NOVA

Acorns Aplenty

Organisms in an ecosystem are closely interconnected. Populations of organisms may respond in a number of ways to changes in their environment. In this activity, you will explore how organisms in a forest ecosystem respond to a superabundance of acorns.

Procedure

1 You will be assigned two or three organisms to track, and then you'll be teamed with others who are tracking the same organisms.

2 Write the names of your assigned organisms in the chart. Use the information from the Population Explosion interactive to work with your team members to complete the chart. Put a plus sign if you think the population will experience a positive reproductive increase during the seasons shown, and a minus sign if it will experience a reproductive decline. Include information in the chart about the probable causes of reproductive changes. Select from the following:

Causes of Increases

- immigration
- increased food
- decreased predation
- decreased herbivore consumption
- increased reproduction
- other (specify)

Causes of Decreases

- emigration
- decreased food
- increased predation
- increased herbivore consumption
- decreased reproduction
- other (specify)

3 After your chart is completed, work with your team to determine the population "ups and downs" of your organism(s) as they respond directly or indirectly to the acorn mast over the two-year period. As a team, write a story that includes:

- any food chains or food webs in which your organisms are included
- any increases or decreases in population density in each of the seasons listed in the table
- the probable causes for these changes

4 On a separate sheet of paper, write up the completed story that you have agreed on with your team members. You will use this to work with another team to tell the larger story of what happens to the entire forest ecosystem after an acorn masting event.

Organism	Fall/Winter 1	Spring/Summer 1	Fall/Winter 2	Spring/Summer 2