

How Can We Observe a Life Cycle?



Focus: Students observe the life cycle of a live animal in a habitat set up in class.

Specific Curriculum Outcomes

Students will be expected to:

- 6.0 predict based on an observed pattern [GCO 2]
- 7.0 make and record observations and measurements [GCO 2]
- 9.0 propose an answer to an initial question or problem and draw a simple conclusion [GCO 2]
- 41.0 investigate changes in the appearance and activity of an animal as it goes through its life cycle [GCO 1/3]

Performance Indicators

Students who achieve these outcomes will be able to:

- describe in detail the life cycle of the animal studied in the classroom

NOTES:

Attitude Outcome Statements

Encourage students to:

- willingly observe, question, and explore [GCO 4]

Cross-Curricular Connections

Math

It is expected that students will:

- relate the size of a unit of measure to the number of non-standard units used to measure length and mass [2SS2]

Art

Students will be expected to:

- demonstrate positive interactive skills through collaborative art making [2.3.3]

English Language Arts

Students will be expected to:

- speak and listen to explore, extend, clarify, and reflect on their thoughts, ideas, feelings, and experiences [GCO 1]
- communicate information and ideas effectively and clearly, and to respond personally and critically [GCO 2]

Getting Organized

Components	Materials	Before You Begin	Vocabulary
• <i>Alligator Baby</i> (Read Aloud) • Science Card 3 Literacy Place: • <i>Starting Life: Crocodile</i> (Read Aloud–Sequencing Strategy Unit) • <i>Dragonflies Are Amazing!</i> (Guided Reading, Level O)	• animals for study • food and enclosure for animals (based on animal to be studied) • box for artifact box activity • students' Science Journals • items for artifact box (will depend on animal to be studied) • craft supplies, including modelling clay, paint, paper, and glue	• If you haven't done so already, order the animals you plan to study from a science supply company. (Note that students will have the opportunity to collect and observe live local organisms later in the unit.)	• size • appearance • movement • diet • Specific vocabulary related to the life cycle stages of the animal chosen for study.

Safety

- Ensure that students follow established safety procedures when handling live animals such as making the teacher aware of any allergies; handling animals gently and knowing when it is better not to handle them at all; washing hands after handling animals.

Science Background

- In choosing an animal to study in the classroom, you will want to consider a number of factors, including cost and length of time required to observe the various stages of the life cycle. Note that students will have the opportunity to collect and observe live local organisms later in the unit. Examples of animals that are available to order for this purpose include the following:
 - snails
 - tadpoles
 - guppies
 - mealworms
 - salmon fry
 - caterpillars

Possible Misconceptions

- Depending on the animal you choose to observe in your class, students may or may not get to see the egg stage. If this stage is missing from the observed stages in the life cycle, be sure to draw out this fact through questioning and reinforce it by showing visuals of the complete life cycle for the animal students will be observing.

ACTIVATE

Read Aloud: *Alligator Baby*



Summary

Kristen's baby brother is accidentally born at the zoo instead of the hospital and when her parents repeatedly bring home the wrong infant, it's up to Kristen to find the "people baby" that is her new brother.

Before Reading

Tell students that you will be reading a humorous story about mixed-up newborn babies.

Set a purpose for listening by asking students to listen as you read and to pay close attention to the illustrations to predict the baby animals based on their appearance and actions.

During Reading

As you read, pause frequently to discuss the text and illustrations. Prompts for discussion could include:

After page 4:

- **Kristen sees a long green tail, a green claw, and a long green face with lots of teeth.**
- **What baby animal is Kristen's mother holding?**

Invite students to share their prediction with a partner.

After page 6:

- **Was your prediction supported?**
- **Do you know what a baby alligator is called?** (hatchling)

After page 9:

- **Why do you think Kristen put the hatching in the fish tank?** (as soon as they are born, hatchlings go into the water; they can catch their own food immediately)
- **How big do you think the hatchling is? Would it fit in a fish tank?**

After page 11: (Don't reveal the picture until after discussion.)

- **What did Kristen see?** (a fishy tail, a flipper, and a face with whiskers)
- **What baby animal is Kristen's mother holding?**

Invite students to share their prediction with a partner.

After page 13:

- **Was your prediction supported?**
- **Do you know what a baby seal is called?** (pup)
- **Why do you think Kristen put the pup in the bathtub? Why didn't she put it in the fish tank, too?** (seal pups can swim at birth; it is too large to fit in the fish tank)

After page 14:

- **What baby animal do you think Kristen's mother is holding? How do you know?**

Invite students to share their prediction with a partner.

After page 16:

- **Was your prediction supported?**
- **What do you think a baby gorilla is called?** (infant, just like a human newborn baby)
- **Why might Kristen's mother and father put the infant gorilla on the chandelier?** (newborn gorillas cling with their hands and feet, and like to climb)

After page 19:

- **What is the "waaa, waaa" sound that Kristen hears?**

After page 26:

- **What do you think is going to happen next?**

Revisit the pictures on pages 28–29, and 30:

- **How are the baby animals similar to their adult parents? How are they different?**
- **What life cycle stages do you think come after the baby stage for each animal?**
- **How do you think the animals will change as they grow?**

After Reading

Invite students to work in pairs or small groups to research and diagram the life cycle of an alligator, gorilla, or seal. Students can create a poster or digital slideshow featuring the life cycle of the animal along with some facts about how the animal changes during its life cycle (e.g., size, appearance, movement, diet).

