

Title: Compare and Contrast Traditional Medicinal Plants and Remedies with Modern Western Medical Treatments: a personal, cultural connection to our environment.

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Overview:

SdCNHA Category(ies):	Native American History, Land, Water, Hispano History, Historic Sites
Lesson Overview	This lesson will focus on comparing and contrasting herbs and plants used in historical medicinal remedies with modern medicines and remedies. It will also allow the evaluation of the environments these plants and herb are located in.
Author(s) & School	Blake Canty, Sanford School
Grade Level/Course	Middle School, Life Science
Standards	<p>7th Grade 2.c. Life Science</p> <ul style="list-style-type: none"> • Explain how biological evolution accounts for the unity and diversity of living organisms <p>a. Use information and communication technology tools to gather information from credible sources, analyze findings, and draw conclusions to create and justify an evidence-based scientific explanation (DOK 1-2)</p> <p>8th Grade 2.1 Life Science</p> <ul style="list-style-type: none"> • Explain and illustrate with examples how living systems interact with the biotic and abiotic environment • Analyze and interpret data about human impact on local ecosystems (DOK 1-3) • Recognize and infer bias in print and digital resources while researching an environmental issue (DOK 1-3) • Use technology resources such as online encyclopedias, online databases, and credible websites to locate, organize, analyze, evaluate, and synthesize information about human impact on local ecosystems (DOK 1-2) • Examine, evaluate, question, and ethically use information from a variety of sources and media to investigate an environmental issue (DOK 1-2)

Time Required	2 class periods (55 minutes) 1 day for research, 1 day to create illustration
Topic	Plants, Health, Medicine, Ethnobotany, Environment
Time Period	1920s-30s; 1980s-90s; 2000-2013
Tags (keywords)	Health, Medicine, Remedios, Ethnobotany, Environment

Preparation: *(Links to worksheets, primary sources and other materials)*

Materials	Plant and herb samples (can be purchased at some pharmacies and health food stores), electronic devices with internet connection, pocket guides for medicinal plants (often found in sporting goods stores/hiking stores: could also find electronically), Organizational table (example given in lesson procedure), links to plant, geology, habitats, cultural remedios and curanderismo
Resources/Links	A pocket naturalist guide: Medicinal Plants https://www.historycolorado.org/location/la-botica-site https://ethnobiology.org/sites/default/files/pdfs/JoE/6-2/ByeLinares1986.pdf http://rethinkingruralwomen.blogspot.com/2015/12/folk-healing-in-south-ern-colorado.html http://www.coloradofieldinstitute.org/past-lectures-test/68-duran-plants.html https://epublications.regis.edu/cgi/viewcontent.cgi?article=1105&context=aquilegia
Resources from Specific community	https://www.taosherb.com/images/Taos_Herb_Product_Guide.pdf

Lesson Procedure: *(Step by Step Instructions)*

<ul style="list-style-type: none"> ● Compare and Contrast Traditional Medicinal Plants and Remedies with Modern Medicines and Treatments. <ul style="list-style-type: none"> ○ Over time, plant species have been used in remedies to treat ailments in animals , including humans. As you examine the types of plants that are utilized in these treatments and their environments, you can compare and contrast the features and specific uses of the plants and herbs, that enable them to be successfully used in medical remedies. You will compare and contrast the traditional uses and plant/herb species with modern synthetically produced medicines and treatment ● Ask a Question <ul style="list-style-type: none"> ○ How are historically traditional herbs and plants used in medical remedies from Native American, Latino, Asian, and European Communities? How do these cultural plants and remedies compare with modern medicinal treatments?
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- **Make Observations**
 - Observe the samples of herb and plants provided by your instructor. Choose one of the samples. Write a description of the plant or herb(include plant parts, texture, aromas, colors, size, cost, etc.)
- **Form a Hypothesis**
 - After writing a description of the sample you chose, form a hypothesis explaining how that plant might be used in a traditional remedios and what ailment it could be utilized to treat. Include how it might be prepared or processed.
- **Test your Hypothesis**
 - Research the plant/herb you selected and the environment it would grow in and what ailment it is used to treat. Create and fill out the table below with as many details as you can find. As you fill in details on your plant/herb, fill in the other half of the table with information you find about modern synthetic medicines and their prescriptions to treat the same ailment. This will allow you to compare and contrast a traditional plant/herbal remedy with a familiar modern “pill” remedy.
 - While you research, look for photographs or illustrations of the plants/herb you are investigating. The pictures can be added to your research document. Pay particular attention to graphics that show unique features of your plant/herb and the traditional remedies and prescriptions provided by those skilled in the preparation and usage within the specific communities.

	Traditional Plant/Herb used in the Culture	Common “pill” used in modern societies.
Name of Plant		
Ailment treated by the sample		
Challenges faced in gathering and processing procedures of the substance		
Resources needed to produce/process the sample and cost to purchase the sample		
Environment grown in for plant/herb. Chemical formulation for “pill”		
When was the sample discovered/synthesized		
Prescribed use, amount, application procedures, and side effects for the sample. (Remedios vs Perscription)		

Final Product: Create a write up addressing the following items.

- **Analyze and Conclude**

- **Summarize** the differences between traditional remedies and treatments of ailments utilizing plants/herbs with the modern prescriptions. How do these differences enable communities to self reliant in medical treatments.

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- **Analyze** why the historical sample you selected is not fully utilized for remedies and treatments in modern communities? How do these conditions create an opportunity for education and cultural connections.

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- **Infer** how well do you think your sample and its remedy could be utilized within your community to treat illness and ailments. Could the plant or herb be grown or collected in your environment?

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- **The Big Idea:** What relationships can be found within environments, including traditional medical treatments and healings.

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Evaluation/Assessment: *(Methods for collecting evidence of student learning)*

Communicate Your Results:

Collect images, research table, and written answers to lab questions about the structure, function, environment, and remedios of the plant sample you researched. Create two side-by-side pages that illustrate and describe the selected sample and its cultural remedios. These two pages will be posted in the classroom and allow others to examine and interact with the illustration of comparing traditional medicinal plants and remedies with modern medical treatments.

Inquiry Extension:

1. Research other samples and explore their niche in their environment and ethnobotany. For example, what niche is this plant found in and can it be cultivated in a garden for personal use or possibly a community garden.
2. Create a dichotomus key to classify the medicinal plants found in your own local area and environment.
3. Create a booklet identifying the plant samples by picture, scientific name, common names, description, habitat, remedy, processing, to be utilized within local communities. Additionally, historically interviews could be performed and included.