

# Follow the Life Cycle

## TEACHER'S GUIDE

The *Follow the Life Cycle* series uses simple text and eye-catching illustrations to help young readers explore the life cycles of living things. In each book, students learn about various plant and animal life cycles from birth to death, as well as information about their habitat, diet, adaptations, behavior, and life span. Learning about life cycles is important at a young age. It helps to teach students that all living things have a beginning (birth) and an ending (death). It also helps students make connections to their environment and nature. The *Follow the Life Cycle* Teacher Guide includes lessons intended to teach students that each animal and plant has unique characteristics, however all things grow and change. It is designed to have students not only explore the life cycles of animals and plants more closely, but also to make connections to their own lives and the human life cycle. Students are expected to use the books as a guide to their own critical thinking on the topic.

The *Follow the Life Cycle* Teacher Guide helps students explore the life cycles of living things all around them. The lessons utilize each book in the series. Throughout the lessons, students will identify and draw the four main stages of a butterfly, plant seeds and watch the plant grow, and use Venn Diagrams to record comparisons between two different animals or plants. Students will do this while participating in meaningful classroom discussions.

The lessons in this guide are tailored for students in grade 2, but can be adapted for grades one to four. Each lesson can be taught as a stand-alone lesson or in the sequential order provided. Reproducible worksheets and assessment tools accompany each lesson plan. The titles in the *Follow the Life Cycle* series include:

***Acorn to Oak Tree***  
***Egg to Butterfly***  
***Egg to Chicken***  
***Egg to Frog***

# PACING CHART AND VOCABULARY

Lesson Plan Title	Pacing	Vocabulary
Exploring the Life Cycle of a Butterfly	1-2 class periods*	butterfly caterpillars change egg grow life cycle pupa
The Plant Life Cycle	1-2 class periods	life cycle plants root seed shoot soil sun water
Comparing Life Cycles	2 class periods	chicken differences egg frog hatch life cycle similarities Venn Diagram

\* 1 class period = 40 to 60 minutes

# ACCOMMODATION STRATEGIES

Accommodations provide equal access to learning and equal opportunity to demonstrate what is learned. Accommodations allow a student access to the subject or course without any changes to the knowledge and skills the student is expected to demonstrate.

Educators are encouraged to adapt the instructional approach, activities, and assessments included in this guide to best meet the diverse interests, needs, and abilities of their students. Possible accommodations may include:

## Instructional Strategies

- Break tasks into parts with accompanying time lines
- Provide extra time for processing of oral information.
- Pair oral instructions with visual ones (writing or symbols)
- Pre-teach new vocabulary and regularly review previously taught vocabulary
- Provided model of completed work
- Frequently check with the student to get him/her started
- Provide oral and visual instructions and examples
- Provide a checklist of tasks for the student

## Environmental Strategies

- Proximity to teacher
- Strategic seating
- Flexible or mixed-ability grouping
- Provide an alternative setting for learning that is free from visual and auditory distractions.

## Assessment Strategies

- Build in extra time to allow student to process questions asked and answers given
- Provide written instructions and rubrics for assignments
- Offer a choice of assessment activities so that the student can choose one suited to their strengths
- Space out or extend assignments to prevent student feeling overwhelmed
- Reduce the number of tasks used to assess skill or concept
- Allow students to use assistive devices or technology

# LESSON 1

## Exploring the Life Cycle of a Butterfly

### Curriculum Correlations

**Next Generation Science Standards**  
1-LS3-1

**Ontario Science**  
Grade 2 Growth and Changes in Animals  
Overall Expectation 3  
3.1

### Materials

- *Egg to Butterfly* Book
- Chart paper/chalk board/white board
- Markers/chalk
- *The Life Cycle of a Butterfly Worksheet*
- *The Life Cycle of a Butterfly Exit Card*
- Pencil crayons/crayons
- Pencils

### Setting the Stage

From birth to death, we as humans grow and change. Ask students what they know about the human life cycle.

- How have you changed from when you were a baby to now?
- How will you change from this age to when you are a teenager?
- How about from now to when you are a parent or grandparent's age?

Use chart paper or chalk board/white board to display student responses. Some answers could include growing taller or bigger, increase in shoe size, crawling to walking, having children of their own, etc.

Explain that animals and plants are very similar to humans in the ways that they grow and change throughout their lives. Read the book *Egg to Butterfly* as a class.

Ask students to think back to our discussion about how humans change from when they are a baby to adulthood.

- How did the egg turn into a beautiful butterfly? In what ways did the egg change?
- What steps happen between the egg and fully grown butterfly? Explore this process.
- How is the butterfly's life cycle similar to the life cycle of a human? How is it different?

### Objectives

Students will:

- Identify and describe the stages in the life cycle of a butterfly.
- Compare the human life cycle to that of a butterfly.

