








## Food Webs Lesson 2: “The Make”

### Student Handout

#### Before You Begin: What is a Food Web?

**Food webs** show the feeding relationships within an **ecosystem**, or who eats whom in an environment. Most food webs use pictures to show the animals and plants, or **organisms**, which live in that environment. They then use arrows to show who eats who, which shows the direction of energy flow! If an arrow is pointing to an animal, this means that animal eats, or **consumes**, the other animal.

A food web has many different kinds of organisms. Below are some pictures that show the different types:

				
<b><u>Autotrophs</u></b> Like plants, they produce their own food by making energy from sunlight.	<b><u>Herbivores</u></b> Like cows, they only eat plants.	<b><u>Omnivores</u></b> Like humans, they eat both plants and animals!	<b><u>Carnivores</u></b> Like lions, they do not eat plants, only animals.	<b><u>Decomposers</u></b> Like mushrooms, they break down dead plants and animals in the soil.

#### Instructions: Create Your Own Food Web!

Today's task is to make your own food web.

1. Write your name (first & last) on the front of the paper, in the lower right corner.
2. Make a title across the top of your paper.
3. Out of the list of organisms, **color** and **cut** out:
  - 3 autotrophs
  - 3 herbivores
  - 2 omnivore
  - 2 carnivores
  - 1 decomposer
4. Organize your organisms in a food web on your paper (**Do not glue until you have them all arranged.**)
5. For each organism, label with the type of organism (see checklist above)



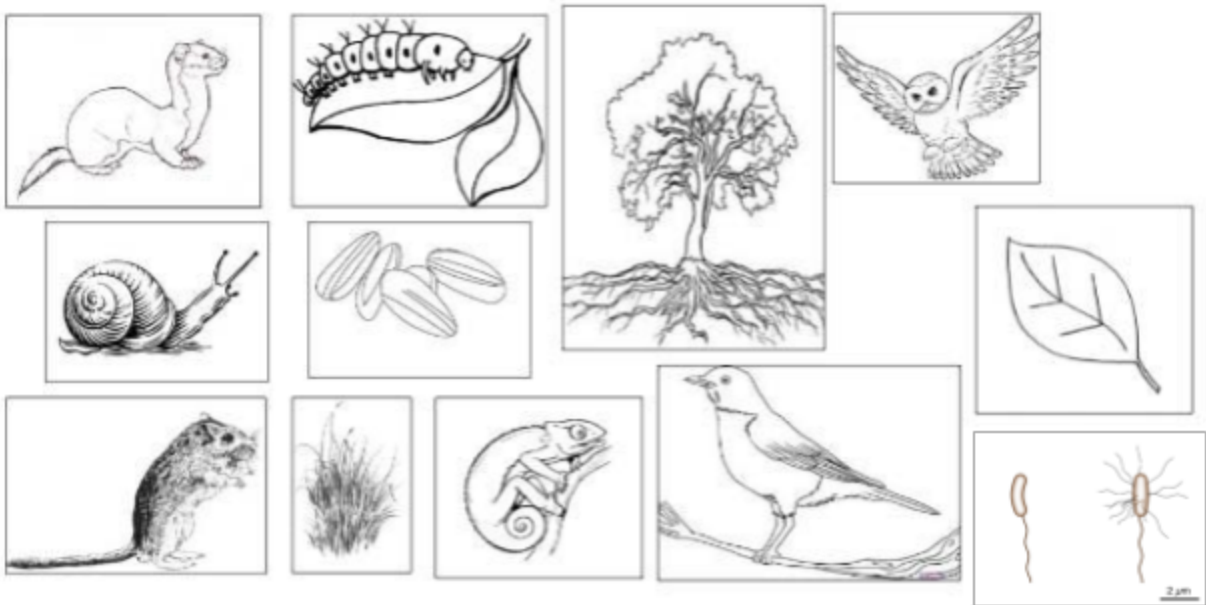
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6. Connect your organisms with arrows showing “who eats who” (Remember, the arrow shows the direction that energy flows, so the arrowhead always goes towards the “eater’s” mouth).
7. Make sure your organisms and background are **neatly** colored and arranged.
8. Answer the analysis question below your food web diagram.

