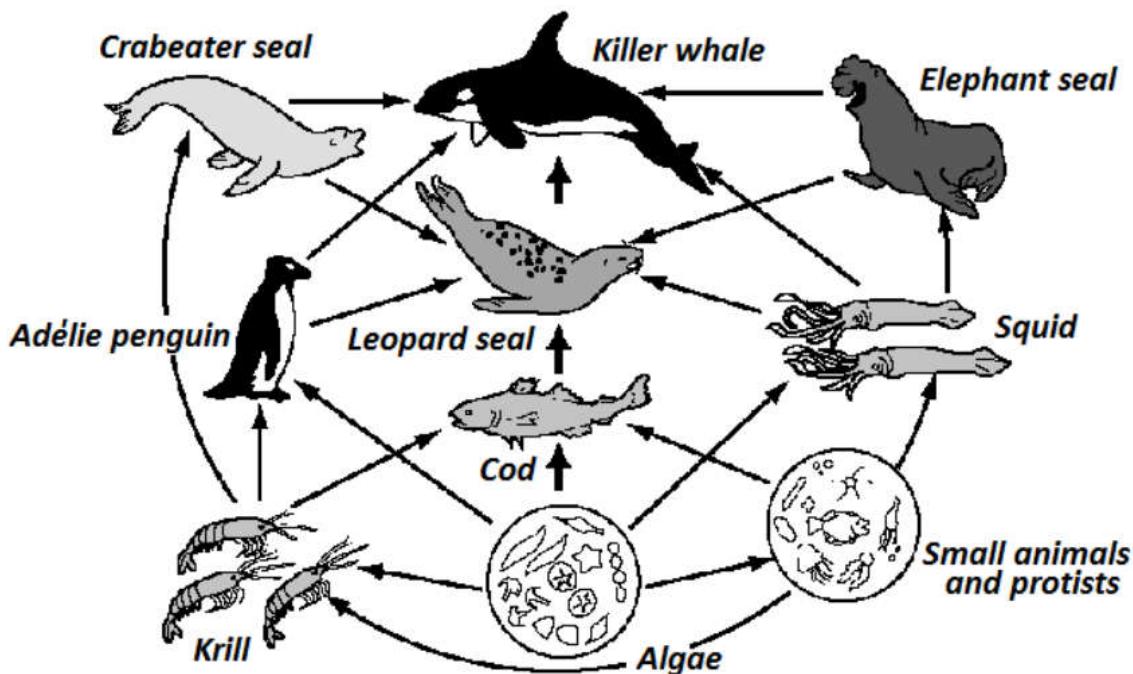


## Build a Food Web Project

As you have learned, a food web is a depiction of how energy moves through a community of organisms. Food chains show only a single set of energy transfers, ignoring that many organisms obtain energy from many different sources, and in turn may provide energy to many different organisms. You will be building your own food web.

### Procedure:

1. Obtain a piece of construction paper.
2. Use scissors to cut out the picture cards on the last 3 pages
3. Find the Color Key card. Use different colors to color each of the triangles on the card.
4. Paste the Color Key Card on the bottom right corner of the construction paper.
5. 6. Find the sun card and paste it to the upper-left corner of your construction paper.
6. Sort the remaining picture cards into groups according to the following trophic levels: producers, primary consumers, secondary consumers, and tertiary consumers. For example, plants are producers, snails are primary consumers, crayfish are secondary consumers, and turtles are tertiary consumers.
7. Color the triangles in the upper right-hand corner of each picture card according to the type of trophic level that each organism falls under.
8. Decide on **15 picture cards** in which to construct a food web. Your food web must have **at least two organisms from each trophic level**.
9. Arrange the 15 picture cards on your poster paper and then glue them in place. Use arrows to show that energy is passed from one living organism to another (arrows go from the plant or animal that is eaten to the animal doing the eating). An example of a marine food web is shown below.



