



GeoCivics Lesson Plan: Native Medicinal Plants

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Teacher(s) Makatala Tanielu	United Title: Reviving Indigenous Plants Lesson title: Native Medicinal Plants	Grade Level: 3-5
Notes: This lesson will take multiple days to complete.		
Pre-existing Knowledge: Students should understand the importance of some plants to people, especially in their Native Culture. Additionally, they are to know some of the plants that are being used for medicinal purposes at home.		
Overview: The use of medicinal plants dates to prehistoric times when ancient men found by trial and error that certain herbs and barks when eaten, taken as an infusion, or applied externally, could alleviate some common ailments. When medicinal science began synthesizing organic and inorganic medicines in the nineteenth century, the use and reputation of herbal remedies began to decline. Synthetic medicines, such as aspirin, became so commonly accepted that little further thought was given to obtaining medicines directly from plants, and little effort was made to search for more miracle remedies.		
Purpose: Students will understand the importance of the native plants growing on our own lands. They learn of their medicinal purposes and the current condition of each one. Students will also get to discover the agencies that deal with protecting or maintaining these native plants and how they do so.		
National Social Studies Standard(s): <ul style="list-style-type: none"> ● <u>Theme 5:</u> Institutions such as families and civic, educational, governmental, and religious organizations, exert a major influence on people’s lives. ● <u>Theme 6:</u> One essential component of education for citizenship is an understanding of the historical development and contemporary forms of power, authority, and governance. ● <u>Theme 10:</u> An understanding of civic ideals and practices is critical to full participation in society and is an essential component of education for citizenship. American Samoa Social Studies Standard(s)		

- Economics: Resources and Economic Activities: 5.8 Students apply concepts to explain how people organize for the production, distribution, and consumption of goods and services.

National Geography Standard(s):

- 19: The changes that occur in the meaning, use, distribution, and importance of resources.

ELA Standards:

CCSS.ELA-LITERACY.RL.5.1

Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

American Samoa ELA Standards:

Standard 1: Students inquire about and comprehend key ideas and details in a variety of texts.

> 5.1.1: Use questions to access information stated explicitly and to draw inferences from the text .

ISTE Student Standard: 1.3 Knowledge Constructor

- 1.3c - Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.
- 1.3.d - Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.

Language Function:

- **Inquiry/Seeking Information:** Students use language to observe and explore the environment, acquire information, inquire - Students will ask guest speakers or presenters(agencies) questions about their garden project.
- **Summarizing and Informing:** Students use language to identify, report, or describe information - Students will read, comprehend, and share about the story.
- **Sequencing and Ordering:** Students use language to sequence objects, ideas, or events - Students will write Action Plans.

Culturally Responsive Lesson Strategies:

- **Connection:** Lesson/Activity incorporates real-life connections - More than one real-life connection will be made or represented but mostly from the experiences of the dominant culture.
- **Voice:** Lesson/Assignment allows places for students to work together cooperatively - Several places provide students to work together cooperatively or share learning, somewhat connected to the topic of the lessons – mostly student-centered.

Objective(s):

SWBAT...

- **Identify** Native Plants in American Samoa.
- **Explain** how the specific Native Plants are used for Medicinal purposes.
- **Create** a Native Medicinal Plants Booklet that will contain important information about the native plants.

SIOP

	SIOP Elements	
Preparation Adapting content Linking to background Linking to past learning Strategies used	Scaffolding Modeling Guided practice Independent practice Comprehensible input	Grouping Option Whole class Small groups Partners Independent
Integrating Processes Reading Writing Speaking Listening	Application Hands on Meaningful Linked to objectives Promotes engagement	Assessment Individual Group Written Oral

Evidence of Mastery (Measurable):

Formative: After learning about native medicinal plants, students will engage in a KWL Sharing Circle to respond to the following questions: K- Which plant do you already know about, and how did you know that? >W- Which plant do you know how they look but just learned the name today? Or A plant you heard the name of before but just learned what it looked like today? > L- Which plants do you really want to know more about? The teacher will make note of students' responses as a formative assessment of students' knowledge and learning.

