SYNOPOSIS:

Scientists have always known that tropical rain forests had more biodiversity than many other places on earth; but they were still very surprised by what Terry Erwin found during his study of the forest canopy. Using calculated projections, Erwin determined that there were up to 30 million creatures living in the tropical rain forest, a great deal more than the 2 million previously thought. Other scientists that followed Erwin into the forest concluded that 90-95% of all living organisms in the world live in the tree tops and that 90% of those are insects.

In this program we learn about the various methods and tools used by scientists to study biodiversity in the forest canopy.

CURRICULUM UNITS:

Biology
Earth Science
Ecology
Entomology
Environmental Science
General Science

CAREER OPPORTUNITIES:

Biologist
Botanist
Engineer
Entomologist
Environmentalist
Explorer
Medical Researcher
Pharmacologist

PROGRAM OVERVIEW:

The program opens with an introduction to biodiversity. We see that deserts, mountaintops and swamps can be very hostile places. Life is a struggle and very few plant or animal species are able to adapt to life in such extreme environments.

Wetlands and coral reefs abound with life and although scientists always knew that the tropical rain forests of the world were biologically diverse places too, they were quite surprised to find out the true extent of this.

In the main section of the program we follow several teams of scientists into tropical rain forest to see how they conduct their research. The first is a team led by American biologist Terry Erwin. His experiment involved the use of nets at ground level and mild insecticide to catch insects.

The next part of the program explains how Donald Perry, another American biologist, gained access to the forest canopy with a bow and arrow. By climbing into the canopy he was able to see the insects in their natural habitat.

The program closes with an important message about preserving the biodiversity of the world's tropical forests as their may also be killing the creatures that hold the cures to viruses and other diseases.

ISSUES AND CRITICAL THINKING:

Lead the class in a discussion about the relative biodiversity of your hometown in comparison to other parts of the country, even if you live in a large city. Show examples of plants, animals, birds, reptiles and insects that inhabit the area.

Allow the class to plan an imaginary expedition to a local park or wooded area. What types of plants and animals would you expect to find? What special equipment would you take on this expedition? At what time of the year would you expect to see more biodiversity?

Engage the class in a discussion about the environmental changes that are taking place in your local area. Have the children ask their parents or elders about the environmental changes they have seen. Are wooded areas being converted into housing projects or new farmland? Are swamps and other wetlands being drained for development?

Have students map the locations of rain forests throughout the world and make lists of some of the plants and animals that inhabit those areas. Determine which of those plants and animals are endangered and what is being done to save them.

VOCABULARY:

BIOLOGISTS- Persons who work in the field of biology; the study of plants and animals, how they live and grow and where in the world they are found.

DIVERSE- Having variety in form.

EXTINCT- A species which no longer exists. All members have died out.

GONDOLA- An enclosure or basket used to carry passengers and equipment.

HABITAT- A place where a plant or animal naturally lives and grows.

INSECTICIDE- A chemical that kills insects.

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