Year Three – Autumn Term

# Skeletons, Muscles and Nutrition

Science

By the end of this unit, children will be able to identify whether animals are vertebrates or invertebrates and they will understand the differences in animal skeletons. They will be able to name and locate some bones in the human skeleton and they will understand how muscles work in pairs. They will also know about the different nutrients animals need to grow and develop properly.

## Key Questions

- What is a vertebrate?
- What are the three types of skeleton?
- What are the differences between animal skeletons?
- What are the main functions of a skeleton?
- What are muscles and what is their function?
- What types of food do animals need to stay healthy?

| Significant scientists | |
|---|---|
| **Wilhelm Conrad Rontgen** *(1845-1923)*  | Wilhelm Rontgen was a German physicist who discovered X-rays in 1895. He was awarded many honours and won the Nobel Prize for physics in 1901. |
| **Elsie Widdowson** *(1906-2000)*  | Elsie Widdowson was a British dietician who understood the different nutrients that can be found in foods. She helped to oversee government rationing during WW2. |

| Key Vocabulary | |
|---|---|
| **skeleton** | This supports and protects the body allowing it to move. |
| **bones** | The hard parts inside your body which form your skeleton. |
| **vertebrate/ invertebrate** | An animal that has a backbone/an animal that doesn't have a backbone. |
| **joints** | The place where two bones meet. |
| **muscles** | These are soft tissues attached to bones that **contract** and **relax** to help us move. |
| **endoskeleton** | A skeleton that is found on the inside of a body. |
| **exoskeleton** | A skeleton that is found on the outside of a body. |
| **hydrostatic skeleton** | A flexible skeleton supported by fluid pressure rather than bone. |
| **nutrition** | Food necessary for health and growth |
| **nutrients** | Useful substances that help animals and plants grow. |
| **diet** | The kinds of food that a person, animal or community habitually eat. |

# Food Groups

(Revision)

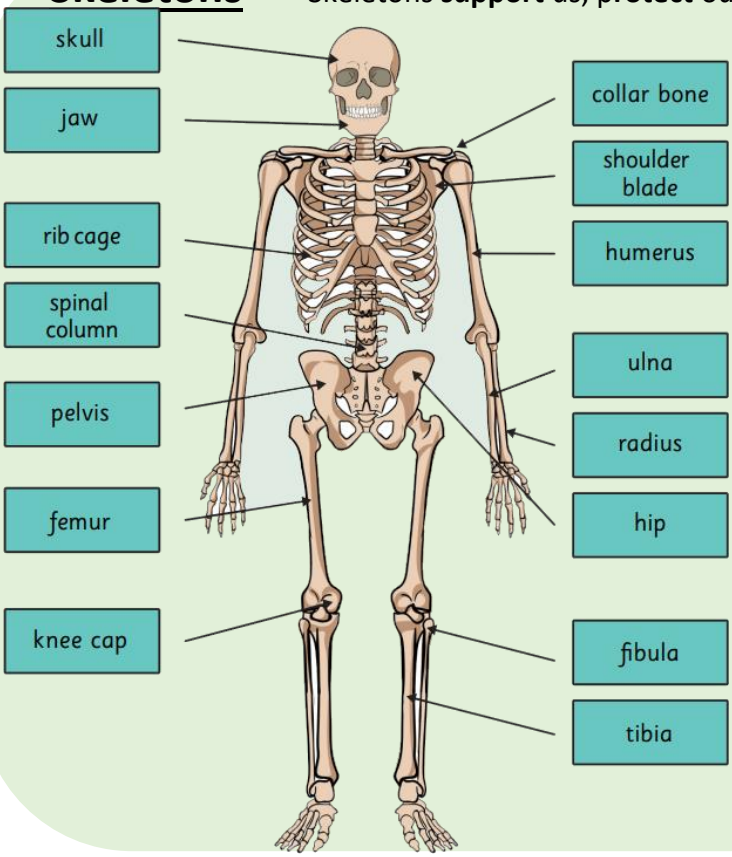

You will have learned that we can group foods by their main nutrients. We need to eat foods from all groups to maintain a balanced diet.

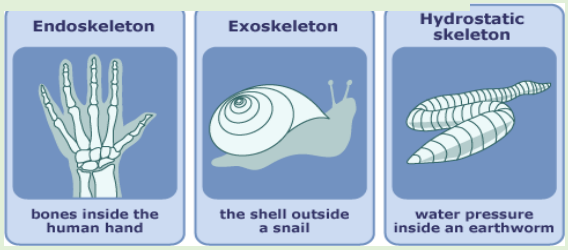
# Nutrient Groups


There are seven different nutrients that animals need to grow, develop and stay healthy. Different animals need these nutrients in different quantities.

# Skeletons

Skeletons **support** us, **protect** our internal organs and help us move.




| | | |
|---|---|---|
| Found on the inside of an animal. | Found on the outside of an animal. | Made of fluid substance rather than bone. |
| Grows with the animal. | Animals need to shed the exoskeleton because it won't grow. | Found in soft bodied creatures like worms and jellyfish. |
| All vertebrates have an endoskeleton. | Many invertebrates have an exoskeleton. | Many invertebrates have a hydrostatic skeleton. |
| Lighter than an exoskeleton. | Heavier than an endoskeleton. | |

Home Learning Ideas

- Create a model of the human skeleton, a joint or a muscle pair.
- Create a diagram that sorts animals by their skeletons.
- Investigate the amount of sugar or salt in different foods. Create a display or audio or video presentation of what you have found out.
- Research the diets of different animals and what nutrients they need.