Summative:

After listening to presenters and taking a field trip to learn about native medicinal plants, students will use what they have learned to create a Native Medicinal Plants Booklet. The teacher will use the Native Medicinal Plants Booklet Rubric below to assess student learning with a score of 2 or higher indicating mastery. **NOTE: this could also be done by having students research medicinal plants in your area.**

Native Medicinal Plants Booklet Rubric

Levels of Accomplishment	Criteria	Points
Exceeds expectations	The student Booklet includes all the plants from the Gallery Walk and additional ones from the field trip and guest speakers. The following are all completed and included: Plant Name, Common Location, Medicinal Purposes, and image.	3
Meets expectations	The student Booklet includes most of the plants from the Gallery Walk and additional ones from the field trip and guest speakers. The following are all completed and included except for a few missing details: Plant Name, Common Location, Medicinal Purposes, and image.	2
Approaches expectations	Student Booklet has some of the plants from the Gallery Walk, Field Trip, and Guest Speakers. They have completed and included some of the information for the following: Plant Name, Common Location, Medicinal Purposes, and image.	1
Fails to meet expectations	No Booklet. Missing a lot of information.	0

Key vocabulary

- **native:** a person who was born in a particular place, or a plant or animal that lives or grows naturally in a place and has not been brought from somewhere else.
- **medicinal:** tending or used to cure disease or relieve pain
- **garden:** a plot of ground where herbs, fruits, flowers, or vegetables are grown.
- **extinct:** the dying out or disappearance of a species from earth.
- **increase:** get larger in size, number, or quantity.
- **benefits:** something that produces good or helpful results or effects or that promotes well-being.

Materials

- A native medicinal plant (Image or a real plant)
- Computer and Projection tool for showing video.
- Video: *In Our Garden* (Read Aloud/Read Along Story) (7:40 min.) (Link in Sources below)
- Student access to Paper and colored pencils or markers, etc. for drawing images of the garden they plan to create.
- Student notebooks, pencils for note taking
- Classroom Images of Native Medicinal Plants (teacher can choose their own based on their own native location)
- Handout of Samoan Native Medicinal Plant Images (Links to images in Sources below) (Note: These images are only a few that have photos taken. Most don't have images found online, but you can add

	<p>whatever images you desire. Also, the teacher should create their own handout based on their own native medicinal plants)</p> <ul style="list-style-type: none"> ● Copies of Our Native Medicinal Plants Handout - one per student (in Lesson Materials Document) ● Student access to scissors & glue ● Native Medicinal Plants Booklet - one copy per student (In Lesson Materials Document) ● Student Field Trip Permission forms ● Native Medicinal Plants Booklet Rubric (In Lesson Plan above)
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Source(s):

Samoan Native Medicinal Plant Images (for creating the Native Medicinal Plan handout):

- *Psychotria garberiana*. matalafi Manu'a. psychotria https://web.archive.org/web/20160328115953/http://www.botany.hawaii.edu/basch/uhnpcesu/htms/npsapln2/fish_pops/rubiaceae/psygarber.htm
- Samoan Name: Momole'a *Cyrtandra geminata* Reinecke [Gesneriaceae] <https://web.archive.org/web/20111207002624/http://www.cieer.org/efloras/samoa/query/details.php?plantgroup=Dicotyledonae&family=Gesneriaceae&genus=Cyrtandra&species=geminata&id=31>
- *Elatostema tutuilense* Whistler <https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:852243-1>
- *Taeniophyllum whistleri* <https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:990851-1>

Teacher: Video: In Our Garden (Read Aloud/Read Along Story)

<https://www.youtube.com/watch?v=StkNpB9L4AE>

Students: Video: In Our Garden (Read Aloud/Read Along Story)

<https://www.youtube.com/watch?v=StkNpB9L4AE>

Engage

Teacher Will: (Hook).

Part A: Guess the Plant Activity

1. Show a native medicinal plant to students (an image or a real plant), and ask them to identify or guess what it could be used for. Allow students to touch and smell the plant for a more engaging observations from them.
2. Write their answers on the board for all to see.
3. Tell students what it is used for. Then explain that they will be reading a story that will give them a hint

Students Will:

Part A: Guess the Plant Activity

1. Students will touch and smell the plant shown by the teacher and guess what it can be used for. Observe and reflect on the teacher's explanation of what the plant is used for, then prepare to read the story introduced by the teacher.

(Grouping: Whole class)(Application: Hands-on) (Promotes engagement) (Preparation: Linking to background)

of what they will be working on later on in this lesson.

Part B: READ ALOUD

1. Introduce the story *In Our Garden* by Pat Zietlow Miller and project it for the class to view. *Ask students to look at the illustrations on the cover of the book as well as the title of the story to predict what the story will be about. *Choose at least 3 volunteers to share their thoughts about what the story will be about.
2. Tell students that they need to follow along with the reading and pay attention as the video for the read aloud is being played. Occasionally the video will be paused and the teacher will ask questions about the story. (Link in Sources above)
3. AFTER the read aloud, explain to students that they will get the opportunity to make their own garden in their school but in a different way. Group students strategically to support ELLs/SPED and gifted students as needed.
4. Instruct students to spend 5-10 minutes discussing with their group members and planning what their garden will look like and what they want to grow in it, and pass out papers, colored pencils, markers, etc. for students to draw a picture of their garden and write down their plans for their creating their garden.
5. Pick volunteers to share their ideas with the class.

