Do You Know the Lingo?

Subjects: Language Arts and Science

Objectives: *Science*: Students will be able to review terms used to describe the male, female and baby of a species.
Language Arts: Students will be able to research for specific names.

Materials:
□ Do You Know the Lingo? Worksheet
□ Pencil and paper
□ Research capabilities (library & Internet)

Procedure:

1. Discuss with students how the English language and scientists have given certain names to groups of animals. Ask students to brainstorm ones they know. Next, discuss and brainstorm how different species can have different names for males, females and babies.
2. Ask students where they might find this kind of information. Some dictionaries will have the terms. Some you may have to search for on the Internet. You can go to www.enchantedlearning.com for a pretty extensive list.
3. Hand out worksheet and let students begin their research.
4. Answer key:

Animal	Group	Male	Female	Baby
Red Fox	skulk or leash	dog	vixen	kit
Bat	colony	*	*	pup
Badger	cete	boar	sow	kit
Squirrel	dray	buck	doe	*
Trumpeter Swan	bevy	cob	pen	cygnet
Duck	flock (in flight)	drake	hen	duckling
Goose	gaggle (on ground)	gander	goose	gosling
Hawk	cast	tierecel	hen	eyas
Hummingbird	charm	cock	hen	chick
Ant	colony	*	queen/worker	larva
Butterfly	flutter	*	*	caterpillar
Elk	herd/gang	bull	cow	calf
Crow	murder	cock	hen	chick
Fish	draft/school	*	*	fry
Mouse	horde	buck	doe	pup
Cottontail Rabbit	husk	buck	doe	kit
Toad	knot	*	*	tadpole
Wasp	nest/colony	drone	queen/worker	larva

Do You Know the Lingo?

Sometimes, special words are used to describe the male, female and baby of a certain species. Groups of certain animals are also given special names. See how many blanks you can fill in below. The boxes with a * are cases where there is no special name. Try your hand at making one up!

Animal	Group Name	Male Name	Female Name	Baby Name
Red Fox				
Bat		*	*	
Badger				
Squirrel				*
Trumpeter Swan				
Duck				
Goose				
Hawk				
Hummingbird				
Ant		*		
Butterfly		*	*	
Elk				
Crow				
Fish		*	*	
Mouse				
Cottontail Rabbit				
Toad		*	*	
Wasp				

Food Chain Stackers

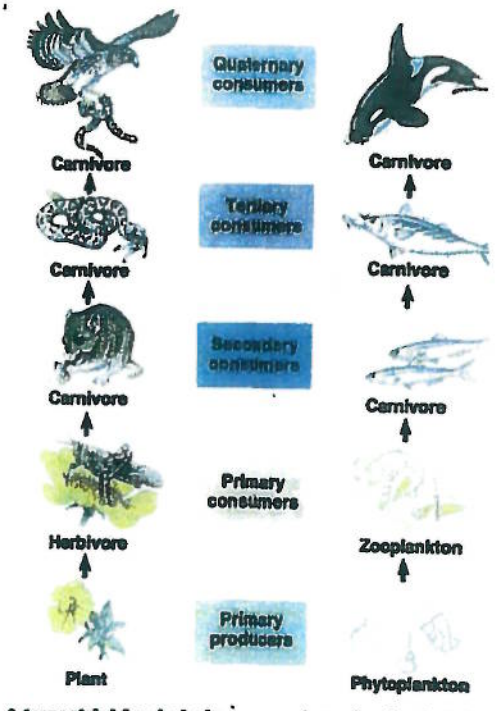
Subjects: Science & Art

Objectives: Students will be able to construct a food chain for an animal of their choice.

