



TEACHER GUIDE

LIFE CYCLES GRADES 3-5

COMMON MISCONCEPTIONS

- **Eggs and seeds are not alive.**
Fertilized eggs and seeds are the beginning of animal and plant life cycles.
- **All plants are flowers.**
Many types of plants produce flowers, but flowers represent one stage of growth during a plant's life cycle. Plants that do not have flowers (trees, vegetables, grasses) are still plants.
- **All living things breathe and consume food in the same way.**
Some animals breathe using lungs, others have gills. Some eat through their mouths, others produce food using sunlight. Different living things have different life cycles which are dependent upon how each living thing lives and grows.
- **Plants need soil to live and grow.**
Plants produce the energy they need to live and grow primarily from water, sunlight, and air.

LIFE CYCLES

Coming into this lesson, students should have some background related to how living things grow and change. They should have an idea that plants and animals have different, identifiable characteristics at different stages of development (e.g. babies are smaller than adults, seeds look different from flowers). Students may have some conception of life stages and how they change—possibly due to life experience (e.g. getting a pet, losing a pet, losing a grandparent, etc.). They may not know any details about reproduction, but they should know that adult animals can have babies and that plants also produce seeds, which make more plants.

FLOWERING PLANTS AND NON-HUMAN ANIMALS

The focus of this lesson is on the patterns seen in the life cycles of plants and animals. Students study several different examples to learn that all living things are born, grow, reproduce, and die. At this level, focus on non-human animals and

only flowering plants. Human life cycles can be studied, but (especially death) may be a sensitive issue for students of this age. At this stage assessment does not include any details of human reproduction (NGSS).

TYPES OF LIFE CYCLES

As students study the life cycles of different types of animals they will come to recognize that there are similarities and differences between them. They can begin to categorize different types of life cycles. For example, some animals hatch from eggs, while others are born live. Or some animals look very much like smaller versions of their parents, while others change drastically as they grow up (metamorphosis).

LIFE CYCLES & NATURAL SELECTION

Although not an explicit focus, the concept that life cycles allow a species to exist for time periods much longer than the life cycle of one plant or animal is foundational to later understanding of concepts related to natural selection. It is key to note that life cycles overlap. New lives often begin during a middle stage of a parent's life so the young can get a head start on life before a parent's life cycle comes to an end.

