

**Grade: 5**

**Title: Food Chain/ Predator & Prey**

**Jennifer Lynn Richardson**

**Student Learning Objective(s):**

1. Explore, observe, and describe the world around them.
2. Students understand the structure of simple food chains.
3. Students understand the structure and functions of living things (e.g., predator and prey).
4. Learn through the inquiry process about how to communicate their own investigations.
5. Ask questions about objects, organisms, and events in the environment.
6. Develop their science knowledge and identify various phenomena in the real world.

**LA GLE's**

**Grade: 5 # 19:** Communicate ideas in a variety of ways (e.g., symbols, illustrations, graphs, charts, spreadsheets, concept maps, oral and written reports, equations) (SI-M-A7).

**Grade: 5 # 28:** Explain and give examples of predator/prey relationships (LS-M-C4).

**Materials needed:** PowerPoint slide presentation, talking chips (1 per student), white computer paper (1 per pair, for brainstorming activity in engage); coat hangers (1 per group) *\*Ask the teacher about getting the students to bring 1 hanger from home for the lesson\**; paper plates (4 per group), single hole puncher; any color pipe cleaners to connect the plates together (5 per group); crayons, colored pencils, markers, pencils, black sharpies (*ask teacher if students already have these supplies, prior*); a large selection and variety of Zoo Books and magazines, and *Who Wants to be a Millionaire: Food Chain Edition*.

**Detailed Procedure.** Describe what the students will do in each stage. Include guiding questions you might ask to help students.

**1. Engage:**

**Science Process Skills** Indicate which science process skills students will develop in this part of the lesson.

- |   |  |   |   |                                     |  |   |
|---|--|---|---|-------------------------------------|--|---|
| <input checked="" type="checkbox"/> Observation | <input checked="" type="checkbox"/> Classification | <input checked="" type="checkbox"/> Communication | <input type="checkbox"/> Measurement        | <input type="checkbox"/> Estimation | <input checked="" type="checkbox"/> Prediction | <input checked="" type="checkbox"/> Inference |
| <input type="checkbox"/> Identifying Variables  | <input type="checkbox"/> Controlling Variables     | <input type="checkbox"/> Defining Operationally   | <input type="checkbox"/> Forming Hypotheses |                                     |  |   |
| <input type="checkbox"/> Experimenting          | <input type="checkbox"/> Graphing                  | <input checked="" type="checkbox"/> Modeling      |   |                                     |  |   |

1. The teacher will begin by showing the class an interactive PowerPoint about food chains and predator versus prey to provide students with some background knowledge.
2. The students will carefully observe the PowerPoint and hold questions until the end.
3. *Note: Prior to students asking questions, the teacher will distribute one "talking chip" to each student (communication regulator). The teacher will explain them as follows: "if you want to talk, place your chip in the center of the table. You cannot talk again until everyone has placed his or her chip in the center of the table. When all chips have been used, the chips are retrieved, and anyone can talk again if they place their chip in the center again". The reason I like the Talking Chip game so much is that it takes care of the free-rider and bully problems all at once. It ensures that everyone will talk, but also that no one will do all the talking. After using this approach for some time, students internalize the principles of universal and equal participation.*
4. The teacher will tell the students to explain in their own words the difference between predator and prey.
5. The teacher will tell the students to use their talking chip if they want to answer.
6. The teacher will refer back to the previous lesson on Alligators/Adaptations and get the students to brainstorm living things in order of who eats whom and incorporate where the alligator would go in this food chain.
7. The teacher will then pass out paper and get the students to brainstorm (in pairs) and make a list of four living things (one of the living things must be an alligator). First, list one kind of plant. Then think about the kind of animal that would eat that plant. List that animal. Next, think about an animal that would eat that animal. List the second animal. Now do the same for the third animal and the fourth animal. *\*\*The teacher will refer back to the PowerPoint slide that shows a visual example of a food chain, if needed.*
8. The teacher will get a couple of the students to share their groups' ideas about the food chain involving an alligator.
9. The teacher will get the class to clear their desks and for one of the group members to come up and get a coat hanger that they will need for the following activity, along with 4 white paper plates and 5 pipe cleaners that will help to connect each plate together. Also, the student will need to get a couple of animal magazines (zoo books) to get ideas.
10. The teacher will tell the students that they will be creating a Food Chain Mobile to help them further understand about food chains and predators/prey. The Teacher will remind students' not to cut out or draw in their magazines provided to them because they are from the library and should be treated with respect and care. The teacher will tell the students that the magazines are simply a resource for them to

