

Medium Term Plan: Supporting Implementation of LTP/Progression Grid

Subject: Science Year: UKS2 year B
NC/PoS: <ul style="list-style-type: none">• 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• describe the way in which nutrients and water are transported within animals, including humans.
Prior Learning (what pupils already know and can do) To know exercise is important for a healthy body. To know the rib cage protects the heart. To know all animals need water and nutrients from food for a healthy body.
End Goals (what pupils MUST know and remember) To know the circulatory system is made up of blood, blood vessels and the heart To know blood moves food, waste oxygen and waste products around the body To know there are three kinds of blood vessels: capillaries, veins and arteries To know arteries carry oxygenated blood away from the heart to the body To know veins carry de-oxygenated blood back to the heart To know exercise strengthens the muscles, develops the lungs, helps body coordination, uses up food for energy and can prevent the body getting fat and helps the body to sleep at night time To know that taking health risks can damage the body To know that smoking causes heart attacks, blocked arteries, lung cancer and breathing problems To know sniffing solvents is extremely dangerous as damages the brain To know that drinking alcohol slows down the reactions To know heavy drinking damages the liver, heart and stomach To know drugs can be dangerous if misused and can cause damage to the brain To know tobacco, sniffing solvent and some drugs are addictive
Key Vocabulary Circulatory system, oxygenated, de-oxygenated, veins, arteries, blood vessels, capillaries, solvents, addictive, heart, arteries, veins, red and white cells, platelets, plasma, pulse rate, heart rate, heart attacks, blocked arteries, lung cancer, tobacco, alcohol, solvents, drugs, medicine, vaccination, inhalation, legal, illegal
Session 1: review prior learning Skeleton purpose - Support – the skeleton keeps the body upright and provides a framework for muscle and tissue attachment. Posture – the skeleton gives the correct shape to our body. Protection – the bones of the skeleton protect the internal organs and reduce the risk of injury on impact. Digestive system - breaks nutrients into parts small enough for your body to absorb and use for energy, growth, and cell repair. It includes the mouth, pharynx (throat), esophagus, stomach, small intestine, large intestine, rectum, and anus.

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Session 2:

Recap: function of each part of the digestive system

LO: to understand the function of the components of the circulatory system

The vast system of blood vessels - arteries, veins, and capillaries - is over 60,000 miles long. Blood vessels flow blood throughout the body. Arteries transport blood away from the heart. Veins return blood back toward the heart. Capillaries surround body cells and tissues to deliver and absorb oxygen, nutrients, and other substances. The capillaries also connect the branches of arteries and to the branches of veins.

<https://www.youtube.com/watch?v=GMBUSU-2GK3E> the heart

<https://www.youtube.com/watch?v=VSVYgivfs9c> blood and function– red cells, white cells, platelets and plasma

<https://www.youtube.com/watch?v=co6iuDpaQTM> what is blood?

<https://www.youtube.com/watch?v=pjOxpLEynIE> veins and arteries

<https://www.youtube.com/watch?v=pjOxpLEynIE> red blood cells

Vocabulary: heart, blood vessels, capillaries, arteries, veins, red and white cells, platelets, plasma

Session 3:

Recap: the components of the circulatory system and their function

LO: to research how the circulatory system works

https://www.youtube.com/watch?v=_qmNCJxpsr0 how the system works

Vocabulary: circulatory system, oxygenated, de-oxygenated, lungs

Session 4:

Recap: the circulatory system – components function and how it works

Lo: Looking for patterns to see how exercise affects the heart rate

<https://www.youtube.com/watch?v=pjOxpLEynIE> – circulatory system – pulse rate affected by exercise

Children complete own investigation: resting rates, do taller children have faster pulse rates, difference between boys and girls etc.

Collect data and record results

Vocabulary: pulse rate, heart rate

Session 5:

Recap: how exercise affects the pulse rate

Lo: To research the effects of tobacco and alcohol on the body

<https://www.youtube.com/watch?v=QDDnYcn-o8I> tobacco – (teacher knowledge)

Smoking: heart attacks, blocked arteries, lung cancer and breathing problems

(nb: latest research indicates that vaping is also harmful to the lungs and can cause breathing problems)

<https://www.youtube.com/watch?v=1mOpdZQkZkY> operation ouch – how alcohol affects the body

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Vocabulary: heart attacks, blocked arteries, lung cancer, tobacco, alcohol

Session 6:

Recap: how body is affected by alcohol and tobacco

Lo: to research the effects of solvents and drugs on the body

<https://www.youtube.com/watch?v=cITuKremX9A> inhaling solvents – teacher watch for knowledge

<https://www.youtube.com/watch?v=W11ergeD09o> effect of drugs on the body – teacher watch

Vocabulary: solvents, drugs, medicine, vaccination, inhalation, legal, illegal

Link to career scientist:

https://pstt.org.uk/application/files/2816/4572/2472/Associate_Scientist_Vaccine_Development_-_Rebecca_Hand_-_v2.pdf - develops flu vaccines for children