

WHAT IS ETHNOBOTANY?

A background reading and survey to help students understand how native people in the Sonoran Desert region have used plants to meet their basic needs and discover the impact of plant resources in their own lives.

OBJECTIVES:

Students should:

- Understand that people depend on plant resources for a variety of different needs.
- List examples of plant materials used for food, clothing, medicine, shelter, and tools both by native people in the Sonoran Desert and by themselves in their own lives.

MATERIALS:

- A copy of the reading “Ethnobotany: How Do People Use Plants?”
- A copy of the students’ survey “Ethnobotany Survey, Plants in Our Lives”

VOCABULARY:

- ethnobotany
- ethnobotanist
- fibers
- natural resources

DOING THE ACTIVITY

Tell your students that they are going to be ethnobotanists, people who study the relationship between people and plants. Have them do the background reading “Ethnobotany: How Do People Use Plants?” and discuss the different ways that native people in our region have used plants. Do the students think these uses were very different from how people use plants today?

ETHNOBOTANY SURVEY

Pass out the “Ethnobotany Survey, Plants in Our Lives” form for them to fill out. You can have them survey items they see at school, or save it for home that evening. Discuss their findings. Explain that you’ll be doing a Sonoran Supermarket unit that will give them a chance to experiment with and experience some of the uses of the native plants they have been reading about.

Answers: When discussing answers to the Ethnobotany Survey, consider the following:

Food

Foods would include examples such as...

- Roots: carrots, potatoes, turnips, beets, etc.
- Leaves: lettuce, spinach, kale, cilantro, etc.
- Seeds: wheat, rice, sesame seeds, almonds, peanuts, beans, etc.
- Fruits: apples, bananas, pineapple, plums, etc.

Fiber

Encourage the students to look at labels and list any articles of clothing or other items they have that contain cotton, linen, or rayon. They’ve probably all heard of cotton. Wild strains of cotton are native to the Sonoran Desert region and would have been used by indigenous people to make cloth. Linen, made

ARIZONA ACADEMIC STANDARDS:

Science Strand 4, Concept 3

Concept 5: Environment and Society

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from flax fibers, and rayon, made from wood pulp, are more recent developments.

Medicine

Aloe vera is not a native plant, but it is common in many backyards for use on sunburn and other burns. Creosote has been called the “pharmacy of the desert” because of its many uses. Its leaves have antibiotic properties and can be made into tea used for skin infections or internal conditions like coughs or pneumonia. Prickly pear plants have been used medicinally by native people. The split pads make poultices for cuts, bruises, and boils. The fruit can be lightly roasted and split to treat warts. Knowledge of regional plant medicines has been passed down from generation to generation, ensuring that proper uses and doses are followed. Remind your students that they should not ingest plants or their medicinal derivatives without consulting with an expert.

Shelter:

Shelter materials include wood for roofing and shade cloth.

Tools and Utensils:

Tools and utensils can be anything not already covered: wooden spoons, chairs, bed-frames, playhouses, musical instruments, etc.

Modern Materials:

Many of the items in our modern world are made of non-plant based materials such as plastic and metal. How do these differ from plant materials? How might they have a greater or lesser impact on the environment than plant-based materials?



Ethnobotany: How Do People Use Plants? Name _____

What is Ethnobotany?

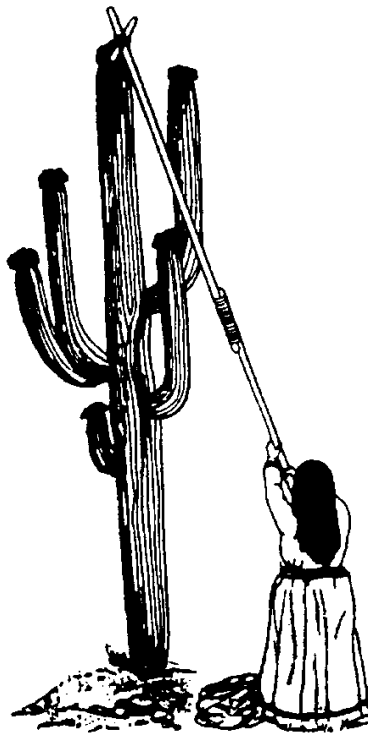
Ethnobotany is the study of the relationship between people and plants. Plants have provided people with most of their needs for thousands of years. The Sonoran Desert has many different kinds of plants – nearly 2500 species. **Ethnobotanists** estimate that native people used 750 of these for food, fiber, medicine, shelter, and tool materials.

How Do People Use Plants?

Native people like the Tohono O’odham, Yaqui, and Seri have used desert plant resources in many of the same ways.

FOOD

Plant foods include fruits, seeds, leaves, roots, buds, flowers, and shoots. In the Sonoran Desert, people ate cactus fruit fresh, dried, or cooked into syrup. They ground dried mesquite beans to make sweet flour. They harvested leafy wild greens that sprouted in the winter rains, and collected cactus buds. Many of these and other plant foods could be stored to last throughout the year.



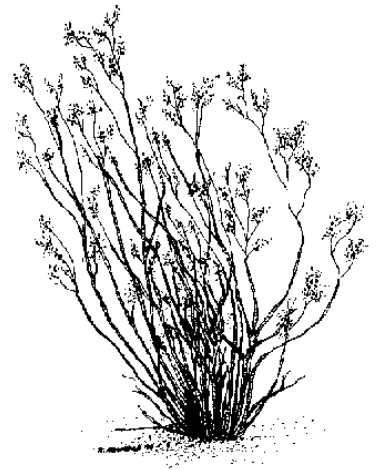
FIBER

Plant **fibers** are strong, stringy tissues that people can weave, braid, or plait to make rope, twine, clothing, matting, shoes, and baskets. Plants such as yucca,

agave, cotton, and some grasses were used for fiber.

MEDICINE

Around the world, plants have been the main source for human medicines for thousands of years. Plant-based medicines include teas, washes, powders, vapors, and smoke. Many Sonoran Desert plants have medicinal properties. One is the creosote bush. Have you noticed how the air smells so good after a rain storm? That smell comes from creosote, one of the most important medicinal plants in our desert.



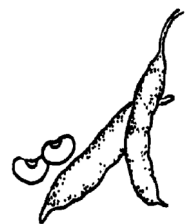
SHELTER

Many desert plants make good building materials. Mesquite and palo verde wood, saguaro cactus “ribs,” and ocotillo branches provided support for shade ramadas and round houses. Grasses were mixed with mud to strengthen plaster and adobe bricks.

TOOLS

Strong woods like mesquite and ironwood were used for bows and arrows, handles, cooking and food collecting tools, and planting tools. Plants were used to make other items like musical instruments, toys, and ceremonial masks.

How do you use plants? Do the surveys your teacher gives you to find out!



Ethnobotany Survey, Plants in Our Lives

Name _____

Plants are important sources of many things we need every day. Find objects in your school, house, or yard to complete as many of the categories on this chart as you can. The first one has been done for you.

Type of Object		Example
FOOD (canned or processed examples okay)	Root	carrot
	Leaf	
	Seed	
	Fruit	
FIBER (find clothing or other items made with these plant fibers)	Cotton	
	Linen	
	Rayon	
MEDICINE (look for these plants and make an X in "example" if you find them)	Aloe Vera	
	Creosote	
	Prickly Pear	
SHELTER (look for these examples of shelter and list any plant materials they contain)	Porch	
	Roof	
	Shade Umbrella	
TOOLS/UTENSILS (list any other objects you found made of plant materials)		

Which materials **not** based on plants make up many of the objects in your home and school?

1. _____
2. _____

