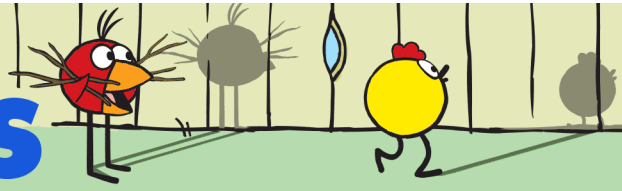




# Explore SHADOWS



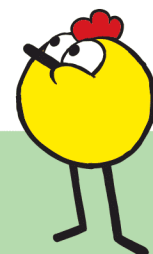
## Teaching Strategies Learning Environments

### What Is an Effective Learning Environment?

- **A safe and well-organized learning environment** is full of sensory (visual, touch, hearing, and kinesthetic) opportunities.
- **It offers children a variety of experiences**, giving them the freedom to explore what captures their attention. For the family child care educator, it can include spaces in the home, the yard, or local park/outdoor play areas.
- **Traditional learning centers**, like a library corner, block center, or dramatic play area, can be modified or changed so they serve as shadow exploration centers.
- **Temporary, flexible spaces** can also be created or replaced as needed—whether they are indoor or outdoor areas. A feature of many family child care homes is the flexibility to set up areas that can be changed back to family spaces at the end of the day or week.
- Learning environments for exploring shadows can be used for **specific guided activities** or opened up for **free exploration**.

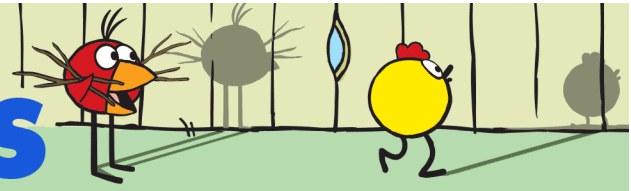
### How does a learning environment encourage science exploration?

- **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 time by oneself.
  - yards and playgrounds for outdoor investigations.





# Explore SHADOWS

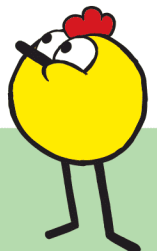


## Teaching Strategy: Planning a Learning Environment

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

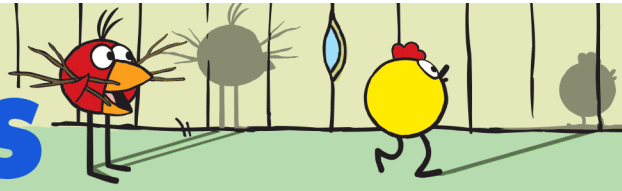
A well-organized, intentionally planned learning environment encourages children to explore with specific materials and learning goals in mind.

- **Modify your permanent learning spaces or create flexible ones.** Your permanent learning centers, such as a block, dramatic play, art, or library center, can be tailored to your science explorations.  
**Example:** Put flashlights in your block area so that children can use them to create block shadows. You might also set up a shadow observation journal near a window so that children can draw any interesting shadows that they see outside.
- **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 trace their shadows. After the activity, you might set out crayons, markers, and paints so that children can add in any details that were not captured when they traced their shadow. This can lead to a rich discussion about why certain things can be seen in a shadow and why others cannot.
- **Work with what you have.** Creating a rich learning environment in which to explore shadows doesn't take a lot of additional materials. After all, shadows are all around us.
- **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 shadows?
  - What and how will I engage the children? What are their interests, abilities, and cultural backgrounds?
  - Do I want children to be sitting, standing, or both?





