

## Episode 3

Strand 6.4	Standard 6.4.3	Big Idea <b>Matter cycles and energy flows among living and nonliving parts of an ecosystem.</b>
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Title <b>Food Web Simulations</b>	Time <b>30 minutes</b>	CCCs <b>Energy and Matter</b>	Practices <b>Use Models to Communicate</b>
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**Phenomenon:** Organisms in an ecosystem interact in a food web.

### **Gathering**

#### **Use Models to Gather Data and Information**

Students will use the following link to run simulations of the food web to observe cycles of matter and energy flow in an ecosystem. With each simulation, students will change the interactions of the organisms and record their observations.

<https://learner.org/series/the-habitable-planet-a-systems-approach-to-environmental-science/ecology-lab/>

### **Reasoning**

#### **Construct Explanations**

Students will explain the changes in the data of the energy flow as the interactions among organisms in the ecosystem change

### **Communicating**

#### **Use Models to Communicate**

Students will choose one of their simulations to share with a partner, small group, or whole class. They will communicate what is happening to the energy and matter in the ecosystem.

<b>Assessment:</b> Students' explanations will demonstrate an understanding that changing the interactions among organisms changes the flow of energy in the entire ecosystem.	<b>Materials, resources, handouts, etc.</b>  Food Web Website: <a href="https://sciencetrek.org/topics/food-web">https://sciencetrek.org/topics/food-web</a>  Simulation Website: <a href="https://learner.org/series/the-habitable-planet-a-systems-approach-to-environmental-science/ecology-lab/">https://learner.org/series/the-habitable-planet-a-systems-approach-to-environmental-science/ecology-lab/</a> (Click on launch simulation)  <a href="#"><b>Resource 6433.a Food Web Simulations Recording Sheet</b></a>  <b>Teacher Support:</b> <a href="http://idahoptv.org/sciencetrek/topics/food_chain/index.cfm">http://idahoptv.org/sciencetrek/topics/food_chain/index.cfm</a>
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