



Garden Adventure Pack (K-2)

Instructions

Welcome to the Atlanta Botanical Garden! This packet provides you with information about the Garden along with activities and discussion questions for your group to reference at different locations around the Garden. Choose five or more sites from the list below (see map for locations). At each site, read aloud the description and choose a few activities or discussion questions.

In between each visit or throughout your adventure, have each student complete the **Garden Adventure Pack Scavenger Hunt worksheet**. When you return to your school or home, the pictures drawn on the worksheet can be compiled into a field trip journal.

1. Southern Seasons Garden
2. Japanese Garden
3. Rose Garden
4. Reflecting Pond
5. Poison Dart Frog Display
6. Rainforest
7. Desert
8. Orchid Center
9. Bog Garden

1. Southern Seasons Garden

Read Aloud

Look around, do you see all the trees growing in this forest habitat? What else do you see growing or living in the forest? The Southern Season's Garden is a beautiful introduction to a Temperate Deciduous (*di-sij-oo-uhs*) Forest Habitat that covers the Atlanta area. Temperate Deciduous Forests are defined by four seasons: fall, winter, spring and summer and deciduous trees that lose their leaves in the fall. This garden is stunning throughout the four seasons. Can you find something beautiful today?

Materials

- Magnifying Lenses

Activities

1. Explore the Southern Seasons garden by walking through all the different paths and look for forest life. What kinds of plants do they see growing? What kinds of animals would live in this type of habitat?
2. Lay down on a secluded path and look up at the tree leaves. What kind of movement do they see? What kind of animals or bugs can you see moving in the treetops?
3. Look under the leaf litter for small insects. What are those insects doing? Look closely at the insects. Do they have 6 legs or many legs? Do they have 3 body parts or many body parts? Please remember to replace the disturbed leaf litter.
4. Use the magnifying lenses to investigate tree bark. When they look closely can they see any holes for insects? What might live in those holes? Can they see small, camouflaged insects living on the bark?
5. Talk about the four seasons in Georgia and this Temperate Forest. What happens to the trees in the fall, winter, spring and summer? What season is it now?
6. Find something living and something non-living. Discuss the difference between living and non-living materials.
7. Look at the different leaves. What are some similarities and differences between the different leaves?

Follow-up Activities

1. Have the students trace their hand and arm with brown marker on a piece of paper which will represent a tree trunk. Give them time to draw animals and plants on or around their tree. Depending on the season, ask the students to adorn their tree trunk with different seasonal elements (fall: colored leaves, winter: no leaves, spring: flowers, summer: green leaves).
2. Ask the students to collect three different leaves from trees near their home. In the classroom discuss the differences and similarities between the leaves. Make leaf rubbings by placing a white sheet of paper on top of each leaf and rub a peeled crayon horizontally over the leaf and paper. Choose different characteristics for the students to sort the leaves by such as size or appearance.

2. Japanese Garden

Read Aloud

The initial and lasting impression of the Japanese Garden is a peaceful feeling. This garden was created to generate a calm feeling and to provide a setting for quiet reflection and inspiration. Rocks, bamboo, and water are elements found in most Japanese gardens. Rocks symbolize permanence and longevity. Bamboo symbolizes resilience or strength to overcome challenges and water symbolizes purity.

Materials

- Bamboo sample

Activities

1. Locate and identify the three key elements of the Japanese Garden - Rocks, bamboo, and water. As you talk about the bamboo pass around the piece of sample bamboo. How does it feel?
2. Have the students stand quietly with their eyes closed for 30 seconds and listen for any sounds that they hear. Discuss what they heard. Did they hear new sounds that were not there before?
3. Look at the colors present in the Japanese Garden. Which color do they see the most? This Japanese Garden is a monochromatic garden, which means that it has primarily one color – green. How do the green plants look different (shape, texture)? Are they all one shade of green? What other colors can you see in the Japanese Garden?

Follow-up activities

1. Create your own miniature Japanese Garden. Be sure to include the three elements - rocks, bamboo or wood, and water or sand.
2. Find a quiet peaceful place around your school or home to sit and observe nature. Write a poem about what you see and how it makes you feel.

3. Rose Garden

Read Aloud

The Rose Garden is home to colorful varieties of old fashioned and antique roses. These roses usually bloom in many colors during the spring and fall. During winter, you can see other colorful flowers such as pansies and violas. Roses attract and feed many different types of pollinators such as bees and butterflies with their vibrant colors and delightful fragrances. After a flower is pollinated, it produces a fruit or a seed. The fruit of a rose plant is called a rose hip, which is usually orange or red.

