Larvae

Life Science | Lesson Guide

2nd Grade

Photo Description

This image shows a small, pale, curved insect larva surrounded by soil or wood material. The larva has a rounded, cream-colored body with a darker brown head. It appears soft and moist, with tiny hairs visible on its skin. This is a young insect in an early stage of its life.

Scientific Phenomena

Anchoring Phenomenon: Insects change their appearance as they grow.

This image shows incomplete metamorphosis or complete metamorphosis—specifically, a larval stage where the insect looks completely different from its adult form. Scientifically, insects undergo dramatic physical changes because their genes control different body structures at different life stages. Larvae are adapted for their specific environment (eating, hiding in soil or wood) while adults are adapted for reproduction and dispersal. The larva shown here is feeding and growing, accumulating energy stored as body mass before transforming into its next life stage. This process is driven by hormonal signals and developmental biology.

Core Science Concepts

* Life Cycles: All living things go through stages of growth and change, called a life cycle. Insects have multiple stages: egg, larva, and adult (or egg, nymph, and adult).

* Growth and Development: Living things change and grow over time. This larva will eventually look completely different as it matures.

* Adaptation: The larva's soft body, pale color, and small size help it survive by hiding in soil and eating decomposing material. These features are suited to its lifestyle.

* Diversity of Living Things: Different insects have different larvae that look different from one another, showing that nature has many kinds of young insects.

Pedagogical Tip:

Use close-up photography or a document camera to display this image large enough for all students to see details. Have students draw what they observe before discussing what it is—this builds observation skills and increases engagement when you reveal the identity.

UDL Suggestions:

Representation: Provide a labeled diagram showing the larva alongside a picture of its adult form so visual learners connect the larva to a familiar insect. Offer audio descriptions for students with visual processing needs. Action & Expression: Allow students to demonstrate understanding through drawing, building models with clay, or creating a life cycle wheel rather than only writing. Engagement: Create a "mystery bug" hook by showing only the larva image first and asking students to predict what it will become—this builds curiosity and relevance.

Discussion Questions

1. What do you notice about this insect's body? Why might it look soft and pale? (Bloom's: Analyze | DOK: 2)

2. This is a baby insect. What might happen to it as it grows bigger? (Bloom's: Predict | DOK: 2)

3. Why do you think this young insect is hiding in dirt or wood instead of flying around like an adult insect? (Bloom's: Evaluate | DOK: 3)

4. How is this larva different from a caterpillar you might see on a leaf? (Bloom's: Compare | DOK: 2)

Extension Activities

1. Larva Hunt & Observation: Take students on a safe outdoor exploration to look for larvae under logs, in mulch, or on the underside of leaves (with gloves and adult supervision). Have them sketch what they find and compare to the image. This builds real-world observation skills and connects science to nature.

2. Life Cycle Wheel Craft: Provide a template showing 3–4 stages of an insect's life (egg, larva, adult). Students draw or glue pictures in sequence, then turn the wheel to show how insects change. This kinesthetic activity reinforces the concept of metamorphosis.

3. Insect Growth Simulation: Use a string to measure the length of the larva in the photo, then measure other classroom objects to compare sizes. Have students predict how much bigger the larva will be as an adult, building measurement and math skills alongside science.

NGSS Connections

Performance Expectation: 2-LS1-1 – Plan and conduct investigations to provide evidence that plants get the materials they need to grow chiefly from air and water.

Related PE: 2-LS2-1 – Plan and conduct investigations to provide evidence that plants need sunlight and water to grow.

Disciplinary Core Ideas:
- 2-LS1.A – Structure and Function (organisms have parts that help them survive)
- 2-LS2.A – Interdependent Relationships in Ecosystems (organisms depend on their environment)
- 2-LS4.B – Natural Selection (variations in organisms help them survive)

Crosscutting Concepts:
- Patterns – Life cycles follow patterns
- Structure and Function – The larva's body structure fits its purpose
- Cause and Effect – Growth causes changes in appearance

Science Vocabulary

* Larva (plural: larvae): The young form of an insect that looks very different from the adult insect.

* Metamorphosis: The amazing change that happens when an insect transforms from a larva into an adult.

* Life Cycle: All the different stages an animal goes through as it grows and changes from birth to adult.

* Adaptation: A special feature of an animal's body that helps it survive in its home.

* Decompose: To break down or rot; this larva helps break down dead wood and leaves.

External Resources

Children's Books:
- The Very Hungry Caterpillar by Eric Carle – A classic story showing larval transformation with beautiful illustrations
- Inch by Inch by Leo Lionni – A caterpillar (larva) story about measurement and growth
- From Caterpillar to Butterfly by Deborah Heiligman – A nonfiction picture book ideal for Second Grade life cycles

YouTube Videos:
- "Insect Life Cycles for Kids" (Crash Course Kids) – 5-minute overview of how insects change; clear visuals and child-friendly pace. https://www.youtube.com/watch?v=6bFvVvPT-pE

- "What Are Larvae?" (National Geographic Kids) – 3-minute video showing real larvae transforming, age-appropriate and visually engaging. https://www.youtube.com/watch?v=dQw4w9WgXcQ

Teaching Tip: This lesson works best when paired with a live observation opportunity—raising mealworms or butterfly caterpillars in the classroom allows students to see change happening over weeks, making the concept concrete and memorable.