

Science – Living Things and Habitats

Do all living things start out as an egg? Thread: Biology

What I should already know: I know the differences between things that are living, dead and things that have never been alive. I can identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. I can identify and name a variety of plants and animals in their habitats, including microhabitats. I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain and identify and name different sources of food.

Enquiry Questions

- What are the processes of sexual reproduction in plants and animals?
- What is asexual reproduction?
- What are the different life cycles of mammals?
- What are the similarities and differences between the life cycles of insects and amphibians?
- How are the life cycles of birds and reptiles similar to or different from those of other animals?

Key Vocabulary

Amphibian – A cold-blooded vertebrate.
Asexual – Something which reproduces on its own.
Bacteria – A single cell organism.
Bulbs – An underground food store. They are usually covered in a thin, papery outer layer.
Caterpillar – A small, worm-like animal that feeds on plants and eventually develops into a butterfly or moth.
Cuttings – Pieces of plants that have been cut from another plant.
Egg – A round object laid by some types of animals which contains a developing embryo. / A cell in a female animal, or in some kinds of plants, that can develop into a new individual after it is fertilised.
Egg tooth – A hard bump on the beak or jaw of an embryo bird or reptile that is used for breaking out of the shell and later falls off.
Embryo – An unborn or unhatched offspring in the process of development.
Fertilisation/ Fertilises – When a sperm and egg cell join together.
Fledgling – The stage of life a bird goes through between hatching and being able to fly.
Genes – A set of instructions needed to make cells.
Hatch – When a young bird, reptile, insect, or amphibian emerges from its egg.
Larva – The form an insect or amphibian takes between egg and adult.
Life cycle – The sequence of changes that a living thing goes through as it grows and develops. Birth, growth, reproduction, aging and death are all stages in the life cycle of an animal.
Mammary glands – An organ in female mammals where milk is produced.
Marsupial – A mammal who carries their young in a pouch on the front of their bodies.
Metamorphosis – When insects and amphibians transform from their larval stage to their adult form.

Working Scientifically Skills

Pupils will:

- 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.

Working Scientifically (Blue = Y5)

- Ask relevant questions and use different types of scientific enquiries to answer them. / **Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.**
- Use straightforward scientific evidence to answer questions or to support them. / **Identify scientific evidence that has been used to support or refute ideas or arguments.**
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment. / **Take measurements using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where necessary.**
- Identify differences, similarities or changes related to simple scientific ideas and processes.

Monotreme mammal – A mammal who lays eggs to reproduce.
Placental mammal – A mammal who has live young which develop before birth inside a female mammal.
Plantlets – A young plant.
Pollen – A fine, grainy substance which is produced by the male parts of a plant. It contains the male sex cells.
Pouch – A small pocket located on the front of marsupial mammals.
Pollination – The transfer of pollen to the stigma.
Pupa – The inactive stage of an insect's life between larva and adult.
Reproduce – To have young or offspring.
Sexual reproduction – When a new organism is created from two parents.
Sperm – A cell made by male animals. These cells fertilise the eggs made by a female, so that the animal can reproduce.
Tuber – An underground food store which new plants can grow from.

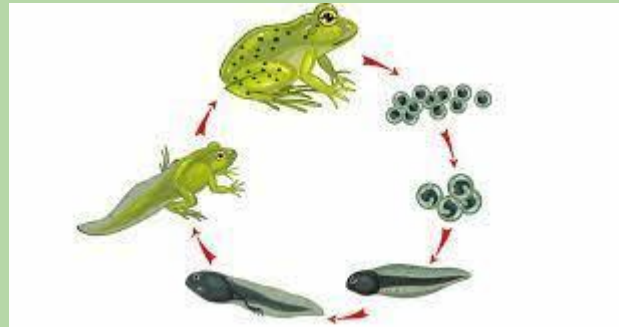
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. / Use test results to make predictions to set up further comparative and fair tests.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Gather, record, classify and present data in a variety of ways to help answer questions.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. / Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.

Useful images

Life cycles



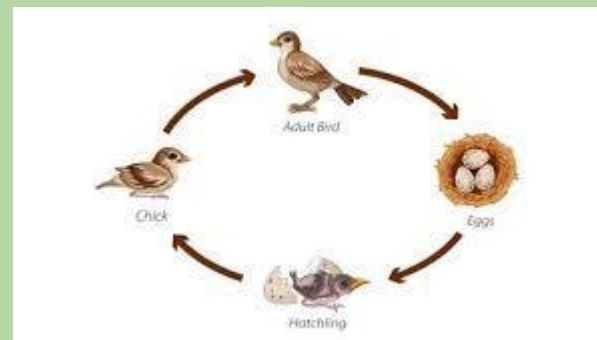
Mammal



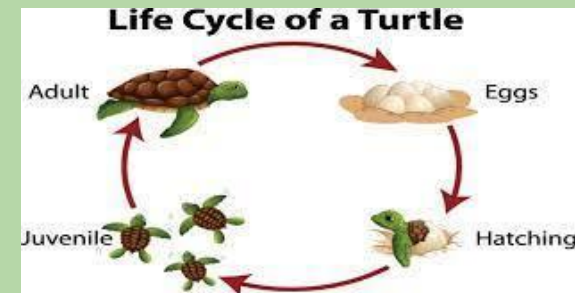
Amphibian



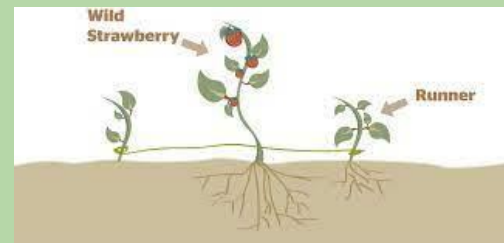
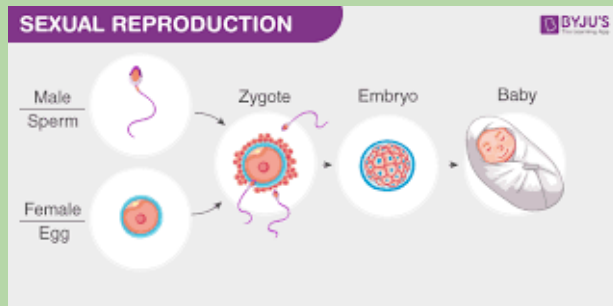
Insect

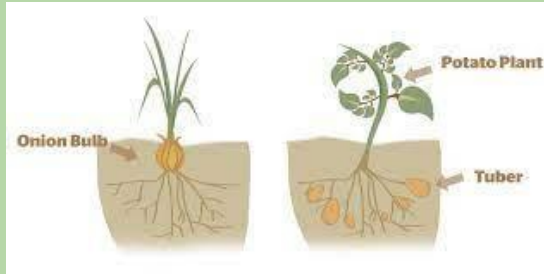


Bird



Reptile





How sexual reproduction works

Producing runners and tubers are two ways that plants can reproduce asexually.

Links to other curriculum areas: RSE – Sexual reproduction