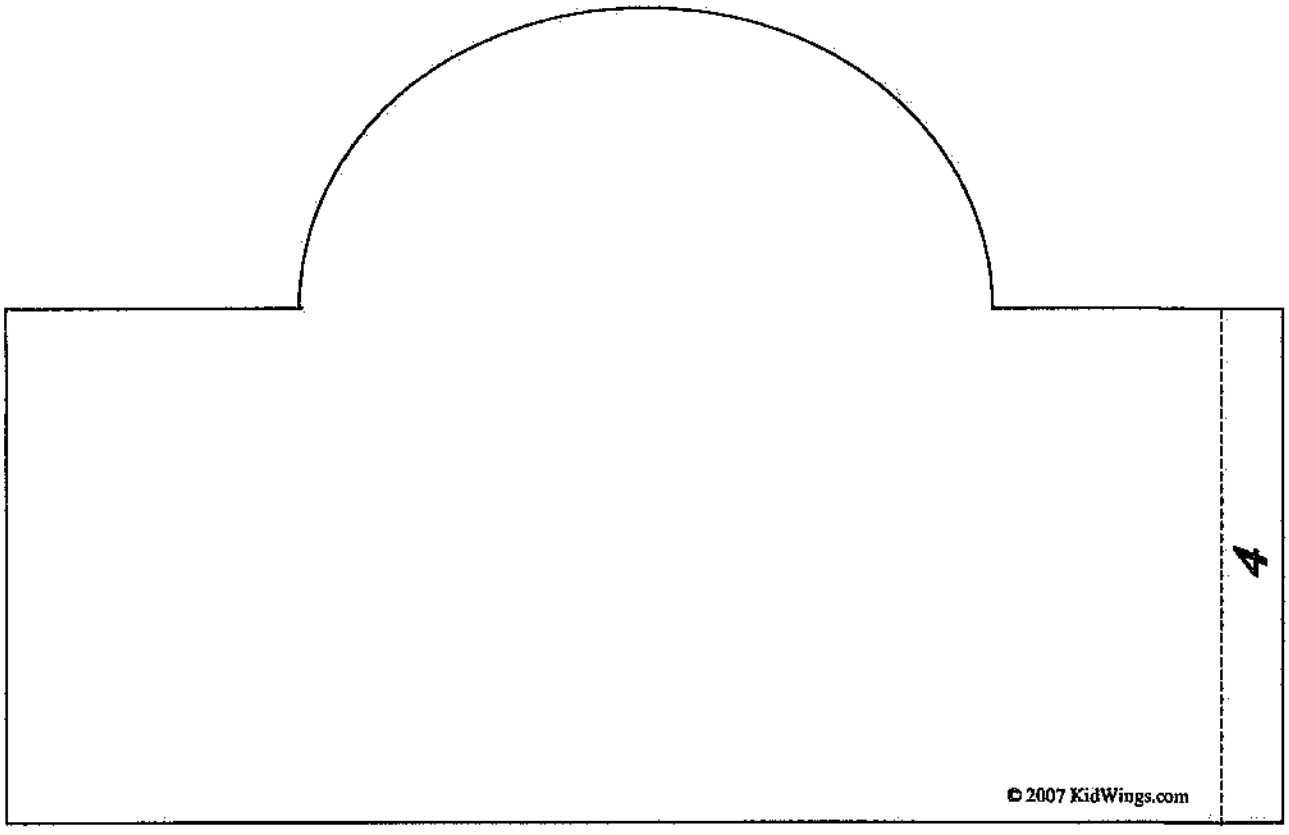
Materials:
□ Coloring tools (markers, crayons or colored pencils)
□ cardstock or construction paper copies of the food chain stackers on the following page for each student or group of students
□ Scissors

