

Medium Term Plan: Supporting Implementation of LTP/Progression Grid

Subject: Science Year: UKS2 year 6 – Animals including humans (circulatory system)
NC/PoS:

- 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)

- Know the circulatory system is made up of blood, blood vessels and the heart
- Know blood moves food, waste oxygen and waste products around the body
- Know there are three kinds of blood vessels: capillaries, veins, and arteries
- Know arteries, carry oxygenated blood away from the heart to the body
- Know veins, carry de-oxygenated blood back to the heart
- 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 nighttime
- Know that taking health risks can damage the body
- Know that smoking causes heart attacks, blocked arteries, lung cancer and breathing problems
- Know sniffing solvents is extremely dangerous as damages the brain
- Know that drinking alcohol slows down the reactions
- Know heavy drinking damages the liver, heart, and stomach
- Know drugs can be dangerous if misused and can cause damage to the brain
- 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), oesophagus, stomach, small intestine, large intestine, rectum, and anus.

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Session 2: Recap: function of each part of the digestive system
Children learn the circulatory system is made up of blood, blood vessels and the heart. Blood moves food, waste oxygen and waste products around the body. There are three kinds of blood vessels: capillaries, veins, and arteries. Arteries, carry oxygenated blood away from the heart to the body. Veins, carry de-oxygenated blood back to the heart.

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

<https://www.youtube.com/watch?v=GMBSU-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

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

Children learn 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 nighttime

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

Children learn that taking health risks can damage the body. Smoking causes heart attacks, blocked arteries, lung cancer and breathing problems. Drinking alcohol slows down the reactions. Heavy drinking damages the liver, heart, and stomach.

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

(N.b: 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

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

Session 6: Recap: how body is affected by alcohol and tobacco

Children learn sniffing solvents is extremely dangerous as damages the brain. Drugs can be dangerous if misused and can cause damage to the brain. Tobacco, sniffing solvents and some drugs are addictive.

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

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<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