Materials

- Colored paper chips for matching game

Activities

1. Give each student a few different colored paper chips. Have them find a rose that matches with each color. Be sure to smell each rose that you match a color to and pick out your favorite and least favorite smelling rose. During the winter have the students find pansies that match their color chips.
2. Call out a color (green, red, yellow, pink, orange, purple) to the students and ask them to stand by that color in the Garden. After you have called all the colors in a rainbow, ask them to find a flower that has two colors, flower that has petals smaller than their small fingernail, flower with 5 petals and/or a flower with more than 12 petals.
3. Find two terra cotta pots along the gray stone wall of the rose garden. Those pots contain different herbs. Lead the students in rubbing the leaves with their fingers and then smelling their fingers (be careful not to pick the leaves). What is their favorite smell? How do the herbs smell the same or different? How do the herbs feel the same or different?
4. Look for orange or red fruits on the rose plants. Those are called rose hips. Discuss the life cycle of a plant: seed grows into an adult plant; adult plant produces a flower that is pollinated by an insect or the wind; after pollination, the flower wilts and leaves behind a seed or fruit with seeds; seed grows into another adult plant. How does a rose hip look different from a flower? How does a rose hip look similar or different to other common fruits like a peach, apple, banana or grape? How does a seed look different from an adult plant?
5. Have the students try to find pollinators on the flowers and ask them to observe each pollinator as it visits the flower. Can they see yellow pollen baskets on the bee's legs? Can they see the butterfly's proboscis (straw like mouthpart) unroll to drink the flower nectar? Discuss how pollinators help the plant produce fruits and seeds.

Follow-up activities

1. Draw or paint a picture of a garden with all the colors of the rainbow.
2. Read through [A Reason for a Flower](#) by Ruth Heller. Review concepts learned in the book with the students. What is a seed, fruit and flower? What grows from a seed? What happens when a flower is pollinated? How do the seeds, fruits and flowers in the book look different? How do they look similar?
3. Plant flowers at home or at school that attract and feed pollinators. Here are a few plants that may help you get started - butterfly bush, coneflowers, geraniums, salvias, lantana, iris, day lilies, and verbena.

4. Reflecting Pond (located in front of the Conservatory)

Read Aloud

The pond in front of the Conservatory contains exotic aquatic plants including hardy water lilies, umbrella grass, and lotus blossoms. It is also home to three types of goldfish (fan tails, darter and shobunkins), frogs, and visiting ducks. The fish are in the pond year-round and feed on the insects and other small aquatic life in the pond. The staff does not feed them. Coins should never be tossed into this pool. The metals from the coins have a negative effect on the plant and animal life.

Materials

None needed

Activities

1. Try to locate the three different types of goldfish in the pond. Count the total number of fish living in the pond.
2. Talk about what a fish needs to live – water, food, air and shelter. How do fish get air? What do they eat? Where can they hide from predators?
3. Try to locate a tadpole or a bullfrog. Discuss the life cycle of a frog (egg – tadpole – frog). It might be difficult to find frogs and tadpoles during the winter months because they hibernate throughout the winter.
4. As a group try to find the biggest fish and the smallest fish.

Follow-up activities

1. Learn more about the life cycle of fish and frogs. How are their life cycles similar and different? How do the parents look similar or different from their babies? Recommended books: Frog (Watch Me Grow) by DK Publishing and A Tale of a Tadpole by Karen Wallace (SKL2.c, SKCS5.a)
2. Make a model of your favorite fish or frog. Try to make your model out of recycled items like cans, plastic containers and plastic bottles. Give your fish or frog a name and come up with a short story describing your model. What does it eat, where does it live, etc.

5. Poison Dart Frog Display

Read Aloud

Poison Dart Frogs live in tropical rainforests. Their bright colors and unique patterns warn predators that they are poisonous. Poison Dart Frogs got their name because the poison on their skin is used on the tips of hunting arrows. Near the restrooms is a terrarium with the terrible trio: three types of poison dart frogs that have enough poison in their skin to kill humans. Don't worry, these particular frogs aren't poisonous. Poison Dart Frogs become poisonous from their diet. In the wild they eat things that contain poisonous toxins that make them poisonous. At the Atlanta Botanical Garden, they are fed fruit flies and crickets that do not have those toxins.

Materials

None needed

Activities

1. Have the students count the frogs in each terrarium. How many different kinds of frogs are in each terrarium?
2. Discuss how each frog looks different. Are some frogs bigger than others? What colors are the frogs?
3. Have each student look for the things frogs need to live – water, air, food (small crickets and insects) and shelter (plants).
4. Discuss the life cycle of a frog. (egg – tadpole – frog)

Follow-up Activities

1. Design your own Poison Dart Frog – give each student a blank picture of a frog. Have them color it like a Poison Dart Frog.
2. Visit saveafrog.org and learn about the Atlanta Botanical Garden's Amphibian Conservation program.