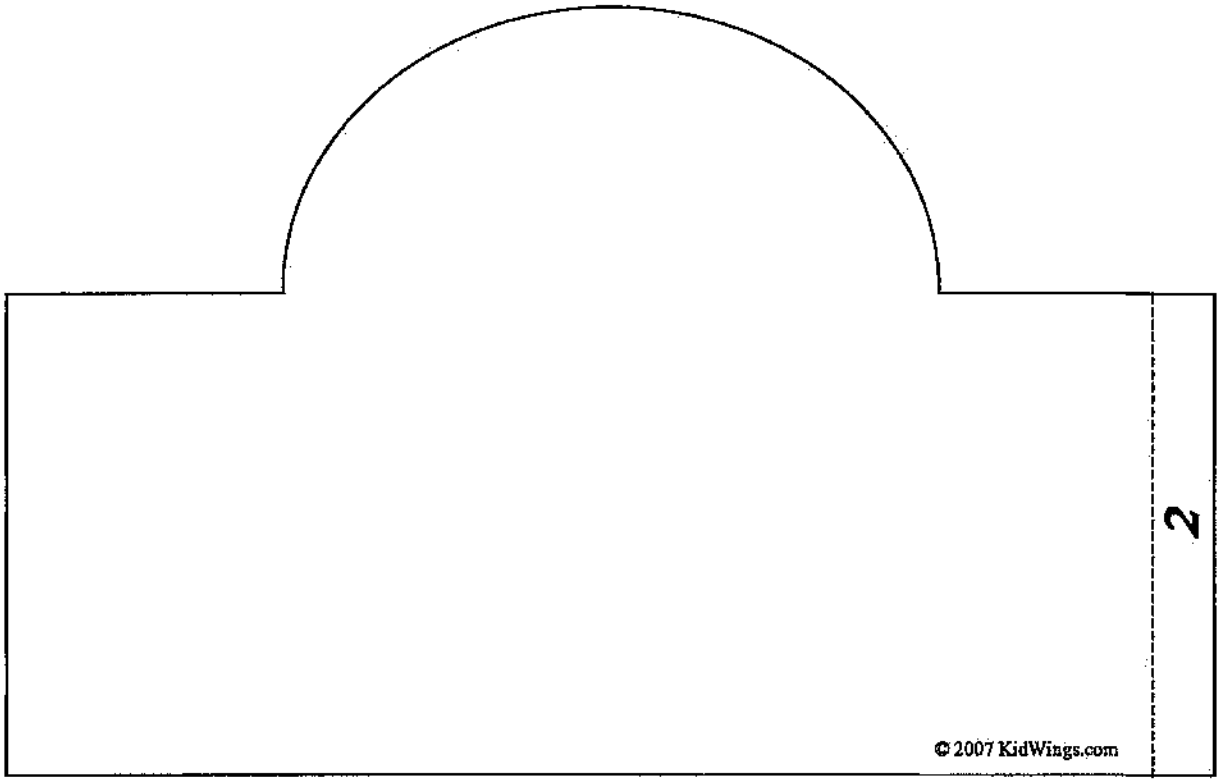
Procedure:

1. Before the activity, make enough copies of the food chain stacker set for each child or group of children. If you want the ones with the pictures on them (like the ones below) go to www.kidwings.com look under Teacher Materials then Food Chain Stackers. This is a great site for all sorts of other things, too!
2. Discuss food webs and chains with your students. Review the terms carnivore, herbivore, producers and consumers with your students.
3. Tell the students they will be making a 3-D model of a food chain of their choice. Tell students to choose 4 or 5 items that make up the food chain. (Ex: bobcat, squirrel, nuts, and sun or one similar to the one below)
4. Hand out the food chain stacker sets. Ask students to create 3D models of their food chain. Depending on the age group of your students, you could add decomposers to the chain. Also, if you wanted, you could have them label with the terms producer, consumer, herbivore, carnivore, top of food chain etc.
5. Have students share the food chains with younger students.



