

Unit 3: Lifecycles and Traits

Unit #:	APSDO-00034888	Duration:	10.0 Day(s)	Date(s):	
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Grades:
3

Subjects:
Science

Unit Focus

In this unit, students will develop an understanding of the similarities and differences of organisms' life cycles. They will also learn that organisms have different inherited traits, and the environment can affect the traits that an organism develops. Students will discover how variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. Summative assessments include a performance task with a written component that assesses mastery or content and skills. Supporting instructional materials may include related mentor text(s), online and print resources, and teacher generated inquiry tasks.

Stage 1: Desired Results - Key Understandings

Established Goals	Transfer	
<p>Next Generation Science Standards (DCI) <i>Science: 2</i></p> <ul style="list-style-type: none"> Plants depend on water and light to grow. <i>LS2.2.A1</i> <p><i>Science: 3</i></p> <ul style="list-style-type: none"> Different organisms vary in how they look and function because they have different inherited information. <i>LS3.3.B1</i> For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot 	<p>T1 (T1) Integrate knowledge from a variety of disciplines and apply it to new situations to make sense of information, formulate insightful questions, and/or solve problems.</p> <p>T2 (T5) Communicate scientific information clearly, thoroughly, and accurately.</p>	
	Meaning	
	Understandings	Essential Questions
	<p>U1 (U315) Plants and animals have unique and diverse life cycles, but reproduction is necessary for all species to survive.</p> <p>U2 (U357) Organisms inherit some characteristics from their parents and develop others as a result of their</p>	<p>Q1 (Q317) How do life cycles of (these) organisms compare to one another?</p> <p>Q2 (Q357) What does an offspring inherit from their parents?</p> <p>Q3 (Q358) What does the offspring get from their environment?</p>

<p>survive at all. <i>LS4.3.C1</i></p> <ul style="list-style-type: none"> • Many characteristics of organisms are inherited from their parents. <i>LS3.3.A1</i> • Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. <i>LS3.3.A2</i> • Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. <i>LS1.3.B1</i> • Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. <i>LS4.3.B1</i> • The environment also affects the traits that an organism develops. <i>LS3.3.B2</i> • When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. <i>LS2.3.C1</i> 	<p>interactions with the environment.</p> <p>U3 (U358) Organisms have different traits that affect how they look and function and which impact their survival.</p> <p>U4 (U332) Plants depend on water and light to grow.</p> <p>U5 (U385) Based on the hospitality of an ecosystem/habitat, some organisms adapt and survive, some move to new locations and survive, and some die.</p> <p>U6 (U911) Scientists examine evidence to look for relationships (e.g., patterns, trends) to formulate insightful questions and solve problems.</p>	<p>Q4 (Q359) How do some organisms develop characteristics based on interactions with their environment?</p> <p>Q5 (Q386) How does the [animal or plant]'s [trait] help it survive in the world?</p> <p>Q6 (Q385) How does a habitat support the plants and animals that live there?</p> <p>Q7 (Q950) How do I use my findings/solutions to show what I learned? What can I learn by sharing my work with others?</p> <p>Q8 (Q924) What questions do I wonder about? How can I use science to figure out the answer?</p>
Acquisition of Knowledge and Skill		
Knowledge		Skills
<p>K1</p> <p>Plants and animals have different and unique life cycles (e.g., insects from egg to larva to adult organism; frogs from egg to tadpole to adult organisms; plants from seed to seedling to plant; some animals born live as infants then grow and develop, other animals lay eggs, hatch, then grow and develop)</p> <p>K2</p> <p>Organisms inherit characteristics (how they look and function) from their parents</p> <p>K3</p> <p>Organisms develop characteristics from interactions with the environment</p> <p>K4</p> <p>Many characteristics involve both inheritance and environment</p>	<p>S1</p> <p>Model and describe the life cycle stages of various organisms</p> <p>S2</p> <p>Compare and contrast the life cycles of various organisms</p> <p>S3</p> <p>Describe an animal's inherited traits</p> <p>S4</p> <p>List how changes in the environment impact the survival of the plants and animals that live there</p>	

	K5	
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Sometimes differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing