



# Explore PLANTS



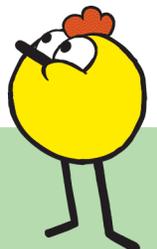
## Teaching Strategies Learning Environments

### What Is an Effective Learning Environment?

- **A safe and well-organized learning environment** is full of sensory (visual, tactile, hearing, and kinesthetic) opportunities.
- **It offers children a variety of experiences**, giving them the freedom to explore what captures their attention. It doesn't have to be limited to one learning center or the classroom. It can include all areas of the room, meal times, hand washing, outdoor play and observing the world outside.
- **Traditional learning centers**, like a science center, library corner, block center, or dramatic play area, can be modified or changed so they serve as plant exploration centers.
- **Temporary, flexible spaces** can also be created or transformed as needed—whether they are indoor or outdoor areas. A “science area” may be a table that is used as a rotating exploration center with tubs that are brought out and journals to record observations.
- Learning environments for exploring plants can be used for **specific guided activities** or opened up for **free exploration**.

### How does a learning environment encourage science exploration?

- **Science exploration is about direct experience and hands-on investigation.** Learning centers allow children to:
  - explore on their own time and in their own way.
  - look at, touch, and manipulate objects.
  - build their understanding by repeating an activity many times.
- **A variety of different spaces and materials can** contribute to learning, including:
  - open spaces for energetic explorations.
  - quiet spaces for reflection, reading, or alone time.
  - playgrounds for outdoor investigations.
  -





# Explore PLANTS

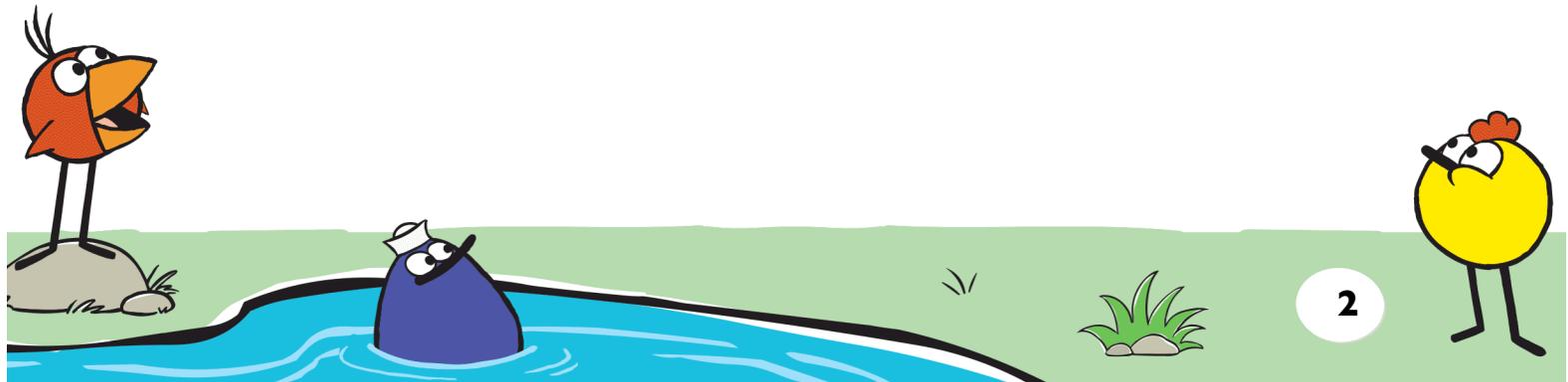


## Teaching Strategy: Planning a Learning Environment

### *Why is planning a learning environment an effective teaching strategy?*

A well-organized, intentionally planned learning environment encourages children to explore with specific materials and learning goals in mind.

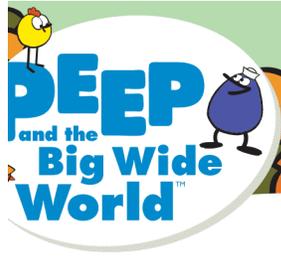
- **Modify your permanent learning spaces or create flexible ones.** If your classroom already has a permanent science center, use it as an area to explore plants. If you cannot add a permanent science learning center, modify the learning centers you already have, such as your block, dramatic play, art, and library centers, tailoring them to your science explorations.  
**Example:** Put shovels, pots, and artificial flowers in your dramatic play area to transform it into a garden center. You'll also want to create temporary spaces that focus on different plant explorations. A window and window ledge can become a place to display and observe growing plants.
- **Use learning environments for both guided activities and free exploration.** A learning center can double as a setting for an educator-guided activity that focuses on a specific investigation as well as one that offers free exploration.  
**Example:** You might lead a guided activity in which children plant seeds. After the activity, you might put out seeds for children to sort and count on their own, or add to a Plant Museum.
- **Work with what you have.** Creating a rich learning environment for plant exploration doesn't take a lot of additional materials. After all, plants are all around us—the places right outside your door hold potential for adventures with plants, flowers, and trees.





