

Medium Term Plan: Supporting Implementation of LTP/Progression Grid

<p>Subject: Science Year: UKS2 year 6 – Animals including humans (circulatory system) NC/PoS:</p> <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.
<p>Prior Learning (what pupils already know and can do)</p> <p>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.</p>
<p>End Goals (what pupils MUST know and remember)</p> <ul style="list-style-type: none">• 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
<p>Key Vocabulary</p> <p>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</p>
<p>Session 1: review prior learning</p> <p>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.</p> <p>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.</p>
<p>Session 2: Recap: function of each part of the digestive system/Recap food nutrients and what a balanced diet is.</p> <p>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.</p> <p><u>LO: to understand the function of the components of the circulatory system</u> https://www.youtube.com/watch?v=GMBSU-2GK3E the heart</p>

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<p>https://www.youtube.com/watch?v=VSVYgivfs9c blood and function– red cells, white cells, platelets and plasma</p> <p>https://www.youtube.com/watch?v=co6iuDpaQTM what is blood?</p> <p>https://www.youtube.com/watch?v=pjOxpLEynIE veins and arteries</p> <p>Vocabulary: heart, blood vessels, capillaries, arteries, veins, red and white cells, platelets, plasma</p>
<p>Session 3: Recap: the components of the circulatory system and their function</p> <p><u>LO: to research how the circulatory system works</u></p> <p>https://www.youtube.com/watch?v=qmNCJxpsr0 how the system works</p> <p>Vocabulary: circulatory system, oxygenated, de-oxygenated, lungs</p>
<p>Session 4: Recap: the circulatory system – components function and how it works</p> <p>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</p> <p><u>Lo: Looking for patterns to see how exercise affects the heart rate</u></p> <p>https://www.youtube.com/watch?v=pjOxpLEynIE – circulatory system – pulse rate affected by exercise</p> <p>Sports Science Investigation (PE link) – which exercises increase our heart rates the most?</p> <p>Investigate and predict (using scientific reasoning) the following by carrying out the bleep test:</p> <p>Will girls be fitter than boys?</p> <p>Will 10 year olds be fitter than 11 year olds?</p> <p>Will shorter people be fitter than taller people?</p> <p>Which intensive exercise will increase heart rate the most?</p> <p>Who will be the fittest in the class when carrying out the bleep test?</p> <p>Collect data and record results – link to spreadsheets in Computing – children to create pie charts/bar graphs and line graphs to look at correlations between variables.</p> <p>Vocabulary: pulse rate, heart rate</p>
<p>Session 5: Recap: how exercise affects the body – pulse rate/sweating/breathing rate</p> <p>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.</p> <p><u>Lo: To research the effects of tobacco and alcohol on the body</u></p> <p>https://www.youtube.com/watch?v=QDDnYcn-o8I tobacco – (teacher knowledge)</p> <p>Smoking: heart attacks, blocked arteries, lung cancer and breathing problems</p> <p>(N.b: latest research indicates that vaping is also harmful to the lungs and can cause breathing problems)</p> <p>https://www.youtube.com/watch?v=1mOpdZQkZkY operation ouch – how alcohol affects the body</p> <p>Vocabulary: heart attacks, blocked arteries, lung cancer, tobacco, alcohol</p>
<p>Session 6: Recap: how body is affected by alcohol and tobacco</p> <p>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.</p> <p>Children sort a variety of drugs into the following categories (defining each category):</p>

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Social/legal/illegal/prescription.

Illegal: a drug that is a crime to possess or use.

Prescribed: a drug that is prescribed (allowed) by a doctor.

Legal: a drug that you can take and you won't be breaking the law.

Social: a drug that people take when they are with friends.

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

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