



Food Chain Frenzy



<u>Performance Expectations</u>	<u>Connections Between EP&Cs, CCCs, and SEPS</u>	<u>Clarifications for DCIs</u>	Relevant EEI Units
<p>K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.</p> <p>2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.</p> <p>5-PS3-1 Use models to describe that that energy in animals’ food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</p> <p>5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p>	<p style="text-align: center;">Targeted Environmental Principles & Concept(s)</p> <p>Principle II: People Influence Natural Systems</p> <p>The long-term functioning and health of terrestrial, freshwater, coastal, and marine ecosystems are influenced by their relationships with human societies.</p> <p>Concept A. Direct and indirect changes to natural systems due to the growth of human populations and their consumption rates influence the geographic extent, composition, biological diversity, and viability of natural systems.</p> <p>Concept B. Methods used to extract, harvest, transport, and consume natural resources influence the geographic extent, composition, biological diversity, and viability of natural systems.</p> <p>Concept C. The expansion and operation of human communities influences the geographic extent,</p>	<p style="text-align: center;">Targeted Disciplinary Core Idea(s)</p> <p>K-LS1-1 Organization for Matter & Energy Flow in Organisms All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.</p> <p>K-ESS-3 Human Impacts on Earth Systems Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.</p> <p>5-PS3-1 Energy in Chemical Processes and Everyday Life The energy released [from] food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water).</p> <p>5-LS2-1 Interdependent Relationships In Ecosystems The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. 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</p>	<p>K: The World Around Me</p> <p>1: Surviving and Thriving; Finding Shelter; People and Places</p> <p>2: From Field to Table</p> <p>3: Living Things in Changing Environments</p> <p>4: The Flow of Energy through Ecosystems</p> <p>6: Energy! Pass It On</p> <p>7: Responding to Environmental Change</p>

One Cool Earth (OCE) supports the integration of Next Generation Science Standards (NGSS) three dimensional learning and the Environmental Principles & Concepts (EP&Cs) in their lesson planning. In recognition of A Blueprint for Environmental Literacy and the California State Board of Education, OCE uses the *CA Science Framework*.

<p>MS-LS2-3 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.</p> <p>MS-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.</p>	<p>composition, biological diversity, and viability of natural systems.</p> <p>Concept D. The legal, economic, and political systems that govern the use and management of natural systems directly influence the geographic extent, composition, biological diversity, and viability of natural systems.</p>	<p>materials back to the soil. Organisms can survive only in environments in which their particular needs are met. 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> <p>MS-LS2-3 Cycles of Matter & Energy Transfer in Ecosystems Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem. (MS-LS2-3)</p> <p>MS-ESS3-3 Human Impacts On Earth Systems Human activities have significantly altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth’s environments can have different impacts (negative and positive) for different living things.</p>	
	<p>Targeted Crosscutting Concept(s)</p> <p>Cause & Effect</p>		
	<p>Targeted Science and Engineering Practice(s)</p> <p>Asking Questions and Defining Problems Developing and Using Models Planning and Carrying out Investigations Engage in Argument from Evidence</p>		

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