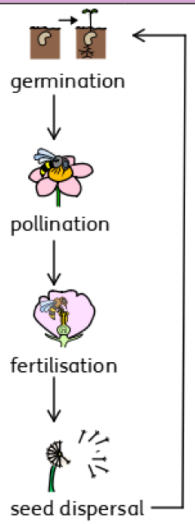
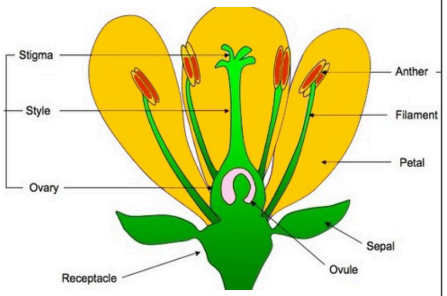
Year 5 Science Knowledge Organiser - Living things and their habitats

Knowledge: How Does a Plant Grow?



REPRODUCTION - is when an animal or plant produces one or more offspring similar to itself

1. Male gametes can be found in the pollen
2. Female gametes can be found in the ovary (ovules)
3. Pollination happens when pollen from the anther is transferred to the stigma by bees and other insects
4. The pollen travels down and meets the ovule - when this happens seeds are formed. This process is called fertilisation
5. Seeds are then dispersed so that germination can begin again



Vocabulary

1. Anther	The part of a stamen that produces and releases the pollen.
2. Disperse	To scatter, to separate, or to spread over a large area.
3. Embryo	An unborn animal or human being in the very early stages of development.
4. Fertilisation	Male and female gametes meet to form an embryo or seed.
5. Germination	The development of a plant from a seed or spore after a period of dormancy.
6. Metamorphosis	A person or thing develops and changes into something completely different.
7. Ovary	A female organ which produces eggs.
8. Petal	Thin coloured or white parts which form part of the flower, primary function is to attract insects.
9. Pollen	A fine powder produced by flowers - it fertilises other flowers of the same species so that they produce seeds.
10. Life Cycle	The series of changes that an animal or plant passes through from the beginning of its life until its death.
11. Seed	The small, hard part from which a new plant grows.
12. Stigma	The top of the centre part of a flower which takes in pollen.
13. Bulb	A root shaped like an onion that grows into a flower or plant.
14 Reproduction	When an animal or plant produces one or more individuals similar to itself.
15. Gamete	The name for the two types of male and female cell that join together to make a new creature.

Did you know…

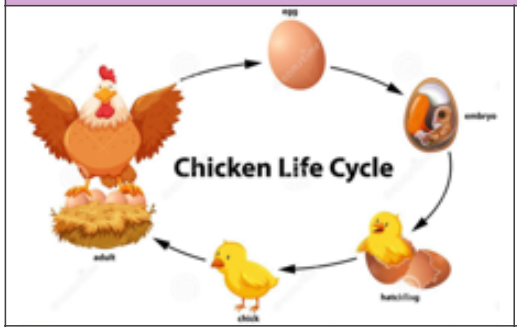
Frogs absorb water through their skin so they don't need to drink?

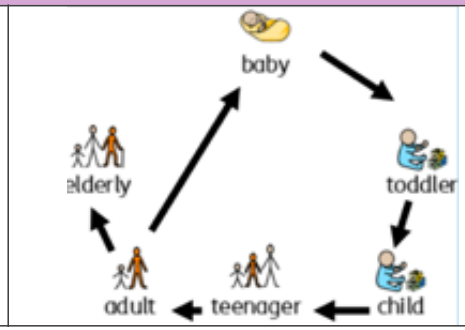
Sir David Attenborough

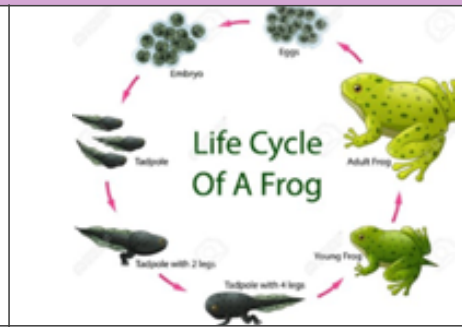
FACT FILE:

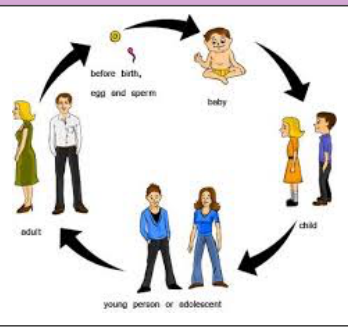
1. Born 8th May 1926
2. TV programmes and films about animal and plant life - described as “the greatest broadcaster of our time.”
3. Campaigns about pollution and global warming
4. Recent documentaries: Blue Planet, Planet Earth and Frozen Planet.
5. He has 11 different animals named after him - 1 is the Attenborough’s Rubber Frog! (found in Peru)