**Once you have completed the food web, complete the tasks below.**

## Tasks / Questions:

1. What do the arrows in the food web represent?
  2. What happens to the amount of available energy as you move up the food chain (ex: moving from producer to primary consumer to secondary consumer)
  3. Which trophic level (producers, primary consumers, secondary consumers, etc.) contains the most biomass (largest population)? Why?
  4. Using your food web, classify the different types of consumers in your food web as one of the following:
    - Carnivores:
    - Herbivores:
    - Scavengers:
    - Omnivores:
    - Decomposers:
    - Detritovores:

5. Draw in three different food chains based on the feeding relationships on your food web.

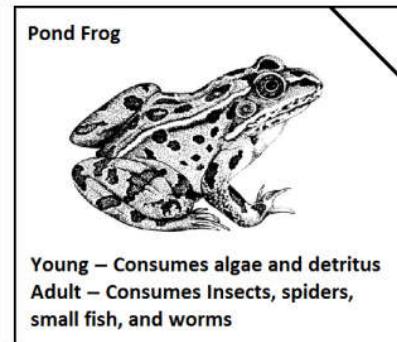
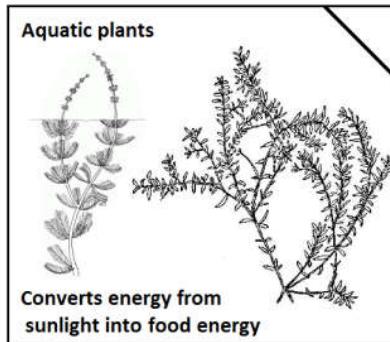
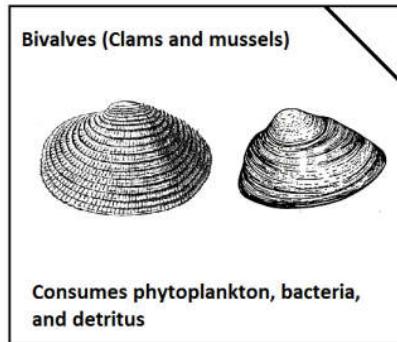
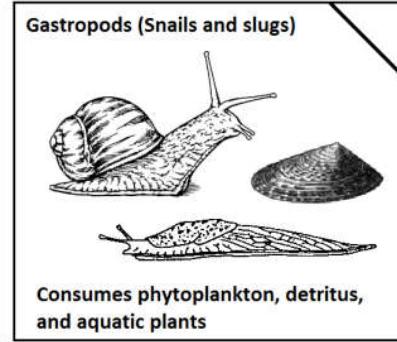
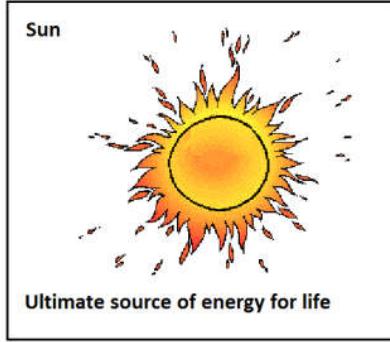
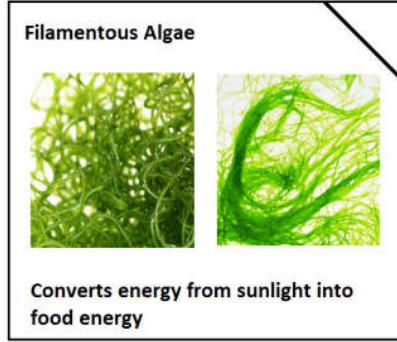
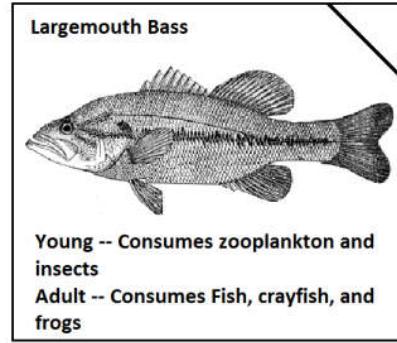
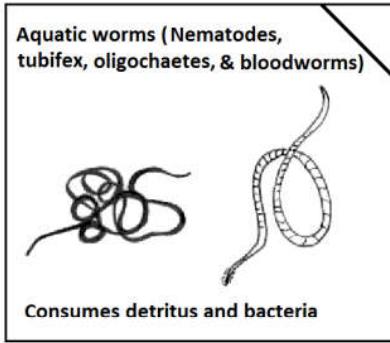
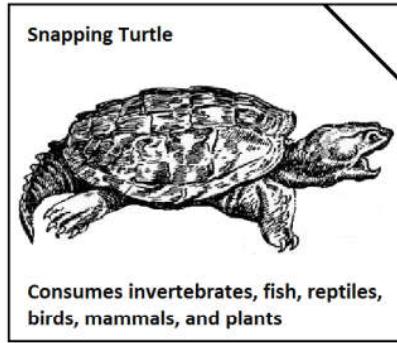
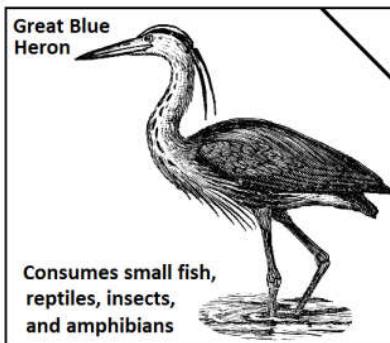
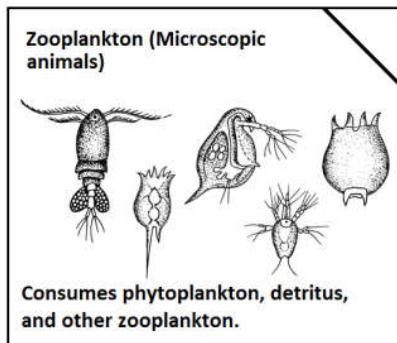
	Food Chain #1	Food Chain #2	Food Chain #3
Producer			
Primary Consumer	↓	↓	↓
Secondary Consumer	↓	↓	↓
Tertiary Consumer	↓	↓	↓

