

Subject: Science Y5 Living things and their habitats (Life cycles)

NC/PoS:

- 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

Prior Learning (what pupils already know and can do)

All animals obtain their food from plants or other animals. Understand simple food chains. Animals need shelter, nutrients, water and air. All plants need space, nutrients, water and air. Mammals, reptiles, birds, amphibians and fish are vertebrates. Insects are invertebrates. All animals have offspring. Seeds and bulbs grow into mature plants. The life cycle of plants includes germination, growth, reproduction and seed dispersal. To know basic life cycle of animals includes birth, growth, reproduction and death. All living things have a life cycle.

End Goals (what pupils MUST know and remember)

- Know that there are distinct types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.
- Know that sexual reproduction in plants involves pollen from one flower fertilising the egg of another to produce a seed.
- Know asexual reproduction in plants happens without pollen or an egg. The new plant grows from cuttings from the parent plant.
- Know the life cycle of a dolphin (mammal) - live young born and get milk from mothers, grow from babies to adults, reproduce
- Know the life cycle of a newt (amphibian)- egg in jelly laid in water, develops tail, and legs, grows lungs to breathe and leaves water, takes 2 years to grow to adult size
- Know the life cycle of a butterfly (insect) - eggs laid by the female insect; eggs hatch and larva are born; when the larva moults for the last time, a pupa is formed
- Know some insects only have 3 stages: born as an egg, hatches as a nymph and changes into an adult
- Know the life cycle of a robin (bird) – egg, hatches and is fed by the parents, juvenile– leaves the nest when flight feathers are grown, adult attracts mate to reproduce
- Know the life cycle of an alligator (reptile) - egg, hatches able to feed itself but stays with mother for at least a year, juvenile, adult
- Know the naturalist David Attenborough
- Know the animal behaviourist Jane Goodall
- Know amphibians and insects go through metamorphosis

Key Vocabulary: life cycle, life span, metamorphosis, gestation, pupa, larva, sexual, asexual, nymph, naturalist, behaviourist, spores, runners, clones, stigma, stamen, filament, ovary, anther, fledgling, style, ovary

Review prior learning

Match different animals/plants to their habitat. Revisit the needs of animals and plants. Using the images of animals and plants children create a simple food chain.

Introduce David Attenborough through <https://www.youtube.com/watch?v=ofxCVJvHqj0> introduction to plants

Introduce Jane Goodall through <https://www.youtube.com/watch?v=FRIUJrEUn0Y>

Medium Term Plan: Supporting Implementation of LTP/Progression Grid

Session 1: Recap: the structure of animals within the vertebrate groups: birds, reptiles, mammals, amphibians and fish.

Children learn the life cycle of a dolphin (mammal) - live young born and get milk from mothers, grow from babies to adults, reproduce. The life cycle of a newt (amphibian) - egg in jelly laid in water, develops tail, and legs, grows lungs to breathe and leaves water, takes 2 years to grow to adult size. The life cycle of a butterfly (insect) - eggs laid by the female insect; eggs hatch and larva are born; when the larva moults for the last time, a pupa is formed. Some insects only have 3 stages: born as an egg, hatches as a nymph and changes into an adult. The life cycle of a robin (bird) – egg, hatches and is fed by the parents, juvenile– leaves the nest when flight feathers are grown, adult attracts mate to reproduce. The life cycle of an alligator (reptile) - egg, hatches able to feed itself but stays with mother for at least a year, juvenile, adult

FOCUS: To research the life cycles of different animals

Watch video to introduce life cycles

https://www.youtube.com/watch?v=CH_YkA6Deo4

https://www.youtube.com/watch?v=gU_pJ8PAWwQ hummingbirds' birth to fledgling - use as a stimulus to model life cycle with detail added

Research the following: (add detail to the life cycle not just the stages) Child researches one from each category