- **Organize the space and materials.** To help you create a dynamic environment for science exploration, ask yourself some questions that will help inform the activities you choose, the spaces you set up, and the materials you make available to children:
  - What experiences do I want children to have?
  - What do I want children to learn about plants?
  - What are their interests, abilities, and cultural backgrounds?
  - Do I want children to be sitting, standing, or both?
  - How much space does the activity require?
  - Is the activity messy?
  - Will the activity work differently indoors and outdoors?
  - What other props will support the children’s learning about plants?
  
- **Place materials in accessible locations.**
  - If materials such as spray bottles, soil, and water are easily reachable, in appropriate containers, and at the right height, children will feel comfortable working and will be drawn to experiment.
  - Simple rules will help them develop a sense of responsibility for the materials.
  
- **Plan for messes—leave materials for cleaning up nearby.**
  - Science can get messy. If children are watering seeds and repotting plants, spills are inevitable. Have plenty of paper towels ready and allow children to take responsibility for cleaning spills.
  - Children need the freedom to explore materials in a center with as few restrictions as possible. Planning for mishaps helps eliminate some of the warnings and reprimands that can interfere with a young scientist’s discoveries.
  - Asking children to help in any cleanup can increase their sense of responsibility.
  
- **Make the most of your outdoor spaces.** Enjoy being outside and listening and observing when you are there. Science is play too!  
**Example:** Children can search for plants in the cracks of a sidewalk or along a stone wall. They can hunt for plants and then create their own field guide featuring pictures and dictated descriptions of their findings.  
**Example:** Encourage children to measure tree trunks with their arms or play a movement game where they pretend to be seeds that sprout and grow into big, tall plants.





# Explore PLANTS



## Your Experiences

- What types of permanent indoor learning environments exist in your classroom?
- What is your outdoor space like? What activities seem to work best outdoors?
- What kinds of temporary learning centers have you created—indoors and outdoors?
- Does your space present any challenges? How have you overcome them?

## Teaching Strategy: Offering Choices

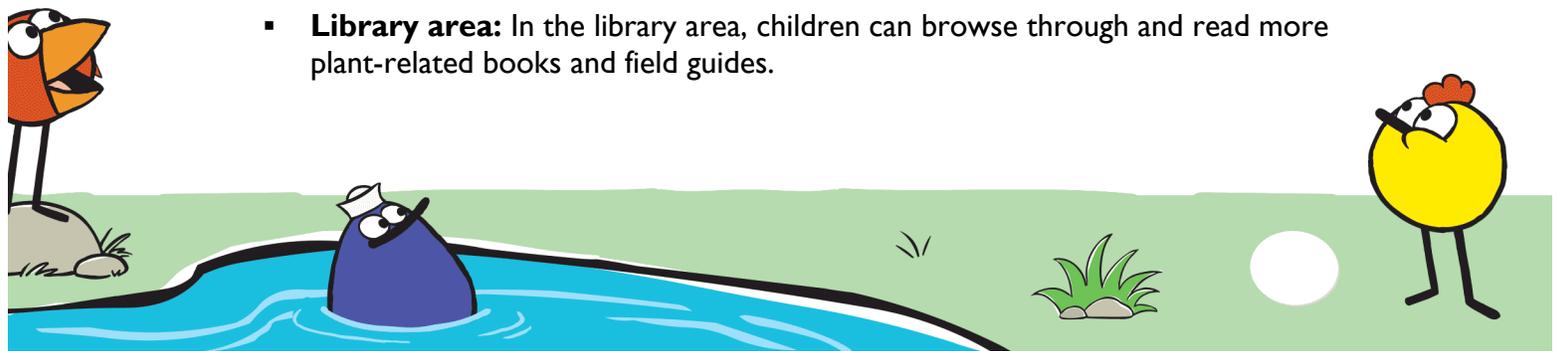
### *Why is offering choices an effective teaching strategy?*

Children appreciate options. Flexibility and choice are key when setting up a learning space. Offer children different and varied experiences, and let them follow their interests. This strategy not only helps address a child's individual needs, but it also helps children to become independent learners.