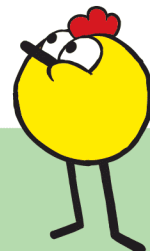
# Explore SHADOWS

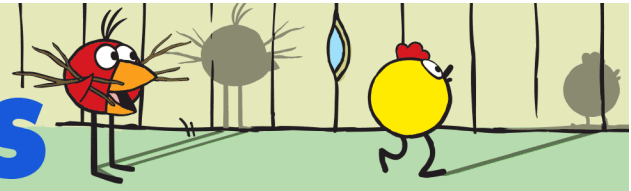


- How much space does the activity require?
  - Is the activity messy?
  - Will the activity work differently indoors and outdoors?
  - What other props will support children’s learning about shadows?
- **Place materials in accessible locations.**
    - If materials such as flashlights, sketch books, paper, markers, and small objects that make interesting shadows are in appropriate containers, and at the right height for children, they 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 exploring shadows outdoors they will probably get dirty. Have soap and paper towels ready when children come inside and encourage them to be responsible for cleaning themselves.
    - 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.** Not all home-based educators have access to a yard, but local parks and other outdoor spaces can provide children with dynamic learning experiences.  
**Example:** Children can search for shadows on the sidewalk or on the walls of buildings. They can find out what happens to their shadow when they stand under a shady tree or behind a fence and can discover different ways to make their shadow shrink and grow.

## Your Experiences

- What types of permanent indoor learning environments exist in your home child care?
- 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

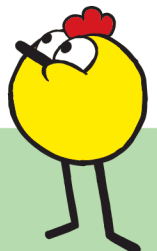
### Why is offering choices an effective teaching strategy?

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, it also helps children to become independent learners.

### Spaces

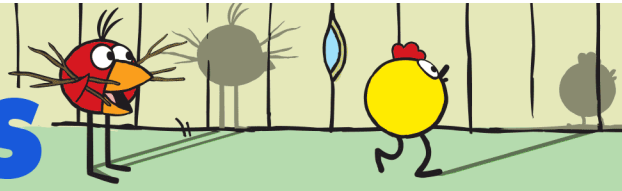
You already have learning centers in your home—spaces designed for specific types of exploration. Help children become familiar with what happens there and the different choices available to them. You can use cardboard boxes, rugs, or even chalk or tape to create temporary learning spaces, both indoors 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 shadows in a variety of ways:

- **Open space:** This learning area (indoors and outdoors) allows children to move their bodies. Children can create shadows with their hands, feet, legs, and bodies and even work with other children to create giant shadows.
- **Window area:** The windows in your classroom are perfect for exploring shadows. Set out found objects and challenge children to try and use these objects to make shadows using the sunlight coming through the window. Children can also visit the window throughout the day and make observations about where the sun is and how this affects shadows they see outdoors.
- **Dramatic Play area:** Create a shadow puppet theater using a large white sheet and two chairs, plus a desk lamp.
- **Rug:** This is where children can get comfortable for read-alouds, playing with shadow puppets, and making shadows on the ceiling using flashlights or lamps.
- **Table:** Tables provide a natural location for spreading out and working activities like drawing or tracing shadows.
- **Library area:** In the library area, children can browse through and read shadow-related books.
- **Art area:** Here children have access to easels, smocks, paper, crayons, markers, and paints. They can cut out shadow puppets, paint shadow silhouettes, and draw pictures of their shadow discoveries.
- **Quiet area:** Setting aside a quiet area gives children a place to experiment with shadows by themselves.





# Explore SHADOWS



- **Sensory area:** The sensory area is ideal for hands-on activities. Children can make shadows with found objects and flashlights.
- **Display area:** Use a bulletin board, wall, and/or table to display photos of shadows, shadow art, charts, and other shadow-related works, such as shadow puppets.
- **Lawn/Playground:** On sunny days, encourage children to explore shadows outdoors by having them hunt for shadows made by objects or make shapes using their own shadow.

