Life Cycles

A Reading A–Z Level U Leveled Book
Word Count: 1,268

Connections

Writing

Choose three living things from the book. Create a three-part Venn diagram comparing and contrasting their life cycles.

Science

Research an animal or plant not in the book. Write a report that describes its life cycle. Present your report to your class.

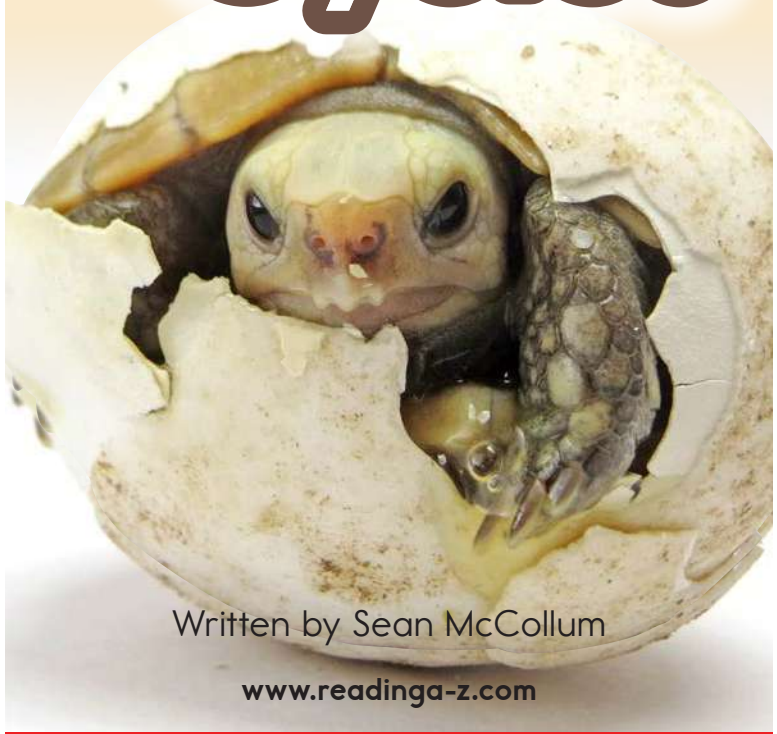
Reading A–Z
Visit www.readinga-z.com
for thousands of books and materials.

LEVELED BOOK • U

Written by Sean McCollum

www.readinga-z.com

Life Cycles



Written by Sean McCollum

www.readinga-z.com

Focus Question

In what ways are life cycles similar for all living things? In what ways are they different?

Words to Know

adolescence	mature
cycle	metamorphosis
development	nourishment
fertilizes	nymph
larva	pupa
life span	wombs

Photo Credits:
Front cover: © iStock.com/ansonsaw; title page: © iStock.com/Somedaygood; page 3: © iStock.com/Wavebreakmedia; page 4 (top left): © iStock.com/lilagri; page 4 (top right): © iStock.com/Gloria Ayala Barrera (GAyala); page 4 (bottom left): © iStock.com/PeopleImages; page 4 (bottom right): © iStock.com/ChrisPole; page 5: © Dave Watts/Science Source; page 6: © iStock.com/diane555; page 7: © Dave Hamman/Lonely Planet Images/Getty Images; page 8 (top): © iStock.com/ozgurcankaya; page 8 (center): © iStock.com/monkeybusinessimages; page 8 (bottom): © iStock.com/LeoPatrizi; page 9 (top): © iStock.com/Jgalione; page 9 (bottom): © Kin Cheung/AP Images; page 10 (top): © Voxxphotography/Dreamstime.com; page 10 (bottom): © Hannu Viitanen/Dreamstime.com; page 11 (top): © iStock.com/Estellez; page 11 (center): © iStock.com/Chepko; page 11 (bottom): © iStock.com/Brett_Hondow; page 12 (top left): © ANT Photo Library/Science Source; page 12 (top right): © Duncan Usher/ardea.com; page 12 (bottom left): © iStock.com/Eileen78; page 12 (bottom right): © Nigel Cattlin/Science Source; page 13: © Nomadsoul1/Dreamstime.com; page 14 (top): © Gerhard Zwerger-Schoner/imageBROKER RF/age footstock; page 14 (bottom): © David Watts Jr./Dreamstime.com; page 15 (top): © iStock.com/pelooyen; page 15 (bottom left): © iStock.com/ithinksky; page 15 (bottom center left): © iStock.com/Taalvi; page 15 (bottom center): © iStock.com/GlobalStock; page 15 (bottom center right): © iStock.com/julichka; page 15 (bottom right): © iStock.com/CoreyFord

Life Cycles
Level U Leveled Book
© Learning A–Z
Written by Sean McCollum

www.readinga-z.com

Correlation

LEVEL U	
Fountas & Pinnell	Q
Reading Recovery	40
DRA	40

Table of Contents

Many Forms of Life

Life takes many forms, and every form of life follows a **cycle**. For instance, a cat has kittens and a child grows taller. A caterpillar becomes a butterfly, and an old tree falls in the forest. All these examples are key moments in the life cycles of different organisms.