## Activity

Give students the *The Life Cycle of A Butterfly Worksheet*. They will use the worksheet to identify and draw the four main stages of growth of a butterfly. Each stage should be in the correct order. They will write a short sentence or two describing the stage. Instruct them to use pencil first.

Have students show you their worksheet in pencil. Make any needed corrections. Then, have students color their drawings.

Remind students to use the book as a reference.

## Extensions

- ▶ Invite students to present their worksheets to the class.
- ▶ Use the worksheet to draw the life cycle of a different living thing of students' choice. They will need to use books or the Internet to research that living thing's life cycle.

## Wrap-Up

Pass out the *The Life Cycle of a Butterfly Exit Card*. Students will use the remaining class time to complete and hand in the exit card.

## Assessment

Assess the exit card for understanding (ie. the order of events), as well as their ability to compare the life cycle of a butterfly to that of a human.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### The Life Cycle of a Butterfly Worksheet

**1.**



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**2.**



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**3.**



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**4.**



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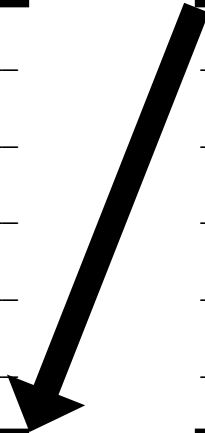
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# LESSON 2

## The Plant Life Cycle

### Curriculum Correlations

#### Next Generation Science Standards

1-LS3-1, K-ESS3-1, K-LS1-1

#### Ontario Science

Grade 2 Growth and Changes in Animals

Overall Expectation 3

3.1, 3.2, 3.3

### Materials

- Acorn
- Photograph of an oak tree
- *Acorn to Oak Tree* book
- Laptop/Projector to show the short video
- Tablecloth(s)
- Styrofoam cup or biodegradable pot
- Markers
- Soil
- Three to four small shovels or spoons
- Seeds (Teacher will pick seeds of their choice; choosing seeds that are known to grow relatively quickly)
- Spray bottles
- Water
- *Plant Growth Chart*
- *Plant Growth Checklist*

### Objectives

Students will:

- Identify what plants need in order to grow.
- Identify various plants around them.
- Observe and track the growth and changes that occur in a plant life cycle.
- Identify and explain ways that plants are helpful to humans.

### Setting the Stage

Show students an acorn. Pass it around and let each student hold it and look at it. Then show students a printout photograph of an oak tree. The teacher will explain that this tiny acorn grows into this mighty oak tree. Begin a classroom discussion and have students brainstorm how this process occurs.

- How does the acorn grow to be a mighty oak tree?
- Do you think this would happen quickly or slowly? Why?
- What do you think the acorn needs in order to grow? (Answer: sun, water, soil)

Read the book *Acorn to Oak Tree* as a class.

The life cycle of an acorn to an oak tree is very similar to other types of plants.

- What are some other plants we see?
- Where do we see these plants?
- How might location play a role in where plants grow?



## Activity

Watch this short video showing students how a seed becomes a plant: / [www.youtube.com/watch?v=tkFPyue5X3Q](https://www.youtube.com/watch?v=tkFPyue5X3Q)

Tell students to pay close attention to this process, as later in the lesson we will be growing our own classroom plants from a tiny seed!

Check for understanding by asking students:

- What does the seed need in order to grow?
- In which direction does the root grow?
- What is the shoot?

Students will then plant their own seeds in a pot of soil. As this can get a bit messy, the teacher can set up the planting stations ahead of time and designate a few students at each station at one time.

Each student will be given a Styrofoam cup or small biodegradable cup, soil, a few seeds, and a popsicle stick to use as a name tag.

Students will take the cup and fill it halfway with soil. They will then take a few seeds and bury them in the soil. Planting more than one seed is ideal just in case one of the seeds doesn't take. Then, fill the cup with soil.

Ask students:

- What else do the seeds need in order to grow? (Answer: water)

The teacher will pass around spray bottles filled with water. Students will take turns spraying their pots with enough water to saturate the soil.

As the pots will be left in the classroom to grow, each student will write their name on a popsicle stick, so they can remember which pot is their own.

Ask students:

- Where should we leave our pots to help them grow? Why?

Students should recognize that the pots will need plenty of sunlight. Ideally, the pots will be set near a classroom window.

Each day students will observe the plant's growth, make observations, and track findings on their *Plant Growth Chart*. When the plants are fully grown and the *Plant Growth Chart* has been completed in full, students can take their plants home with them.

## Extensions

- ▶ Students could use the data collected to make a graph of the growth of their seed over several days.
- ▶ Students could write a journal entry about what seeds they would plant in their fictional garden.

