



California Education and the Environment Initiative

The EEI Curriculum cohesively integrates science and engineering practices (SEPs), content (disciplinary core ideas/DCIs), and crosscutting concepts (CCs) within its lesson procedures. This preliminary analysis intentionally teases apart the individual SEPs, DCIs, and CCs as a means of correlating the EEI unit with specific performance expectations; however, the EEI lessons weave these components back together to provide three-dimensional learning for students.

Grade 2 and 3

2.2.a./2.2.b. - Cycle of Life

“Cycle of Life” focuses on pine trees and bald eagles as the basis for students discovering the common patterns found among the diverse life cycles of various plants and animals. They observe seeds and eggs to compare their structures and functions, and then examine the growth stages, including reproduction, metamorphosis, and migration of monarch butterflies, one of California’s widely-recognized insects. As students study the different life cycles they also explore the interdependent relationships between plants and animals, as well as examining how the food supply of humans depends on these relationships. Finally, they look at some familiar food products and identify the stages of the life cycle of different plants and animals that are important elements of California’s agricultural system.



Next Generation Science Standards* Correlation with the California Education and the Environment Initiative (EEI) Curriculum

The EEI Curriculum is a great choice for transitioning to NGSS and contributes toward achievement of the performance expectations for the disciplinary core ideas reflected in the Summary Chart below: 2-LS2 Interdependent Relationships in Ecosystems and 3-LS1 From Molecules to Organisms: Structures and Processes. Each EEI unit highlights a small number of performance expectations, science and engineering practices, disciplinary core ideas, and crosscutting concepts. Therefore, the EEI units contribute to students’ overall achievement of the performance expectations by the end of a school year, where they will have had multiple opportunities to engage in all appropriate science and engineering practices, disciplinary core ideas, and crosscutting concepts. While EEI was designed to teach the 1998 California science standards to mastery, it reflects the real world interconnections in science and already incorporates many of the paradigm shifts reflected in the NGSS. To learn more about how EEI supports NGSS, visit <http://californiaeei.org/NGSSGuides/>.



Correlation Chart Key

SEP (Science and Engineering Practices)
DCI (Disciplinary Core Ideas)
CC (Crosscutting Concepts)

	Next Generation Science Standards					
	2-LS2			3-LS1		
California Connection	✓	✓		✓	✓	✓
Lesson 1 — Read about and explore the life cycles of pine trees and eagles.	✓	✓		✓	✓	✓
Lesson 2 – Observe eggs and seeds and match egg-laying animals to their eggs.	✓			✓	✓	
Lesson 3 – Sequence photographs to investigate how some special animals grow and change over their life cycle.	✓	✓		✓	✓	✓
Lesson 4 – Watch a presentation about the monarch butterfly – how it migrates, reproduces, and what it needs to survive.	✓	✓		✓	✓	✓
Lesson 5 –Trace some familiar foods back to the reproduction cycle in animals and plants.					✓	✓
Traditional Unit Assessment	✓	✓		✓	✓	✓
Alternative Unit Assessment	✓	✓		✓	✓	✓
	SEP	DCI	CC	SEP	DCI	CC

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EEI Unit 2.2.a./2.2.b. - Cycle of Life

Disciplinary Core Ideas Supported by this EEI Unit					
2-LS2 Interdependent Relationships in Ecosystems 3-LS1 From Molecules to Organisms: Structures and Processes					
Performance Expectations			Suggestions for Using the EEI Unit to Support NGSS		
2-LS2: Interdependent Relationships in Ecosystems: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.			Use the unit to have students examine the interdependent relationships that have developed between plants and animals where the reproduction of plants depends on pollination provided by insects.		
3-LS1: From Molecules to Organisms: Structures and Processes: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.			Use the unit to have students examine a variety of life cycles and determine that life cycles can vary between species of plants and animals, but that all life cycles are the same, by definition, in that they encompass the stages of birth (through germination of seeds, hatching of eggs, or live birth), growth, reproduction, and death.		
Science and Engineering Practices (SEPs)	Suggestions for Using EEI to Support SEPs	Disciplinary Core Ideas (DCIs)	Suggestions for Using EEI to Support DCIs	Crosscutting Concepts (CCs)	Suggestions for Using EEI to Support CCs
Developing and using models (2-LS2-2, 3-LS1-1)	Use the unit to have students study simple models that depict plant and animal life cycles and interdependent relationships between plants and animals. Have students explore models that depict these phenomena on a variety of topics, such as with eagles and pine trees (Lesson 1) and with butterflies, mice, trout, and frogs (Lessons 2, 3, and 4).	LS2.A: Interdependent Relationships in Ecosystems: Plans depend on animals for pollination or to move their seeds around. (2-LS2-2) LS1.B: Growth and Development of Organisms: Reproduction is essential to the continued existence of every kind of organisms. Plants and animals have unique and diverse life cycles. (3-LS1-1)	Use this unit to have students explore the interdependent relationships between eagles and pine trees (Lesson 1). Have them examine and explain how monarch butterflies depend on the milkweed plant for reproduction, and how milkweed plants depend on butterflies for pollination (Lessons 3 and 4). Have students investigate and discuss how humans depend on the pollinators that help plants reproduce, thereby providing food and other resources for humans, and how humans can provide and care for habitats that help pollinators, such as the monarch butterfly, to survive (Lesson 5). Use this unit to have students discover the differences and similarities between a variety of plant and animal life cycles (Lessons 1, 2, and 3). Help them discover that certain conditions within natural systems must be met in order for organisms to successfully complete their life cycles (Lesson 4). Have students consider the evidence throughout	Patterns (3-LS1-1)	Use this unit to have students consider the similarities in the lifecycles of plants and animals: they start out small, grow into adults, and can reproduce more living things like themselves (Lesson 1). Use this entire unit to help students discover that patterns of change are evident in reproductive abilities of organisms if their needs are not met within their habitats, as evidenced by the decline of migrating monarch butterflies (Lessons 3 and 4). Have them review the different patterns found across the life cycles of various plants and animals and predict what might happen to California’s food supply if changes to the environment were to limit the ability of plants to reproduce (Lesson 5).

Science and Engineering Practices (SEPs)	Suggestions for Using EEI to Support SEPs	Disciplinary Core Ideas (DCIs)	Suggestions for Using EEI to Support DCIs	Crosscutting Concepts (CCs)	Suggestions for Using EEI to Support CCs
			<p>the unit that both plant and animal life cycles are essential to the production of ecosystem goods and that both support the functioning of the ecosystem and meet human needs for food and other resources (Lesson 5).</p>		