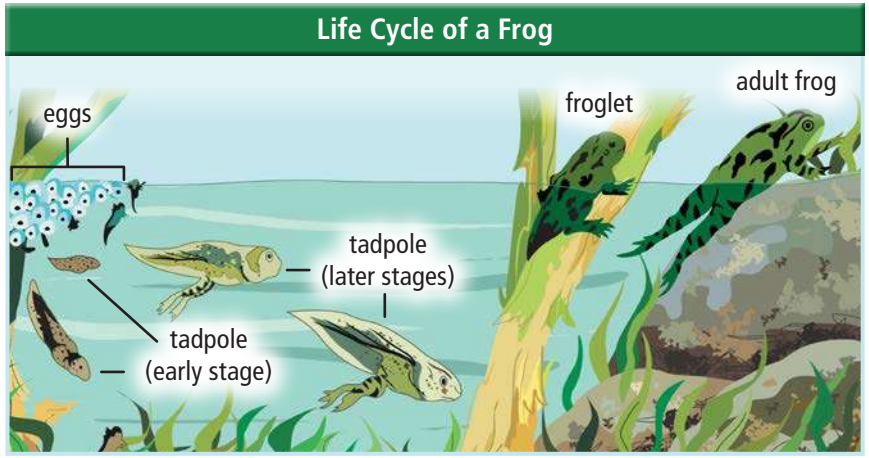
All life cycles follow a similar pattern. Each cycle has a beginning, like an eagle laying eggs or the birth of a human baby. Then comes a period of growth and **development**. For example, the eagle learns to fly and hunt. A human baby grows stronger, learns to walk and talk, and begins to figure out how to survive. With luck, both the eagle and the person **mature**, live full lives, and grow old. They may have young of their own, thus starting a new life cycle. The life cycle of every living thing ends with death.

Some life cycles are simple, while others are complex. Some last for hundreds of years, others less than a day! From beginning to end, all life cycles are made up of a variety of fascinating stages along the way.

Exceptions to the Rule

In science, including biology, there are almost always exceptions to rules. For example, almost all mammals develop inside their mothers and are born live. However, two Australian mammals—the platypus and echidna—lay eggs. The mother curls around the small, leathery eggs to keep them warm and produces milk for her young after they hatch.

platypus



Frog Life Cycle

All animals, from fish to apes, have very different life cycles. Amphibians, such as frogs, start out as eggs laid in water. After they hatch, the young go through big physical changes, a dramatic process called **metamorphosis**.

Baby frogs, called *tadpoles*, use gills to breathe in water, as fish do. They gradually grow legs, and their tails shrink and disappear. They also develop lungs, which allow them to breathe out of water. At this point, they are referred to as froglets.

Some kinds of frogs mature in a matter of weeks. The length of a frog's life cycle depends on the species. A bullfrog can live up to nine years, while the small rainbow frog of Madagascar lives only two years. Once they become adults, frogs can mate and lay eggs of their own.

Elephant Life Cycle

Compared to frogs, African elephants have a long but simple life cycle. Elephant babies, called *calves*, take about twenty-two months to grow inside their mothers' **wombs**. When they are born live, they weigh 91 kilograms (200 lb.) or more. Most elephant calves take their first wobbly steps within an hour of entering the world.

Young elephants have a longer period of development and growth than most mammals. An elephant calf drinks milk from its mother until it is five to ten years old. Once it switches to eating only plants, an elephant is no longer a calf but not yet an adult. It still needs help from its mother to survive. This period is called **adolescence**.

African elephants become adults at about age seventeen. At that point, they may mate and reproduce, or have calves. They are highly intelligent animals that can live up to seventy years.

Elephant Graveyards

When an elephant dies, members of the herd mourn by touching the dead elephant's jaw, tusks, and teeth with their trunks. They also return to "elephant graveyards" to visit the skeletons of their dead friends and family.

Elephants mourn a dead herd member.

Human Life Cycle

Humans, like elephants, are mammals. Humans grow inside their mothers for about nine months and are born helpless. Mothers produce milk to supply their newborns with the **nourishment** they need.

infant

toddler

After about a year, most babies start walking and talking. Young children from ages two to three are often referred to as toddlers. By age five, playing and learning have become children's main tasks, both at home and school. Childhood usually lasts for about eleven years.