Part B: READ ALOUD

1. Listen and follow the instructions for the READ ALOUD. Think about the illustration shown and the title of the book when projected. Guess what the story could be about, and share out their prediction when asked.
2. Watch and listen to the story being read aloud in the video and answer the questions given by the teacher when the video is paused.

(Grouping: Whole class (Application: Promotes : Listening/ Speaking/Reading) engagement) (Meaningful) (Integrating Processes

3. Students will work with their group members to plan out what their garden will look like and what they want to grow in it, and they will draw and write what their garden looks like and what they will grow in it on the paper provided and will color it also.
4. Share their garden ideas and drawings with the class.

(Grouping: Small group/Whole class) (Integrating Processes: Listening/Speaking /Writing/Reading) (Application: Hands-on/ Promotes engagement)

Explore

Teacher Will:

IQ #1 - “What can be learned about the native medicinal plants in American Samoa?” (or in your native land)

1. Introduce Inquiry Question #1 to the class and remind students of the plan that they were shown and trying to guess about earlier. Tell them that instead of fruits or

Students Will:

1. Reflect on the plant they were shown before and think about any medicinal native plants they may know about.

vegetables like in the story they read, they will now be discussing the native plants that are used for medicinal purposes.

2. Introduce the vocabulary words to students: **native, medicinal, garden, extinct, increase, benefits**, write them on the board, discuss the definitions of each with the class, and have students write the words and definitions in their notebooks. (See the Key Vocabulary section of this lesson for the definitions.)
3. The teacher will then post images of native medicinal plants with their names and information about them around the room.

(NOTE) Support ELLs/SPED students as needed by providing written definitions on the board, visual images of the words, and/or partnering with students as needed. The teacher can choose their own plant images based on their own native location - The Samoan native plant images are found in the Lesson Materials Document.

4. Pass out a copy to each student of the Handout of Native Medicinal Plants Images showing all of the native medicinal plants on one paper.

(Note) Links to some Samoan native medicinal plant images are in Sources above and the teacher can add whatever images they desire, or the teacher can create their own handout based on their own native medicinal plants). Also pass out copies of the Our Native Medicinal Plants Handout (in lesson Materials Document) and instruct students on how to cut and paste the images onto the handout shown below. The teacher will assist students that need help in cutting and/or writing and will model how to do it.

2. Observe and read the vocabulary words written on the board and discuss their meanings with the teacher, and write down the vocabulary words and their definitions in their own notebooks.

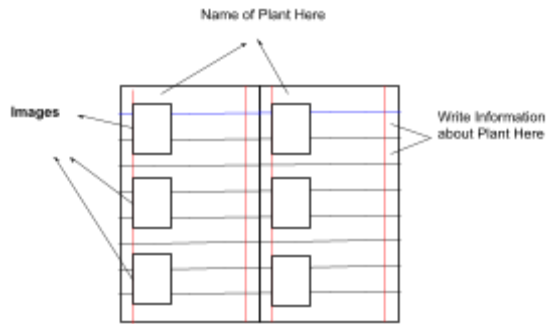
(Grouping: Whole class/Independent/ or Partners) (Integrating Processes: Listening/ Reading/Writing)

3. Observe the images of native medicinal plants posted around the room by the teacher, make note of the names of each.

(Grouping: Whole class) (Integrating Processes: Listening/Reading)

4. Listen and follow the plant images onto their copy of Our Native Medicinal Plants Handout, and match the images on the handout to the ones posted around the room by teacher's instructions on how to cut and paste to the teacher, and write their names down and the information about them on their handouts.

(Grouping: Whole class/Independent/or partners) (Integrating Processes: Listening/ Reading/Writing) (Application: Hands-on/ Meaningful/Promotes engagement)



Allow students 5 to 7 minutes to cut and paste their images in the format modeled earlier and write the names of each on their handout. Remember to translate the instructions for students who have a hard time understanding English.

(Preparation: Strategies Used) (Scaffolding: Modeling/Guided Practice)

Instruct students to choose any image to start from and then move clockwise when they are done recording the names of each of the plants.