Blank Food Chain Stackers

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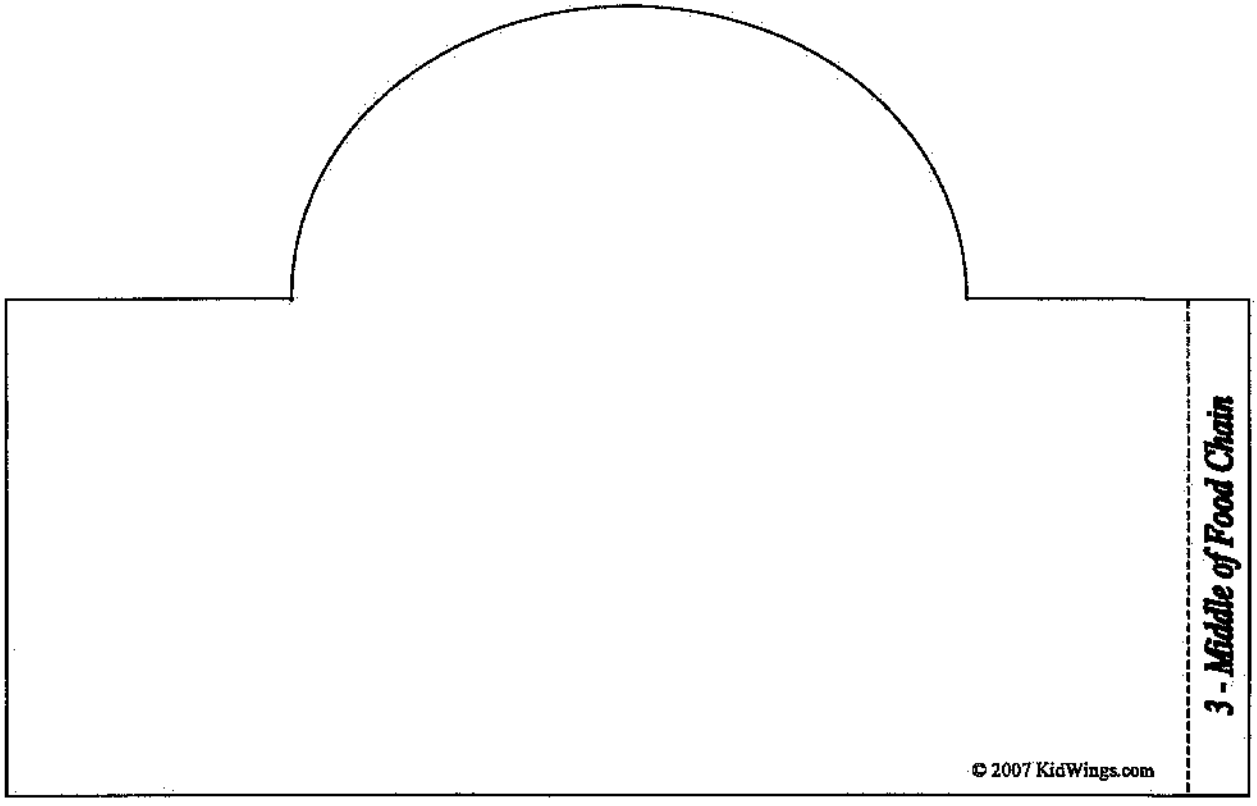
3 - Middle of Food Chain
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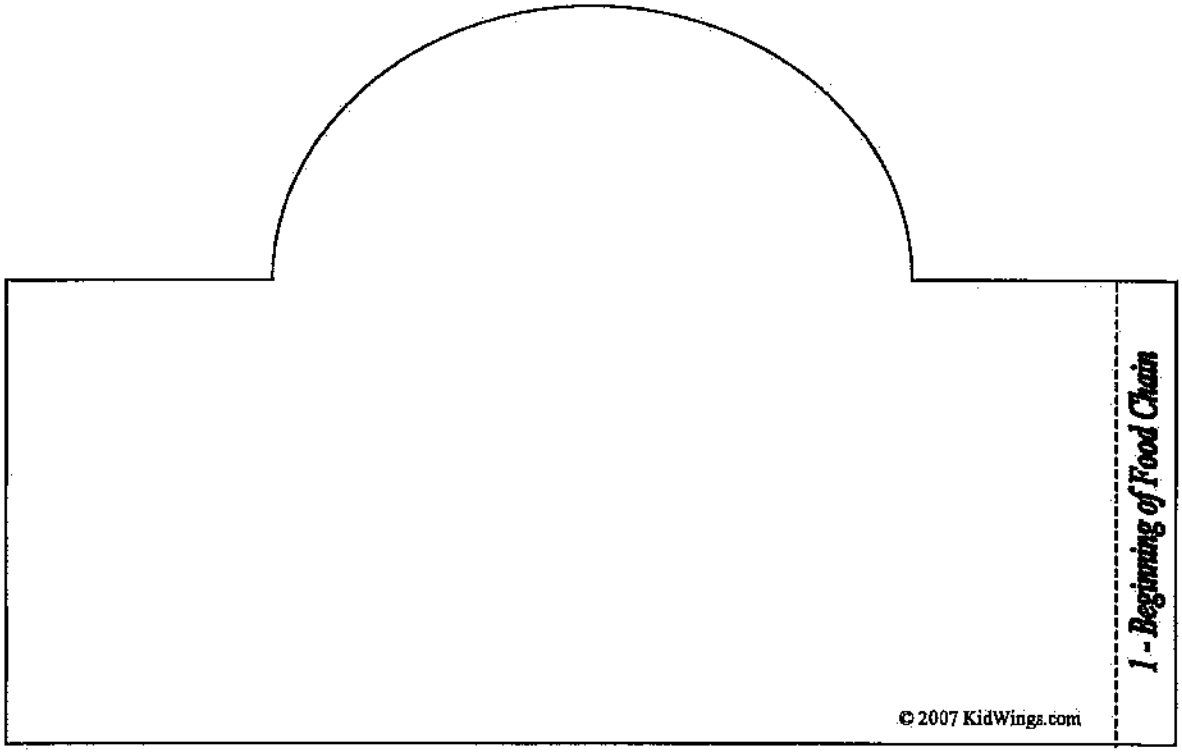
