Jeavons Wood Primary School – Science Knowledge Organiser

Topic: Living things	Year:5	Strand: Biology

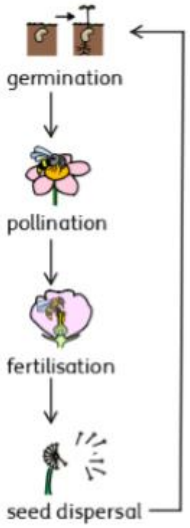
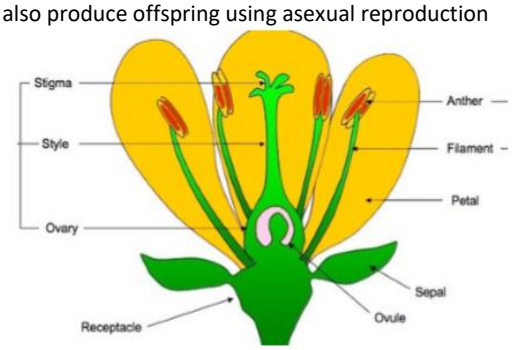
Big Question: Do all animals have young in the same way?

What should I already know?

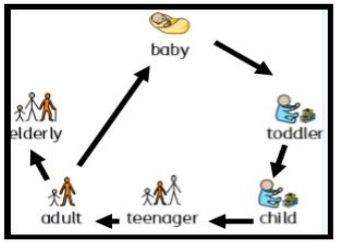
*Animals can be grouped into vertebrates (and then further into fish, reptiles, amphibians, birds and mammals) and invertebrates
*Some examples of life cycles (including those of plants)
*The processes of dispersal, fertilisation and germination
*Reproduction is one of the seven life processes.
*Parts of a plant, their features and what their functions are.
*The work of David Attenborough.

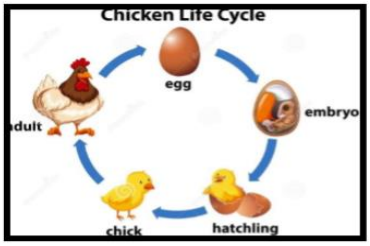
What will I know by the end of the unit?

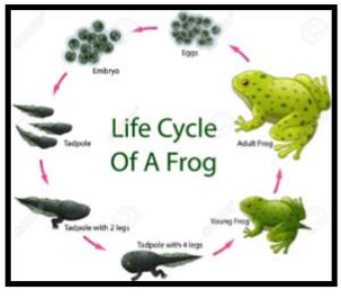
Reproduction

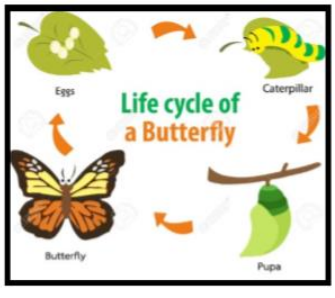
What is reproduction?	*Reproduction is when an animal or plant produces one or more individuals similar to itself: *Sexual reproduction: *requires two parents with male and female gametes (cells) *will produce offspring that is similar to but not identical to the parent *Asexual reproduction: *will produce offspring that is identical to the parent *requires only one parent
How do plants 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 againa small egg *Some plants, such as daffodils and potatoes, can also produce offspring using asexual reproduction 

Life cycles of mammals, birds, amphibians and insects









Vocabulary

amphibian	a class of animals that live the first part of their lives in the water and the last part on the land
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
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
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
marsupials	mammals who give birth to partially formed young who then live in their pouch to continue developing
metamorphosis	a person or thing develops and changes into something completely different
monotremes	mammals that lay eggs (platypus and echidna)
ovary	a female organ which produces eggs
ovule	a small egg
petal	thin coloured or white parts which form part of the flower
placentals	Mammals that give birth to fully formed young
plant	thin coloured or white parts which form part of the flower
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

Where will my learning go next?

In year 6 pupils will be taught to:
To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. give reasons for classifying plants and animals based on specific characteristics

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Big Question: Do all animals have young in the same way?

Question 1: Asexual reproduction occurs when....(tick two)	Start of unit:	End of unit:
there is only one parent		
there are two parents		
the offspring is identical to the parent		
the offspring is similar but not identical to the parent		

Question 2: Place these events in the life cycle of a plant (1-4). One has been done for you.	Start of unit:	End of unit:
fertilisation		
pollination		
germination		
seed dispersal	1	

Question 3: The life cycles of amphibians and insects are similar because....(tick two)	Start of unit:	End of unit:
they both give birth to live young		
the offspring hatch out of eggs		
they usually both undergo metamorphosis		
they can both fly		

Question 4: Seed dispersal is part of a life process. Which life process is it a part of?	Start of unit:	End of unit:
respiration		
nutrition		
reproduction		
excretion		

Question 5: Place these events of reproduction of a flower in order from 1-4. One has been done for you.	Start of unit:	End of unit:
bees and other insects fly to another flower and transfer the pollen to the stigma		
the pollen travels down the ovule		
bees and other insects collect pollen from the anther	1	
fertilisation happens with the pollen meets the ovule		

Question 6: Pollen transfer from insects is one example of how pollination happens. Name another.	Start of unit:	End of unit:

Question 7: You conduct an experiment to investigate if some seeds germinate quicker than others. Name one thing you will do to make the test fair.	Start of unit:	End of unit:

Question 8: You conduct an experiment to investigate if some seeds germinate quicker than others. Name one variable you will change.	Start of unit:	End of unit:

Question 9: The young of which of these groups hatch out of eggs?	Start of unit:	End of unit:
mammals		
amphibians		
birds		
insects		

Question 10: Which of these are examples of metamorphosis?	Start of unit:	End of unit:
teenager to adult		
caterpillar to butterfly		
tadpole to frog		
chick to hen		