



Fourth Grade Curriculum Pacing Guide

Crosscutting Concepts: Energy and Matter; Structure and Function Role of Organisms and Flow of Energy

Estimated Time: 7 weeks

Anchoring Phenomenon	Standard	Instructional Segments	Disciplinary Core Ideas	Science and Engineering Practices	Instructional Notes
Eating on the Space Station Dessert in Space	S4L1a, b, c, d	<u>Bake the Cake and Eat It Too.</u>	From A Framework for K-12 Science Education : LS1.C: ORGANIZATION FOR MATTER AND ENERGY FLOW IN ORGANISMS <ul style="list-style-type: none"> Animals and plants alike generally need to take in air and water, animals must take in food, and plants need light and minerals; anaerobic life, such as bacteria in the gut, functions without air. Food provides animals with the materials they need for body repair and growth and is digested to release the energy they need to maintain body warmth and for motion. Plants acquire their material for growth chiefly from air and water and process matter they have formed to maintain their internal conditions (e.g., at night). LS2.A: INTERDEPENDENT RELATIONSHIPS IN ECOSYSTEMS <ul style="list-style-type: none"> The food of almost any kind of animal can be traced back to plants. 	<ul style="list-style-type: none"> Developing and using models Constructing explanations and designing solutions Obtaining, evaluating, and communicating information 	Background: By the end of this unit, students are using the following language in their speaking and writing during EXPLAIN or ELABORATE. <ul style="list-style-type: none"> Ecosystem Food chain Food web Producer Consumer Decomposer Scarce Extinct Overabundant Keystone species

			<p>Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Either way, they are “consumers.” Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as “decomposers.” Decomposition eventually restores (recycles) some materials back to the soil for plants to use. Organisms can survive only in environments in which their particular needs are met.</p> <ul style="list-style-type: none"> ● A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem. <p>LS2.B: CYCLES OF MATTER AND ENERGY TRANSFER IN ECOSYSTEMS</p> <ul style="list-style-type: none"> ● Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. ● Organisms obtain gases, water, and minerals from the environment and release waste matter (gas, liquid, or solid) back into the environment. <p>LS2.C: ECOSYSTEM DYNAMICS, FUNCTIONING, AND RESILIENCE</p>		
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This instructional segment will connect to light and sound.