use if they want to help them think of different living things or if they need to see how to draw an animal by looking at a picture of it. The teacher will remind students to find four living things for their food chain. They must label their drawings and write a couple of sentences about each animal on the back of the plate. The students will connect each plate using pipe cleaners so they can hang like a mobile from the hanger. The students must create a title for their food chain and label it at the top of the hanger and also remember to write each student's name on the back of the project.

11. The teacher will remind students to put the living things in order of who eats whom. The producer should be at the bottom, and must be a drawing of some type of plant. The top three drawings of animals should be consumers. Food chains begin with producers.
12. The teacher will ask the students to raise their hands if they have any questions and will answer them accordingly to clarify any misconceptions.
13. The teacher will get students to use their talking chips when they work in their groups to make sure everyone participates equally in group discussion.

## 2. Explore:

**Science Process Skills** Indicate which science process skills students will develop in this part of the lesson.

- |   |  |   |                                      |   |  |   |
|---|--|---|--------------------------------------|---|--|---|
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| <input type="checkbox"/> Identifying Variables  | <input type="checkbox"/> Controlling Variables     | <input type="checkbox"/> Graphing                 |                                      | <input type="checkbox"/> Defining Operationally | <input type="checkbox"/> Forming Hypotheses    |   |
| <input type="checkbox"/> Experimenting          |  |   |                                      | <input checked="" type="checkbox"/> Modeling    |  |   |

1. The students will work in groups of two or 3 and investigate a variety of animals and plants using a variety of Zoo Books (magazines) provided to them. The students will use their talking chips to speak within their groups to allow for equal participation.
2. After researching, the students will select four living things and all agree on the living things selected, and begin labeling and drawing their food chains onto their paper plates. After labeling and drawing each of the living things on the plates, the student must use the pipe cleaners and connect the plates to each other. Prior to this, the teacher will have already punched holes at the top of each plate for the students to place the pipe cleaners through.
3. Afterwards, each group will present their food chain mobiles to their classmates.

## 3. Explain:

Outline the line of questioning you will use to assist students in understanding the concept. List at least 5 good questions and identify the question category (Gallagher & Aschner) in which your question falls (see text, Figure 7.6).

1. What do nearly all food chains begin with?
2. What is the difference between a producer and a consumer? Give an example of each.
3. What is the difference between a predator and a prey? Give an example of each.
4. What are some survival factors that you learned on the PowerPoint about prey?
5. What would happen if a disease wiped out a population of consumers? Would it affect the food chain of other living things?
6. How do the shape of an alligator's head and the position of the eyes help it to be a successful predator?

## 4. Expand:

**Science Process Skills** Indicate which science process skills students will develop in this part of the lesson.

- |   |  |   |                                      |   |  |   |
|---|--|---|--------------------------------------|---|--|---|
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| <input type="checkbox"/> Experimenting          |  |   |                                      | <input checked="" type="checkbox"/> Modeling    |  |   |

1. The students will play the game: *"Who Wants to be a Millionaire: Food Chain Edition"* in groups of 2.
2. The students will read the directions on the sheet provided to them on how to play the game.
3. The students will take turns asking questions and answering questions (in the hot seat).
4. If students need help (hints) for answering a question, they can ask only 1 person at their table for a suggestion and can't ask the question to the person saying the questions to them.

## 5. Evaluate:

What exactly will you do, or what evidence/data will you collect, to ascertain whether the students can achieve the objectives

*you listed at the top of this lesson?*

1. The students (all of them) must tell their classmates something they learned from the lesson.....all responses must be different.
2. The teacher will record their responses on the board so the students can see the big ideas from the lesson.
3. The teacher will praise the students for their hard work and positive cooperation with one another.

