Lilycroft Primary School
Science Knowledge Organiser

Topic: Lifecycles	Year: 5	Strand: Biology

What should I already know?

*A life cycle shows how things are born, how they grow and how they reproduce (familiar with butterfly, frog)
* What plants need to grow and the purpose of a root, stem, petal.

What will I know by the end of the unit?

How does a flowering plant reproduce?	**Pollination –** Insects carry pollen from the male part (stamen: anther and filaments) to the female (carpel: stigma, style and ovary) **Fertilisation –** how a new seed is created when the pollen reaches the ovary and combines with an egg.
Why do plants disperse their seeds? What are the different methods of seed dispersal?	Seeds are transported from the plant to another area in order to grow without competing for light, water and nutrients with their parent or siblings *Wind *Animal fur and hooked seeds *Soft fruit *Water *Explosion
How does a non-flowering plant reproduce?	Bulbs; runners such as strawberries and spider plants and potatoes reproduce in different ways – they do not rely on a male and female parent.
How do the lifecycles of insects, amphibians, birds and mammals differ?	Insects and amphibians undergo metamorphosis and these lifecycles have distinct stages – there are similarities and differences Birds and mammals do not undergo metamorphosis. Their lifecycles have similarities and differences from each other and from animals which do undergo metamorphosis

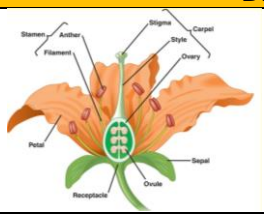
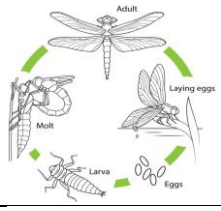
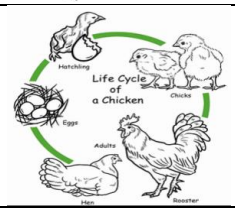
Relevant scientists we should know about

Who is David Attenborough? **Know some facts and appreciate some films**	• Born on 8th May 1926 • British • Famous wildlife film maker • Knighted in 1985 • He is the only person to have won BAFTAs for programmes in each of black and white, colour, HD, and 3D

Investigations/Working Scientifically

*Compare lifecycles
*grow bulbs; grow cuttings from parent plant (spider) make close observations and botanical drawings
*Watch relevant David Attenborough film clips for research

Diagram

	The male and female parts of the flower and their roles Each have distinct roles in reproduction
	The lifecycle of an insect or amphibian shows metamorphosis
	The lifecycle of birds and mammals – warm-blooded vertebrates

Vocabulary

WORD	DEFINITION
reproduction	Living things create new living things in likeness to themselves
carpel	The female part of a flower made up of stigma, style and ovary
stamen	The male part of the flower which produces pollen – made up of the filament and anther
pollination	When pollen is carried from the anther to the stigma in the same or another flower
fertilization	When a pollen grain travels down the style to join with the an egg in the ovary to create a seed
germination	When a seed begins to sprout
dispersal	Spreading things (seeds) over a wide area
metamorphosis	The process of transformation (change) from an immature form to an adult form in two or more distinct stages
insect	A small animal that has six legs and generally one or two pairs of wings
larvae	A young form of an insect that hatches from an egg
nymph	The young stage of some insects between larvae and adult
amphibian	A cold-blooded vertebrate animal such as frogs, toads, newts
embryo	An animal or plant in the very early stages of development
mammal	A warm-blooded vertebrate animal, with hair or fur. Females give birth to live young and produce milk to feed them