Medium Term Plan: Supporting Implementation of LTP/Progression Grid

Subject: Science Year: UKS2 year 5 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 mammal - live young born and get milk from mothers, grow from babies to adults, reproduce.
- Know the life cycle of an 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 an 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 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 reptile - egg hatches, able to feed itself but stays with mother for at least a year, juvenile, adult
- Know the naturalist David Attenborough and the animal behaviourist Jane Goodall
- Know amphibians and insects go through metamorphosis

Key Vocabulary: life cycle, metamorphosis, pupa, larva, sexual, asexual, nymph, naturalist, behaviourist, spores, runners, clones, stigma, stamen, filament, ovary, anther, 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
Introduce Jane Goodall through https://www.youtube.com/watch?v=FRlUJrEUn0Y

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

LO: To research the life cycles of different animals.
Watch video to introduce life cycles:
https://www.youtube.com/watch?v=CH_YkA6Deo4

Children pick one from each category and research its life cycle:

- 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 or woodlouse
- Life cycle of a bird – owl, penguin, pigeon or duck

Class discussion on children's findings and collation of each life cycle's main stages:

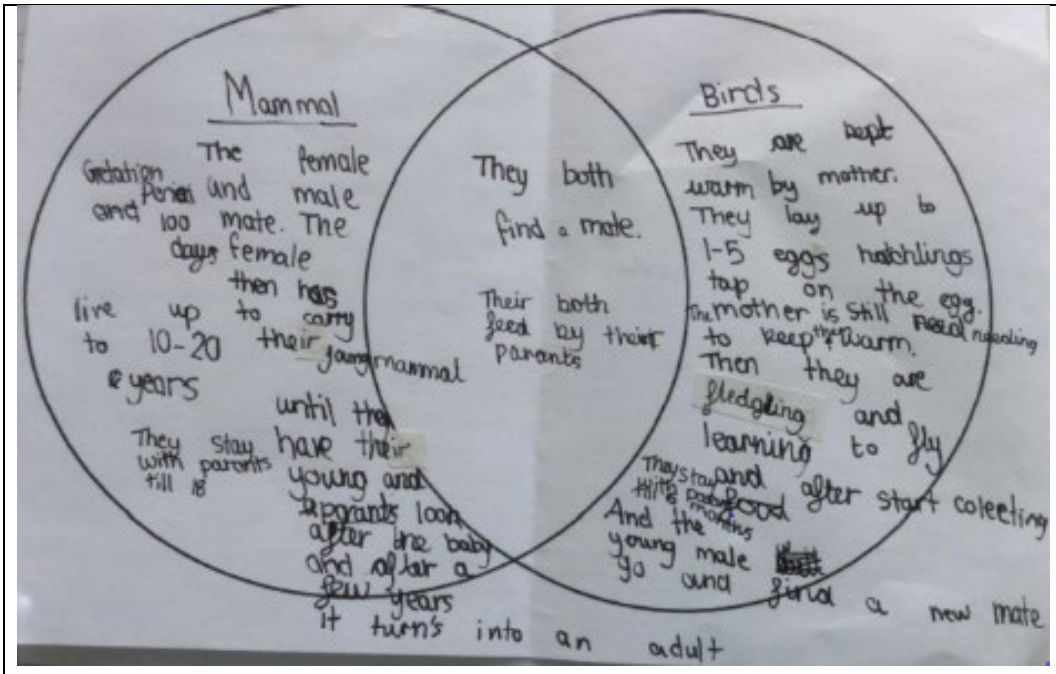
- The life cycle of a mammal - live young born and get milk from mothers, grow from babies to adults, reproduce.
- The life cycle of an amphibian - egg in jelly laid in water, develops tail and legs, grows lungs to breathe and leaves water, takes 2 years to grow to adult size.
- The life cycle of an 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 bird - egg hatches and is fed by the parents, juvenile leaves the nest when flight feathers are grown, adult attracts mate to reproduce.

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

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

LO: To use Venn diagrams to compare life cycles.

Children pick 2 animal groups and compare their life cycles using a Venn diagram.

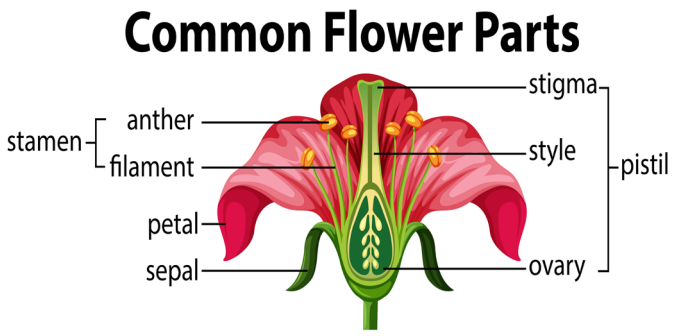


Vocabulary: data collection, comparison, similarities, differences

Session 3: Recap: life cycle of a plant (use growing seed from Explorify as a stimulus)
https://www.bbc.co.uk/bitesize/topics/zdqdcqt/articles/zyv3jty

LO: To retrieve my knowledge of the parts of a flower.

Dissect a flower into male and female parts and label a diagram.



Outline the functions of each part.

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

Session 4: Recap: parts of a plant

LO: To understand sexual reproduction in plants

Video explaining sexual reproduction: https://www.youtube.com/watch?v=bFPSS2im_3o (watch up to 3:22m)

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

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

Session 5: Recap – sexual reproduction in plants

Lo: To understand asexual 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.

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

Look at runners, bulbs, tubers and cuttings.

Plant one of the following to observe asexual reproduction in real life:

- Strawberries
- Mint
- Spider plant
- Daffodils

Vocabulary: runners, bulbs, tubers, cuttings

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