**Brain Compatible Learning Strategies Used in This Lesson:**

- |   |   |   |  |   |
|---|---|---|--|---|
| <input checked="" type="checkbox"/> Brainstorming/Discussion                  | <input checked="" type="checkbox"/> Drawing and Artwork           | <input type="checkbox"/> Field Trips                              | <input checked="" type="checkbox"/> Games              | <input checked="" type="checkbox"/> Graphic Organizers                |
| <input type="checkbox"/> Humor  | <input type="checkbox"/> Manipulatives, Experiments, Labs, Models | <input type="checkbox"/> Metaphors, Analogies, and Similes        | <input type="checkbox"/> Music, Rhythm, Rhyme, and Rap | <input checked="" type="checkbox"/> Project/Problem-Based Instruction |
| <input type="checkbox"/> Mnemonic Devices                                     | <input type="checkbox"/> Movement                                 | <input checked="" type="checkbox"/> Role Plays, Drama, Pantomimes | <input checked="" type="checkbox"/> Storytelling       |   |
| <input checked="" type="checkbox"/> Reciprocal Teaching, Cooperative Learning | <input type="checkbox"/> Visualization/Guided Imagery             | <input checked="" type="checkbox"/> Visuals                       | <input type="checkbox"/> Writing/Journals              |   |
| <input type="checkbox"/> Technology (student use)                             |   |   |  |   |

**Lesson Source:**

**SEE PERSONAL POWERPOINT ATTACHED!**

"Grade 3 What Living Things Need & the Food Chain." Quia. 04 Apr. 2009  
<<http://www.quia.com/rr/53234.html>>.

"Food Webs and Food Chains." Quia. 04 Apr. 2009  
<[http://www.quia.com/quiz/1345704.html?AP\\_rand=701379663](http://www.quia.com/quiz/1345704.html?AP_rand=701379663)>.

# Who Wants to be a Millionaire: Food Chain Edition

**Directions:** Each student will take turns being the score keeper and question speaker (game show host) and also being the contestant (answer provider). The score keeper must place a check mark on the lines next to the dollar amounts in the box on the right to keep track of score. If the contestant doesn't know an answer, he or she may ask only ONE student (NOT THEIR PARTNER) to help them out.