## Wrap-Up

Have students reflect on today's lesson by writing a journal entry answering the following question in detail:

- How are plants helpful to humans? In what ways do humans use plants? Explain with an example from your own life.

## Assessment

Once the plants have grown, students will hand in their journal entry and *Plant Growth Chart*. Teacher will use the *Plant Growth Checklist* to assess for understanding and performance.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Plant Growth Chart

Write the name of your seed/plant in the left column. Then record the day and your findings under the right column.

SEED/PLANT	DAY	DAY	DAY	DAY	DAY	DAY

# Plant Growth Checklist

Student's Name: \_\_\_\_\_

Date: \_\_\_\_\_

	YES	NO
<b>Student has completed the Plant Growth Chart.</b>	_____ _____ _____ _____	_____ _____ _____ _____
<b>Student has described the growth of their seed/plant in detail, using science vocabulary</b>	_____ _____ _____ _____	_____ _____ _____ _____
<b>Student has completed a detailed journal entry.</b>	_____ _____ _____ _____	_____ _____ _____ _____
<b>Student has answered the journal entry question using an example from their own life.</b>	_____ _____ _____ _____	_____ _____ _____ _____

# LESSON 3

## Comparing Life Cycles

### Curriculum Correlations

#### Next Generation Science Standards

1-LS3-1, K-ESS3-1, K-LS1-1, K-ESS2-2

#### Ontario Science

Grade 2 Growth and Changes in Animals:

Overall Expectations 3

3.1, 3.2

### Materials

- *Egg to Frog* book
- *Egg to Chicken* book
- Chalk board/white board or chart paper
- Chalk or markers
- *Life Cycles Venn Diagram*
- *3-2-1 Exit Card*
- Classroom set of computers/laptops (1 for every 2 students)

### Objectives

Students will:

- Make comparisons between the life cycle of a frog and a chicken.
- Create a Venn Diagram to display the comparison.
- Use the Internet to research and further their understanding of various animal and plant life cycles.

### Setting the Stage

Begin by reminding students that all plants and animals have unique characteristics, however one thing they have in common is that they all have a life cycle. A life cycle refers to the specific journey of the plant or animal from birth to death. All plants and animals grow and change throughout this journey.

Today we will be exploring the life cycle of a frog and a chicken. We will compare the similarities and differences between the two.

Introduce the book *Egg to Frog*. Read the book to the class. Be sure to ask probing questions to gauge understanding and prior knowledge on the topic.

Then, introduce the book *Egg to Chicken*. Read the book to the class. Be sure to ask probing questions to gauge understanding and prior knowledge on the topic.

The teacher will display a Venn Diagram on the chalk board/white board or chart paper. Introduce the Venn Diagram and explain that this is a type of graphic organizer that we will use to compare the similarities and differences of the life cycle of a frog and a chicken.

Ask students:

- What are some similarities you noticed between the life cycle of the frog and the chicken?
- What are some differences you noticed between the life cycle of the frog and the chicken?

\*The teacher may probe students to dig a little deeper by considering the following:

- Does a frog lay an egg? What about a chicken? Where is the egg laid?
- What do frogs and chickens both need to survive?
- How do the frog and chicken use their environments to meet their needs?
- What do frogs and chickens eat?
- Are baby chickens and baby frogs different when they are born to when they are adults?
- How is a baby chicken similar or different to a baby frog?

If the frog and chicken share similar characteristics, these will be displayed in the middle of the Venn Diagram. If the characteristic applies to only one of the animals, it will go in either the left or right side of the diagram.

Students will then reflect on the findings.

- What do you notice about our Venn Diagram?
- Was there anything that surprised you?

## Activity

Students will work in pairs. Students will be asked to choose an animal or plant (that we have not already talked about in class) and do research on their life cycle. Each pair will have access to one school computer for research.

Each student will get their own *Life Cycles Venn Diagram*. They will use their research to compare the animal or plant they have chosen to either the chicken or frog we discussed as a class.

Students should consider including characteristics of the life cycle specific to that animal or plant, including: the birth process, life span, adaptations, how the baby interacts with parents, behavior, diet, habitat, etc. They should then provide a good comparison to either the frog or chicken.

Each Venn Diagram should answer these two questions:

- What are some similarities you noticed between the life cycle of your chosen animal/plant and the chicken or frog?
- What are some differences you noticed between the life cycle of your chosen animal/plant and the chicken or frog?

Some websites to suggest for the research:

<https://www.kidtopia.info/animals.html>

<https://kids.nationalgeographic.com/>

<https://www.kidzone.ws/animals/lifecycle.htm>

<https://www.nwf.org/educational-resources/wildlife-guide/>

Students will be reminded to use the Venn Diagram we created as reference.

## Extensions

- ▶ Students could create an informational poster showcasing the life cycle of their chosen animal or plant.
- ▶ Students could use their Venn Diagram to write a journal entry summarizing the comparison of the animal or plant they have chosen to the chicken or frog.

