

Science: Animals including Humans – developing to old age UKS2 year A

Definition: Animal (noun) a living organism that feeds on organic matter, typically having specialized 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:

Describe the changes as humans develop to old age.

Prior learning:

Identify name and label the parts of the human body
 Notice that animals, including humans have offspring which grow into adults
 Find out about and describe the basic needs of animals, including humans for survival
 That humans need the right amounts of nutrition.

Links to other science topics:

Plants – life cycle of plants
 Habitats – life cycles of animals

Disciplinary concepts:

Growth – How does a human develop?

Similarity and differences - How is the life cycle of a boy and girl different?

LINK to PSHE / SRE consult with SRE policy before teaching this unit

Common misconceptions: Children often think of an egg as the “start” of a life cycle. In fact, since the different stages repeat in a continuous cycle, there is no start. Young children don’t often think of humans as animals, as they think of all animals as things that are kept as pets, or found in zoos or farms.

Core Knowledge:

All living things go through a series of developmental stages known as a life cycle

Reproduction is the process by which a living thing produces offspring.

An egg only contains half of the information needed to make a new living thing. For an animal to reproduce, the male must provide the other half of the information, in the form of sperm. It is only when a sperm meets and joins with an egg that there is enough information to produce offspring. The egg and sperm then start to grow and develop into the animal.

The length of time that a person is expected to live is known as their life expectancy. Average life expectancy varies considerably around the world, ranging from 30 to 90 years.

Wider Knowledge: In 1962, a biologist called Leonard Hayflick discovered that human cells are only able to divide a certain number of times before dying. This became known as the Hayflick limit. It was an amazing discovery, because it meant that all our cells have a kind of built-in clock that starts ticking down the moment we are born.

Working scientifically: planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ♣ taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate ♣ recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs ♣ using test results to make predictions to set up further comparative and fair tests ♣ reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ♣ identifying scientific evidence that has been used to support or refute ideas or arguments.

End Goals:

To explain the changes that takes place in boys and girls during puberty

To explain how a baby changes physically as it grows and also what it is able to do

To understand the lifecycle of a human (baby, child, adolescent, adulthood)

CPD: Reach out CPD – life cycles

Science Association / STEM website