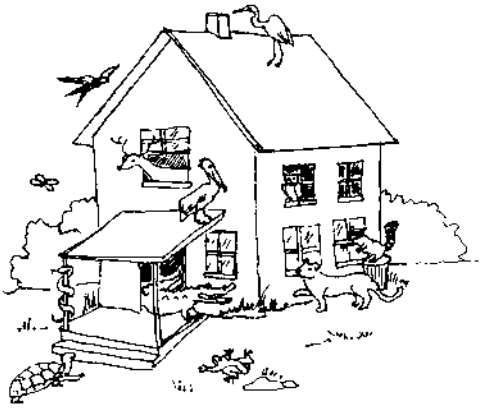
Population Interaction



Subject: Science
Duration: 45 minutes
Location: Outdoors
Key Vocabulary: Population, predator, habitat destruction
Related Activities: Habitat Hold-Up; Hurry for a Habitat; Habitat Hunt; Create A Community
Florida Sunshine State Standards: SC.G.2.2

Objectives. The student will be able to: a) identify three essential components of habitat (food, water and shelter), b) discuss different factors which contribute to a population's size such as predators and weather conditions, and c) given various factors predict the success or failure of a group of organisms.

Method. In a musical chairs-type activity students depict the interactions of a population.

Background. Animals need homes, just as people do. Scientists refer to an animal's home as it's habitat. An animal's habitat must include food, water, shelter and space, all in the proper arrangement. Within a habitat, there are various populations. A population is a group of the same kind of organisms, all living together in a particular area. Students must be able to generalize ways in which populations interact within a habitat. Refer to the "Natural History" section for additional information on

Materials

- Four frisbees (numbered 1 - 4)
- Cards - 3 x 5 (33 total)
- A bag to draw cards out of
- Bell or whistle

Suggested Procedure

1. Preceding the activity, the teacher should prepare 29 (3 x 5) cards in seven categories:

8 organism cards	4 weather cards
6 food cards	4 shelter cards
4 water cards	3 habitat destruction cards
4 predator cards	

The teacher should pick out specific organisms and a predator (plant or animal) common to a park habitat. An example includes: organism (bass), food (mosquito fish), predator (alligator), shelter (limestone crevices), and habitat destruction (wetland drainage, pollution, development or exotic fish).

2. Mark off a square approximately ten meters on a side. Place the frisbees, numbered 1 - 4 on each corner of the square.

3. Explain to the students that they will be asked to draw one of seven different types of cards out of the draw bag. Ask the students to define a population (a group of like organisms living together in a particular area). Review the definitions of each card category with your students.

4. Have the students count off in groups of 4 and go to the base which corresponds to their number. Have each student draw a card from the draw bag, keeping their identity a secret. They should hold onto their card.

5. Instruct the students to run (or walk) around the bases until you ring the bell. When you ring the bell, they should go to the nearest base and stop.

6. Ask the students playing the role of the organism to raise their hands. Ask the students playing the role of habitat destruction to raise their hands. The group or groups with habitat destruction have lost their habitat. So their population could not survive. Have them sit down.

7. Then ask the remaining groups to check to see if they have at least one food, water and shelter. If so, they were able to survive in their habitat. If they also had weather or predators in their groups, they still survived as a population. This may be an appropriate time to review the role of predators and weather as natural components in a population of organisms (and contrast that with habitat destruction).

8. Play another round of the game by drawing again from the draw bag. Notice how populations fluctuate depending on the availability of food, water, shelter and space, as well as the amount of habitat destruc-

Evaluation

Summarize by briefly discussing the game. What are some causes of habitat destruction (e.g. wetland drainage, pollution, exotic species, development)? In this game, what determined the success of a population? (Habitat destruction or the presence/absence of the essential elements of habitat - food, water, and shelter.) What are some ways that the life of a population inside the park may be different from the life of a population outside the park? If there were no habitat destruction, would you expect the population of a group of organisms to increase, decrease, or stay about the same? What are your reasons?