

Woodley Primary School – Knowledge Organiser

Science Focus:	Living things & their habitat	Year 5	Spring 1
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Key Vocabulary	
Spelling	Definition
Amphibian	A vertebrate animal which can: live in water and on land, lays eggs, has gills and is cold blooded.
Naturalists	An expert in natural history.
Observing	To watch something over a period.
Asexual reproduction	One parent is needed to create an offspring, which is an exact copy of the parent.
Fertilise	The action of fusing the male and female sex cells in order the develop an egg.
Stems	The main part of a plant or shrub which typically rises above ground.
Root cuttings	Cuttings from a root which will form new shoots.
Gestation	The length of a pregnancy.
Life cycle	The journey of changes that take place throughout the life of a living thinking including birth, growing up and reproduction.
Metamorphosis	An abrupt and obvious change in the structure of an animal's body and their behaviour.
Pollination	The transfer of pollen to a stigma to allow fertilisation.
Reproduction	The process of new living things being made.
Sexual reproduction	Two parents are needed to make offspring which are similar but not identical to either parent.

Prior Knowledge	
What I should already know ...	
EYFS :	Children know about similarities and differences in relation to places and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.
Year 1:	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants, including trees Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
Year 2:	Explore and compare the differences between things that are living, dead, and things that have never been alive Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other Identify and name a variety of plants and animals in their habitats, including micro-habitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food
Year 3:	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
Year 4:	Recognise that living things can be grouped in a variety of ways Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Recognise that environments can change and that this can sometimes pose dangers to living things

What I will know at the end of the unit	
Objectives for the unit:	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals.
Working Scientifically:	<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Using test results to make predictions to set up further comparative and fair tests.</p> <p>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.</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p>

Possible Experiences
(Any visits, experiments, guest speakers, curriculum days, home / school projects etc.)

Humans develop inside their mothers and are dependent on their parents for many years until they are old enough to look after themselves.



Amphibians such as frogs are laid in eggs then, once hatched, go through many changes until they become an adult.



Some animals, such as butterflies, go through **metamorphosis** to become an adult.



Birds are hatched from eggs and are looked after by their parents until they are able to live independently.



Reproduction in mammals

Mammals use **sexual reproduction** to produce their offspring.

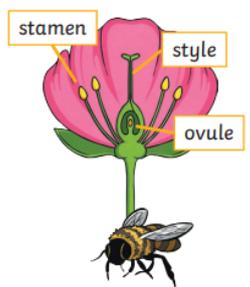
- The male sex cell, called the sperm, **fertilises** the female sex cells.
- The **fertilised** cell divides into different cells and will form a baby with a beating heart.
- The baby will grow inside the female until the end of the **gestation** period when the baby is born.



Echidnas and platypus are mammals but they lay eggs rather than giving birth to live young.

Plants

Most plants contain both the male sex cell (pollen) and female sex cell (ovules), but most plants can't **fertilise** themselves. Wind and insects help to transfer pollen to a different plant. The pollen from the stamen of one plant is transferred to the stigma of another. The pollen then travels down a tube through the style and fuses with an ovule.



Some plants, such as strawberry plants, potatoes, spider plants and daffodils use **asexual reproduction** to create a new plant. They are identical to the parent plant.

