Sholing Junior School - Science

Topic: Living things and their habitats	Year: 5	Strand: Biology

What should I already know?

- Animals can be grouped into **vertebrates** (and then further into fish, reptiles, amphibians, birds and mammals) and **invertebrates**
- Some examples of **life cycles** (including those of **plants** and humans)
- The processes of **dispersal, fertilisation** and **germination**
- **Reproduction** is one of the seven life processes.
- Parts of a **plant**, their features and what their **functions** are.
- The word **metamorphic** means 'a change of form' (in the context of rocks)

I will learn to:

- 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.

Vocabulary

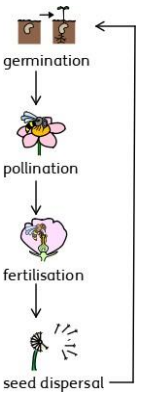
anther	The part of a **stamen** that produces and releases the **pollen**
bulb	A root shaped like an onion that grows into a **flower** or **plant**
cell	The smallest part of an animal or plant that is able to **function** independently
dispersed	Scattered, separated, or spread through a large area
dissect	To carefully cut something up in order to examine it scientifically
embryo	An unborn animal or human being in the very early stages of development
fertilisation	Male and female **gametes** meet to form an **embryo** or **seed**
flower	The part of a **plant** which is often brightly coloured and grows at the end of a **stem**
flowering	**Trees** or **plants** which produce **flowers**
function	A useful thing that something does
gamete	The name for the two types of male and female **cell** that join together to make a new creature
germination	If a **seed germinates** or if it is **germinated**, it starts to grow
life cycle	The series of changes that an animal or **plant** passes through from the beginning of its life until its death
metamorphosis	A person or thing develops and changes into something completely different
ovary	A female organ which produces eggs
ovule	A small egg
petal	Thin coloured or white parts which form part of the **flower**
plant	A living thing that grows in the earth and has a **stem, leaves** and **roots**
pollen	A fine powder produced by **flowers**. It **fertilises** other **flowers** of the same species so that they produce **seeds**
pollination	To **pollinate** a plant or tree means to **fertilise** it with **pollen**. This is often done by insects.
reproduction	When an animal or plant produces one or more individuals similar to itself
stigma	The top of the centre part of a **flower** which takes in **pollen**

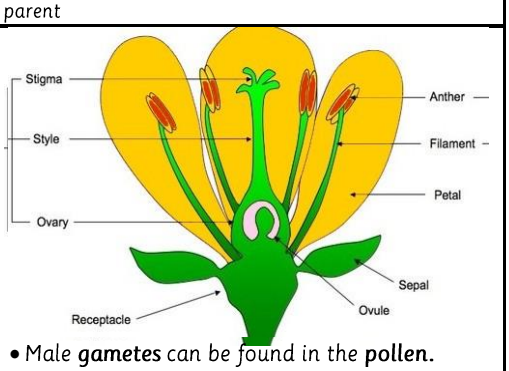
What is reproduction?

Reproduction is when an animal or plant produces one or more individuals similar to itself: Sexual reproduction: requires two parents with male and female gametes (cells) will produce offspring that is similar to but not identical to the parent

Asexual reproduction: will produce offspring that is identical to the parent requires only one parent

How do plants repro- duce?

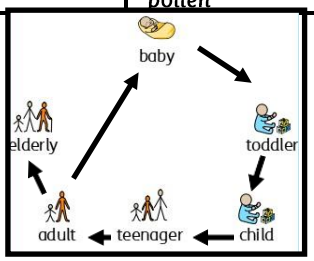


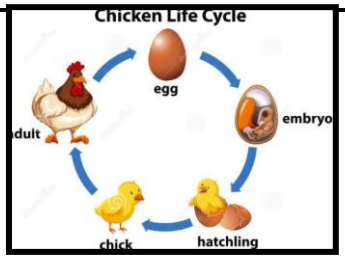


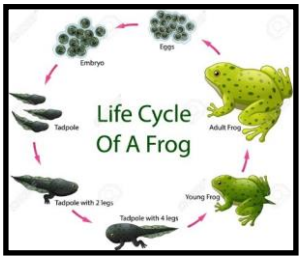
- Male **gametes** can be found in the **pollen.**
- Female **gametes** can be found in the **ovary** (they are called **ovules).**
- **Pollination** occurs when **pollen** from the **anther** is transferred to the **stigma** by bees and other insects.
- The **pollen** then travels down and meets the **ovule**. When this happens, **seeds** are formed - this is called **fertilisation.**
- **Seeds** are then **dispersed** so that **germination** can begin again.
- Some **plants,** such as daffodils and potatoes, can also produce **offspring** using asexual **reproduction**

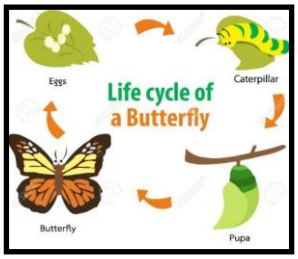
What are examples of life cycles?

- The **life cycles** of mammals, birds, amphibians and insects have similarities and differences.
- One difference is that amphibians and insects go through the process of **metamorphosis.** This is when the structure of their bodies changes significantly as they grow (for example, from tadpole to frog or caterpillar to butterfly).









Investigate!

We will study and raise questions about the local environment throughout the year. We will observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. and find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.

We will find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.

We will work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. We might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs.