



A Different Way to Heal?

Activity 3: Grades 5-8

A Survey of Inconsistency

Many consumers take herbal remedies to treat a wide range of ailments. These over-the-counter products fall under the heading of "dietary supplements," a term created in 1994 as part of a law detailing how such substances should be treated by the federal government. Unlike prescription drugs, dietary supplements are not regulated by the Food and Drug Administration (FDA). Scientific investigations into whether a supplement may react adversely in combination with certain drugs and in certain people are not required, nor are quality checks to insure consistency in a product's composition. This may result in doses that have no active ingredient (assuming there is any activity in the first place) or in capsules that contain harmful amounts of known or unknown chemical additives. As you saw in ["A Day with Wally Sampson"](#), although intended as cures, many of these remedies could potentially produce an array of health problems.



Today, most large supermarkets or grocery stores have shelves dedicated to herbal remedies. In this activity, you'll have a chance to see how these products are packaged, marketed, and sold within a food store.

This activity page will offer:

- Insight into the marketing of herbal remedies
- An opportunity to survey herbal remedies
- Label analysis of various over-the-counter herbal remedies

EDUCATOR NOTE: The following activity is a consumer survey in which students gather data at a local market. Students should visit the market and the appropriate aisle with their parent or guardian.

MATERIALS

- Trip to a local supermarket that has a dietary supplement/herbal remedy aisle
- Pad and pencil to record label information

PROCEDURE

Procedure

1. Work with a parent or guardian. Discuss the types of food items sold at large local markets. Identify a market that has a specialty aisle for dietary supplements/herbal remedies. Arrange a visit with your parent or guardian to this market.
2. While at this market, you will need to spend time taking a survey. Have the adult accompany you as you gather the information listed below.
3. Visit the aisle containing herbal remedies. Locate a reference guide(s) to herbal cures and natural healing in this section of the market. Use this guide to survey the range of herbs that can be used to treat disorders.
4. What are some of the herbal remedies suggested for treating the flu and its symptoms? (Echinacea, Catnip tea, ginger, ephedra, etc.)
5. Locate several different brands of Echinacea. List each brand below. Record the amount of Echinacea in each tablet and the recommended daily dose for that brand as identified on each label.

	Mgs. in each tablet	Recommended daily dose
Echinacea Brand A		
Echinacea Brand B		
Echinacea Brand C		

Questions

1. Did the different brands of Echinacea suggest a similar dosage? Explain.
2. How do you explain this discrepancy?
3. Extracts are often made from different parts of an herb. How might this

affect consistency and standardization of the therapy?

Disclaimer

On most bottles of dietary supplements/herbal remedies you'll find the following disclaimer: "This product is not intended to diagnose, treat, cure or prevent any disease." What does this statement mean to you? Why do you think it is placed on the container? What does this tell you about whether or not a supplement has been shown to have repeatable and reliable effects? Explain.

EXTENSIONS

On Your Own

Although you looked at varying suggested doses of Echinacea, other herbal remedies have similar inconsistencies. Examine the labels of several other remedies and compare and contrast the differences in dosage. Which remedies have the greatest variance?

Creative Marketing

Often exotic or scientific-sounding names are used to help market these products. An exotic name might have an air of mystery or carry the suggestion that the product has proven medicinal value in a foreign land. Scientific names can also appear to give a product more credibility. For example, as you saw in the program, the name for the product PC-SPES, though it sounds "scientific," simply stands for "Prostate Cancer - Hope" ("spes" means "hope" in Latin). While in the supermarket, identify and record five different dietary supplements/herbal remedies that bear names you believe fall into the categories described above.

Now, it's your turn to try some creative marketing. Suppose you were in charge of marketing an herbal remedy that you intended to be used to ward off sunburn or prevent blisters. What would you call it? How might the name you select boost sales? Remember that there have been no tests proving this product's effectiveness or claims.

Strong Medicine

Suppose you were in charge of developing a safe and effective way of regulating dietary supplements/herbal remedies in the United States. What would you do? How might you test the herb for both effectiveness and safety? How would you insure uniform doses in drug capsules? Should herbal remedies be available at supermarkets? Why or why not? Should they have the same restrictions as other medications? Should herbal remedies require a prescription? Why or why not?

WEB CONNECTION

Overview of Dietary Supplements

<http://www.cfsan.fda.gov/~dms/ds-oview.html#what>

Learn more about dietary supplements on this FDA site.

Herbal Remedies Internet Reference Guide

<http://www.all-natural.com/herbguid.html>

An online guide to herbal remedies maintained by the Natural Health and Longevity Resource Center.

Code Green: Seeing the Side Effects

http://www.ama-assn.org/sci-pubs/amnews/pick_01/hlsa0305.htm

An introduction to control group study, double-blind and random tests.

The Cold Truth

<http://www.pbs.org/saf/1210/features/cold.htm>

Check out this FRONTIERS Web feature about Echinacea and dietary supplements.

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Answers

Questions

1. Did the different brands of Echinacea suggest a similar dosage? Explain.
(Most likely not. Most brands suggest different doses that may vary from 200 mg to 1400 mg a day.)
2. How do you explain this discrepancy?
(Answers will vary, but that lack of government regulation is an important reason.)
3. Extracts are often made from different parts of an herb. How might this affect consistency and standardization of the therapy?
(The different plant part may have different concentrations of active ingredient. Since the dosage may vary, and since the ingredients are not regulated, the therapy is at best inconsistent.)

CURRICULUM LINKS

Life Science:

Government Regulation in Medicine, Herbal Medicine, Use of Reference Guides

NATIONAL SCIENCE STANDARDS (Grades 5-8)

Science as Inquiry- Content Standard A

Students will use critical thinking to formulate an argument.

Students are exposed to the advancement of science through legitimate skepticism. Asking questions and querying the explanations of other scientists is part of scientific inquiry. Students evaluate the explanations proposed by other scientists by examining evidence, comparing evidence, identifying faulty reasoning, pointing out statements that go beyond the evidence, and suggest alternative explanations for the same observations.

Life Science - Content Standard C

Students will explore what causes and cures disease.

Students will understand that disagreement does exist in the scientific community.

Science in Personal and Social Perspectives - Content Standard E

Students will think about the influence of science on society.