

SCIENCE · Y5

Life Cycles

Knowledge Organiser — Year 5 Science

Key vocabulary

1

Life cycle

The series of changes a living thing goes through from birth to death and the start of new life.

2

Reproduction

How living things produce new individuals (babies, eggs, seeds).

3

Sexual reproduction

When two parents combine to make young. Most animals and plants do this.

4

Asexual reproduction

When one parent produces young without a partner. Some plants and bacteria do this.

5

Metamorphosis

A big change in body shape during development. Butterflies and frogs go through metamorphosis.

6

Larva

An early stage of an insect's life — a caterpillar is a butterfly larva.

7

Pupa

Stage between larva and adult, often inside a chrysalis or cocoon.

8

Pollination

When pollen from one flower reaches another, allowing seeds to form.



9

Germination

When a seed begins to grow into a plant.

10

Mammal

Animal that gives birth to live young, has fur, and feeds babies milk.

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Amphibian

Cold-blooded animal that lives in water and on land — frogs, toads, newts.

Mammal life cycle

Most mammals, including hu

- 1. EGG fertilised inside mother's body
- 2. BABY grows inside mother (gestation)
- 3. BIRTH — live young, fully formed
- 4. INFANCY — fed milk by mother (lactation)
- 5. CHILDHOOD — grows, learns from parents
- 6. ADULTHOOD — body fully developed, can reproduce
- 7. OLD AGE — slows down
- 8. DEATH
- Cycle repeats with new generation.
- Mammals usually have FEW young — invest a lot in each.

Life cycle (butterfly)

Complete metamorphosis — four very

- 1. EGG — laid on a leaf
- 2. LARVA (caterpillar) — eats and grows rapidly
- 3. PUPA (chrysalis) — caterpillar transforms inside a hard case



- 4. ADULT (butterfly) — emerges, finds a mate, lays eggs, dies
- Total time from egg to adult: 4-6 weeks for many butterflies
- The adult and the larva look NOTHING alike — that's metamorphosis
- Other insects with metamorphosis: bees, beetles, flies, moths
- Some insects (like grasshoppers) have INCOMPLETE metamorphosis — skip pupa stage

Amphibian life cycle (frog)

From water to land

- 1. EGGS (frogspawn) — laid in water in jelly-like clumps
- 2. TADPOLE — swims in water, breathes through gills
- 3. TADPOLE WITH LEGS — back legs grow first, then front legs
- 4. FROGLET — tail shrinks, lungs replace gills, can leave water
- 5. ADULT FROG — lives on land, returns to water to breed
- Whole cycle takes 12-16 weeks
- Amphibians need water for reproduction — they cannot survive in pure desert

Plant life cycle (flowering plant)

Seed → seedling → flower →

- 1. SEED — contains baby plant + food store
- 2. GERMINATION — seed sprouts in warm, moist soil
- 3. SEEDLING — first leaves appear
- 4. ADULT PLANT — leaves, stems, flowers grow
- 5. POLLINATION — pollen moves between flowers (often by bees)
- 6. FERTILISATION — seeds form inside the flower



- 7. SEED DISPERSAL — seeds spread (wind, animals, water)
- 8. New seeds germinate — cycle repeats
- Some plants live one year (annuals); some live many years (perennials)