## Wrap-Up

Students will present their findings to the class. Students will be urged to ask their peers questions about the animal or plant they researched.

Distribute the *3-2-1 Exit Card* (one per student) for completion. Remind students to draw on what they learned from completing their own Venn Diagram and while listening to their peers present.

## Assessment

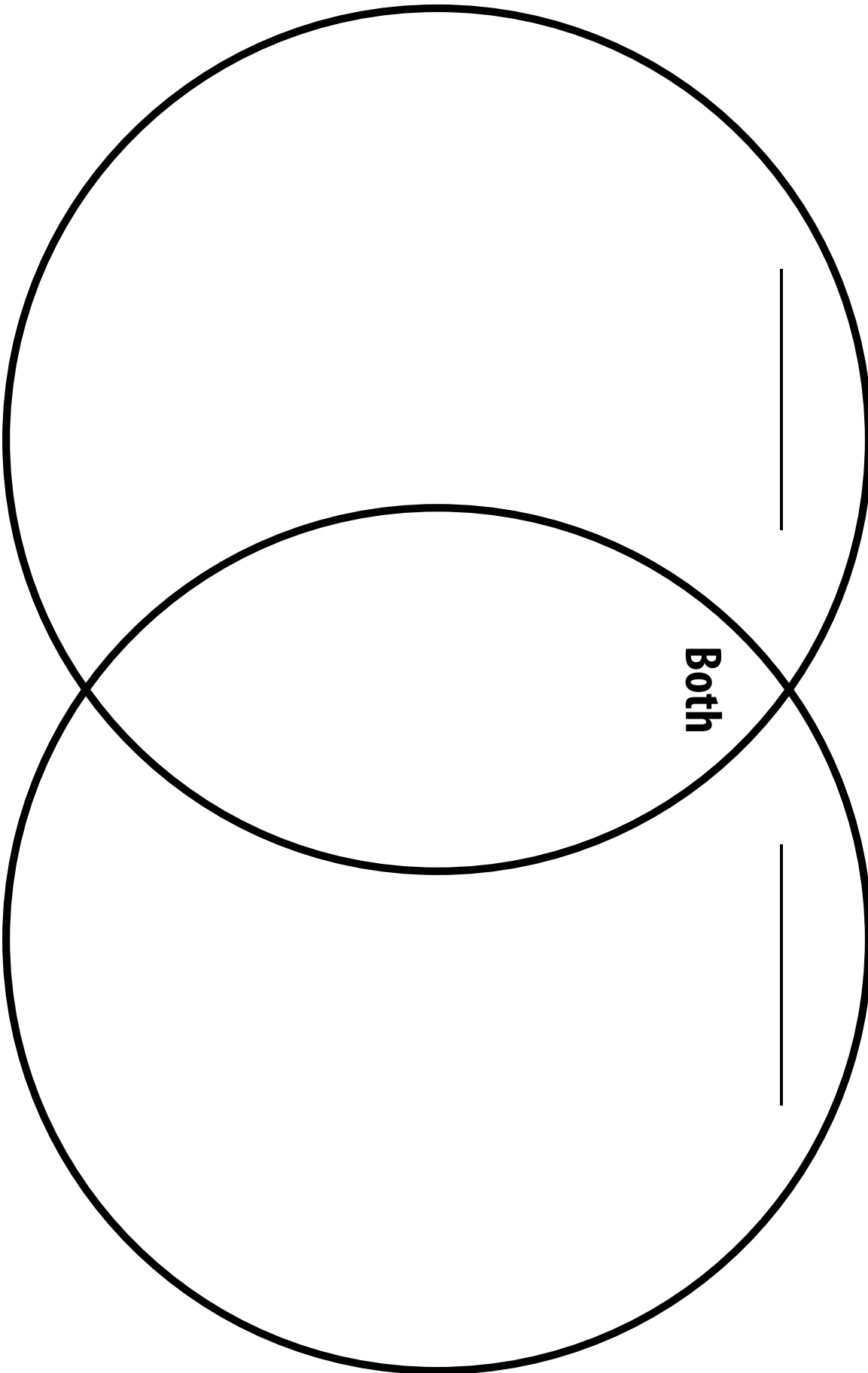
Assess the Venn Diagrams for completion.

Assess the *3-2-1 Exit Card* for understanding, interest, and what they would like to learn more about. This may help to tailor future lessons.

Take observational notes while monitoring students interacting in their small groups.

Name: \_\_\_\_\_

Date: \_\_\_\_\_



**Life Cycles Venn Diagram**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### 3-2-1 Exit Card

What are 3 things you learned from today's lesson?

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

What are 2 things that you found interesting, and would like to learn more about?

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What is 1 question you still have about the material?

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_