

Recommended Grade Level:

Pre-K-2

Season:

Spring/Summer/Fall

Outdoor

Insect Cycles

Description:

Students will learn about and explore the stages of development for butterflies and ladybugs. They will label the stages of their lifecycles and learn about how butterflies and ladybugs evolve at each stage. Then, students will use magnifying glasses to search for insects in the garden and look for their different stages of development.

Background:

Learning about lifecycles and stages of development are a part of curriculum from Pre-K to 12th grade. Students who learn on a concrete level, while incorporating movement and application, are able to understand how cycles operate and build foundations that can be applied to the understanding of more abstract concepts. In this activity, students learn the lifecycles for butterflies and ladybugs and the needs of these insects during each stage. Students will compare this to the human lifecycle and what's needed throughout life.

Timing is important when looking for the stages of development for butterflies and ladybugs in the garden. Often while students are looking for various stages of these insects, they will stumble upon many other discoveries when armed with a magnifying glass and a little freedom in the garden.

Materials:

- Magnifying glasses
- Picture of a butterfly
- Picture of a ladybug
- Insect Lifecycle Handout
- Insect Part Chart (optional)

Preparation:

Make copies of the Insect Lifecycle Handout and the Insect Part Chart.

Activity:

1. Explain to students that many different insects live and grow in the garden and ask for examples of insects.
2. Explain that they will be learning about how butterflies and ladybugs change and grow during their lifetimes.
3. Show students a picture of a caterpillar and ask them to share what they know about it. Make a list of what they share. Repeat with a picture of a ladybug.
4. Hand out the Life Cycle Chart and project a copy on the board. As a group, label the steps of the cycles and discuss what happens at each stage. Explain that their growth goes in a circle or cycle.
5. Explain that these insects have needs, just like we do. They need food, pollen, water and a safe environment. Have students brainstorm what they need throughout life to grow healthy and strong (healthy food, water, exercise, sleep, a safe environment).
6. Tell students they get to go on a bug hunt to search for butterflies and ladybugs in each stage of their lifecycle. Give students magnifying glasses to explore the garden. If students find signs of the stages, they yell “Bingo” and can share their discovery with the class. Allow ample time for conversation and sharing about what they’re observing.

Tying it Together:

1. What did we discover?
2. What stages of the lifecycle did we find?
3. Where did you find the insects?
4. Which insects did we see the most?
5. Which did we see the least?
6. How are the needs of insects similar to ours?
They need food, vitamins, water and a safe environment.

Special Care:

Students can be paired with a “garden buddy” to explore and search.

Digging Deeper:

Expand the lesson to include different types of bugs and lifecycles (mealworms, crickets, ants, etc.).

National Standards:

NGSS: Interdependent relationships in ecosystems: Animals, plants, and their environment.

NGSS: Structure, function and information processing.

Lesson Extensions:

Math: Using the Insect Parts Chart, students compare the total number of bugs to the total number of wings, legs and antennae. They can also compare different populations of bugs in the garden.

Science: Students can go to the garden at regular intervals and record the number of insects that they see, collecting data over time.

Literature Connections:

