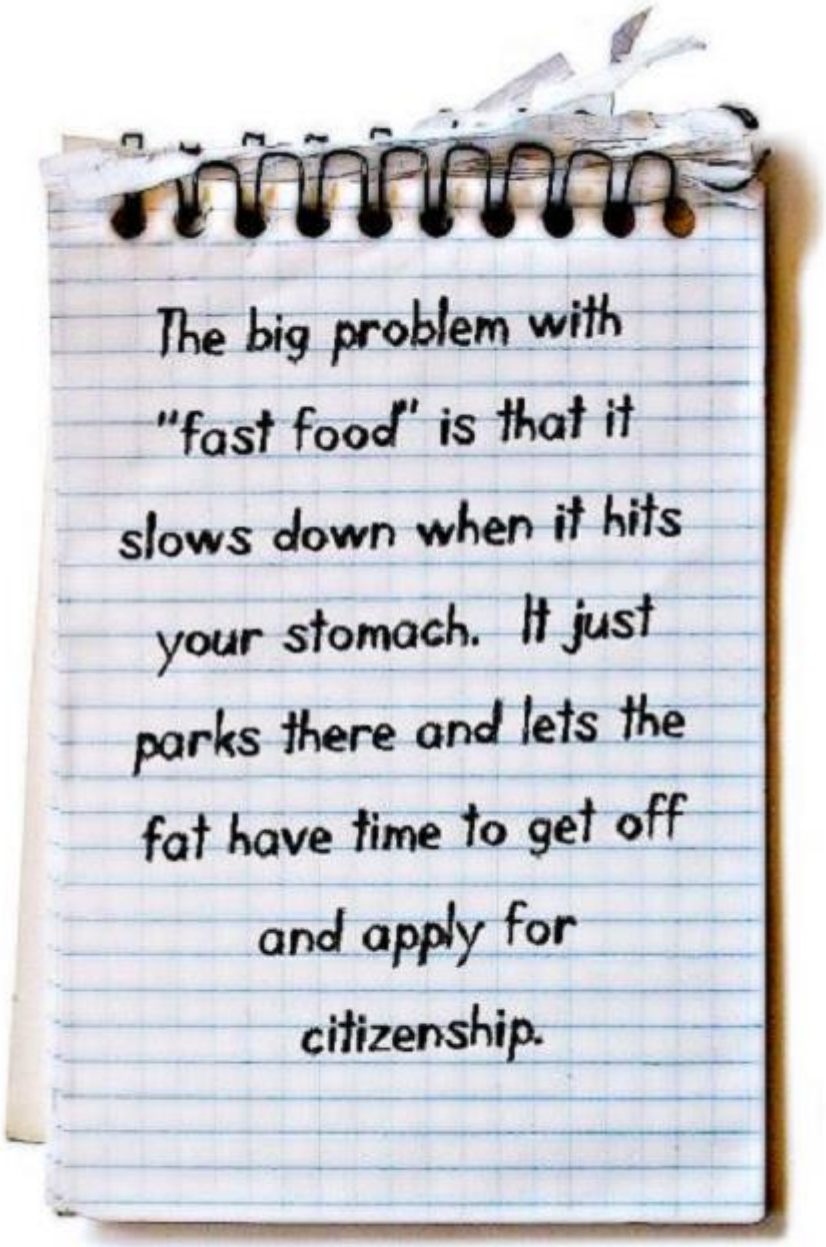
Chapter 17
Food chains



Day One:

Today, you and your child will:

1. Read the text
2. Review the text with your child
3. Complete the student worksheets
4. Collect the materials you will need for days two and three

National Science Education Standards covered this week:

All animals depend on plants. Some animals eat plants for food. Other animals eat animals that eat the plants.

Plants are known as producers as they produce their own food to survive. Organisms that survive by only eating plants are known as herbivores. Animals that eat other animals are known as carnivores. Some organisms eat both plants and animals, like humans, and are known as omnivores.

Mapping out a path of "who-eats-what" is known as a food chain. This is a very simple way of identifying how energy is passed between a small list of organisms.

Definitions

Food chain	a relationship between species that use each other for food
Producers	plants; they are named "producers" because they are autotrophic and produce their own food
Consumers	animals that get all of their nutrients by eating (or consuming) other organisms
Herbivores	these animals only eat plants to get their nutrients
Carnivores	these are the animals that eat other animals (like the herbivores) for food
Omnivores	omnivores will eat plants or animals

Sample questions to ask your child after completing the weekly reading.

What is the difference between a carnivore and an omnivore?

Carnivores only eat animals while omnivores eat both plants and animals.

Is a herbivore a type of consumer?

Yes. Herbivores get their energy from eating other organisms (plants) to survive.

Do you live in an environment?