## Materials

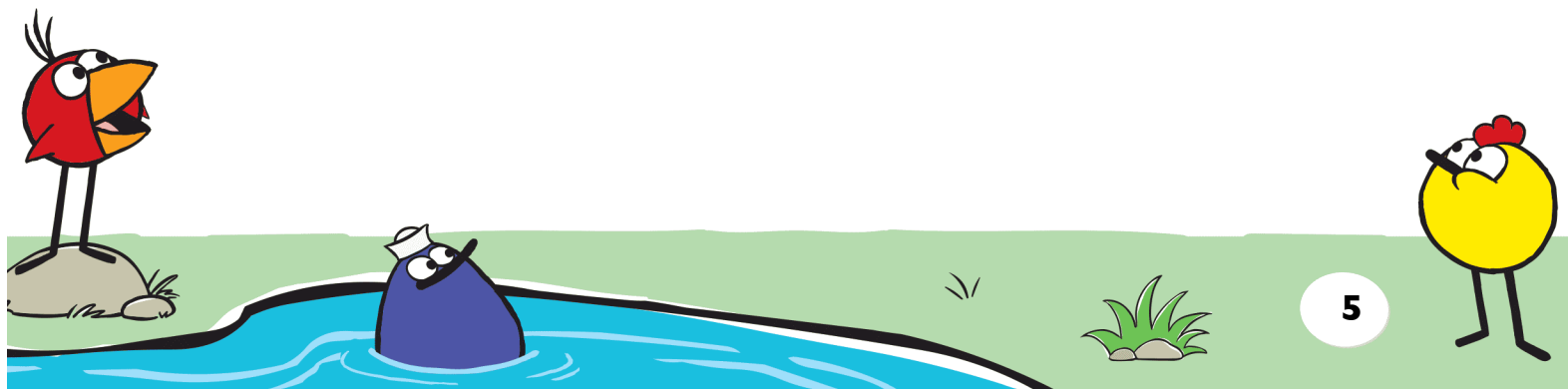
Offer a choice of stimulating and interesting materials. Different types of materials encourage different types of exploration.

- You can create one station where children make hand shadows and another where they try to make the smallest shadow using simple objects, like a pencil, comb, or bunch of yarn. 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 shadows.
- For shadow stations, be creative in the types of things you set out for children. Provide lamps and flashlights so children can experiment with both fixed and movable light sources. Challenge children to make shadows, change the shape of shadows, and make shadows "hide" or "disappear."
- 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.

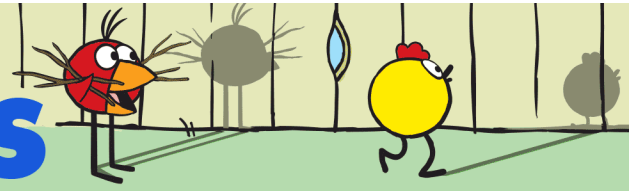
## Your Experiences

- 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 simple materials have you used to define spaces (e.g., a beach towel, masking tape, or piece of cardboard)?
- What might you add/change after hearing about these ideas?





# Explore SHADOWS



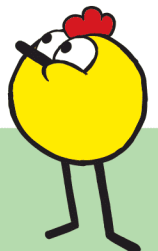
## Teaching Strategy: Encouraging Exploration Throughout the Day

### *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 shadows, 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.)

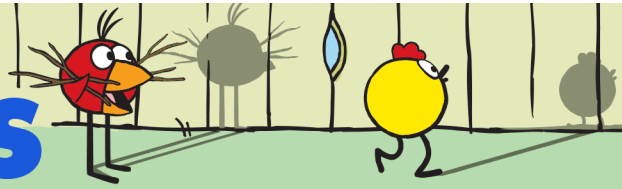
### *The following strategies will help encourage learning everywhere:*

- **Allow lots of free exploration.** This may lead children down new and perhaps unexpected paths, and help them become invested in learning about shadows.  
**Example:** In a learning center with a lamp, let children choose objects from anywhere in your space to experiment making shadows with—a colander or whisk from the kitchen, scarves and mittens from the coat area, past art projects, etc.
- **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 his shadow looks different when it appears on a set of stairs, encourage him to look for other settings that make his shadow look unusual. What does his shadow look like against a fence, over a storm drain, in a field with tall weeds, etc.?
- **Integrate shadow learning throughout the day.** Everyday routines offer an easy way to explore shadows.  
**Example:** During snack time, as you line up, or as you pack up for the day, do a "shadow check" where children look for any shadows.
- **Use the whole space as a palette for learning.** Your home environment and the world right outside your door offer opportunities for learning about shadows.





# Explore SHADOWS



**Example:** Try walking around your building and looking for shadows along the walls and sidewalk. Stand in different parts of your room to see if you can locate your own shadow indoors.

## 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, washing dishes, or setting the table 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, Plants, 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.

