

## Science: Animals including Humans Unit 1

**Definition:** Animal (noun) a living organism that feeds on organic matter, typically having specialised sense organs and nervous system and able to respond rapidly to stimuli. "wild animals adapt badly to a caged life"

**Biology definition:** The word **biology** is derived from the greek words /bios/ **meaning** /life/ and /logos/ **meaning** /study/ and is **defined** as the science of life and living organisms. An organism is a living entity consisting of one cell e.g. bacteria, or several cells e.g. animals, plants and fungi.

**POS:**

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

**Prior learning :**

To know that animals can be grouped as carnivores, herbivores and omnivores  
 To know that animals including humans change as they grow older.  
 To know that animals including humans need food, water and air to survive.  
 To know it is important for humans of exercise, have varied diet and to keep clean.

Links to other science topics:

Living things and their habitats Y2  
 – where the animals get their food  
 Evolution and inheritance Y6 How living things change over time

**Disciplinary concepts:**

**Structure:** What is the structure of the body?

**Function:** what are the purpose of the skeleton and muscles?

**Growth:** Which nutrients do animals need for their body to work at its best?

**Common misconceptions:** Some children believe that *all* fat and sugar is bad for them. It is important to discuss with them the fact that the body needs some fats and sugars in order to function. Some children may believe that the only reason we eat food is to give us energy. Vitamin D is essential for strong bones and vitamin C is important in protecting cells and keeping them healthy. Iron is an essential mineral that helps to make red blood cells, which carry oxygen around the body. If we have too little iron in our diet we can become anaemic. Children develop many different ideas about the bones and muscles in their bodies and they might not realise that muscles are found all around the body. Some children may think that muscles are only used for actions like walking or throwing. They probably won't think of the heart or the tongue as a muscle. Children may not realise that bones are living tissue. They may not make the connection between growing taller and their bones getting bigger.

**Core Knowledge:**

Animals, unlike plants which can make their own food, need to eat in order to get the nutrients they need. Food contains a range of different nutrients that are needed by the body to stay healthy – carbohydrates including sugars, protein, vitamins, minerals, fibre, fat, sugars, water. A piece of food will often provide a range of nutrients. Animals, including humans, cannot create their own food, so must consume plants and/or other animals to obtain energy and **nutrients** (a general term for any substance that an organism requires, from vitamins to proteins). A balanced diet is one that that contains the right nutrients in the right quantities, and should include carbohydrates, proteins, fats, minerals and vitamins. Meat, milk, and eggs are examples of **foods** derived from **animal** sources. Some **animals can** provide more than just one **food product**. For example, a chicken **produces** not only meat but also eggs for human consumption. An **animal that can produce** two **food** products is often called a dual-purpose **animal** but animals do not make their own food. Humans and some other animals have skeletons and muscles which help them move and provide protection and support

**Wider Knowledge:** Inside the museum of London there are 2000 skeletons kept in their vault. This is the largest collection of human remains anywhere in the world in one city. How Bones can tell us a lot about a place's past.

<https://www.bbc.com/future/article/20160923-the-lab-that-contains-20000-skeletons>

Oldest homo sapiens bones ever found - <https://www.theguardian.com/science/2017/jun/07/oldest-homo-sapiens-bones-ever-found-shake-foundations-of-the-human-story>

[https://en.wikipedia.org/wiki/Andreas\\_Vesalius](https://en.wikipedia.org/wiki/Andreas_Vesalius) - author of the most influential books on Human anatomy

**Working scientifically:**

asking relevant questions and using different types of scientific enquiries to answer them \* setting up simple practical enquiries, comparative and fair tests \*making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment\*gathering, recording, classifying and presenting data in a variety of ways to help in answering questions \* recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables \*reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions \*using results to draw simple conclusions, make predictions for new values \*identifying differences, similarities or changes related to simple scientific ideas and processes \*using straightforward scientific evidence to answer questions or to support their findings.

**End Goals:**

Can name the nutrients found in food

Can state that to be healthy we need to eat the right types of food to give us the correct amount of these nutrients

Can name some bones that make up their skeleton giving examples that support, help them move or provide protection

Can describe how muscles and joints help them to move

**CPD:** Reach out CPD Science Association / STEM website

**Enrichment:** Manchester Museum /