## Spaces

You already have learning centers in your classroom—spaces designed for specific types of exploration. Help children become familiar with what happens there and the different choices available to them. You can use cardboard boxes, rugs, or even chalk to create temporary learning spaces, both indoors and outdoors. Learning areas can also be tables with chairs or just a corner of a room. You can adapt these spaces for learning about plants in a variety of ways:

- **Open space:** This learning area (indoors and outdoors) allows children to move their bodies. Children can play a version of Duck, Duck, Goose! (Seed, Seed, Sprout), match leaves to trees, or collect twigs and branches and sort them into categories.
- **Water area:** The water table is a great place to experiment with growing things. Children can water plants and sprout seeds.
- **Rug:** This is where children can get comfortable for read-alouds, browsing field guides, and sorting seed packs.
- **Table:** Tables provide a natural location for spreading out and working on plant-related activities.
- **Library area:** In the library area, children can browse through and read more plant-related books and field guides.





# Explore PLANTS



- **Art area:** Here children have access to easels, smocks, paper, crayons, markers, and paints.
- **Quiet area:** Setting aside a quiet area gives children a place to retell stories about plants or spend a few peaceful moments looking out the window at nature.
- **Sensory area:** The sensory area is ideal for hands-on activities. Children can experiment with leaves, bark, soil, and seeds.
- **Display area:** Use a bulletin board, wall, and/or table to display art, charts, and works in progress.

## Materials

Offer a choice of stimulating and interesting materials. Different types of materials encourage different types of exploration.

- **Leaf Sorting Center** and a **Leaf and Bark Rubbing Center:** You can create one station where children make rubbings or collages using leaves and bark, and another where they sort leaves according to shape, size, or color. They may naturally gravitate to one station or the other. After they've explored both, you'll have a great opportunity for a discussion about leaves and their attributes.
- **Indoor Garden:** Set up an indoor garden with houseplants, cut flowers, and collected branches and twigs. Provide spray bottles for children to water the plants or challenge them to create a plant-watering device using a zip lock bag. Lay out string or paper strips for measuring growth.
- You can add variety by **adding or taking away materials** on different days.
- **Remember to be selective, however**—too much choice can be overwhelming for young children. For instance, if your learning center focuses on growing seeds, set out just one type of seed that day.

## Your Experiences

- What types of learning centers have been most effective in your setting?
- What have you done with your space to make it varied and to stimulate the curiosity of children with different interests and abilities?
- What might you add/change after hearing about these ideas?





## Teaching Strategy: Encouraging Exploration Throughout the Day

### *Why is encouraging exploration an effective teaching strategy?*

- Science is all about investigation and discovery; it's hands-on and requires that children learn through experimentation and trial-and-error.
- As you explore plants, make sure some of your learning environments support open-ended exploration, so children can follow their own interests, explore further, and make new discoveries. (At other times, you can use this same learning center as the setting for guided activity focused on a specific investigation.)

### *The following strategies will help encourage learning everywhere:*

- **Allow lots of free exploration.** This may lead children down new and perhaps unexpected paths, and help them become invested in learning about plants.  
**Example:** You may have a learning center with both potted and cut flowers for children to observe and compare along with supplies for measuring and watering the plants. One child might decide to water both and draw pictures depicting what happens.
- **Follow children's lead.** Science exploration works best when you are following children's interests and addressing their questions—that guarantees they'll be engaged and motivated. They will also become more confident in their abilities, and develop leadership skills and independence.  
**Example:** If children are playing outside and a child notices the roots of a tree, call everyone over to investigate. Together, look for roots of other plants growing outside. Then bring out some of the plants children have been growing in plastic sandwich bags to compare the roots. Take photos showing the different roots that children discover and create a gallery in the classroom.
- **Integrate plant learning throughout the day.** Everyday routines offer an easy way to explore plants.  
**Example:** During snack time, look for seeds in fruit or discuss how every living thing needs water to help it live and grow. As you play outside, point out plants and trees. As children get ready to go home, have them sing a plant-related song or rhyme.





# Explore PLANTS



- **Use the whole space as a palette for learning.** Your environment and the world right outside your door offer opportunities for learning about plants. **Example:** Try gathering around a window for a game of I Spy. During meal time, look at what plants everyone is eating. Ask families to notice what plants they see when they go home from school at night.

## Your Experiences

- Can you share a time when you followed a child's lead and a spontaneous learning moment occurred?
- In what surprising places have learning moments happened in your program?
- How do you encourage learning and discovery during your daily routines—while taking a walk, for example, or preparing for lunch?
- What might you add/change after hearing about these ideas?

## More Resources

### *For more information on learning environments*

There are additional Teaching Strategy PDFs on the PEEP Web site along with instructional videos. These illustrate learning environments related to the other PEEP science units: Colors, Water, Shadows, Ramps, and Sound.

### *For more videos and information on other topics*

In addition, the Web site offers Teaching Strategies and videos on other professional development topics: Documentation and Reflection, Individualized Instruction, and Science Talk.

