

Change Over Time

Unit Overview



DESIGN CHALLENGE: *How can we develop a model to compare and contrast the life cycles of different living things?*

ANCHORING PHENOMENON:

During an insect research trip, a scientist finds less pink katydids than green katydids.

STORYLINE

In this unit, students will learn how both individual organisms and groups of organisms change over time. Students consider a case study about pink katydids as the unit phenomenon. The Crosscutting Concepts of Patterns, Cause and Effect, and Stability and Change are featured prominently in this unit as students explore elementary-level concepts of life cycles, traits, heredity, and natural selection.

First, students will learn about plant and animal life cycles by growing and observing herbs and mealworms. Students will watch a seed grow into a plant, and watch time lapse videos of plants growing from seed to adult, flowering plant. They will then observe and read about mealworms, and learn about other organisms that lay eggs and undergo metamorphosis like mealworms do.

Next, students will learn how to make a scientific drawing. They will use this knowledge to complete the design challenge as they work with a partner to create a paper model of a particular species' life cycle. They will then compare their models to other students' models in order to see the patterns of similarity and difference among various living things' life cycles.

Finally, students will consider traits of living things. They will learn that some traits are inherited, or come from parents. Other traits are influenced by the environment. Ultimately, the traits living things have will either help or hinder their ability to complete their life cycle (survive and reproduce). Students will culminate the unit by simulating a classic example, the peppered moth, and noticing how a moth's traits affect its ability to survive and reproduce in a particular environment.

OVERVIEW

Section 1 <i>What is a life cycle?</i>	Section 2 <i>How do the life cycles of plants and animals compare?</i>	Section 3 <i>How are living things of the same kind similar and different, and how do these differences affect their ability to complete all stages of a life cycle?</i>
<i>Total Time: 6 days</i> LESSON 1 What can we learn about a plant's life cycle by making careful observations? LESSON 2 What can we learn about an animal's life cycle by making careful observations?	<i>Total Time: 6 days</i> LESSON 3 How do we make a scientific drawing? LESSON 4 How can we develop a model to compare and contrast the life cycles of different living things?	<i>Total Time: 6 days</i> LESSON 5 What are traits, and what causes the traits of a living thing? LESSON 6 How do traits affect a living thing's ability to survive? LESSON 7 How can the traits of a group of living things change over time?

Unit 14 Teacher Guide (version 08.06.19) *Change Over Time*
Washington University in St. Louis Institute for School Partnership