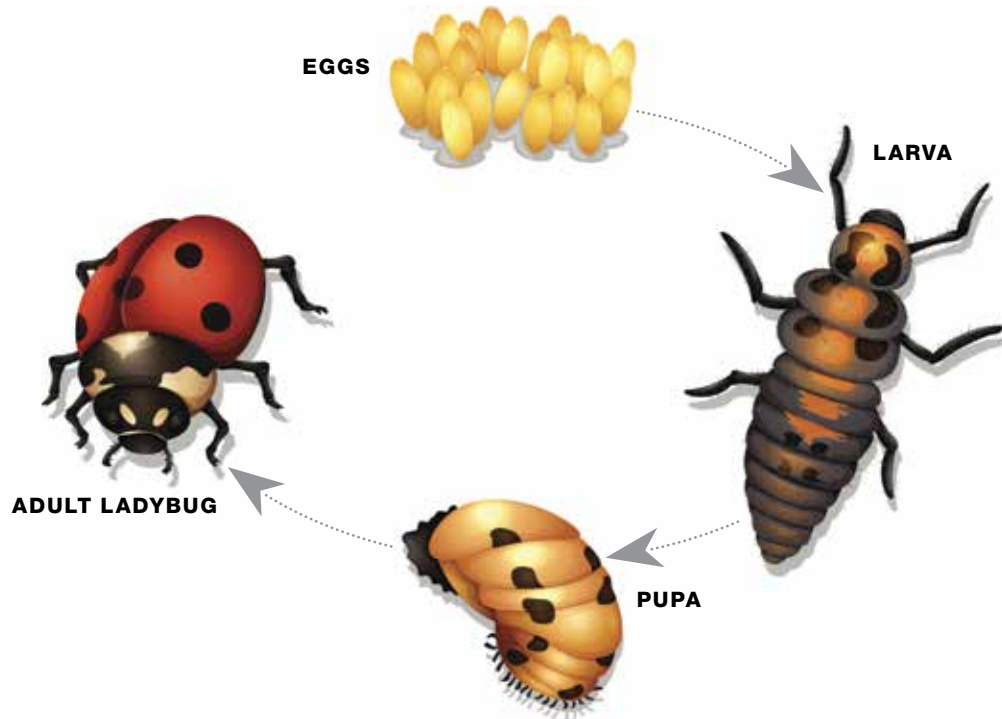
The Very Hungry Caterpillar by Eric Carle

The Very Grouchy Ladybug by Eric Carle

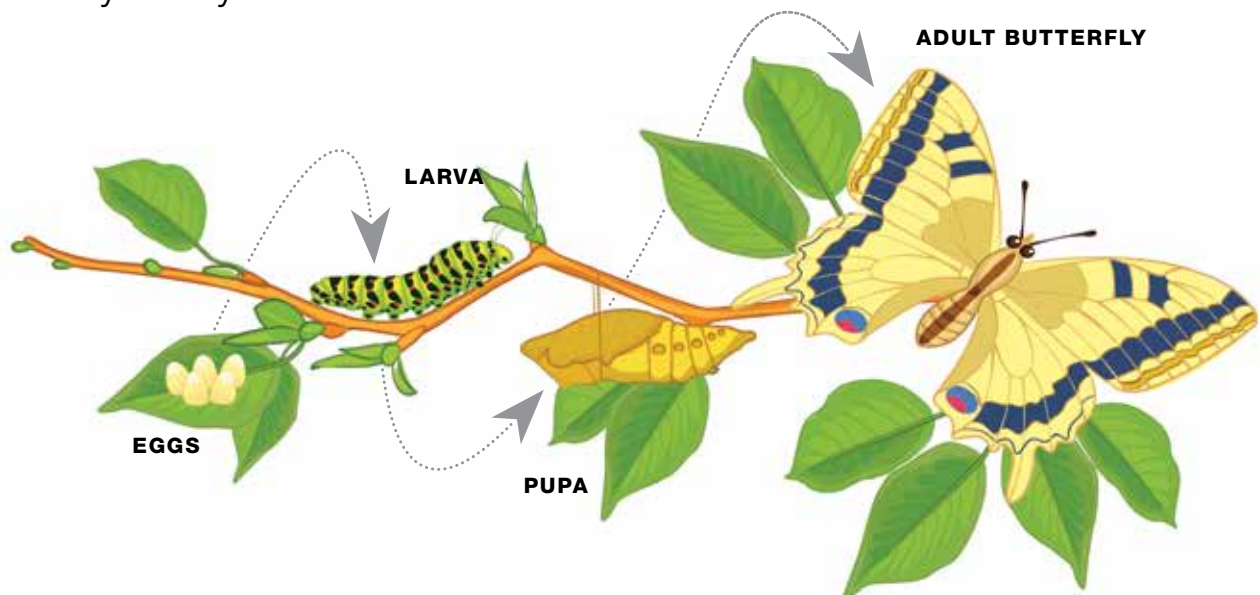
A Ladybug Larva Grows Up by Katie Marsico

From Caterpillar to Butterfly by Deborah Heiligman

Ladybug Lifecycle



Butterfly Lifecycle



Insect Parts Chart

Insect Name	# Found	# Wings	# Legs	# Antenna