

Inspiring and enabling our school community to live life to the full



YEAR 5 SCIENCE

Plant and Animal Life Cycles

Our Science curriculum aims to enthuse children and help them to be curious and develop a sense of excitement about the world. Through a range of teaching, learning and extra-curricular opportunities, children will develop scientific knowledge and conceptual understanding to recognise the uses and implications of Science, today and for the future. We encourage children to ask their own questions; predict how things will behave and analyse causes, using Science to explain what is happening.

Characteristics of an Effective Learner

Courage
Commitment
Collaboration
Creativity
Curiosity

Prior Learning:

In Year 2, children learn about changes in their own appearance over time.
In Year 3, children learn about plant life cycles, including pollination
In Year 4, children learn about how our teeth grow and change moving from babies, children, teenagers to adults.

Key Vocabulary taught in this unit:

dissect, anther, asexual, breeding, embryo, filament, female, fertilisation, gestation, larva, male, mate, metamorphosis, ovary, ovule, propagation, pupa, reproduction, seed dispersal, stamen, style, thorax, pattern, amphibian, bird, carpel, exoskeleton, flower, insect, life cycle, mammal, organism, pollen, pollination, stigma, vertebrate, invertebrate.

Key Questions:

- Q How do flowering plants produce seeds?**
- Q Do all seeds have the same number of reproductive parts?**
- Q How can we grow more plants without using seeds?**
- Q How do birds change over their lifetime?**
- Q Do all mammals have the same gestation period?**
- Q How do amphibians change throughout their lifecycle?**
- Q Do all insects go through the same lifecycle?**

Intent: What do we want the children to know, be able to do by the time they complete this unit?

All living things have a life cycle which includes growth and reproduction, eventually ending in death and decay. Flowers contain male sex organs called stamens and female sex organs called carpels. Pollen must be moved to a part of the carpel called the stigma for reproduction to take place. This process is called pollination. Seeds are the product of sexual reproduction.

Most flowering plants have flowers with both male and female parts – such as tulips, daisies and roses. Different flowers have different numbers of petals, stamens or carpels. Asexual reproduction creates new plants that are identical to the parent. Bulbs, tubers, runners and plantlets are new plants which grow from parts of existing plants. Gardeners may make more plants by taking cuttings, growing new plants from small parts of a parent plant. Most animals reproduce sexually. This involves two parents a male and a female. The sperm from the male fertilises the female egg inside her body. Female birds lay eggs with hard shells. These may or may not be fertilised. Mammals reproduce by sexual reproduction. The embryo grows inside the womb until it is time to be born. The female gives birth to their young and produces milk to feed their young. Amphibians reproduce by sexual reproduction. The

female's eggs are fertilised outside her body. The female lays many soft, jelly-covered eggs in water and the male immediately sprays a cloud of sperm over them. Amphibians spend the early stages of their lives in water using gills to breathe. Some amphibians go through a process of metamorphosis. When fully mature, most amphibians develop lungs and are able to live both in water and on land. Insects are small animals with a hard covering over their bodies, which is known as an exoskeleton. Insects have a body that is divided into three parts: head, thorax and abdomen. The majority of insects go through a process of complete metamorphosis. Some insects go through a process of incomplete metamorphosis.

Working Scientifically:

Recording data and results of increasing complexity using scientific diagrams and labels, [classification keys, tables, scatter graphs, bar and line graphs]. Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.

Impact / Outcome:

What will the final product / result be?

Children will learn that scientists ask and answer scientific questions to build explanations about the natural world. Working in the field, observing life cycles in action has allowed scientists to develop this understanding. Observations made over a long period of time allow scientists to understand how changes in our environment can interrupt the natural life cycle of plants and animals. Children will develop an understanding of the following types of enquiry: observation over time, identifying and classifying, pattern seeking.

P4C Inquiry (where appropriate)