

Living Organisms

By the end of this unit all pupils will know:

- The nutritional needs of animals, including humans, demonstrating knowledge of simple food groups (dairy, fruit and vegetables, fats, carbohydrates, protein) in a healthy diet.
- The names, functions and locations of different parts of the musculoskeletal system in humans and other animals, including the skull, ribcage, spine and pelvis.

By the end of this unit pupils will be able to work scientifically by:

(**Activity:** Grouping and comparing features of animals with/without a skeleton.)

- Identifying patterns, similarities and differences between the animals and use these to draw conclusions and justify their groupings.
- Present their findings, including oral and written explanations, displays or presentations of results and conclusions.

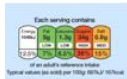
Prior learning

- Y1 - Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Y2 - Pupils learn that food is essential for survival, and the importance of a balanced diet.
- Pupils know that a skeleton is inside the body and consists of bones.

Building towards

- Y4 – digestion, teeth, and food chains (flow of energy).
- Y6 – The impact of our diet on our body.

Nutrition



Herbivores – animals that are herbivores get their energy from eating plants. Examples of herbivores are sheep, cows, elephants, mice, bees and worms.

Omnivores – animals that eat other animals and plants. Examples of omnivores include bears, humans (although some of us choose to only eat plants), chickens and flies.

Carnivores – animals that get their energy from eating the meat of other animals. Examples of carnivores are lions, spiders, eagles and frogs.

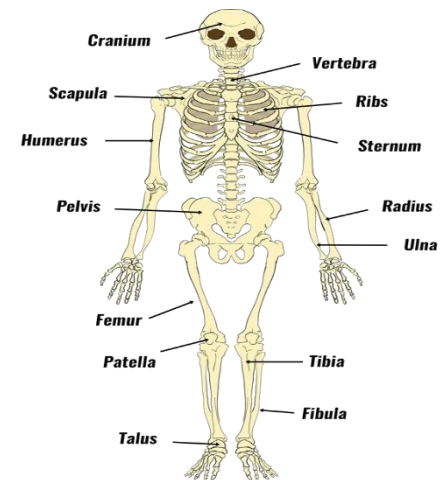
Our bodies need a variety of food in order to function properly. This includes to build muscles and bones and to repair any damage.

The main food groups are:

- Carbohydrates give you energy. They also provide calcium and B vitamins. Good sources of carbohydrates include potatoes, pasta, rice, bread and cereal.
- Protein helps your body repair itself and also helps you grow. Proteins are building blocks for the body. Good sources of protein include meat, fish, eggs, lentils, nuts and beans.
- Dairy products contain a lot of vitamins (such as vitamin A, D and B12). They help keep our bones and teeth strong. Sources of dairy include milk, yoghurt and cheese.
- Fruit and vegetables are full of vitamins, antioxidants and fibre. Fibre is important as it keeps you feeling full and helps move food along your digestive system.
- Fats and sugars Fatty and sugary foods give you a lot of energy as they are high in calories. However, they do not provide much nutrition. It's not good to consume too many foods in this food group. Foods in this group include butter, cakes, foods deep fried in oil (such as chips), crisps, and sugary fizzy drinks.
- Vitamins and minerals help your body work properly. If you don't get enough vitamins, you might get some diseases. Good sources of vitamins and minerals include vegetables and fruit.
- Water is needed to make your body function (work) properly. It is needed to help control our body temperature, to remove waste from our body. The cells in our body need water to work properly.

Skeleton and Movement

- There are 206 bones in an adult body. Babies and children have more (around 300 at birth!) but some bones will fuse together.
- Over half of the 206 bones are found in the hands and feet.
- The **skull** (cranium) protects the brain. The skull is made up of 22 bones. 8 of the larger bones protect the skull.
- The **ribcage** protects the lungs, heart and other important blood vessels and organs. We have 12 ribs on each side of the rib case (so, that's 24 ribs altogether).
- The **spine** supports your body. It allows you to stand upright, bend, twist and turn. The spine also protects the spinal cord (nerve that connects all the parts of our body to the brain).
- The **pelvis** connects the upper body to the lower limbs (legs). It supports support the body when you sit and stand.
- The **femur** is the name for the thigh bone. It is the longest bone in the body. Without the femur, you won't be able to stand or walk.



Key Vocabulary

Diet – the food you eat

Protect – keep safe

Support – helps keep a shape and stops from going floppy

Movement - how something moves. Bending down, standing up, twisting and turning are all examples of movement.

Fibre – fibre helps move food along our digestive system

Vitamins and minerals – fruits and vegetables contain a lot of vitamins and minerals. Vitamins and minerals help keep us healthy and help stop us from getting diseases.

Protein – our bodies use protein to build muscles and repair any damage.

Fats and sugars – foods with high amounts of fat and sugars give you a lot of energy.

Carbohydrates – carbohydrates give us energy.

Contract – when a muscle contracts, it shortens and tightens up.

Relax – when a muscle relaxes, it lengthens (gets longer).

Digestive system – Our digestive system helps break down our food, absorb our food (take it into blood to be used in our body) and move it along and out of our body.

Skeleton – the bones in our body

Muscles - they are the part of the body that works with the bones to allow us to move.

Skull – the skull protects the brain.

Ribcage – protects the heart and lungs.

Spine – the spine is your backbone. Supports your body. It allows you to stand upright, bend, twist and turn.

Pelvis – the pelvis is the hip bone. It supports support the body when you sit and stand.

Femur – the femur is the thigh bone. It is the longest bone in the body.

Carnivore - animals that only eat other animals.

Herbivore - animals that only eat plants.

Omnivore - animals that eat plants and other animals.