Artifact Box

Assemble an artifact box with clues about the animal the class will observe. What artifacts you include will depend on what animal you plan to study in the classroom. For example, if you plan to observe mealworms, which are the larva stage of darkling beetles, your artifact box could include the following clues:

- a clear bag of oatmeal (food for the mealworm)
- a gummy worm (as a hint for the shape and name; note that mealworms are not actually worms but larvae)
- a bird feather or toy lizard (mealworms can be food for pet birds and lizards)
- a toy beetle or a beetle brooch (to clue the darkling beetle)

Show students the objects one at a time. Ask:

- **How would you describe this item?**
- **What is it?**
- **What things do you associate with this item?**

Focus on allowing students to practise their observation skills. When you have revealed all of the objects, ask:

- **How do you think all of these items could be connected?**

Allow students to provide ideas, and then reveal the connection.

CONNECT



Investigate a Life Cycle

Tell students that you will be setting up a habitat for live animals for students to observe. Show students Science Card 3 and discuss what is involved in observing live animals over a period of time. (Images include adult darkling beetles, painted lady caterpillar, tadpoles, mealworms, a bird's nest, a fish aquarium, and a magnifying lens.) Prompts for discussion could include:

- **How will we keep the animals safe and healthy?**
- **How will we feed the animals?**
- **What do you think we will observe?**
- **How often should we observe the animals?**
- **How will we record our observations?**



Record questions that arise on the I Wonder Wall.

As a class, set up the habitat for the animals according to any instructions provided by the supplier of the animals.

Each day, have students observe the animals. You may wish to set up a camera to monitor animals overnight or over a weekend. Remind students to record what they observe about the size, appearance, movement, and diet of the animals. Add these terms to the Word Wall. Students should note what changes they are seeing from day to day. They can record their observations by writing and making labelled drawings in their Science Journals, and/or by taking digital pictures and short videos. Students can measure the size of the larger animals by comparison with non-standard units such as paper clips or interlocking cubes. Challenge students to estimate the number of non-standard units before taking the actual measurement.

As a class, maintain a chart to track what is happening with the animals. For example, if students are observing multiple butterfly eggs, the class can use a chart to track when each egg becomes a caterpillar, and each subsequent change. Prompt students to make predictions about what they will observe next and when the next change will occur.

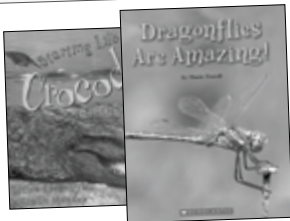
Life Cycle Tag

Play “life cycle tag” to model the changing movements of the animal that students are observing. For example, if the class is studying butterflies, students would begin by crouching down like little eggs. When they are tagged by “It,” they transform into wiggling caterpillars. When they are tagged again, they become chrysalises standing still with their arms wrapped around themselves. Finally, they become butterflies, running and flapping their wings. (The game can be extended to represent the life cycles of other animals such as frogs.)

Alternatively, students begin in the same way, but then seek another student in the same life cycle stage and play “rock-paper-scissors.” The winner moves to the next stage; the other remains in the same stage. (When only a single student is left in a given stage, that student moves to the next one.)

Time-Lapse Video Predicting

Show students time-lapse videos of life cycles. Pause the videos and allow students to predict what will happen next. Discuss the predictions before watching the video to see what happens.



Literacy Place Connection:

Read or revisit *Starting Life: Crocodile* by Claire Llewellyn and Simon Mendez and *Dragonflies Are Amazing!* (Guided Reading, Level O, pages 10–15). Discuss each life cycle with students. Review the dragonfly life cycle diagram then work with students to diagram the crocodile’s life cycle.

CONSOLIDATE

Modelling a Life Cycle

Provide craft supplies including modelling clay, paint, paper, and glue. Have students plan and then create a model of the life cycle of the animal observed in class using the medium or media of their choice (e.g., clay, paint, or collage). If you wish, divide students into small groups and assign each person within the group a stage to model. Within groups, the students should all use the same medium and plan for how they will present their models together to represent the life cycle.

Life Cycle Video

Using the photos and video clips collected over the life cycle of the observed animals, students can produce brief documentaries about the life cycle of the animal.

EXPLORE MORE

Exotic Pets

Some people like to keep unusual pets, such as monkeys or large snakes. Sometimes people acquire animals early in their life cycles, when they are cute and small, and then do not want them or become unable to handle them once they become adults. Provide students with links to find out rules about which animals can be legally kept as pets and which cannot. Students should consider why these rules are in place and why it is difficult to create a suitable human-made environment in the home for certain “exotic pets.” Consider sharing articles about illegal exotic pets being found in peoples’ homes. If students need more support, you may choose to conduct this research as a class and share the findings.