

Calcot Schools Knowledge organiser — Science

Topic: Animals including Humans (Spring Term)

Phase: KS2 Year 6

Strand: Biology

Prior knowledge from previous year groups:

Year 2— The role of exercise, eating the right amounts of different types of food, and hygiene (for humans).

Year 3— The importance of nutrition (different food groups and how they keep us healthy), and the main body parts associated with the skeleton and muscles; how different parts of the body have special functions.

Year 4 - Pupils should know the main body parts associated with the digestive system, for example: mouth, tongue, teeth, oesophagus, stomach, and small and large intestine .

What will the children know by the end of the unit?

- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and lungs.

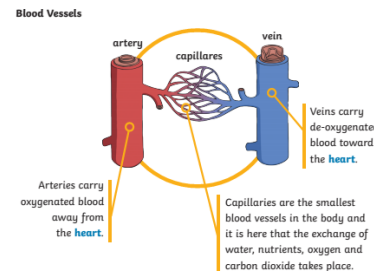
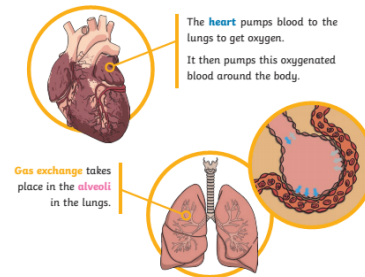
- Recognise the impact of diet, exercise, drugs and lifestyle on the way our bodies function.

- Describe the ways in which nutrients and water are transported within animals, including humans.

- How to keep our bodies healthy and how our bodies might be damaged – including how some drugs, alcohol and smoking can be harmful to the human body.

- Carry out independent research on the work of scientists about the relationship between diet, exercise and healthy living.
—How we can increase our heart rate (pulse rate) with exercise and to present data and findings using tables and graphs (Cross-curricular link to Maths).

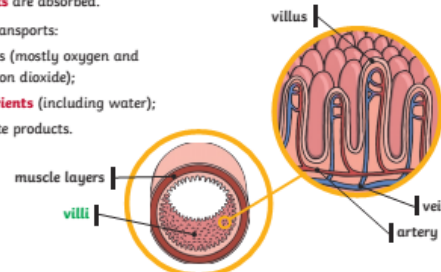
Diagrams:



The **nutrients** pass through the **villi** and are absorbed into the blood vessels. Water is absorbed in the small intestine in exactly the same way as other **nutrients** are absorbed.

Blood transports:

- gases (mostly oxygen and carbon dioxide);
- **nutrients** (including water);
- waste products.



Vocabulary:

Circulatory system—a network consisting of blood, blood vessels, and the heart, which supplies tissues in the body with oxygen and other nutrients.

Functions— Jobs necessary for everyday living.

Nutrients—compounds in foods essential to life and health.

Blood vessels— The components of the circulatory system that transport blood throughout the human body (arteries, veins and capillaries)

Exercise— Activity requiring physical effort, carried out to sustain or improve health and fitness.

Skeleton/skeletal—The skeletal system includes all of the bones and joints in the body.

Diet—The types of food that a person, habitually eats.

Muscle/muscular—The muscular system is an organ system consisting of skeletal, smooth and cardiac muscles.

Gas exchange— the delivery of oxygen from the lungs to the blood-stream, and the elimination of carbon dioxide from the bloodstream to the lungs .

Digestive system— Organs of digestion (the tongue, salivary glands, pancreas, liver, and gallbladder).

Lifestyle—the way in which a person lives

Pulmonary – referring to lungs

Alveoli— tiny air sacs of the lungs

Investigate!

- Explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.
- Circulatory system representation through drama.
- Nutrient detective (diffusion/osmosis) - jelly worm, egg and Skittles experiment.
- Create a TV advert that explores the impact of diet, exercise and lifestyle on the body.