1 - Beginning of Food Chain
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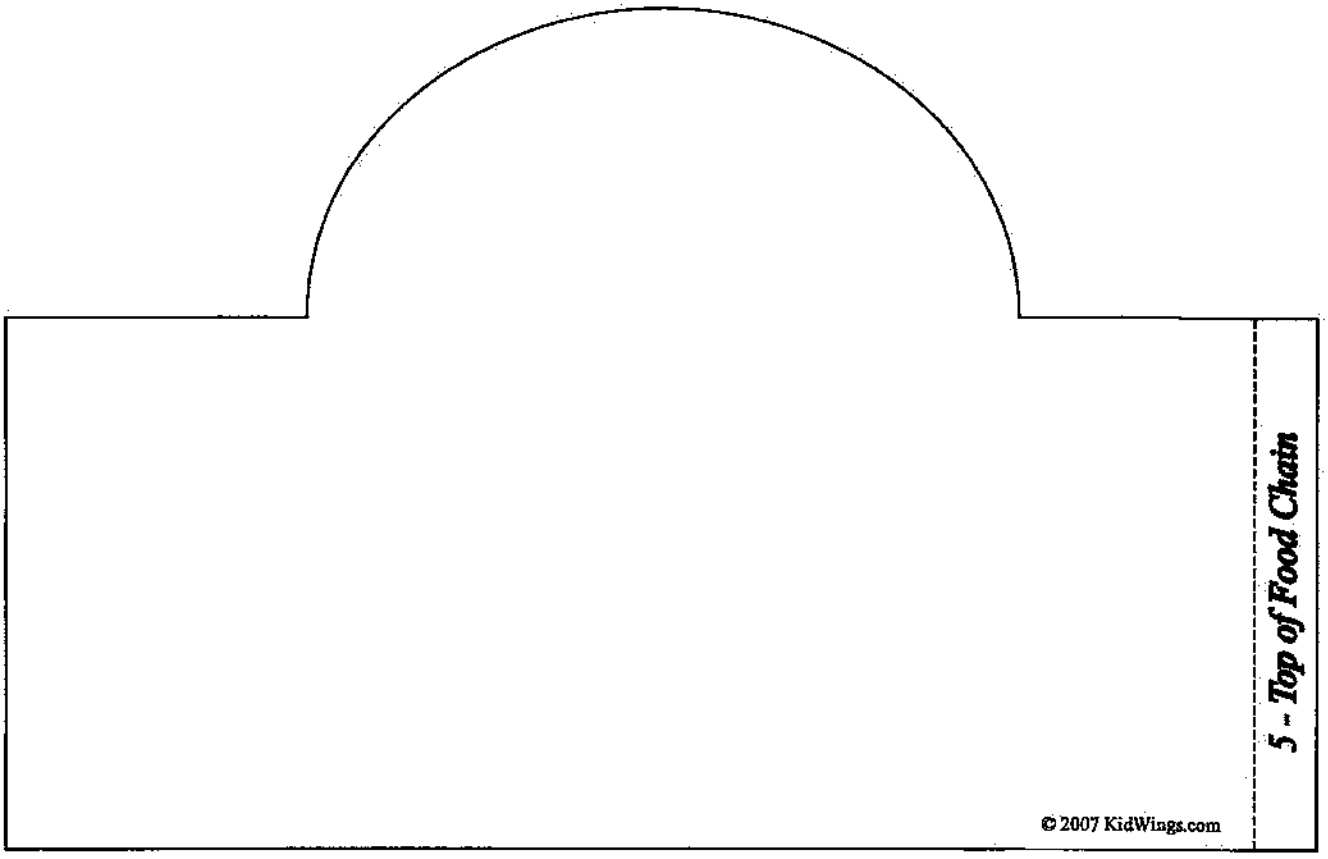
5 - Top of Food Chain
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Quick Frozen Critters

