TMS Science Launchpad - Year 2023/2024

Year 5 - Biology : Living things & their habitats, Animals (including humans)

Substantive knowledge:

Changes happen as **humans** develop from babies to old age:

Foetus, embryo, babies, toddler, children, teenagers, adults, elderly

Life cycle of :

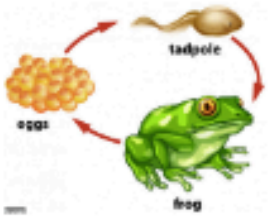
Amphibians
(eggs/spawn; tadpoles (gills), frogs (lungs)

Reptiles
(eggs, hatchling, juvenile adult)

Birds
(egg, hatchling, chick, bird)

Fish
(egg, larva, fry, juvenile, adult)

Insect
(egg, larva, pupa, adult)



Changes experienced in puberty

Changes when a body develop into and adult body capable of reproduction. Hormones control these changes and are physical and emotional

Males: enlarged scrotum and testes, pubic hair, hair of chest, face, legs and underarm, voice c s

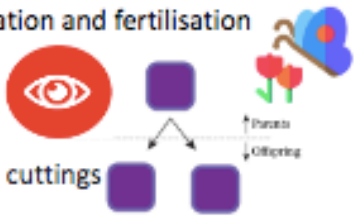
Females: hips widen, breasts develop, pubic hair, hair & underarm, periods start

Different animals have different gestation periods

Plants can reproduce **sexually** - pollination and fertilisation (from year 3)

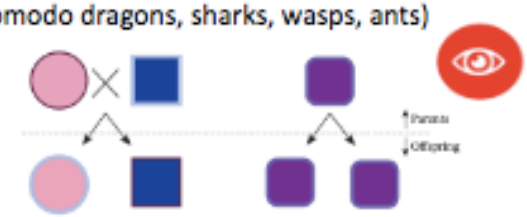
Some plants reproduce **asexually**

- **artificial** - produce roots from cuttings
- **natural** - bulb, tuber, runner



Most organisms reproduce **sexually** where offspring inherit information from both parents.

Some organisms reproduce **asexually** by making a copy of a single parent (starfish, komodo dragons, sharks, wasps, ants)



Vocabulary:

foetus, embryo, womb, gestation, baby, toddler, teenager, elderly, growth, development, puberty, hormone, physical, emotional, sexual, asexual, pollination, dispersal, reproduction, cell, fertilisation, pollination, male, female, pregnancy, young, mammal, metamorphosis, amphibian, insect, egg, embryo, bird, plant, life cycle, reproduce, sperm, fertilises, live young, asexual, plantlets, runners, bulbs, cuttings, .

puberty - the vocabulary to describe sexual characteristics - this needs to be alongside and in line with the RSHE.

SCIENTIFIC NAMES SHOULD BE USED FOR BODY PARTS.

Disciplinary knowledge

Observation over time	Identify and classify	Identify and classify	Comparative tests	Pattern seeking	Observation over time
How do frogs **change over** their lifetime? (observe closely)	Can you **compare** this collection of animals based on similarities and differences in their lifecycle? (ask scientific questions)	Can you **identify** all the stages in the human life cycle? (observe closely)	How does age affect a human's reaction time? (to make a prediction)	Is there a relationship between a mammal's size and its gestation period? (interpret results and draw conclusions) (present results)	What are the advantages and disadvantages of asexual reproduction? (interpret results and draw conclusions)

Research

Why do people get grey/white hair when they get older? What animals and plants reproduce asexually?