteries carry (mostly oxygenated) blood **away from the heart** to the rest of the body.

Veins carry (mostly deoxygenated) blood from the body **towards the heart**.

Nutrients, **oxygen** and **carbon dioxide** are exchanged via the **capillaries**.

Vocabulary	Definitions
aorta	The tube where your blood exits the heart through 3 valves.
arteries	Tubes in your body that carry (mostly oxygenated) blood from your heart to the rest of your body.
atrium	The part of your heart that receives blood from the veins.
blood vessels	Narrow tubes that your blood flows through.
carbon dioxide	A gas produced by animals and people breathing out.
circulatory system	The system responsible for circulating blood through the body. It supplies nutrients and oxygen to the body and removes waste products such as carbon dioxide.
deoxygenated	Something that does not contain oxygen.
* heart	The organ in your body that pumps blood around the body.
* lungs	Two organs in your chest which fill with air when you breathe in. They oxygenate the blood and remove carbon dioxide from it.
* nutrients	Substances that help animals and plants grow.
* organ	A part of the body that has a particular purpose and performs specific functions.
* oxygen	A colourless gas that plants and animals need to survive.
oxygenated	Something that contains oxygen.
pulse	The regular beating of blood through your body. The speed of your pulse rate will depend on how active you are.
respiration	Inhaling oxygen-rich air and exhaling air filled with carbon dioxide.
veins	A tube in your body that carries (mostly deoxygenated) blood to your heart from the rest of your body.
ventricle	The part of the heart from which blood passes into the arteries.
*	Vocabulary that I know from years 3 and 4.

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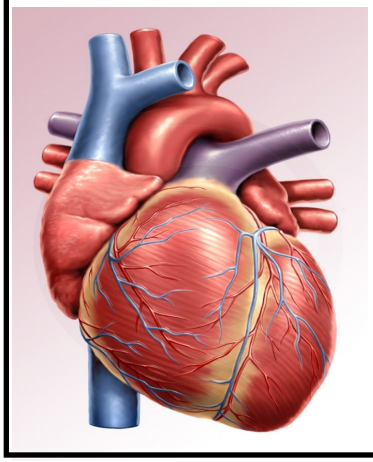

What do you already know about the Circulatory System?

What do you want to know about the Circulatory System?

What did you learn about the Circulatory System?

What is the circulatory system?	How are nutrients and water transported in the body?
What are the main parts of the heart?	How does exercise affect our bodies?
What is the purpose/function of the heart?	How does lifestyle affect our bodies?
What is a blood vessel?	How long can our body last without food? How long can our body last without water?
What colour are veins?	Which gas do we breathe in and which gas do we breathe out?
What is in blood?	Does blood change colour?
How many times does your heart beat in a day?	What percentage of your body weight is made up of blood?
What does it mean to 'give blood'?	What is the lifespan of a red blood cell?
Which part of the circulatory system fights infections?	How many litres of blood are in the average body?