Objectives

Students will: 1) describe adaptations related to predator/prey relationships; 2) explain the importance of adaptations in predator/prey relationships; and 3) describe how predator/prey relationships limit wildlife populations.

Method

Students play an active version of "freeze tag."

Materials

Food tokens (pieces of cardboard), enough for three per student; vests or other labeling devices to mark predators; cones or objects to mark the corners of the playing field; four or five hula hoops to serve as "cover" markers; pencil and paper to record number of captures, if desired; OPTIONAL: bandannas or rag flags to use as tails (similar to what is used to play flag football)

Grade Level: 5-8

Subject Areas: Science, Environmental Science, Language Arts

Duration: one 20- to 45-minute session

Group Size: best with at least ten students; one "predator" per every four to six "prey"

Setting: indoors or outdoors

Conceptual Framework Topic Reference: CAIIA, CAIIA1, CAIIA1a, CAIIA1b

Key Terms: predator, prey, adaptation

Appendices: Outdoors, Simulations

Background

Predator: an animal that kills and eats other animals for food

Prey: an animal that is killed and eaten by other animals for food

Limiting Factors: Factors (e.g., disease, climate, pollution, accidents, shortages of food) that affect an animal when they exceed the limits of tolerance of that animal. (Predators are limiting factors for prey. Prey are limiting factors for predators.)

Animals display a variety of behaviors in predator/prey relationships. These are adaptations to survive.

Some prey behaviors are signaling to others, flight, posturing in a fighting position, scrambling for cover and even "freezing" on the spot to escape detection or capture by predators. The kind of behavior exhibited partly depends on how close the predator is when detected by the prey. Each animal has a threshold for threat levels. If a predator is far enough away for the prey to feel some safety, the prey may signal to others that a predator is near. If the predator comes closer, the prey may try to run away. If the predator is too close to make running away feasible, the prey may attempt to scurry to a hiding place. If the predator is so close that none of these alternatives is available, the prey may freeze in place. The closer the predator comes to the prey animal, the more likely it is that the prey will "freeze" in place. This "freezing" occurs as a kind of physiological shock in the animal. (Shelter or camouflage also may make them invisible to the predator when they freeze.)

Too often people who come upon animals quickly and see them immobile infer that the animals are unafraid when, in reality, the animals are "frozen," or, as the adage goes, "frozen stiff."

The major purpose of this activity is for students to recognize the importance of adaptations to both predators and prey and to gain insight into limiting factors affecting wildlife populations.

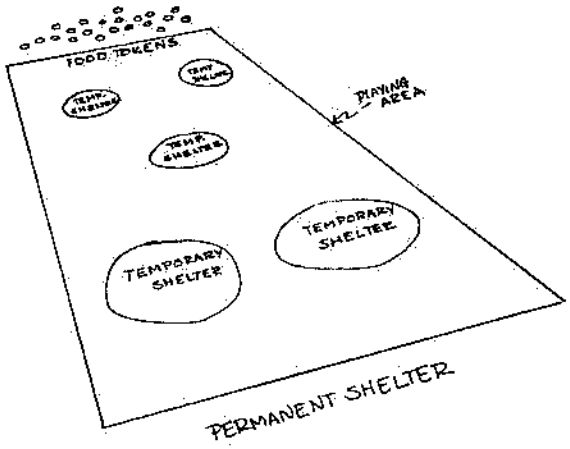
Procedure

1. Select any of the following pairs of animals:

Prey	Predators
cottontails	coyotes
ground squirrels	hawks
deer	cougar
quail	foxes

Identify students as either "predators" or "prey" for a version of "freeze tag" with approximately one predator per every four to six prey.

