

## Photo Description



This image shows a pale, curved larva (baby insect) with a brown head resting on sandy soil. The larva's soft, wrinkled body is very different from adult insects because it is still growing and developing. You can see the larva is surrounded by dirt and sand, which is where many insect babies live and eat.

## Scientific Phenomena

**Anchoring Phenomenon:** Why do insects look so different when they are babies than when they are adults?

This larva is undergoing metamorphosis—a dramatic change in body shape and appearance as it grows. Insect larvae must go through several stages of development before becoming adults. During this time, the larva's job is to eat and grow larger. As it grows, its skin becomes too tight, so it sheds its outer layer (called molting) and grows a new, larger skin underneath. This process repeats several times until the larva is ready to transform into an adult insect. This happens because different life stages have different jobs: larvae focus on eating and growing, while adults focus on finding mates and laying eggs.

## Core Science Concepts

- \* **Life Cycles:** All living things go through stages of growth and change from birth to adulthood. For insects like this larva, the stages are egg !' larva !' pupa !' adult.
- \* **Adaptation and Survival:** Larvae have features (like their soft bodies and strong jaws) that help them survive. Their pale color helps them hide in soil, and their curved shape helps them move through dirt to find food.
- \* **Growth and Change:** Organisms grow larger and change shape over time. This larva will eventually look completely different when it becomes an adult insect.
- \* **Habitats and Environment:** Larvae live in specific places where they can find food and stay safe. This larva's sandy home provides shelter and access to the organic matter it eats.

### Pedagogical Tip:

Use this image as a "mystery photo" at the start of your lesson! Ask students, "What is this creature?" and let them make observations before revealing it's an insect larva. This builds curiosity and engagement. Then, show them what the adult version looks like—the contrast is powerful and memorable for third graders.

### UDL Suggestions:

**Representation:** Provide a visual chart showing the insect life cycle with pictures alongside words. Some students may benefit from a simplified 2-stage version (larva !' adult) before learning the complete 4-stage cycle. **Action & Expression:** Allow students to show their understanding through drawing their own larva, building a 3D model with clay, or acting out the metamorphosis process with body movements. **Engagement:** Connect to student interests by asking, "What insects have you seen in your yard or garden?" to make the content personally relevant.

### Discussion Questions

1. What do you think this larva's job is in this stage of its life? (Bloom's: Understand | DOK: 1)
2. Why do you think the larva is pale (light-colored) instead of bright and colorful like some adult insects? (Bloom's: Analyze | DOK: 2)
3. If we found this larva in the soil, what would we need to do to keep it safe and healthy while we observe it? (Bloom's: Apply | DOK: 2)
4. How do you think the larva's body will change before it becomes an adult insect? What will stay the same? (Bloom's: Synthesize | DOK: 3)

### Extension Activities

1. Larva Hunt and Observation: Take students on a safe outdoor exploration to find real larvae (under logs, in leaf litter, or in soil). Have them sketch what they observe and record observations on a simple chart: size, color, shape, and location found. This connects classroom learning to real-world science.
2. Life Cycle Sequencing Game: Create or print large illustrated cards showing the four stages of an insect's life cycle (egg, larva, pupa, adult). Have students arrange the cards in order, then mix them up and repeat. Extend by having students explain what happens at each stage using sentence frames like, "The \_\_\_\_\_ eats a lot and grows bigger."
3. Build a Larva Model: Provide clay, pipe cleaners, and other craft materials for students to sculpt their own larva models based on the photo. Have them label body parts (head, segments, legs) and write one fact about what they learned about larvae.

### NGSS Connections

Performance Expectation:

3-LS1-1: Develop models to describe that organisms have unique and diverse life cycles but all animals have in common birth, growth, reproduction, and death.

Disciplinary Core Ideas:

- 3-LS1.B: Growth and Development of Organisms
- 3-LS4.D: Life Cycles and Traits

Crosscutting Concepts:

- Patterns: Life cycles follow predictable patterns.
- Structure and Function: The larva's body structure is suited to its job of eating and growing.

### Science Vocabulary

- \* Larva: A baby insect that looks very different from the adult form and has a job of eating and growing.
- \* Metamorphosis: A big, dramatic change in how an animal looks as it grows from a baby to an adult.
- \* Molt: When an animal sheds (takes off) its outer skin because it has grown too big for it.
- \* Life Cycle: All the different stages an animal goes through from birth until it becomes an adult and has babies of its own.
- \* Habitat: The place where an animal lives and finds food and shelter.
- \* Adaptation: A special body part or behavior that helps an animal survive in its home.

## External Resources

### Children's Books:

- The Very Hungry Caterpillar by Eric Carle (classic, engaging introduction to metamorphosis)
- Bugs by the Numbers by John Enz (nonfiction with clear life cycle visuals)
- From Caterpillar to Butterfly by Deborah Heiligman (National Geographic Little Kids, photo-based)

### YouTube Videos:

- "Insect Life Cycles Explained for Kids" by Homeschool Pop (4:18 minutes; colorful animation showing egg !' larva !' pupa !' adult with simple narration) — <https://www.youtube.com/watch?v=Kw5WS-VXSBU>
- "Beetle Larva (Grub) Life Cycle" by Life Learning (3:45 minutes; real footage of beetle grubs in soil with clear labeling) — <https://www.youtube.com/watch?v=E8E3XmHGxjl>