6. What would happen to your food web if aquatic plants died out because of pollution? Explain.

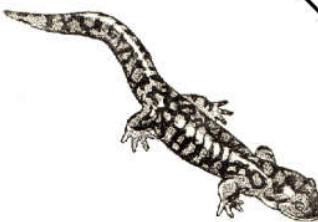
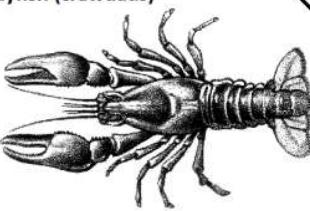
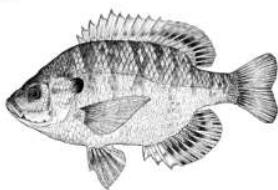
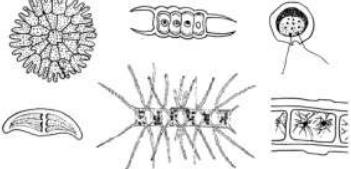
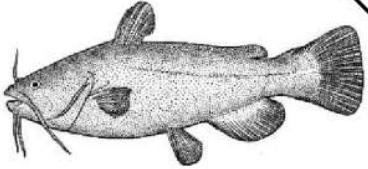
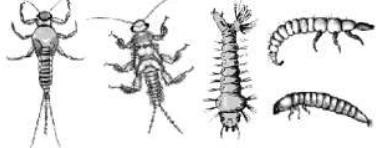
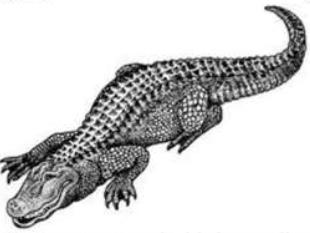
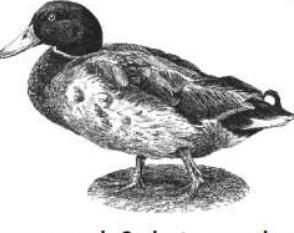
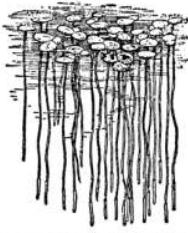
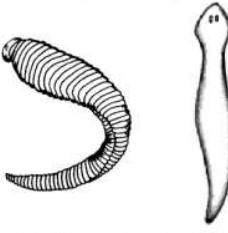
7. What would happen to your food web if the population of a tertiary consumer was to double? Explain.

8. Asian carp consume zooplankton, which many fishes typically feed on in their juvenile stages, and have no known predators (in Asia). How would the introduction of Asian carp affect your food web? Explain.

