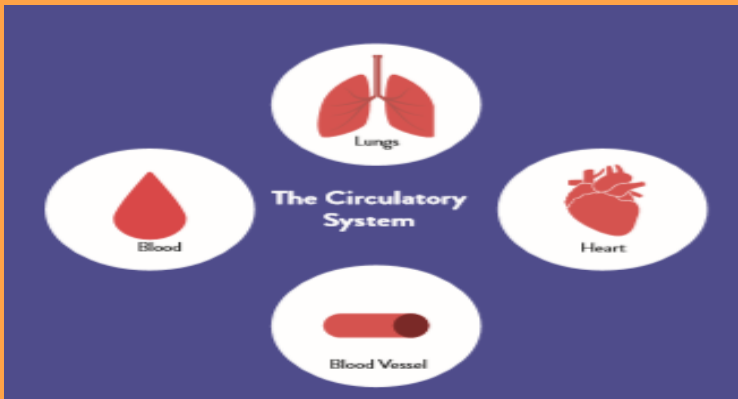


HEROES AND VILLAINS

EXERCISE, HEALTH AND THE CIRCULATORY SYSTEM



CORE LEARNING OF THIS UNIT:

- The circulatory system is made up of the heart, the lungs, blood and the vessels it travels through. Its function is to transport nutrients, gases and wastes between the cells of the body and other systems (digestive/respiratory system).
- Exercise has many effects on the body. During exercise the heart rate and breathing rate increase to provide more oxygen to the muscles and to remove carbon dioxide quicker. Regular exercise can lead to stronger muscles and bones. The heart will become stronger with a reduced risk of heart disease. There is also an increase in lung capacity.
- Smoking can damage the lungs as well as cause cancer. It can also damage the heart and blood vessels.
- Alcohol causes liver damage and can affect the emotional state of us.

WORKING SCIENTIFICALLY

- 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 diet, exercise, drugs and lifestyle on the way their bodies function.
- Use scientific language to describe the ways in which nutrients and water are transported within human body.
- Observe/ measure changes to breathing, heart beat and or pulse rates after exercise.

PRIOR LEARNING:

Year 2 -Fighting Fit (How we grow and stay healthy)
Year 3 - Healthy Humans (Nutrition and the Skeleton)
Year 4- The Art of Food (The Digestive System)
Year 5- Faster, Higher, Stronger (Human life cycles)

KEY VOCABULARY

Heart	the organ that pumps blood around the body.
Lungs	the organ that gathers in air as part of breathing.
Blood	the liquid that transports oxygen around the body.
Oxygen	the gas in the air that is needed for respiration
Vein	blood vessel carrying blood back to the heart.
Artery	blood vessel carrying blood away from the heart.
Carbon Dioxide	A colourless, odourless gas carried to the lungs and breathed out.
Addiction	when you feel an uncontrollable urge to do something as it makes you feel good.
Nicotine	the addictive substance in cigarettes
Oxygenated	Blood exposed to oxygen in the lungs.
Deoxygenated	Blood that has no oxygen.
Circulatory System	the system that circulates blood and lymph through the body.
Lymph	a colourless fluid containing white blood cells.
Exercise	the activity of exerting your muscles in various ways to keep fit.



SIGNIFICANT PEOPLE

John Boyd Orr was a doctor in the trenches during World War I and witnessed the impact of poor diet on the poor health of the soldiers. After the war he set up the Rowett Research Institute and was the first scientist to show that there was a link between poverty, poor diet and illness.