Can You Remember these Life Cycles? - Explain them to your partner









Year 5 Science Skills Knowledge Organiser - Living things and their Habitats

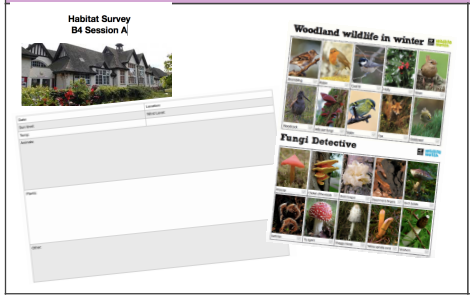
Key Concepts and what they mean

1. Physics	Physics is the study of energy and matter in space and time and how they are related to each other.
2. Chemistry	Chemistry deals with the properties of substances, the transformations they undergo, and the energy that is released or absorbed during these processes. For example, when plants use sunlight to produce energy (or food for itself).
3. Data Collection	Data collection is the process of gathering and measuring information to answer a question. For example, recording living and non living things to investigate whether numbers change depending on the weather.
4. Cause and effect	Cause and effect is the relationship between events or things, where one is the result of the other or others. For example, the weather gets colder and there is less food around, so animals hibernate.
5. Envrionmental	Environmental relates to the environment around us at Old Fletton.

Habitat Survey

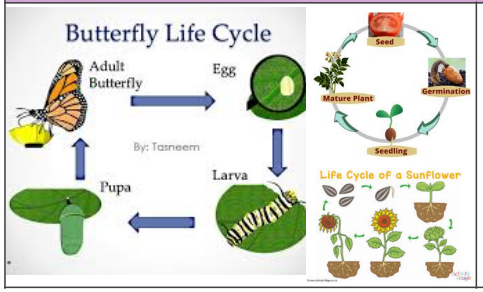
1. A habitat survey will involve walking around the local environment and recording all non living things - rocks, structures, buildings, paths, litter and living things - trees, plants, animals.
2. It will help build up a picture of what is in your environment and how different habitats can be linked up, for example areas of woodland linked by a hedgerow.

Steps to Success - Creating a Classification Key

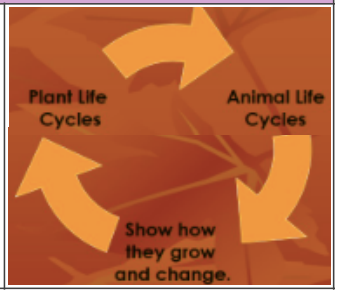


1. Record the date, time, weather, sun level and wind level. This may have an influence what living things you will see because if it is extremely hot or cold the animals will take cover.
2. Make sure you have an ID sheet - this will allow you to correctly identify the living things.
3. Carefully look under sheets of plastic, logs or in leaves - make sure you put them back, it is the animals' habitat.
4. Repeat at different times of year to allow you to compare.

Lifecycle



1. A life cycle is the stages that occur in a plant or animals life time.
2. A life cycle is a circle that has no end, one life ends and one always begins.



Literacy links to this topic

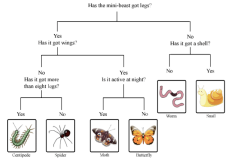
Stories that relate to the topic of 'Living things and their Habitats' are:

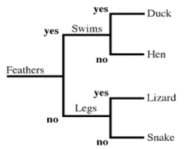
Charlotte's Web by EB White
The Story of Frog Belly Rat Bone by Timothy Basil Ering
Wolves by Emily Gravett

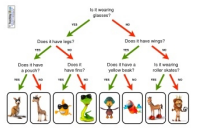
These stories help you to gain a greater understanding of living things and their habitats and may spark some questions that you might want to ask in your next science lesson!

Classification Keys

A classification is a series of yes, no questions that help you determine unknown items or living things.







Steps to Success - Creating a Classification Key

1) Lay out all the living things and look at their features

2) Think of a question - yes or no - that will sort all living things into two piles. For example 'Are they a vertebrate?'

3) Write down the question at the top

Are they a vertebrate?
Yes **No**

4) Think of another question - yes or no - that will further sort each pile into two. For example 'Is it a mammal?' and 'Does it live in salt water?'

5) Write down the question under the last yes or no answer.

Are they a vertebrate?
Yes **No**

6) Put the picture under the correct answer

7) Recheck to make sure the classification works

Is it a mammal?
Yes **No**

Does it live in salt water?
Yes **No**