

Science Knowledge Organiser

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 work of David Attenborough. The word metamorphic means 'a change of form' (in the context of rocks)		What will I know by the end of the unit? 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	
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		
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).	
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 prehis-toric 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.			