Life cycle of a mammal – bat, kangaroo, dolphin, or chimpanzee

Life cycle of an amphibian – frog, newt, toad, or salamander

Life cycle of an insect – beetle, bee, dragonfly, woodlouse

Life cycle of a bird – owl, penguin, pigeon, duck

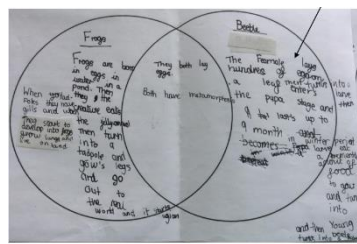
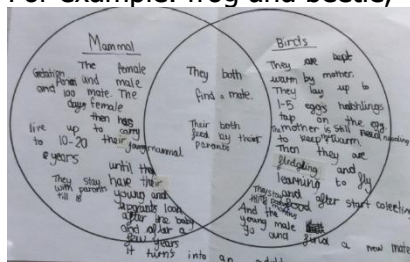
Vocabulary: life cycle, metamorphosis, pupa, larva, nymph, fledgling, adult, juvenile

Session 2: Recap: lifecycle of an amphibian, insect, bird, and mammal

FOCUS :To use Venn diagrams to compare life cycles

Pick 2 from different groups

For example: frog and beetle,



Vocabulary: data collection, comparison, similarities, differences

Session 3: Recap: lifecycles of different amphibians, insect, bird, and mammal

FOCUS: To look for patterns when researching the differences between life cycles

Watch <https://www.youtube.com/watch?v=bFPSS2im3o> gestation 3.22-4.40

Introduce lifespan.

Children research lifespan or gestation or different animals collecting data for amphibians, insects, birds, and mammals. Plot results and explain any patterns they see.

Vocabulary: gestation, life span, weight, height

Session 4: Recap: differences between life cycles in previous lesson and life cycle of a flowering plant (use growing seed from Explorify as a stimulus)

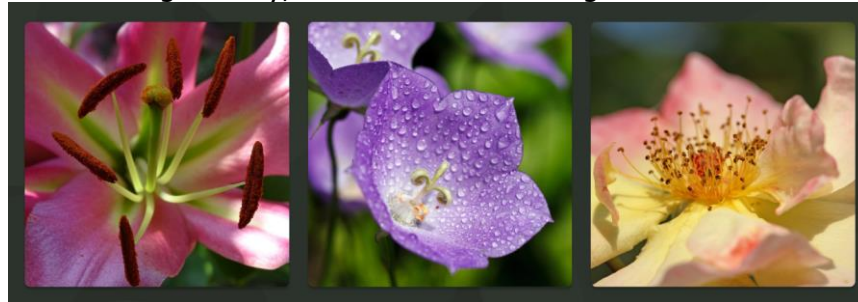
Children learn that there are distinct types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals. Sexual reproduction in plants involves pollen from one flower fertilising the egg of another to produce a seed

Lo: To understand sexual reproduction in plants

<https://www.bbc.co.uk/bitesize/topics/zdqdcdq/articles/zyv3jty>

https://www.youtube.com/watch?v=bFPSS2im_3o sexual reproduction plants up to 3.22

Look at images of lily, bellflower and climbing rose



Discuss differences in stigma and stamen and their function. Dissect a flower into male and female parts and describe the process of reproduction

Vocabulary: sexual reproduction, stigma, stamen, anther, filament, style, ovary

Session 5: recap – sexual reproduction in plants

Children learn asexual reproduction in plants happens without pollen or an egg. The new plant grows from cuttings from the parent plant.

FOCUS: To understand asexual reproduction in plants

The parent plant produces identical offspring. There are no female or male parts involved as in sexual reproduction.

Adapt Twinkl PowerPoint and use the first 7 slides.

runners, bulbs, tubers, cuttings

Vocabulary: runners, bulbs, tubers, cuttings

Session 6: Recap – asexual reproduction

FOCUS: To observe asexual reproduction in plants

Plant the following:

Strawberries – school allotment

Mint – use cuttings and discuss why some growers use cuttings rather than seeds to propagate (the cuttings or buds taken from an adult plant produce progeny that mature faster and are sturdier than a seedling grown from a seed.)

Spider plant – classroom plant

Daffodils – school grounds

Vocabulary: propagate, propagation

Link to career scientist:

https://pstt.org.uk/application/files/7916/2851/6348/Marine_biologist_-_Dawood_Qureshi.pdf

https://pstt.org.uk/application/files/2416/2851/6697/Veterinary_Surgeon_-_Daniella_Dos_Santos.pdf

Scientists who have helped develop understanding in this field: David Attenborough, Jane Goodall

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