

Comparative Metamorphosis

A Carolina Essentials™ Investigation

Student Worksheet



Overview

Metamorphosis is the way many animals develop. *Meta* comes from the Greek word for change. *Morphe* comes from the Greek word for form. Metamorphosis means to change form. In each stage of metamorphosis, the animal's body form changes. Metamorphosis occurs in insects. It is either **complete** or **incomplete**. Complete metamorphosis has 4 stages—egg, larva, pupa, and adult. About 80% of insects go through complete metamorphosis. Incomplete metamorphosis begins with an egg, too, but the second life stage is a nymph, not a larva. Nymphs look like mini adults but do not have wings. They shed their skin, or molt, 4 to 8 times until they become adults. A butterfly life cycle is complete metamorphosis; a grasshopper life cycle is incomplete metamorphosis.

Essential Question

What are the life cycles of insects?

Investigation Objectives

1. Identify the stages of complete metamorphosis.
2. Identify the stages of incomplete metamorphosis.
3. Compare the stages of the 2 types of life cycles.

Safety Procedures and Precautions

Treat all animals with care and respect.

Procedure

1. Look at each insect with your naked eye. Make notes on your observation sheet.
2. Use the magnifier and look at each insect again. Pay special attention to the mouth parts. Make notes on your observation sheet.
3. Draw what you see in detail on your observation sheet.
4. Return the insects to your teacher after each observation.
5. Repeat the procedure until the adult insect emerges.

Continued on the next page.

SAFETY REQUIREMENTS



MATERIALS

- 1 painted lady larva
- 1 milkweed bug nymph
- 1 lady beetle larva
- Magnifier

Painted Lady Larva Observation Sheet

Date	Description and Stage	Drawing
1		
2		
3		
4		
5		
6		

Milkweed Bug Nymph Observation Sheet

Date	Description and Stage	Drawing
7		
8		
9		
10		
11		
12		

Lady Beetle Larva Observation Sheet

Date	Description and Stage	Drawing
13		
14		
15		
16		
17		
18		

