

Zilker Botanical Garden

Kindergarten Educational Program

Last Edit: Matthew Gaston April 17th, 2022



Leaves! Colors, Shapes, Sizes, and Textures



- Learning Objectives:
 - Students will be able to explain the function of a botanical garden.
 - Students will be able to categorize leaves by shape, color, size, and texture.

- TEKS Standard:

§112.11. Science, Kindergarten

(10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to

(A) sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape.

- Expected Duration: 50 minutes
- Materials: A variety of leaves in varying shape, color, size, and texture.

1. Engage (10 minutes)

Teacher **talking points in bold** with *notes in italics*

Hello Class! We have a field trip soon to a place called Zilker Botanical Garden!
But first we need to get partners. *Teacher assigns students into groups of two.*

Does everyone have a partner?

Point to your partners. *Students point to a partner; all students should have a partner.*

Now that we have partners, do you know what a botanical garden is? What do they do? What do they have? With your partner spend two minutes discussing what a botanical garden is, what they do, what they have. *Teacher displays "what is a botanical garden? What do they do? What do they have?" on the board.*

With your partner discuss:

What is a botanical garden?

What do they do?

What do they have?

Teacher walks around listening to groups and providing scaffolding to groups that might be stuck. After 2 minutes, get the class attention.

Would anyone like to share with the class what they think a botanical garden is?

Students share, provide positive affirmation for being courageous to share. Keep asking groups until there is a consensus that a botanical garden is a place where they grow lots of interesting plants from around the world.

Would anyone like to share what a botanical garden does? *Botanical gardens grow plants for many reasons: fun, to protect the plants, and study the plants.*

That's right! Do all plants look the same? *Students should say plants look different. Hold up some of the different leaves you have collected.*

They have different types of leaves! What do they have in common? What is different?

2. Explore (20 minutes)

Here are leaves! I will give each group a leaf to look at. Touch the leaf and see what it feels like. With your partner discuss what a leaf is and describe the leaf.

Walk around and give each group a leaf. Ensure that all students are discussing leaves. Key points are that they should recognize are: 1) leaves are part of the plant, 2) they take sunlight and make food, and 3) they are green.

Now we will have each group explain to the class the leaf they have. *Have each pair explain their leaf. Try to get them to use descriptive words.*

Thank you everyone for sharing with the class. Now we will have your pairs pair up so there are 4 people in a group You will hold onto the leaves from the first part for this part. Once we are in groups of four, I will pass each group more leaves. Your task will be to group the leaves and explain why you grouped them like this. You can group them by shape, color, size, or texture. Write the following on the board:

Shape

Color

Size

Texture

What does shape mean? The outline of the leaf. *Grab a leaf and use your finger to trace the outline of the leaf*

What does color mean? The color of the rainbow that the leaf is. *Pick two leaves that are different colors and say the names of each color with the leaf.*

What does size mean? How big or small a leaf is. *Pick two leaves of different size to illustrate how different they are.*

What does texture mean? The feel of the leaf when you touch it. *Pick two leaves with different textures and feel them and explain what it feels like.*

After 15 minutes, we will meet back together. You will then share how you grouped your leaves. Did you group them by shape, color, size, or texture? *Go around giving each student the same number of leaves and tell them they need to work as a team to group them. Walk around and make sure the groups are headed in the right direction.*

3. Explain (10 minutes)

Let's have groups stand up and explain their groupings and what leaves they have grouped together. First tell us if you grouped by shape, color, size, or texture. Did you do one, or did you do several? *Try to let all groups spend a couple*

minutes describing their groupings. Acknowledge the approach that each group took and identify the specific beneficial actions that were taken (e.g. I liked the way Lucy worked with Sean to feel the leaf and talk about the feeling)

4. Elaborate (10 minutes)

Across all the groups, it looks like there were some similarities! What were they?

Have students share what they thought were similar among groups.

Where their differences!? What were they?

Have students share what they thought were different among groups.

Let's look at the possible groupings. There was shape, color, size, and texture. Each leaf can fit into several groups. How did you determine which group to classify it into? How did you decide if you wanted to group by shape, color, texture, or size? *Ask for volunteers to answer the questions. Bring up groups that presented earlier if there was not significant discussion.*

What are some examples of leaves that could fit into several different categories? *Students should indicate that all leaves could fit into any category.*

People make up categories to understand the world around us. We create categories based on what we think is important. People will use different categories based on what they have around them just as you all used different categories.

5. Evaluate (Optional - 5 minutes)

Provide students with the exit ticket on the next page to evaluate understanding of categorizing leaves.

Name: _____

Date: _____



Circle the two leaves that you would group together.



Did you group them by shape, color, size, or texture? _____

Name: _____

Date: _____



Circle the two leaves that you would group together.



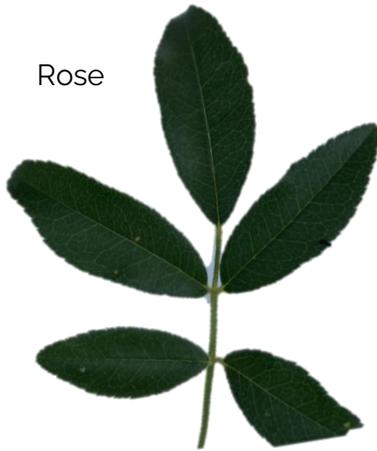
Did you group them by shape, color, size, or texture? _____

Reference Page

Jasmine



Rose



Maple



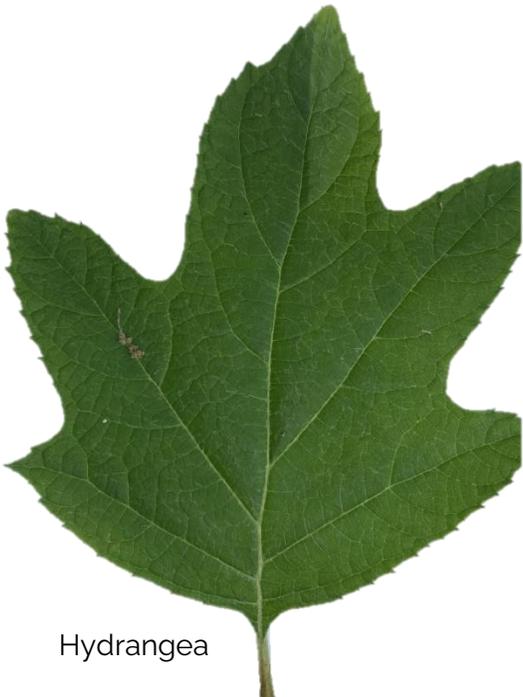
Nasturtium



Sedge



Hydrangea



Fern

