

Prey I Won't Get Eaten

This activity is part of the *biodiversity preservation and science* theme.

What's the purpose of this activity?

The purpose of this program is to learn about the food chain and communities in nature. It focuses on the web of life within ecosystems, while teaching children about the importance of habitat.

Ensure that students understand the key terms listed at the end of this activity by using them in several different contexts throughout the presentation.

Key Messages:

- Species within food chains rely on one another for survival.
- Food chains need healthy habitats and communities in order to sustain all life.
- Because humans are at the top of the food chain, we must conserve natural resource habitats and communities within them.

Materials:

- Ball of yarn
- 10-12 predator/prey laminated cards with strings
- Poster with key terms and a forest food
- Open space

What will I be doing?

Activity 1: *Becoming a Food Chain*

You will introduce yourself and explain that the students are going to become a food chain. You will be going over key terms in order to explain the game. Students will be volunteers as they imitate species on the food chain and with the collaboration of all students; they will build a mini food chain.

1. Begin by asking: "What do all creatures need to survive"? (i.e. air, food, water, shelter, and space), "How do they get these things, specifically the food?", "What is a predator and what is a prey"

2. Ask, "Where do all living things get their energy from?" (e.g. the sun). Have a volunteer from the audience to come to the front to be the sun. Instruct them to say "HOT HOT HOT".

3. Ask, "What living thing gets its energy from the sun?" (e.g. a plant). Choose another volunteer to come up and be a flower while attaching to the sun. Instruct them to say, "Open in the morning, close in the evening."

4. Ask, "What eats plants?" (e.g. insects). Have another student come to the front being a bee and attach onto the flower. They say, "bzzzzzzz".

5. Ask, "What eats insects?" (e.g. herptiles). Have a student come to the front being a frog. They then have to attach onto the bee saying "ribbit".

6. Ask, "What eats frogs?" (e.g. snakes). Have a student come to the front being a snake, while attaching to the frog saying "hssssss".

7. Ask, "What eats snakes?" (e.g. hawks). Have one more student come to the front being a hawk and having them glide and soar around all the other students that are creatures.

8. As a finale, have all the students within the food chain make their noises at the same time. Tell the group that they have just created a mini food chain that represents real life survival for animals in the wild. Refrain from discussion questions until the end of Activity 2.

Activity 2: *The Web of Life*

Explain to students that they are now going to simulate a forest ecosystem and the web of life that occurs in such communities. A list of 10-12 living things that exist within a forest ecosystem will be posted at the front. (e.g. 10 organisms for 10 students and 12 organisms for 12 students, etc). Make sure the list contains various types of herbivores, carnivores, trees/plants, water/rain, and sun. Explain or ask what are carnivore, herbivore, predator and prey. List will include:

- Sun
- Water
- Tree
- Insects
- Frog
- Mice

- Songbird
- Snake
- Hawk (carnivore)
- Deer (herbivore)
- Fox (carnivore)
- Moose (herbivore)

You will have the choice of what carnivores and herbivores you want to include, depending on how many students are at your station. But always include, sun, water, tree, and insects.

1. Assign each student one item from the list, but don't assign two students to the same thing. Each student will get an organism card with picture of species and what it depends upon.
2. Choose one student to stand in the middle of a circle. Give that student the ball of yarn and have him/her name what organism they are and what they depend on for survival. The student then tosses the ball of yarn to the next organism that it depends on, holding on to the end of the yarn. The next student states what organism it depends on, etc.
3. Repeat the process until each student is holding a piece of the yarn.
4. Once the yarn comes to water or sun, the student playing that part tosses the ball of yarn to an organism that he or she supports. Its okay if a student gets the ball of yarn more than once.
5. Once each student has a piece of yarn, ask the students what the string pattern reminds them of (e.g. a web - a food web). Next, introduce a man-made change in the environment, such as a developer building a cabin in the middle of the forest, or a forester chopping down all the trees for human needs. Any student/organism who is directly affected by this change drops the piece of yarn and exits the circle, such as the tree. Any organism that relies on that affected organism is also influenced and must exit the circle. Eventually nearly all organisms are affected. The students will see the results of a small change in the food chain. It is important to ask the students if such a scenario will also affect the sun and/or water?

Discussion Questions:

- What happens when an ecosystem is drastically altered?
- How does human activity positively and negatively affect the food chain/web of life?
- What can human beings do to prevent the extinction of organisms?

- Why should you care whether other species survive or not? How are humans affected?

Background Information:

Key terms:

- Habitat:** the natural environment of an animal or plant
Community: all the plants and animals that live together in the same area.
Ecosystem: a community of living things, together with their environment. Ex: a forest, or pond.
Food Chain: a food pathway that links different animals in a community. This is where energy and nutrients are passed from one organism to another.
Food Web: the interlocking food chains within an ecological community.
Predator: an animal that hunts other animals for food.
Prey: an animal being hunted, caught, and eaten by another animal.
Herbivore: an animal that feeds on plants.
Carnivore: an animal that eats the flesh of other animals.
Extinction: animal no longer exists.
Natural resources: materials that are found in nature that can be used by people in many ways. Fresh water, soil, coal, and forests are all examples of natural resources.
Human activities: Ex: deforestation, pollution, pesticides, global warming, etc.

Habitat Loss and Degradation:

- A main threat to the world's biodiversity is habitat destruction, altering or eliminating the optimum conditions needed for plants and animals to survive.
- Human activities destroy, degrade and fragment natural habitat in various ways such as, large-scale commercial logging, conversion to agricultural use, urban sprawl, and industrial accidents.

Current Situations:

- An area of natural land larger than North America is likely to be damaged by human activity in the next 30 years.
- The spread of human activity threatens a quarter of the world's mammals with extinction.
- Logging affects approximately 14% - 17% of endangered species.

Clean-up procedures:

Count all predator/prey cards (12) and put into proper container/envelope.
 Gather ball of yarn, making sure it is all intact for next session of students.
 Ensure that everything is in good quality for the next day.