**Q1 (\$1,000):** An animal that eats only other animals is a

- a) Carnivore
- b) Omnivore
- c) Herbivore
- d) Producer

**Q2 (\$2,000):** A living thing that can make its own food is a

- a) Consumer
- b) Omnivore
- c) Producer
- d) Decomposer

**Q3 (\$4,000):** An animal hunted for food by another animal is a

- a) Predator
- b) Consumer
- c) Prey
- d) Producer

\$1,000,000 \_\_\_\_

\$500,000 \_\_\_\_

\$250,000 \_\_\_\_

\$128,000 \_\_\_\_

\$64,000 \_\_\_\_

\$32,000 \_\_\_\_

\$16,000 \_\_\_\_

\$8,000 \_\_\_\_

\$4,000 \_\_\_\_

\$2,000 \_\_\_\_

\$1,000 \_\_\_\_

Hint from 1 Friend

\_\_\_\_ yes \_\_\_\_ no

Only good for **one** question

**Q4 (\$8,000): An animal that hunts other animals for food is a**

- a) Decomposer
- b) Prey
- c) Predator
- d) Producer

**Q5 (\$16,000): A living thing that breaks down and feeds on the remains of once-living things**

- a) Predator
- b) Producer
- c) Decomposer
- d) Consumer

**Q6 (\$32,000): Two or more overlapping food chains is a**

- a) Food web
- b) Food chain
- c) Food store
- d) Producer

**Q7 (\$64,000): A living thing that eats other living things to survive is a**

- a) Food chain
- b) Decomposer
- c) Consumer
- d) Producer

**Q8 (\$128,000): An animal that eats ONLY plants is a**

- a) Omnivore

- b) Herbivore
- c) Decomposer
- d) Carnivore

**Q9 (\$250,000): An animal that eats animals and plants is called a**

- a) Carnivore
- b) Herbivore
- c) Producer
- d) Omnivore

**Q10 (\$500,000): When one animal eats another animal or plant, they both become part of a**

- a) Food chain
- b) Herbivore
- c) Producer
- d) Hibernation

**Q11 (\$1,000,000): An animal hunted for food by another animal is a**

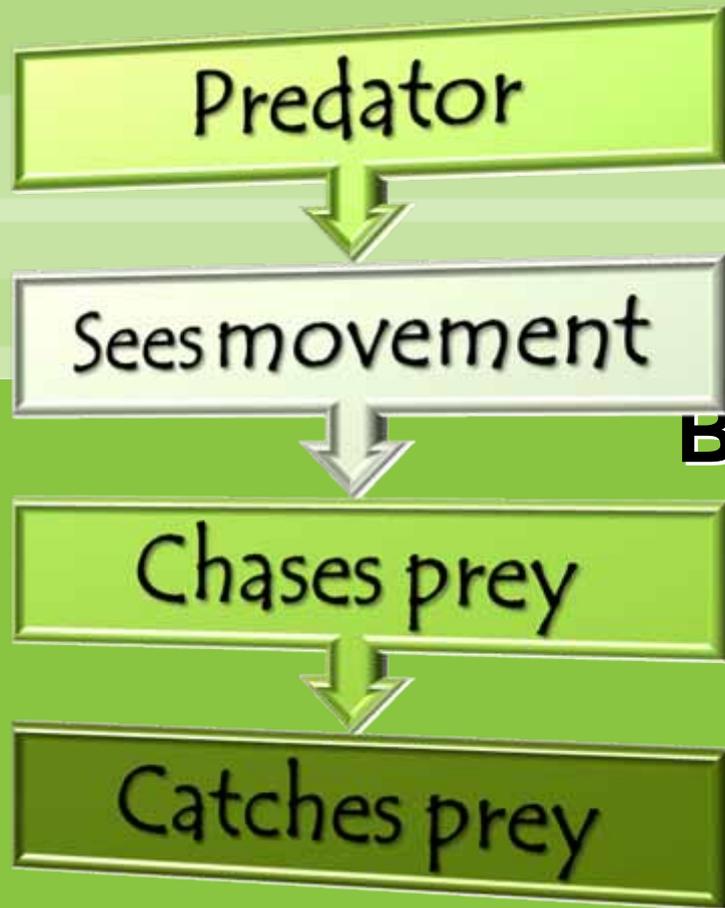
- a) Producer
- b) Prey
- c) Predator
- d) consumer

## Who wants to be a Millionaire: Food Chain Edition

### ANSWER KEY

1. CARNIVORE
2. PRODUCER
3. PREY
4. PREDATOR
5. DECOMPOSER
6. FOOD WEB
7. CONSUMER
8. HERBIVORE
9. OMNIVORE
10. FOOD CHAIN
11. PREY

# FOOD CHAINS



By: Jennifer Richardson





# Animals and plants are linked by food chains.....

- Animals get energy and nutrients by eating other animals or plants.
- For example, caterpillars eat leaves; small birds eat caterpillars; owls eat small birds; eagles eat owls.
- These links between animals and plants are called food chains.
- Nearly all food chains start with a green plant.
- If one part of a food chain alters, the whole food chain is affected. For example, if a disease suddenly wiped out

# Examples of a food



# chain



**Plant**



**Caterpillar  
eats the plant**



**Small Birds  
eat  
Caterpillars**



**Owls eat  
Small  
Birds**

# Consumers

- ❑ Plants are called producers because they make their own food. They are at the start of a food chain.
- ❑ Animals are called consumers because they eat other plants and animals.



**Producer**



**Consumer**

# Prey and predators

- A predator is an animal that eats other animals.
- The animals that predators eat are called prey.



**Prey**



**Predator**



# Herbivores

□ Herbivores are animals that only eat plants.





# Carnivores

- Carnivores are animals that eat meat.
- Carnivores will also eat animals that eat plants.



# Omnivores

- Omnivores will eat both plants and animals.
- Some animals eat both plants and meat.
- People are omnivores



# Insects eat plants

- Insects eat plants.
- Fish, frogs, and birds eat the insects that eat the plants.
- This begins the food chain.



# Birds, Animals and People Eat



# Fish



- Birds and other animals eat the fish.
- The fish eat the plants and insects.
- People eat fish too.





# A Food Chain



Plant



Insects



Frog



Bear



Fish



People



# Survival Map

