

The butterfly module is designed to re-introduce students to the life cycle that they previewed in kindergarten. The Painted Lady butterfly undergoes complete metamorphosis in a relatively short amount of time (three to four weeks), which makes it an ideal specimen. The basic needs of living things are reinforced within the unit. Throughout the unit, students continue to work on their observational skills. Students will also witness variation within one species (coloring differences, length of each stage, etc.) as they make careful observations throughout all stages of the life cycle.

Essential Questions

- 1. What are the basic needs of living things?
- 2. How are living things alike and different?
- 3. How can observations be made more accurate?
- 4. What are some ways to describe things?

Unit Questions

- 1. How do caterpillars grow and change?
- 2. What are the basic needs of the caterpillars?
- 3. What features do the caterpillars have that help them survive?
- 4. How are individual caterpillars alike and different?
- 5. What are some of the physical features of butterflies?
- 6. What are the differences between caterpillars and butterflies?

Lesson Summary (excerpted from *The Life Cycles of Butterflies* (1992), p. 2):

Lessons 1-8: The first eight lessons focus on caterpillar and chrysalis stages of the butterfly. Students begin their study of these two stages by sharing their prior knowledge of caterpillars. Students learn about caterpillars' basic needs of air, water, food, and shelter.

Lessons 9-12: The lessons focus on the adult stage of the life cycle. As the butterfly emerges, students observe the process, identify the butterfly body parts, and learn how they function.

The unit concludes with students refining their understanding of the life cycle and applying it to other organisms. Students also relate what they have learned about the needs, features, and variations of living things to other organisms.

