Willerby Carr Lane Primary 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**)
- 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.
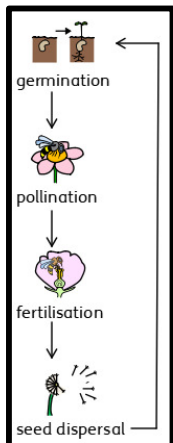- The work of David Attenborough.

What will I know by the end of the unit?
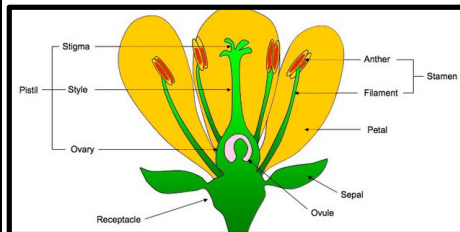

| What is **reproduction?**	**Reproduction** is when an animal or plant produces one or more individuals similar to itself:
	 • Sexual **reproduction:**
	  o requires two parents with **male and female gametes (cells)**
	  o will produce offspring that is similar to but not identical to the parent
	 • Asexual **reproduction:**
	  o will produce **offspring** that is identical to the parent
	  o 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 ovules. 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).
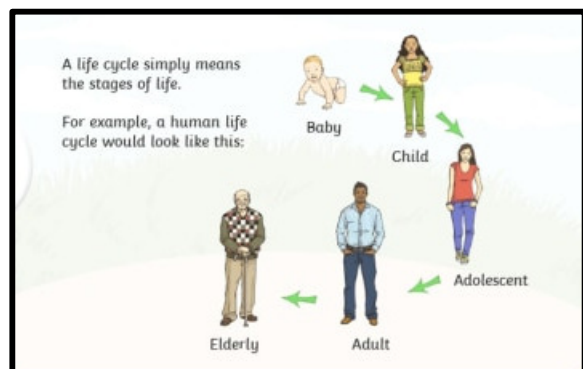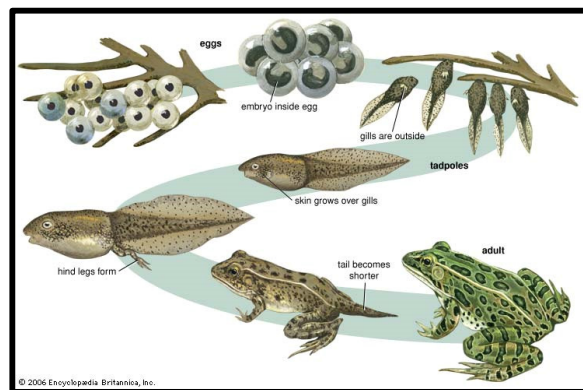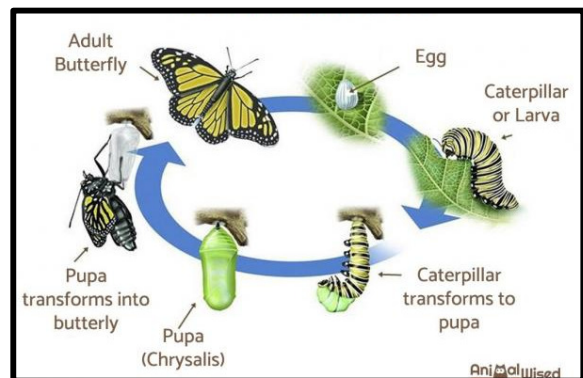
Vocabulary	
amphibian	animals that live the first part of their lives in the water and the last part on the land. when they hatch from their eggs, **amphibians** have **gills** so they can breathe in the water. they also have fins to help them swim, just like fish.
anther	the part of a **stamen** that 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
insect	a creature that has a body with three segments which are protected by a hard shell. they have three pairs of legs and a pair of **antennae**. some insects also have wings.
invertebrate	an animal that doesn't have a backbone. some have soft bodies, like worms, slugs

	and jellyfish. other **invertebrates**, like insects, spiders and crustaceans, have a hard, outer casing called an **exoskeleton**.
life cycle	the series of changes that an animal or **plant** passes through from the beginning of its life until its death
mammal	an animal that breathes air, has a backbone, and grows hair at some point during its life. in addition, all female mammals have glands that can produce milk. mammals are among the most intelligent of all living creatures.
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
vertebrate	an animal that has a backbone inside its body.

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 rearing butterflies from caterpillars), comparing how different animals reproduce and grow.
- Compare what you already know about David Attenborough and his work to that of Jane Goodall.

Common misconceptions

Some children may think:

- all plants start out as seeds
- all plants have flowers
- plants that grow from bulbs do not have seeds
- only birds lay eggs.