Year 6 Animals including humans (Biology)

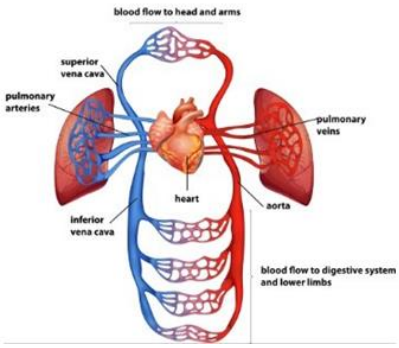
Prior and future learning

Prior learning	What's next?
• I can describe the changes as humans develop to old age. • I understand that all living things have lifecycles. • I can explain how a baby changes physically as it grows, and also what it is able to do. • I can explain the changes that takes place in boys and girls during puberty.	• Reproduction in humans (as an example of a mammal), including the structure and function of the male and female reproductive systems, menstrual cycle (without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta. • The consequences of imbalances in the diet, including obesity, starvation and deficiency diseases. • The effects of recreational drugs (including substance misuse) on behaviour, health and life processes. • The structure and functions of the gas exchange system in humans, including adaptations to function. • The mechanism of breathing to move air in and out of the lungs. • The impact of exercise, asthma and smoking on the human gas exchange system.

Track your learning

How I will show what I have learned	☹	😐	☺
I can identify, name and draw the main parts of the human circulatory system.			
I can describe the functions of the heart, blood vessels and blood.			
I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function			
I can describe the ways in which nutrients and water are transported within animals, including humans.			
I can identify some conditions that are caused by deficiencies in our diet e.g. lack of vitamin C causes scurvy.			

Working scientifically assessment: Heart rate headstands.



Key knowledge I need to understand

- The heart pumps blood in the blood vessels around to the lungs. Oxygen goes into the blood and carbon dioxide is removed. The blood goes back to the heart and is then pumped around the body.
- Nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed. As they are used, they produce carbon dioxide and other waste products. Carbon dioxide is carried by the blood back to the heart and then the cycle starts again as it is transported back to the lungs to be removed from the body. This is the human circulatory system.
- Diet, exercise, drugs and lifestyle have an impact on the way our bodies function. They can affect how well out heart and lungs work, how likely we are to suffer from conditions such as diabetes, how clearly we think, and generally how fit and well we feel. Some conditions are caused by deficiencies in our diet e.g. lack of vitamins.

Possible texts to read:
Pig-Heart Boy – *Malorie Blackman*
A Heart Pumping Adventure – *Heather Manley*

Scientist: Dr Katharine Dibb (*expert in cardiovascular sciences at Manchester University*) or Sir Richard Doll (*Linking smoking and health problems*)

Link to maths curriculum:
Statistics:

- Presenting data gathered when exploring pulse rate changes during and after exercise. (*Interpret and construct pie charts and line graphs*).
- Measuring average resting pulse rate (*calculate and interpret mean as average*).

Key vocabulary I need to know	
aorta	the main **artery** through which blood leaves your **heart** before it flows through the rest of your body
arteries	a tube in your body that carries **oxygenated** blood from your **heart** to the rest of your body
atrium	one of the chambers in the **heart**
blood vessels	the narrow tubes through which your blood flows. **Arteries**, **veins** and **capillaries** are **blood vessels**.
capillaries	tiny **blood vessels** in your body
carbon dioxide	a gas produced by animals and people breathing out
circulatory system	the system responsible for circulating blood through the body, that supplies **nutrients** and **oxygen** to the body and removes waste products such as **carbon dioxide**.
deoxygenated	blood that does not contain **oxygen**
heart	the **organ** in your chest that **pumps** the blood around your body
lungs	two **organs** inside your chest which fill with air when you breathe in. They **oxygenate** the blood and remove **carbon dioxide** from it.
nutrients	substances that help plants and animals to grow
organ	a part of your body that has a particular purpose
oxygen	a colourless gas that plants and animals need to survive
oxygenated	blood that contains **oxygen**
pulse	the regular beating of blood through your body. How fast or slow your **pulse** is depends on the activity you are doing.
respiration	process of respiring; breathing ; inhaling and exhaling air
veins	a tube in your body that carries **deoxygenated** blood to your **heart** from the rest of your body
vena cava	a large **vein** through which **deoxygenated** blood reaches your **heart** from the body
ventricle	one of the chambers in the **heart**
via	through