Yes. Since you and I are both exist in the world, we are definitely living within an environment.

Answers to worksheet questions:

Page 1:

ACROSS:

1. food chain
5. omnivores
6. producers

DOWN:

2. carnivores
3. herbivores
4. consumers

Page 2:

4 - food chain
2 - producers
5 - consumers
1 - herbivores
6 - carnivores
3 – omnivores

Page 3:

"Draw a picture of a food chain. Label your drawing with the following types of organisms: producer, herbivore, and carnivore"

Answers will vary

Day Two:

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

The following text will give you the most important items to review for your activity today.

In nearly every food chain, the sun provides energy to the producers, who are used as food/energy for the consumers.

The various sizes and shapes of bird beaks allow some birds to be omnivores. However, there is no single bird beak that can be used to acquire every possible source of food.

Beaks of finches

Objective:

Children will simulate the actions of birds with their own "beaks".

Materials:

container of birdseed
small cup
Beaks of Finches Data Chart (see attached)
three different tools such as: scissors, pliers, clips, tweezers, garden shears, fireplace tongs, BBQ tongs, etc...

Procedure:

Inform the child that he/she will be pretending they are a bird and that they are going to have to hunt for their food.
They may choose three different tools to use as "beaks" to collect birdseed. However, in order to survive, your beak must be able to collect at least 50 seeds during each round. Ask the child which beak they think will be able to collect the most seed. They can make their predictions on the Beaks of Finches Data Chart.
Place the container of birdseed in front of the child and give them 10 seconds to collect as much seed as they can. They will need to deposit their seeds in a small cup.
After 10 seconds, have the child count the number of seeds in their cup and record the number on the data chart. Repeat this experiment two more times. Ask the child to choose at least one more different beak and repeat this procedure.

Explanation:

Finches are omnivores, which means they will eat both plants and animals for energy. As consumers, the finches will prey upon seeds (producers) within this activity. It will be important to remind your child of the flow of energy through this food chain throughout the activity. The sun provides energy to the producers to make seeds, which in turn is used as energy for the consumers.

The various tools that will be used by the child to pick up seeds all represent various types of beaks that are used by different birds. For example, the heron and the woodpecker both have long pointed beaks. However, the heron's beak is better for catching fish, while a woodpecker's is better for drilling into wood for catching insects.

Beaks of Finches Data Chart

Tools to be used as beaks:	Which beak will collect the most seed?
1)	
2)	
3)	

Total number of seeds collected by each "beak"

	Trial One	Trial Two	Trial Three
Beak #1			
Beak #2			
Beak #3			

Day Three: Lab Activity

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

The following text will give you the most important items to review for your activity today.

Everything in the world is connected.

Food chains are always designed to explain how energy is passed from organism to organism. However, a food chain can only describe the flow of energy in one direction.

The amount of butter

Objective:

Children will analyze a quote to determine how producers and consumers interact in real life.

Materials:

paper and pencil
coloring materials

Procedure:

Read the following statement to your child:

The amount of butter made by a farmer depends on the number of cats in this area.

Since farmers keep cats, cats eat mice, mice eat bees, bees pollinate clover (a type of plant), and cows eat clover. The more clover there is the more food the cow has to eat. With more food, the cow can make more milk, which is the most important ingredient in making butter.

Ask your child to draw a picture of each organism that exists in the above statement. This may help them visualize their answers to the following questions…

1. Which of the above organisms is a good example of an omnivore?
2. Which is a producer?
3. Which is a consumer?
4. Which organism is an autotroph?
5. Which organism is a carnivore?
6. Which of the organisms need/use food?
7. Which of the organisms is the largest one of this food chain?
8. What is the relationship between the old maids and the cats?
9. Which of the above is a good example of a herbivore?

Explanation:

The answers to these questions are:

1. Which of the above organisms is a good example of an omnivore?
   farmers, mice

2. Which is a producer?
   clover

3. Which is a consumer?
   farmers, cats, mice, bees, cows

4. Which organism is an autotroph?
   clover

5. Which organism is a carnivore?
   farmers, cats, mice

6. Which of the above organisms need/use food?
   all organisms need or use some form of food

7. Which of the above organisms is at the top of the food chain?
   farmers

8. What is the relationship between the farmers and the cats?
   Without the cats, there would be more mice running around, eating all of the bees. If all of the bees are gone, the clover would not be pollinated and the cows would not have as much to eat. With less food, the cows would not make as much milk. Therefore, the amount of butter the farmer could make would decrease.

9. Which of the above is a good example of herbivore?
   bees and cows

Explanation (cont'd):

This statement is a good example of how everything within a food chain is dependent on each other for its survival. If you affect the numbers of the farmers, cats, mice, bees, clover or cows in this habitat, there will be an effect on the amount of butter.