Human adolescence begins at about twelve years of age. Young people begin going through puberty. During this stage, their bodies experience big emotional and physical changes and become capable of having babies. Their bodies produce more hormones—chemicals that help growth and development as they transform from children into young adults.

adolescent

Adulthood begins as adolescence ends, though when that happens is different for each person. People's bodies may be full-grown by age eighteen to twenty-four. However, the human brain continues to develop and may not be fully formed until age thirty.


young adult

Humans take longer to reach maturity than any other mammal. Humans also need the most support to become adults capable of caring for themselves. Why? Growing up human is a very complex process. It involves mastering many skills, from using language to getting along with others.


older adult

From birth to death, the average human life cycle lasts almost eighty years. However, more people are now living to be one hundred and even older.

Insect Life Cycle

Like amphibians, many insects develop through metamorphosis. Most insects go through four stages in their life cycle: egg, **larva**, **pupa**, and adult.

Ladybugs


ladybug eggs

With their orange-red shells and black dots, ladybugs are colorful beetles. Like all insects, they start out as eggs. Female ladybugs lay their eggs on the underside of leaves, where predators have a hard time finding them.

Ladybug eggs hatch after three to five days. They are now larvae and look like little six-legged alligators. In order to grow, they eat all the bug eggs and smaller insects they can find. When a larva outgrows its skin, it molts, shedding and replacing its outer body. A ladybug larva usually molts four times.


ladybug larva


ladybug pupa

After two to three weeks, the larva attaches itself to a leaf. It then changes into a pupa. A ladybug pupa looks a little like a shrimp. During this stage, it stays still while it transforms inside its own skin. This process may take three to twelve days.

When fully formed, an adult ladybug emerges. Its polka-dotted shell hardens, and soon the beetle is capable of flight. Within a year, it is ready to mate and continue its life cycle by reproducing. Female ladybugs may produce up to one thousand eggs each year. The average **life span** of a ladybug is two to three years.


adult ladybug


A ladybug lays eggs, starting the cycle all over again.


silverfish


grasshoppers


dragonflies


cockroaches

Other Insects

The life cycles of some other kinds of insects are somewhat different. Dragonflies, grasshoppers, cockroaches, and similar insects have three life stages instead of four. The stages are egg, **nymph**, and adult. At the nymph stage, these insects closely resemble their adult form except that the adults have wings. They do not go through the dramatic change of becoming a pupa.

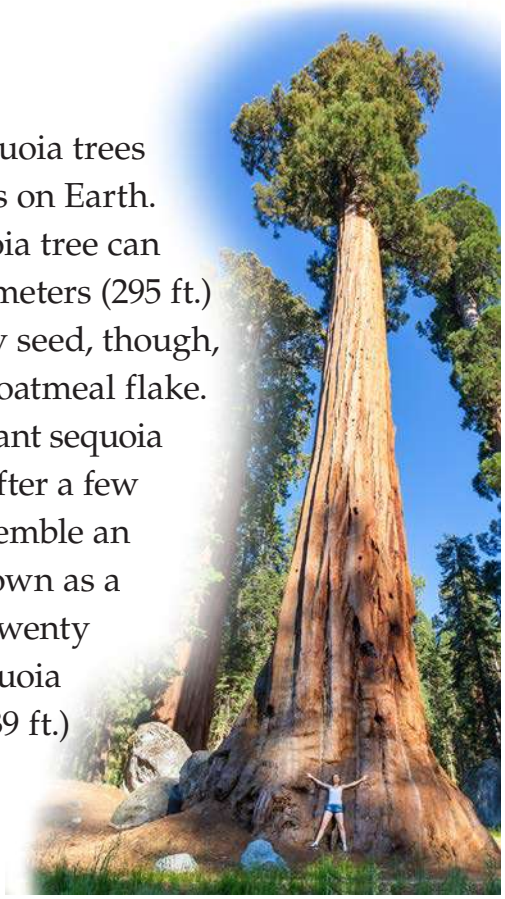
Some bugs, like silverfish, simply hatch and grow bigger, molting as their bodies increase in size.

Plant Life Cycle

Plants do not have a heart or lungs; however, they do have life cycles like all living organisms. Most plants start as seeds. A plant's life cycle begins when a seed sprouts, or germinates. Roots push down into the soil in search of water and nutrients, while leaves reach out for sunshine. Plants turn light energy from the Sun into chemical energy that powers their growth, a process called *photosynthesis*.