2. Using a gym or playing field, identify one end of the field as the "food source" and the other end as the "shelter."
3. Place four to five hula hoops on the open area between the "shelter" and the "food." These represent additional shelter or "cover" for the prey and can be distributed randomly on the field. (If hula hoops are not available, string might be used, or chalk on asphalt.)
4. Food tokens are placed in the "food source" zone on the ground. Allow three food tokens for each prey animal. See diagram below:



5. Clearly identify preditors using safety vests or other means.
6. Use a whistle or some other pre-arranged signal to start each round. When a round begins, have the prey start from their "shelter." The task of the prey animals is to move from the permanent shelter to the food source, collecting one food token each trip and returning to the permanent shelter. To survive, prey must obtain three food tokens. Their travel is hazardous, however. They need to be alert to possible predators. If they spot a predator, they can use various appropriate prey behaviors, including warning other prey that a predator is near. Prey have two ways to prevent themselves from being caught by predators: they may "freeze" any time a predator is within five feet of them, or they may run to cover (with at least one foot within one of the hula hoops.) Frozen prey may blink, but otherwise should be basically still without talking.
7. Predators start the activity anywhere in the open area between ends of the field and thus are randomly distributed between the prey's food and permanent shelter. Predators attempt to capture prey to survive, tagging only moving (not "frozen") prey. OPTIONAL: Prey can have bandannas in their pockets that the predators have to capture to represent the successful predation. Predators must each capture two prey in order to survive. Captured prey are taken to the sidelines by the predator who captured them.

NOTE: Establish a ground rule for student behavior: Behave in ways that are not harmful to other students, even when simulating predator behavior.

continued

8. Set a time limit of five to seven minutes for each round of the game. (Captured prey on the sidelines will become restless if rounds are much longer.) Remind prey that they can remain frozen for as long as they like, but if they do not have enough food at the end of the activity, they will starve to death. In nature, an animal must balance the need to find food with the sometimes conflicting need for safety.
9. Play four rounds, allowing each student to be both prey and predator.
10. Discuss with the students the ways they escaped capture when they were prey. Which ways were easiest? Which were most effective? What means did they use as predators to capture prey? Which ways were best? What did the predators do in response to a prey animal who "froze?" In what ways are adaptations important to both predator and prey? Ask the students to summarize what they have learned about predator/prey relationships. How do predator/prey relationships serve as natural limiting factors affecting wildlife?

Variations

1. Conduct the activity for three or four rounds, recording the number of captures each playing period. Have the students who are captured become predators, and have each predator that did not aquire enough food in a round become a prey animal in the succeeding round. This feature quickly develops the concept of dynamic balance as prey and predator populations fluctuate in response to each other.
2. Have the students walk or assign different modes of locomotion to each animal.

Extensions

1. Select an animal and research its behavior patterns for avoiding detection and capture. Reports or demonstrations of the behavior could be presented to the group.
2. Identify an adaptation used by a prey species to stay alive. Have each student create or tell a story about an imaginary person who might have used a similar adaptation to survive a difficult situation.

Aquatic Extensions

1. Conduct this activity using aquatic predator and prey species.
2. "Swim" toward your food while portraying trumpet fish, flounder, stonefish or other marine organisms that "freeze" as a defense mechanism.
3. If possible, conduct the activity in the shallow end of a real swimming pool.

Evaluation

1. Choose any predator and its prey. Describe each animal's adaptations.
2. Explain the importance of adaptations in predator/prey relationships. What role do predator/prey relationships play in limiting wildlife populations?
3. Draw an imaginary animal that can escape:
   - a quick flying predator.
   - a stalking predator.
   - a pouncing predator.

   Justify your decisions.
4. Write about a predator that can capture:
   - a well-camouflaged species.
   - a species with excellent eyesight.
   - a species that has body armor or quills.

   Justify your decisions.