

Grade 3 - Unit 3 - Biomes and Adaptations

Unit Focus

Students will engage in collaborative research to explore the abiotic and biotic factors that affect living things in terrestrial and aquatic biomes. Students will select an area of interest and create a project to showcase their learning through the use of non-fiction text structures and features. Throughout the research students will learn more about plant and animal adaptations, life cycles, and variation of traits as well as the adaptations that organisms have to help them survive in the climate in the given ecosystem.

Stage 1: Desired Results - Key Understandings

Standard(s)	Transfer	
<p>Next Generation Science <i>Elementary Standards: 2</i></p> <ul style="list-style-type: none"> Make observations of plants and animals to compare the diversity of life in different habitats. <i>2-LS4-1</i> <p><i>Elementary Standards: 3</i></p> <ul style="list-style-type: none"> Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. <i>3-LS4-2</i> Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. <i>3-LS4-3</i> <p>Next Generation Science Standards (DCI) <i>Science: 3</i></p> <ul style="list-style-type: none"> Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. <i>ESS2.3.D2</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> 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 	<p>T1 Create models to explore complex systems, show mastery of key science concepts, and/or develop solutions through creation of a product open to testing and redesign.</p> <p>T2 Communicate effectively based on purpose, task, and audience to promote collective understanding and/or recommend actions.</p>	
	Meaning	
	Understanding(s)	Essential Question(s)
	<p>U1 Differences in characteristics between individuals of the same species, in any environment, provide advantages in surviving, finding mates, and reproducing.</p> <p>U2 Biomes have unique characteristics that impact an organism's ability to survive.</p> <p>U3 If the characteristics of an ecosystem change, some organisms survive, some move to new locations, and some die.</p> <p>U4 All living things have unique life cycles which include birth, growth, reproduction, and lifespan.</p> <p>U5 The characteristics of living things are influenced by inheritance and environment.</p>	<p>Q1 How do the characteristics of an organisms determine its success in a habitat?</p> <p>Q2 How do the characteristics of an environment (biome) affect an organisms ability to survive there?</p> <p>Q3 How do organisms respond to changes in their ecosystem?</p> <p>Q4 Why do offspring resemble their parents?</p> <p>Q5 Why do organisms have certain characteristics (traits)?</p>
	Acquisition of Knowledge and Skill	
Knowledge	Skill(s)	
<p>K1 Environmental changes may affect an organism's ability to survive in a given environment.</p> <p>K2 Biomes have different physical characteristics.</p>	<p>S1 Constructing an explanation from evidence to explain how one individual is better suited to survive in its environment in comparison to another member of the</p>	

Stage 1: Desired Results - Key Understandings

<p>others move into the transformed environment, and some die. <i>LS2.3.C1</i></p> <ul style="list-style-type: none"> • Many characteristics of organisms are inherited from their parents. <i>LS3.3.A1</i> • Different organisms vary in how they look and function because they have different inherited information. <i>LS3.3.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> • For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. <i>LS4.3.C1</i> • Populations live in a variety of habitats, and change in those habitats affects the organisms living there. <i>LS4.3.D1</i> <p>Student Growth and Development 21st Century Capacities Matrix</p> <p><i>Creative Thinking</i></p> <ul style="list-style-type: none"> • Imagining: Students will be able to conceive of a novel approach to create a text, performance, solution, application, or inquiry. <i>MM.2.2</i> <p><i>Collaboration/Communication</i></p> <ul style="list-style-type: none"> • Presentation: Students will be able to relay information and ideas to an authentic audience (other than the teacher) to promote collective understanding. <i>MM.3.3</i> 	<p>K3 An organism's characteristics (traits) come from it's parents.</p> <p>K4 Adaptations could be physical or behavioral; including living in groups.</p> <p>K5 There are differences between individuals of the same species that affect their ability to survive.</p> <p>K6 Vocabulary: Biome, habitat, trait, natural selection, inheritance, evolution, climate</p>	<p>same species.</p> <p>S2 Analyzing data to draw conclusions about how certain organisms survive in each environment.</p> <p>S3 Explaining how an organism's structure relates to its function, allowing it to be successful in a given environment.</p>
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