Hurst Hill Primary School Knowledge Organiser

Hurst Hill Primary School
Learning Together

Science	Living things and life cycles	Year 5	Autumn 2	Biology

Knowledge	
What is reproduction?	**Research** Reproduction is when an animal or plant produce one or more individuals similar to itself. · Sexual reproduction - requires two parents with male and female gametes (cells) · Asexual - Will produce offspring that is identical to the parent. Requires only one · parent.
How do different plants reproduce?	**Comparative** Asexual and sexual Compare how the two types of plants. · 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**
How are animals life cycles different?	**comparative** · 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). · Mammal, amphibian, insect, bird. · What is similar what is different?
Can we grow new plants from different parts of the parent plant?	**Observe over time** Grow new plants from different parts of the parent plant, for example seeds, stem, and root cuttings, tubers, bulbs. Observe what happens. Explain why
How do animals change over a period of time?	**Observe over time** Observe changes in an animal over a period of time (for example by hatching and rearing chicks, comparing how different animals reproduce and grow. Mammals, amphibians and insects.
How does David Attenborough's and Jane Goodall's work compare?	**Research** Research a significant naturalist or animal behaviourist and create a fact file / poster that showcases their life, achievements, and significance.
Why do plants adapt in such a way to their environment?	**Pattern seeking** Watch sections of "Life" videos by David Attenborough. These videos show a range of adaptations of both animals and plants to their environment.
Can we draw, label and state the function of parts of the flower?	**comparative** Dissect a flower as a class and compare what we can see to models of flowering plants that we have in school.

Vocabulary	
Anther	Part of the stamen that produces and releases pollen.
bulb	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.
Embryo	An unborn animal or human 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 create a new creature.
Germination	If a seed germinates or is germinated it starts to grow.
Life cycle	The series of changes that animal or plant passes through from the beginning of its life until its death.
Mature	When something it matures it is fully developed.
metamorphosis	A person or thing develops and changes into something completely different.
Ovary	A female organ that produces eggs.
Ovule	A small egg.
Petal	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 it produces 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
Stigma	The top of the centre part of a flower which takes in pollen.
Structure	The way in which something is built or made.

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Biology is the science that understands living organisms, including animals and plants.

Living things and their habitats

Statutory requirements

Pupils should be taught to:

- describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
- describe the life process of reproduction in some plants and animals.