### Cut out the organisms below -----

On the forest, you can find many organisms! Trees grow on the forest floor, spreading their **roots** beneath the ground and scattering **leaves** and **seeds** on the soil. Patches of **grass** also grow at the forest floor. **Caterpillars** and **snails** slither through the grass, snacking on **grass** and **leaves** while the larger **mouse** crunches on **seeds** found on the forest floor! But these little creatures have to be careful...while the **songbird** does like **seeds**, it also likes **caterpillars**! Similarly, the **chameleon** likes to eat **caterpillars** as well as **leaves**. The **weasel** prefers **mice** and **birds**. And the owl, with his birds-eye-view, can spot tasty **mice** and **snails** from above. **Bacteria** in the soil break down dead plants and animals, releasing nutrients back into the soil.





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Analysis: Write your answer on the back of the paper.  
Which do you think would cause the most destruction to the organisms in a food web: taking away the carnivores, taking away the herbivores, taking away the autotrophs or taking away the decomposers? Use evidence from your Food Web diagram above to support your claim.



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Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Exit Ticket: Connection to the Design

1. What do you call an organism that eats both plants and animals? Give at least one example from your food web.
2. If you see a food web with an arrow pointing from a grasshopper to a spider, who eats who?
3. Which organisms have no arrows pointing towards them in a food web because they produce their own food energy?
4.
  - a. Based on what you learned in the video and this activity, what type of organism helps to recycle nutrients back into the soil?
  - b. Can you think of any way that humans might be able to use these organisms to help in their own lives?
5. A pesticide was recently sprayed over the trees in the forest to help reduce the number of insects. When the caterpillars ate the tree leaves, they grew ill from the pesticide and died. Explain how the loss of caterpillars could impact the forest food web. Use evidence from your food web diagram above to support your claim.



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### Make Assessment:

Use the checklist and cognitive skills rubric to ensure you have addressed all aspects of the “Make” with quality work.

### Food Webs Make Checklist: Content Concepts and Practices

- Title depicts the type of ecosystem shown
- Colored and labeled organisms:
  - 3 autotrophs
  - 3 herbivores
  - 2 omnivore
  - 2 carnivores
  - 1 decomposer
- Organisms are correctly connected with arrows in order to show relationships between organisms in an environment
  - Arrows show “who eats who” by arrow pointing towards predator
  - Autotrophs have no arrows pointing towards them because they make their own food
  - Final arrows point to decomposer
- Organisms and background are **neatly** colored and arranged.
- Analysis question is accurately answered, using evidence from the food web diagram to support claim.

### Cognitive Skills Assessed:

	<b>Emerging (1)</b>	<b>Developing (2)</b>	<b>Proficient (3)</b>	<b>Advanced (4)</b>
<b>Developing and Using Models</b>	Drawings, diagrams, or visual models include major misconceptions or has missing parts. Explanation of the model is minimal or not present.	Drawings, diagrams, or visual models include minor misconceptions or has missing parts. Explanation of the model is minimal.	Drawings, diagrams, or visual models are complete, but contain a minor misconception. Explanation of the model is complete but lacking complexity.	Drawings, diagrams, or visual models have no misconceptions and contain all details. Explanation of the model is complete and complex.
<b>Constructing Explanations or Arguments From Evidence</b>	Constructs an explanation with no clear sources of evidence.	Uses scientific principles and/or data from at least one source to construct or evaluate an explanation, but explanation contains minor misconceptions.	Uses accurate but incomplete scientific principles and/or data from multiple sources to construct or evaluate an explanation.	Uses accurate and complete scientific principles and/or data from multiple sources to construct or evaluate an explanation.