

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)

What will I know by the end of the unit?

What is **reproduction**?

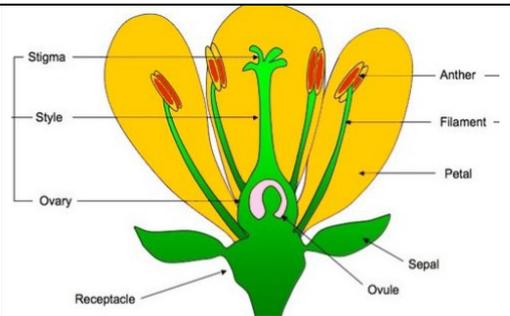
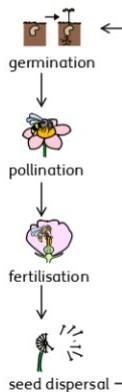
Reproduction is when an animal or plant produces one or more individuals similar to itself:

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 and requires only one parent

How do **plants reproduce**?



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**.

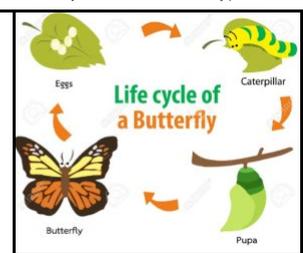
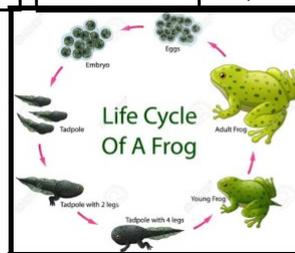
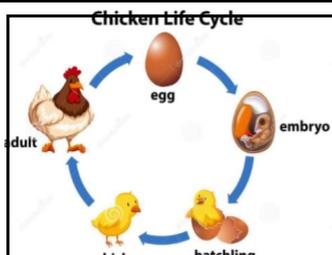
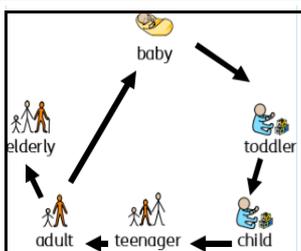
Seeds are then **dispersed** so that **germination** can begin again.

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).

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
mature	When something matures , it is fully developed
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
seed	the small, hard part from which a new plant grows
stigma	the top of the centre part of a flower which takes in pollen
structure	the way in which something is built or made



Investigate!

Dissect a flower and identify the different parts of it. Label the different parts and explain their **functions**.

Grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs.

Compare the **life cycles** of mammals, amphibians, insects and birds. What is similar about their **life cycles**? What is different?

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.

Compare the **life cycles** of **plants** and animals in the local environment with other **plants** and animals (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences.

Observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow. Compare what you already know about David Attenborough, and compare his work to that of Jane Goodall's.

