

Life Cycles and Reproduction: A Scientific Investigation with Bea the Bee

Learning objective: To describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird, and to identify the process of reproduction in some plants and animals.

Use these flashcards to test your knowledge of how different living things grow, change, and reproduce. Read the front, think of the answer, then check the back.

Define 'Metamorphosis' as seen in the life cycle of a butterfly.

Metamorphosis is the dramatic physical change or transformation that an insect undergoes during its life cycle, such as moving from a larva to a pupa, then to an adult.

What is the primary difference between a mammal and an amphibian's method of reproduction?

Mammals typically give birth to live young and nourish them with milk, whereas most amphibians lay jelly-like eggs in water which hatch into larvae.

Explain the role of 'Pollination' in the life cycle of a flowering plant.

Pollination is the process where pollen is transferred from the male part of a flower to the female part, allowing the plant to produce seeds for new growth.

What are the three main stages of the life cycle of a bird?

Egg, chick (or nestling/fledgling), and adult.

Compare and contrast: How does the life cycle of a mammal differ from that of an insect?

Mammals usually have a direct development process where the young look like smaller versions of the adult, while insects often undergo metamorphosis and have distinct stages like larva and pupa where they look completely different.

Define 'Germination'.

Germination is the process by which a seed begins to grow into a new plant, usually triggered by water, oxygen, and the correct temperature.

Justify why amphibians are often considered to have a 'double life'.

Many amphibians live part of their life cycle in the water (as larvae breathing through gills) and part on land (as adults breathing with lungs), hence the term 'amphibious' meaning double life.

What is the function of the 'Pupa' stage in an insect's life cycle?

The pupa stage is a period of transformation where the insect is encased in a protective shell, allowing its body to undergo significant physical restructuring into its adult form.

Explain why many mammals invest more energy in caring for their young compared to most insects.

Mammals often have fewer offspring and provide protection, warmth, and food (milk) to ensure a higher survival rate, whereas many insects lay hundreds of eggs and provide little to no parental care.

What might happen to a plant species if 'Pollination' failed to occur?

If pollination failed, the plant would be unable to produce seeds, meaning it could not reproduce sexually, eventually leading to the decline of that plant population in the area.