Giant Sequoias

Mature giant sequoia trees are the largest plants on Earth. An individual sequoia tree can grow more than 90 meters (295 ft.) tall. It starts as a tiny seed, though, about the size of an oatmeal flake. After sprouting, a giant sequoia is called a *seedling*. After a few years, it starts to resemble an adult tree and is known as a *sapling*. It may take twenty years for a giant sequoia to reach 12 meters (39 ft.) in height.



A giant sequoia in Sequoia National Park, California, USA

Young giant sequoias may start producing cones at about the age of twenty. Both male and female cones grow on the same tree. Powderlike pollen from male cones lands on female cones and **fertilizes** them. Fertilized female cones then begin to form seeds.

The average giant sequoia seed cone contains 230 seeds. A mature giant sequoia may produce more than 300,000 seeds a year. Less than 1 percent of sequoia seeds ever have a chance to germinate, though. Conditions must be perfect, with proper amounts of moisture and sunlight.

sequoia cone

Giant sequoias are among the longest-living life-forms on Earth. Their life cycle may last more than three thousand years.

Plant Clones: Aspens

Not all plants sprout from seeds. Aspens reproduce by both seeds and root sprouts. These mountain trees send up shoots from their roots that grow into new trees. They are all clones, meaning they have identical genes. Genes are like instructions that tell an organism how to grow. Scientists consider groves of aspen clones to be some of the oldest and largest living organisms on Earth.

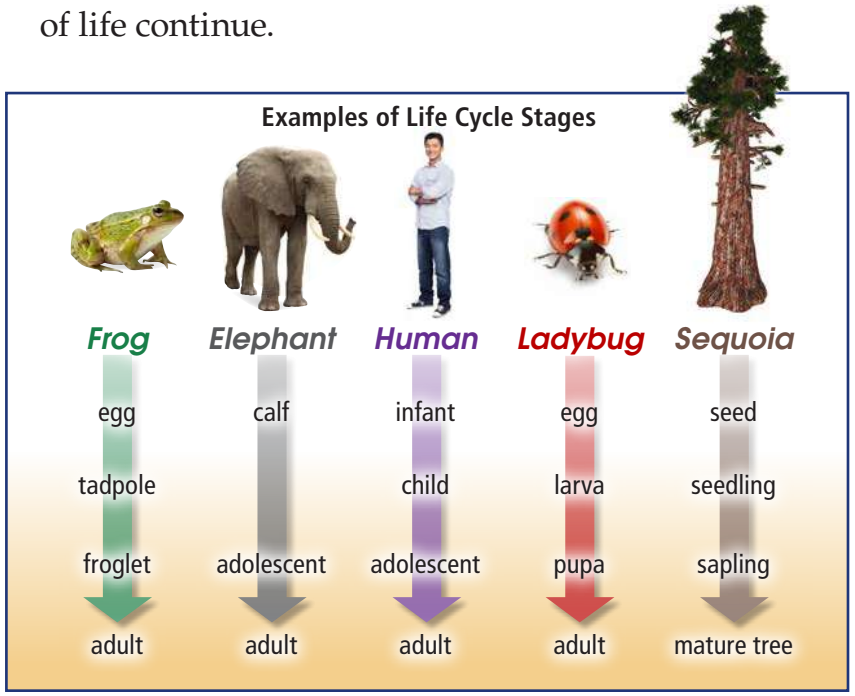
Cycles of Life

Nothing lives forever—not mayflies, not elephants, not giant sequoias. All living things complete their life cycle when they die.


A sheep's life cycle lasts about ten to twelve years.

In nature, when a living thing dies, its body decays and breaks down. It releases nutrients and chemicals that other organisms use to live, grow, and reproduce.

Even when they die, living things help cycles of life continue.



Glossary

adolescence *(n.)* the stage of the life cycle between childhood and adulthood when humans and other animals are still dependent on their parents (p. 7)

cycle *(n.)* a set of events that keeps repeating in the same order (p. 4)

development *(n.)* the process of changing into a more advanced or mature form (p. 5)

fertilizes *(v.)* combines male and female reproductive cells to create a new animal or plant (p. 14)

larva *(n.)* the immature form of an animal that goes through major body changes before it looks like an adult member of its kind (p. 10)

life span *(n.)* the average length of time that a human or other animal lives (p. 11)

mature *(v.)* to become grown or fully developed (p. 5)

metamorphosis *(n.)* an animal's change from a young form to an adult form in stages (p. 6)

nourishment *(n.)* the food and nutrients that humans and other animals need to grow and be healthy (p. 8)

nymph *(n.)* an immature form of certain kinds of insects that does not look very different from its adult form (p. 12)

pupa *(n.)* an immature insect in the stage between a larva and an adult (p. 10)

wombs *(n.)* organs inside the bodies of female humans and many other animals in which babies grow before they are born (p. 7)