6. Rain Forest

Read Aloud

Shhhhhhhhhhh. Listen. Can you hear the Poison Dart Frogs calling? What about the quail walking on the ground? This amazing room is similar to a tropical rainforest environment. The plants growing here are from around the world and many of them have special characteristics that help them grow in a warm and wet environment. Some plants have giant leaves to capture sun and some will grow on other plants to get a boost up to the sunlight. Can you find a plant with dark green or reddish colored leaves? The darker colored leaves help the plant absorb more sunlight in this shady environment.

Materials Needed

- None

Activities

1. Ask: What is the temperature like in this room? Does the air feel wet or dry? Is it sunny or shady in the tropical rainforest? How does it feel similar or different to the air outside?
2. Ask the students to stand quietly and close their eyes for 30 seconds. Discuss what they heard with their eyes closed. Did they hear any new sounds? If there is time, take a quick moment to go outside and conduct the same listening activity. How do the sounds in the Tropical Rotunda compare to the sounds outside?
3. Look for the following plant adaptations. When you find one, read the brief description to the students.
 - a. Gigantic leaves – Some rainforests plants have very large leaves so that they can capture more sunlight.
 - b. Leaves with red undersides – Some rainforest plants have red undersides that help the plant absorb more sunlight in the shady understory.
 - c. Leaves with pointy tips – Pointy leaves help the plant channel rainwater away from the roots. This keeps the plant from getting too much water.
 - d. Plants with other plants growing on them – Those plants are called Epiphytes (**ep-uh-fahyt**) and they like to grow on other tall plants so they can get more sunlight. They get their water and nutrients from the air. They do not harm the host plant.
3. Look and listen for wildlife. Below is a list of what you might see with your group.
 - a. Saffron Finch (small yellow bird) – These birds like to fly around in the canopy. In the wild, they are found throughout South America.
 - b. Quail (large brownish birds walking on the ground) – There are three different kinds of quail living in the Conservatory: Scaled Quail and Valley Quail from the western U.S. and Mexico and the Japanese Quail from southeast Asia.
 - c. Poison Dart Frogs – These frogs are hard to spot, but easy to hear. If you hear a singing trill, it is a Poison Dart Frog trying to establish its territory or trying to find a friend.
 - d. Alligator Snapping Turtle – To find this fish-eating turtle, look under the bridge by the waterfall. The Alligator Snapping Turtle lives in ponds in the Southeastern United States. They do not leave the water except when a female lays eggs.

Follow-up activities

1. Read stories about the rainforest like Welcome to the Greenhouse by Jane Yolen and Sounds of the Wild: Jungle by Maurice Pledger
2. Make a rain forest habitat out of items found around your schoolyard.

7. Desert

Read Aloud

Deserts are difficult habitats to live in. It rarely rains and the temperatures can rapidly change from very hot to very cold. As a result, desert plants are tough. They have small leaves so they do not burn in the sunlight and they store as much water as possible in their leaves and stems. Plants that store water in their leaves, stems and roots are called succulents. Look around, this room is full of juicy succulents. Do you see a plant with hairs or spines? The spines protect the plant from other hungry or thirsty animals. Be careful not to touch those prickly plants!

Materials needed

- One container of aloe vera gel

Activities

1. Ask: What is the temperature like in desert house? Does the air feel wet or dry? Look at the ceiling. Is it covered in plants like the rainforest? Why not?
2. Look for the plant adaptations listed below. When you find one, read the brief description to the students.
 - a. Small leaves – Desert habitats are extremely sunny. Sometimes a plant can get burned by the sunlight just like humans. To protect themselves against the sun, they have small leaves.
 - b. Thick juicy leaves or stems – Since plants in the desert do not get a lot of water from rain, they store it as long as possible in their leaves, roots and stems. These plants are called succulents.
 - c. Hairs and Spines – Desert plants protect themselves against hungry predators with sharp spines. Sometimes, the spines can have poison on them that will hurt the predator. Be careful!
3. Find a plant that we use for medicinal purposes (rosy periwinkle- found near the door to the rainforest; aloe vera- located near exit door). Compare aloe vera gel to the actual aloe plant. The sap of the aloe plant is a thick gel. The gel in the aloe vera plant is used medicinally to treat burns, cuts, and rashes. There are many species of aloe, which are not all used medicinally like aloe vera. Some aloes can even have an irritating sap.

