
People and Plants

6 LESSON

Materials Needed

For each adult:	Leader Sheet: "People and Plants" Map: "People and Plants"
For each student:	Student Data Sheet: "People and Plants" crayons or pencils paper

Pre-visit Activity

Divide students into groups of three. Give each group a twig, a seed pod, and a leaf. Challenge the students to list as many uses for plants as they can imagine. Remind them that any part of the plant—bark, root, pod, or leaf might be used. Make one large class list. Explain that at the Garden we will look for plants that we can use in these and other ways.

Background Information

Throughout the centuries, humans have used various plants for a myriad of products. The earliest humans needed plants as materials for homes, as food, to create tools, as fuel, and as medicines. Each culture has used the plants of the local environment to survive. Plants have also been used throughout time to enhance the beauty of an area.

One of the greatest challenges to botanists today is to gather as much information as possible about the plants in less studied areas of the world, rain forests in particular. The study of the use of plants by native (indigenous) people of an area is called ethnobotany. Ethnobotanical information has led to production of new drugs, as well as cross-cultural sharing of foods (e.g. tomatoes, cacao (cocoa beans), cinnamon).

In this lesson, students will discover uses of plants from many different biomes. They will think of uses for plants and receive information about the uses of many plants in these places.

Post-visit

A rain forest food festival reinforces the concept of plants as food products as well as the importance of the rain forest. There are many fruits and nuts you can readily find at your grocery store that come from the rain forest. Try bananas, cashews, brazil nuts, coconuts, cocoa, coffee, sugar cane, cola, nutmeg, allspice, vanilla, pepper, and ginger. Smell or taste as appropriate. Map the origins of these foods.

Topic

Human Uses of Plants

Grade Level

K - 2

Student Outcomes

- ✿ increase observational skills.
- ✿ understand and list the many uses of plant parts by people.
- ✿ experience the rain forest environment.

Time Frame

Year-round
(May - September for
Scented Garden)
60-90 minutes

Location

The Climatron
conservatory and the
Scented Garden.

Missouri State Standards

K-4

SC I.A.2
I.A.3.a
VII.A.3
VII.A.3
VII.A.3.a
VII.A.4.a

SS II.E.1
II.E.2
II.E.3
II.E.4

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1 Grassy area near Climatron conservatory

Today we're going to look at some of the many ways that people use and enjoy plants. Let's start by thinking about our lives and ourselves.

- Who had grass for breakfast today? (Any wheat, rice, or corn product, like cereal)
- Can you each tell your neighbor three ways you used a plant today? (food, cotton clothing)
- The Garden is filled with flowers. Why do we plant flowers? (For beauty for our eyes and nose, for food.)
- Which flowers do you like best?

2 In grove of trees near waterlily reflecting pond by Climatron conservatory

Divide students into teams of 4-6. Have them sit by a tree. Distribute paper and pencils. Challenge them to list as many uses of a tree as possible. Give them 3 minutes.

Back at school we all worked together to list uses for plants. Let's sit by this tree for a minute and make as long a list as we can of ways to use a tree. You have three minutes to write down your ideas.

Read lists aloud. Discuss.



Now we'll go look at some plants in the Climatron conservatory and your parent/adult guide will explain how people use them. Be sure to stay with your small group. We'll meet at the Brookings Interpretive Center in 20 minutes. Draw a picture and write the name of the plant that you find for each box on your worksheet. Ask adults for help if you need it.

3 Enter Climatron

1. Palm bed

- What could you do with this kind of plant?
- Does it have any fruit?

The palm nut is used for oil in many of your favorite desserts. The fiber from the leaves can be used for hats, baskets, and rope. Palms make nice houseplants for people.

2. Bamboo

Although this plant looks like a small tree, it is a grass. It is very strong, yet flexible.

- How might people use it? (To build houses and fences. To make musical instruments.)

3. Panama-hat tree

This tree is called a Panama hat tree.