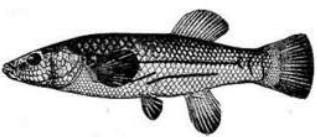
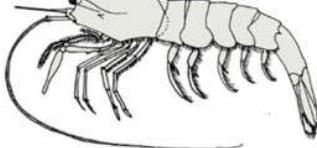
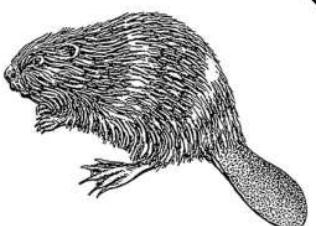
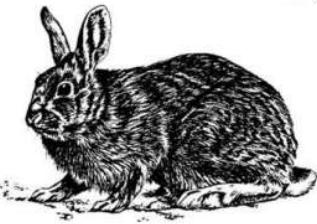
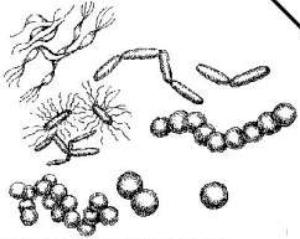
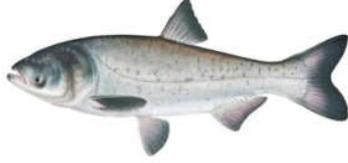
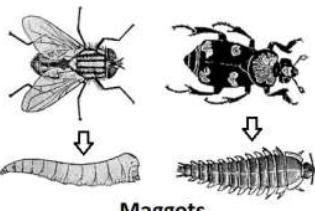
## PICTURE CARDS



## PICTURE CARDS

<p><b>Newts and Salamanders</b></p>  <p>Consumes worms, snails, tadpoles, insects, and other salamanders</p>	<p><b>Crayfish (crawdads)</b></p>  <p>Young -- Consumes zooplankton Adult -- Consumes fish, plants, worms, insects, snails, &amp; plankton.</p>	<p><b>Raccoon</b></p>  <p>Consumes plants, worms, gastropods, fish, bivalves, amphibians, &amp; crayfish</p>
<p><b>Bluegill</b></p>  <p>Young -- Consumes zooplankton Adult -- Consumes insect larvae, crayfish, leeches, snails, small fish</p>	<p><b>Phytoplankton (Microscopic photosynthetic organisms)</b></p>  <p>Converts energy from sunlight into food energy</p>	<p><b>Bullhead (Catfish)</b></p>  <p>Consumes aquatic plants, algae, insects, worms, fish eggs, and small fish</p>
<p><b>Aquatic insect larvae (Mayfly, stonefly, mosquito, caddisfly, riffle beetle)</b></p>  <p>Consumes algae, plankton, and bacteria</p>	<p><b>Alligator</b></p>  <p>Consumes mammals, birds, reptiles, fish, and amphibians.</p>	<p><b>Mallard</b></p>  <p>Consumes seeds &amp; plants; may also eat insects, mollusks, crustaceans</p>
<p><b>Duckweed</b></p>  <p>Converts energy from sunlight into food energy</p>	<p><b>Aquatic worms (Leeches, planaria)</b></p>  <p>Consumes insect larvae, snails, and worms</p>	<p><b>Color Key</b></p> <ul style="list-style-type: none"><li> Producers</li><li> Primary Consumers</li><li> Secondary Consumers</li><li> Tertiary Consumers</li></ul>

## PICTURE CARDS

<b>Flagfish</b> 	<b>Grass shrimp</b> 	<b>Beaver</b> 
<b>Consumes algae and phytoplankton</b>	<b>Consumes aquatic plants, algae, phytoplankton, detritus</b>	<b>Tree bark, twigs, shoots &amp; leaves</b>
<b>Trees, shrubs, &amp; grass</b> 	<b>Marsh rabbit</b> 	<b>Bacteria</b> 
<b>Converts energy from sunlight into food energy</b>	<b>Consumes plants</b>	<b>Decomposes detritus, dead organisms</b>
<b>Dead animals</b> 	<b>Grass Carp</b> 	<b>Rotting log</b> 
<b>Are consumed by bacteria, insects, fungi.</b>	<b>Consumes aquatic plants, algae.</b>	<b>Are consumed by bacteria, insects, fungi.</b>
<b>Vulture</b> 	<b>Toadstool fungus</b> 	<b>Insects and their larvae</b>  ↓ <b>Maggots</b> <b>Decomposes dead organisms</b>
<b>Consumes dead animals.</b>	<b>Decomposes organic matter</b>	