

# Unit: Energy and Matter in Ecosystems - Grade 5

Content Area: **Science**  
Course(s): **Science 5**  
Time Period: **Marking Period 2**  
Length: **30 days**  
Status: **Published**

## Resources

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- HMH online textbook and resources
- Mystery Science
- Generation Genius

## Established Goals/Standards

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5-ESS1-1	Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.
5-ESS1-1.7	Engaging in Argument from Evidence
5-ESS1-1.7.1	Support an argument with evidence, data, or a model.
5-LS1-1.5.1	Matter is transported into, out of, and within systems.
5-LS2	Ecosystems: Interactions, Energy, and Dynamics
5-LS2-1	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
5-LS2-1.2	Modeling in 3–5 builds on K–2 models and progresses to building and revising simple models and using models to represent events and design solutions.
5-LS2-1.2.1	Develop a model to describe phenomena.
5-LS2-1.4.1	A system can be described in terms of its components and their interactions.
5-LS2-1.LS2.A	Interdependent Relationships in Ecosystems
5-LS2-1.LS2.A.1	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 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.
5-LS2-1.LS2.B.1	Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment.

## Essential Questions

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- How do energy and matter move through ecosystems?

- How do organisms change their ecosystems?

### **Enduring Understanding**

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- The flow of energy is derived from the sun then transferred as matter through a food chain and food web.
- A break in a food chain or web effects organisms throughtout the web/chain.
- A portion of energy at any level of a food web is available to the next higher step and affects population sizes.