- What do you think it is used for?
- Would this be a stiff or soft hat?
- Why would people wear hats in a tropical place?

4. Ginger

We use the roots of one of the gingers in cooking. You may have had ginger in Asian dishes or in desserts, like gingerbread.



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5. Cacao

Help students locate the light brown pods attached directly to the trunk and the pale brown flowers growing straight out of the trunk. (The pods are not always there though. Look for flowers on the trunk if there are no pods.)

- What is unusual about this plant? (Flowers and fruit grow straight out of the trunk instead of on stems.)

This plant is used for many treats—chocolate. Chocolate is made from the beans.

- Can anyone see where the beans come from on this plant?

They come from the seed pods that grow after a flower is pollinated. We roast the beans and add lots of sugar to make chocolate.

6. Cashews

One of the candy machines contains cashews—a clue.

This plant can be used in candy or as a healthy snack.

- Can anyone see the part we use? (If there are no nuts in view, point to the candy machine.)

7. Avocado

This small tree has a green fruit.

- Have you ever eaten an avocado?

They are grown in California and Florida.

8. Coffee

We use the beans of this plant to make coffee. The beans are roasted before they are ground to use as a drink.

- Can you find any fruits on this plant? (They are red berries.)

9. Banana

Look up. Here is another tropical rain forest plant we can use. The part we use hangs high in the tree. Bats and monkeys like them as much as people do. Bananas!

- Can you think of anyway we could use the leaves?

4 Brookings Interpretive Center

Gather all groups together. If weather is unpleasant, sit here to share observations about plants seen today. Then walk to the Scented Garden. Look at some of the herb plants there and discuss their uses.

5 Scented Garden

Have students compare this garden to others they have been in. Smell some of the herbs in the raised beds. Rub fingers on scented geraniums and smell them. Feel leaves of contrasting textures.

- How is this garden different from others we have walked through?

Many of the plants in the Scented Garden are used in cooking. Rub your fingers over the leaves of a plant near you and smell them.

- What do they smell like?
- Do all of them have scents?



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Look at the signs in this garden.

- How would you read these signs— with your eyes or ears or fingers?

This is a garden that was built for people who are blind or in wheelchairs. The plants in raised beds make it easier for people to reach them.

Ring bell of the sculpture. Listen with eyes closed to hear water.

Let's close our eyes and listen as one bell is run at a time.

- What else do you hear? Smell?

We have seen a lot of plants here today.

- Which plants did you find most interesting? Why?
- We each like different smells. Which plants smelled the best to you?
- Which plant did you like looking at the most?
- Did you see any plants that you grow at home?

Teacher's Notes




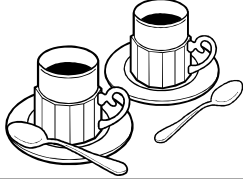


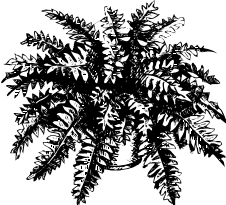

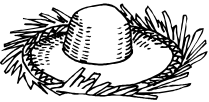

Name: _____

Date: _____

Student Data Sheet

People and Plants

A plant can be . . .

<p>A snack food</p> 	<p>Used in a drink</p> 
<p>Beautiful</p> 	<p>A spice</p> 
<p>A houseplant to help clean the air</p> 	<p>Used to build things</p> 
<p>Used to make a hat</p> 	<p>Used to make a candy bar</p> 



Map: People and Plants



Garden Map Key

1. Ridgway Center
2. Climatron
3. Scented Garden



Map: People and Plants

Exit to the Brookings Interpretive Center



Climatron Conservatory Map Key

- | | |
|--------------------|------------|
| 1. Palm bed | 6. Cashews |
| 2. Bamboo | 7. Avocado |
| 3. Panama-hat tree | 8. Coffee |
| 4. Ginger | 9. Banana |
| 5. Cacao | |



