



*Dedicated
to Reducing
Pesticides*



University of
Connecticut
College of Agriculture
and Natural Resources
Cooperative Extension System

Unit 1 Lesson 1: Safety in Numbers

Focus Areas: Biodiversity; Science, Math

Focus Skills: understanding cause and effect, classifying, understanding graphs

Objectives

- To determine the relative populations of various plant and animal groups
- To understand the causes and effects of the current extinction pattern

Essential Questions

- What is a species?
- Which group of living things is the largest?
- Why are so many plant and animal groups becoming extinct?

Essential Understandings

- Insects are the largest group of living organisms on Earth.
- Human activities such as overconsumption, overpopulation, pollution, and misuse of resources have led to habitat destruction and extinction of many species.

Background

The Earth is home to tremendous numbers of plant and animal species. This myriad of species is the result of millions of years of evolution and natural selection. Although nature's laws follow the rule of survival of the fittest, in recent decades man's activities have increased the rate of extinction by 1,000%!

Natural changes in climate, such as drought, as well as sudden changes brought on by catastrophic flooding and volcanic eruptions combine with natural competition to eliminate some species in a slowly progressive pattern. However, man adds industrial priorities that cause



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pollution of water, soil and air, accidents such as oil spills, perceived human needs for comfort, ease and excess which upset the natural pattern. The result is an extinction explosion, which causes scientists to ask if the planet can sustain man's greed!

In 1970, species disappeared at the rate of one per day. In 1990, the number increased to one per hour. Keep in mind that extinction is forever!

Vocabulary



biodiversity	the variety of living things that inhabit the planet
classify	to group people, places, or things based on characteristics they have in common
endangered species	a living thing that faces extinction
extinction	a plant or animal that totally disappears
species	a group of plants or animals that shares common characteristics
unique	one of a kind



Logistics

Time: 30 minutes

Group Size: 5 to 30

Space: an area for comfortable seating

Materials

Izzy puppet *

Canines and Felines Picture Card Set*

pictures of butterflies from field guides, posters, calendars, or books

Handout 1 "How Many?" (Biodiversity circle graph) *

Overhead 1 "Biodiversity Pie" *

Overhead 2 "Bountiful Butterflies" *

* single copy provided



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Preparation



1. Collect pictures of butterflies.
2. Prepare copies of Handout 1 "How Many?" (one per participant).
3. Obtain overhead projector.
4. Collect art supplies (crayons or markers).

Activity

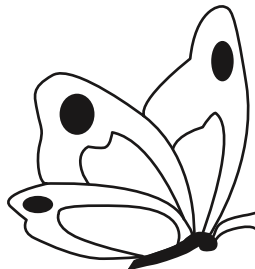
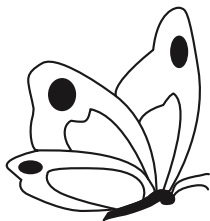
Introduction



1. Print the phrase "**Endangered Species**" on the board and discuss its meaning using Izzy to lead the discussion.
2. Ask the children to name a plant or animal. List their responses.
3. Group their responses, explaining that they are classifying based on similarities.
4. Display pictures of felines and canines and have students divide (classify) into groups.
5. Discuss results of student choices.

Involvement

1. Distribute Handout 1, "How Many?," review and discuss each category.
2. Complete color key by asking individuals to suggest colors for each category.
3. Allow time for participants to color the circle graph accordingly.
4. Using the Izzy puppet and Overhead 1 "Biodiversity Pie," go over correct percentages and discuss the significance of the numbers, i.e., insects reproduce in large numbers because their survival is threatened by both environmental factors and man. The ability to adapt to adverse conditions is important to survival.





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Follow Up

Display Overhead 2, “Bountiful Butterflies,” and allow time for the children to “create” a new butterfly, or distribute drawing materials and have the children create a new species of a plant or animal of their choice.

