



## Home/Garden Connection

### A Post-Visit Lesson to *Today's Special: Food Chains*

Dear Parents,

Your child visited the Missouri Botanical Garden today and participated in a garden class called, "Today's Special: Food Chains." During their field trip, your child:

- Identified the biotic and abiotic factors that make up a food chain, including the sun, producers, consumers, herbivores, carnivores, omnivores, detritivores, and decomposers.
- Constructed different kinds of food chains including a desert, pond, tropical rainforest, prairie, tundra, forest, schoolyard, and ocean.
- Observed evidence of plant and animal interdependence.
- Observed and took notes about the different food chains that were seen throughout the garden.
- Planted sensitive seeds to take care of at home.

#### Family Game: Food Chain Mysteries

You and your family will look at each organism listed below. It is your job to work together to determine which category (producer, herbivore, carnivore, detritivore, decomposer) your organism belongs to.

Name of Organism	Food Chain Category
Grass	
Hawk	
Grasshopper	
Snake	
Vultures	
Bacteria	
Dragonfly larva	
Raccoon	
Algae	
Mosquito larva	
Seal	
Phytoplankton	
Zooplankton	
Fungus	
Fish	
Worms	
Rat	
Crabs	

\*\*\*When you have finished, all of the answers to the chart above can be found inside of the Food Chains journal you received during your field trip to the Missouri Botanical Garden.\*\*\*

#### Family Game: Dinner Time!

You and your family will try to trace back what you had for dinner tonight. First, write down everything (all of the individual ingredients) that was used to make your dinner. Now, separate your ingredients into two main categories: things made from producers and things made from consumers. Then, further break down your consumer category into three main categories: herbivores, carnivores, and omnivores. How much of your dinner came from producers? How much of your dinner came from



consumers? What would happen if half of the producers in the world disappeared? How would that affect your dinner? How would that affect other consumers?

## Art: Carnivorous Creativity

### Carnivorous Plant Background Information

Did you know that nearly all plants growing in a garden get nutrients through their roots? Roots search for rich foods and water. Once found, they gather as much as they can and send them up the plant to help make leaves, branches, flowers, and fruits.

Carnivorous plants, on the other hand, grow in very poor soil that has very little food. So, they need to get their food in other ways. They do this mainly through their leaves. Their leaves capture insects where they are broken down by digestive enzymes into a form that they can absorb.

So in order for a plant to be carnivorous, it has to have a specific method of capturing insects, use enzymes to breakdown the insect, and absorb nutrients through its leaves. When a plant meets all three criteria, we can safely call it a carnivorous plant.

You and your family will take a few minutes to learn about the different carnivorous plants featured below. Then, use a piece of paper and a pencil to draw what kinds of insects you think each carnivorous plant likes to eat. When everyone has finished their drawings, have each family member do a short “Show and Tell” about their insects.



Sticky Sundews

Sundew (*Drosera* species) are semi-active traps. These plants catch insects on deadly tendrils that cover their leaves. Sticky drops at the end of the tentacles trap the insects. As they struggle to escape, the tentacles curl over and glue them firmly to the leaf so the plants can start its meal. The Portuguese Sundew takes about a day to eat a mosquito.



“Pitchers of Death”

Pitcher plants (*Sarracenia* species) are passive traps. They catch animals in a pool of liquid inside their strange hollow leaves. One leaf may trap thousands of insects in a few months. Even scorpions and lizards have been found in their traps.



“Living Fly Paper”

Butterworts (*Pinguicula* species) are semi-active traps. They like moist, sandy soil and can grow just as well without eating insects. Their name indicates their buttery or greasy feel. Through glands, they produce droplets of sticky “glue” that serves as fly paper to hold gnats, fruit flies, and other small insects. The leaves roll around the captured insect and digest it.



“Snap Traps”

Venus Fly Traps (*dionaea muscipula*) are active traps. They have strange leaves that snap shut like a pair of jaws and trap their victims inside. The leafy jaws close only when something brushes against sensitive hairs on the surface of the leaf.