

Subject: Science  
 Year group: 6  
 Term: Spring  
 Unit name: Animals including humans

**Prior Knowledge** - Which things are living and which are not. Classification of animals (e.g. amphibians, reptiles, birds, fish, mammals, invertebrates) Animals that are carnivores, herbivores and omnivores. Animals have offspring which grow into adults. The basic needs of animals for survival (water, food, air). The importance of exercise, hygiene and a balanced diet. Animals get nutrition from what they eat. Some animals have skeletons for support, protection and movement. The basic parts of the digestive system. The different types of teeth in humans. Respiration is one of the seven life processes. The life cycle of a human and how we change as we grow.

<b>Scientific enquiry</b>	
Classifying	Not relevant
Observing over time	Observe pulse rates before, during and after exercise.
Pattern seeking	Children generate questions for investigation such as: ▪ Do older people have lower pulse rates? ▪ Do boys have higher pulse rates?
Comparative/fair testing	Complete different activities to compare the impact on their own heart rate.
Researching	Generate questions to research about the human circulatory system. (Children present what they've learned in different ways: create a model, write a song, write a story, create a PPT, etc.)

<b>Key Vocabulary</b>			
Aorta	Deoxygenated	Organ	
Arteries	Diet	Oxygen	
Atrium	Drugs	oxygenated	
Blood vessels	Exercise	Pulse	
Capillaries	Heart	Veins	
Carbon dioxide	Lungs	Vena cava	
Circulatory system	Muscles	Ventricle	

- National curriculum:**
- 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 ways in which nutrients and water are transported within animals, including humans

- Working Scientifically:**
- Raise different kinds of questions about scientific phenomena.
  - Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision.
  - Set up comparative and fair tests and begin to decide which variables to control.
  - Make and explain predictions.
  - Begin to report and present findings from enquiries using scientific language.
  - Begin to use evidence to justify ideas and conclusions.

- Working Scientifically:**
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.
  - Make their own decisions about what observations to make, how long to make them for and whether they need to
  - Independently take accurate and precise measurements
  - Report and present findings from enquiries using detailed scientific language.

**Assessment for learning**  
 Recapping prior knowledge  
 ledge- beginning of unit- what do children already know?  
 Beginning of each lesson- focus on recall of previous learning (quick quizzes)

**Respect**

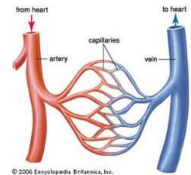
Do for other people the same things you want them to do for you.

Matthew 7:12

**Integrity**

An honest witness tells the truth. But a dishonest witness tells lies.

Proverbs 12:17

<b><i>Key Learning- what will the children know by the end of the unit?</i></b>	
<b>To understand the parts of the circulatory system and how they work.</b>	<p>The circulatory system is made of the heart, lungs and the blood vessels. Arteries carry oxygenated blood from the heart to the rest of the body. Veins carry deoxygenated blood from the body to the heart. Nutrients, oxygen and carbon dioxide are exchanged via the capillaries.</p> 
<b>To know that the heart pumps blood around the body and be able to name and label the main parts of the heart.</b>	The heart is composed of four chambers; the right atrium, the right ventricle, the left atrium and the left ventricle. How often your heart pumps is called your pulse.
<b>To understand that oxygen is breathed into the lungs where it is absorbed by the blood and how the blood uses this around the body.</b>	
<b>To understand that muscles need oxygen to release energy from food to do work</b>	(Oxygen is taken into the blood in the lungs; the heart pumps the blood through blood vessels to the muscles; the muscles take oxygen and nutrients from the blood.)
<b>To investigate the effect of exercise on heart rate.</b>	
<b>To be able to explain the choices that can harm the circulatory system.</b>	Some choices, such as smoking and drinking alcohol can be harmful to our health. Tobacco can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as lung disease, cancer and death. Alcohol can cause short-term effects such as addiction and loss of control and long-term effects such as organ damage, cancer and death.
<b>To be able to explain why exercise is so important.</b>	Exercise can: * tone our muscles and reduce fat * increase fitness * make you feel physically and mentally healthier * strengthens the heart * improves lung function * improves skin
<b>British Science Week</b>	