Follow-up activities

1. Make a model of your favorite desert plants using recycled items. Encourage students to make unique desert plants.
2. Learn more about deserts and discuss how they are different from other habitats.
Recommended books: About Habitats: Desert by Cathryn Sill and John Sill and Here is the Southwestern Desert by Madeleine Dunphy and Anne Coe
3. Make a desert container garden. Be creative. Use something like an old bowl. Be sure to put holes in the bottom for proper drainage. Mix equal parts of sand and soil to form a well-drained medium for your desert plants to thrive in. Paint the bowl with a desert scene. After you plant your desert plants, add some stones and some desert animal figures for fun. If you have questions about how to plant your desert plants, call our Plant Hotline at 404-888-4769.

8. Orchid Center

Read Aloud

The Orchid Center is full of bright blossoms and wonderful fragrances. Most of these flowers are from the Orchid family, which means they have similar flower and leaf structures. Nonetheless, when you look around you will see that Orchids have many different colors, smells and shapes. While walking through the Orchid Center take some time to stop and smell the orchids. You may notice some surprising scents.

Materials

- None

Activities/Discussion Questions

1. Walk through the Orchid Center and discuss the different flowers. How do they smell different? What are some different sizes? What different colors can they see? How do the plants grow differently (some may have one stalk of flowers versus many stalks of flowers, exposed roots, or bulbs)? Choose two different flowers and lead a discussion about how those two flowers are the same and different.
2. The Orchid Center has two rooms: Low Elevation and High Elevation. Please walk through both rooms. The High Elevation room is slightly cooler because it has a specially modified cooling system that mimics the cooler, moist environments in tropical mountain habitats. How do orchids in the Low Elevation room look different from orchids in the High Elevation Room. How do the rooms feel different?

Follow-up Activities

1. Provide students with various craft supplies: construction paper, chenille stems, tissue paper, puff balls, felt, scissors, tape, etc. and have the students construct and design their very own flower. Put them on display and ask the students to describe ways their flower is the same or different from other student's flowers.
2. Recommended book: Legend of the Lady Slipper (Ojibwe Tale) by Margi Preus, Lise Lunge-Larsen and Andrea Arroyo

9. Bog Garden (also called Conservation Bog Garden - located behind the Fuqua Orchid Center)

Read Aloud

Bogs, also called wetlands and swamps, are a habitat with wet soil and water loving plants. All plants need water, sunlight, air and nutrients to live. Bogs have plenty of water, sunlight and air, but they do not have a lot of nutrients in the soil. As a result, some plants living in bogs get their nutrients from the insects that they capture and digest. The hardy carnivorous (kärniv(ə)rəs) or insect-eating plants that live in this bog are called pitcher plants. Many of the carnivorous plants, like the pitcher plant and the Venus flytrap, are endangered in the southeastern United States due to habitat destruction and poaching.

Materials

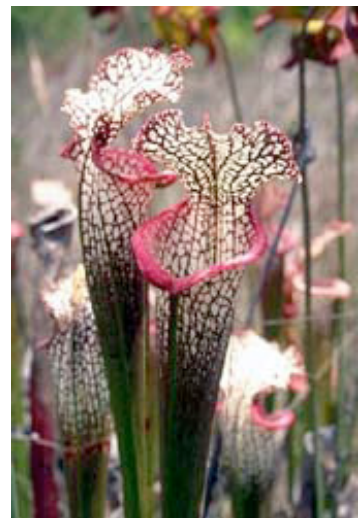
- Magnifying glasses

Activities

1. Find a Pitcher Plant (see picture below) and read the following description to the students – Insects, like bees, butterflies and ants are attracted to the top of the pitcher plant because of its bright red color and sweet smell. As an insect begins to investigate the tempting treat, it loses its footing because of the slippery sides or the downward pointing hairs and falls down into the pitcher that is filled with digestive fluids like the saliva in your mouth. The insect cannot escape because the sides are very slippery or because of downward pointing hairs. Eventually the insect dies and the plant absorbs nutrients from the insect.
2. Peek inside a pitcher plant and count how many bugs you can find. Are any still alive? Do you recognize any of them?
3. Gently feel the hairs inside the purple pitcher plant. Which way do the hairs point, upward or downward? Those hairs prevent insects from crawling out of the pitcher plant.
4. Feel the soil in the bog. Is it wet or dry?
5. Walk around the aquatic plant pond and look for wildlife. The pond has different types of fish, frogs, tadpoles and sometimes turtles. What other animals live in wetlands?

Follow-up activities

1. Learn more about carnivorous plants by reading through Plants that Eat Animals by Allan Fowler or DK Readers: Plants Bite Back! By Richard Platt. Discuss the different methods plants use to capture their prey. How are carnivorous plants similar or different?
2. Buy a Venus flytrap for the classroom. Make observations and record the changes.



Trumpet Pitcher Plant