Explain - Formative Assessment

Teacher Will:

Part A: KWL Class Sharing Time

1. Put students together into a sharing circle, and tell them they will share out their responses to the following questions:
 - K- Which plant do you already know about and how did you know that?
 - W- Which plant do you know how they look but just learned the name today? Or A plant you heard the name of before but just learned what it looked like today?
 - L - Which plants do you really want to know more about?
2. The teacher will model the KWL process and have students share their responses following the KWL strategy. The teacher will also make note of students' responses for use as a formative assessment of student knowledge and learning:

Student Will:

Part A: KWL Class Sharing Time

1. Share using the KWL Strategy modeled by the teacher to share out their understanding of what they Know, Want to Know and have Learned about plants.
- (Assessment: Individual/Oral) (Application: Linked to Objectives)**

Part B: Guest Speakers

2. The teacher will invite Guest Speakers (from Agriculture and/or National Parks) and have them share information about the existence of these native plants on the island and a brief history of them. Most importantly, they will provide information on the locations of each native plant on the island and what they do about these plants.

(NOTE:) The teacher can also invite parents, elders, chiefs, and any other adult who has knowledge of the native medicinal plants and how they used them in the past to be guest speakers as well. The teacher can also prepare students for the guest speakers by having them think about what they might want to learn from them and questions they might want to ask in order to prepare to carry out their own garden plans.

Part B: Guest Speakers

2. Listen to the guest speakers and take notes of the information that they share, especially the locations of the native plants, their existence, history, and how each agency protects those plants. Students will also ask questions on anything they are curious about in relation to the native plants and where they are commonly located. Additionally, in thinking about creating their own garden, they can ask if any of the plants are easily accessible by them.

(Grouping: Whole class) (Integrating Processes: Listening/Speaking/Writing) (Application: Meaningful)

Elaborate

Teacher Will:

IQ #2 – “What are the medicinal benefits or purposes of each native plant?”

Part A: Field Trips

1. Introduce Inquiry Question #2 to the class and tell the students that they will be taking a field trip where they will be able to learn about the medicinal benefits and purposes of native plants and how they are grown.

(NOTE) The field trip should be a local trip to talk to experts about native plants in your own state/area. Prepare students for the field trip by distributing permission forms, explaining the rules they need to follow throughout the field trip, and instructing students on what information they need to gather for their assignment.

2. Explain that the following questions are ones they need to find the answers to during the field trip. Have students write these questions down in their notebooks and take them with them on the field trip to record presenters' responses to the questions.

Students Will:

Part A: Field Trips

1. Follow and complete all the tasks the teacher gives and explains for a safe field trip experience.

(Grouping: Whole class)

2. Write down the questions presented by the teacher in their notebooks and prepare to ask these to people they meet on their field trip.

(Grouping: Whole class/Independent)

Questions:

- What is the name of that plant and do we use it for medicinal purposes?
 - Explain how it was used in the past until now.
 - What environmental elements are needed to grow this plant and how do you grow and take care of this plant?
 - Can we take one of them for our class garden?
3. The teacher will then take the students on the field trip and have them ask questions and record the information they receive regarding native plants, their medicinal purposes and information about environmental elements needed to grow the plants in their garden. The teacher will take pictures and/or have students take pictures of the plants presented to use in the students' write up after the field trip. Throughout the field trip, the teacher will constantly do head counts to ensure all students are present at that specific location during the field trips, and are responding as expected by asking questions and taking down notes.

(Integrating Processes: Listening/ Reading/ Writing)

3. On the field trip, the students will keep close to the adults at all times and ask the presenters the questions written in their notebooks and write down their responses in their notebooks. They can also ask other questions of interest to them throughout the field trip that they feel will be helpful to them in creating their own plant garden at school.

(Grouping: Whole class) (Integrating Processes: Listening/Speaking/Reading/Writing) (Application: Hands-on-Meaningful/Promotes engagement)

Evaluate - Summative Assessment

Teacher Will:

1. Pass out copies of and review how to complete their Native Medicinal Plants Booklet and model how to include the new information they got from the guest speakers and field trips.
2. Share the Native Medicinal Plant Booklet Rubric with the class and go over the criteria for grading their booklet.
3. Provide time for the students to complete their Native Medicinal Plants Booklets and turn them in when done. The teacher will then use Medicinal Plan Booklet Rubric to assess their learning with a score of 2 or higher indicating mastery.

Students Will:

1. Review their copy of the Native Medicinal Plants Booklet and observe the teachers' modeling of how to use the information they have gathered from the guest speakers and their field trip to complete their booklet.
- (Grouping: Whole class)**
2. Observe the Native Medicinal Plants Booklet Rubric noting the criteria used for grading their booklet when completed and consider how they can use this information to complete their booklet.
 3. Complete the Native Medicinal Plant Booklet using the information they

gathered from the guest speakers and field trips, and also include pictures from the field trip.

(Assessment: Individual/Written)
(Application: Linked to Objectives)

Extensions(s): CAP Project - Students can be given an opportunity to create a Mini-Native Medicinal Garden at school using their plans that incorporate the information they have learned about Native Medicinal Plants in this lesson.