



#8834

NATURE'S PHARMACY

Grade Levels: 4-8

15 minutes

ALLEGRO PRODUCTIONS 1995

DESCRIPTION

Scientists search the earth and sea for new medicines, knowing that half of today's curative preparations come from or contain ingredients from nature. Names some plants that provide components for familiar medications, and notes, for example, that 3,000 plants help control or fight different cancers. The research process to locate, refine, and test new drugs is long and complex. Natural substances from rain forests, marine life, and even soil have enormous potential for healing.

ACADEMIC STANDARDS

Subject Area: Nature of Science

- ◆ Standard: Understands the nature of scientific knowledge
 - Benchmark: Knows that an experiment must be repeated many times and yield consistent results before the results are accepted as correct

INSTRUCTIONAL GOALS

1. To study how plants and animals are vital to our well-being.
2. To illustrate that plants and animals are important sources for medications.
3. To observe the testing process of substances as potential sources of new drugs.

BACKGROUND INFORMATION

The plants and animals around us are vital to our existence. Not only do plants provide oxygen and food, they are also important sources for medications.

This program reveals the various types of natural substances which are forming a frontline defense against such diseases as cancer, glaucoma, arthritis, and heart disease. Students follow scientists as they travel from the rain forest of South America into the oceans of the world. They'll observe the extensive testing process that natural substances undergo in the laboratory as potential sources of new drugs, and discover how computers are helping speed up this process. Before a plant or animal substance is processed and used in medicines, it must be proved to be safe and effective by extensive testing.

Through this exploration of natural healing elements, students may gain a greater understanding of nature's importance to all of us.

VOCABULARY

- | | |
|---------------|-----------------|
| 1. anesthetic | 6. marine |
| 2. antibiotic | 7. penicillin |
| 3. bacteria | 8. tunicate |
| 4. fungus | 9. sea squirt |
| 5. magainin | 10. submersible |



AFTER SHOWING

Discussion Items and Questions

1. What are some ways we benefit from plants?
2. What is one very common medicine made from the bark of a willow tree?
3. What is an *anesthetic*?
4. Why must natural substances undergo extensive testing before they can be approved for use as medicines?
5. What is one of the natural substances scientists are studying for its healing potential?
6. Invite a pharmacist to discuss medications. Ask questions such as:
 - a. Are there some medications that are "all natural"?
 - b. What are the natural ingredients or origins of some medicines your students may have taken?
 - c. Why are some drugs prescription and others nonprescription?
 - d. How does a person become a pharmacist?
7. Discuss the difference between prevention and treatment in medicine. What is meant by the adage, "An apple a day keeps the doctor away"?
8. Discuss why it's important to protect natural ecosystems around the globe, especially rain forests. Discuss how deforestation has resulted in the loss of some vital plant or animal species.

Applications and Activities

1. For centuries, people relied on "folk" remedies or the medicine men or women among them to keep them healthy or help them through illnesses. Even today, they are the respected and sometimes the only aid for many people, especially of isolated cultures. Research what modern medicine has learned from them.
2. Obtain an aloe plant (*Aloe vera*), a species which has been used medicinally since ancient times and is commonly kept in households for the skin-soothing properties of the gel in its succulent leaves. Cut off a ½" tip of one of its leaves and squeeze out some gel. It is used in many commercially prepared first-aid and personal care products. Have students check for it in the ingredients list of those they have at home.
3. Grow various plants in a terrarium to develop an understanding of the delicate balance and care plants need to thrive.

RELATED RESOURCES



Captioned Media Program

- Conducting an Experiment #2367
- Making a Difference: Restoring the Earth Around Us #3064
- Nature's Delicate Balance #8833



World Wide Web



The following Web sites complement the contents of this guide; they were selected by professionals who have experience in teaching deaf and hard of hearing students. Every effort was made to select accurate, educationally relevant, and "kid-safe" sites. However, teachers should preview them before use. The U.S. Department of Education, the National Association of the Deaf, and the Captioned Media Program do not endorse the sites and are not responsible for their content.

- **PLANT MEDICINES**

<http://www.rainforesteducation.com/medicines/medcontents.htm>

Gives an overview of plant medicines, medicines from the rainforest, and other topics.

- **BLS CAREER INFORMATION**

http://stats.bls.gov/k12/html/sci_001.htm

Explains a career in pharmacy, what the job entails, how to prepare for this field, pay, and more.

