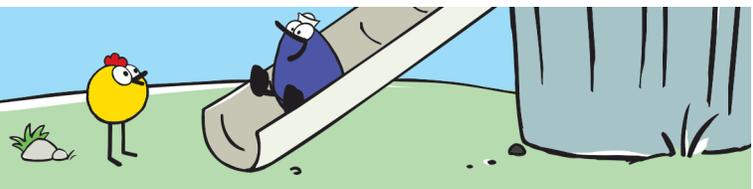


# Explore RAMPS



## 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 ramp 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 ramps can be used for **specific guided activities** or opened up for **free exploration**.

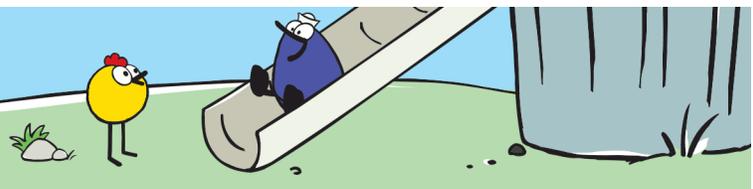
### How does a learning environment encourage science exploration?

- **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.
  - playgrounds for outdoor investigations.





# Explore RAMPS

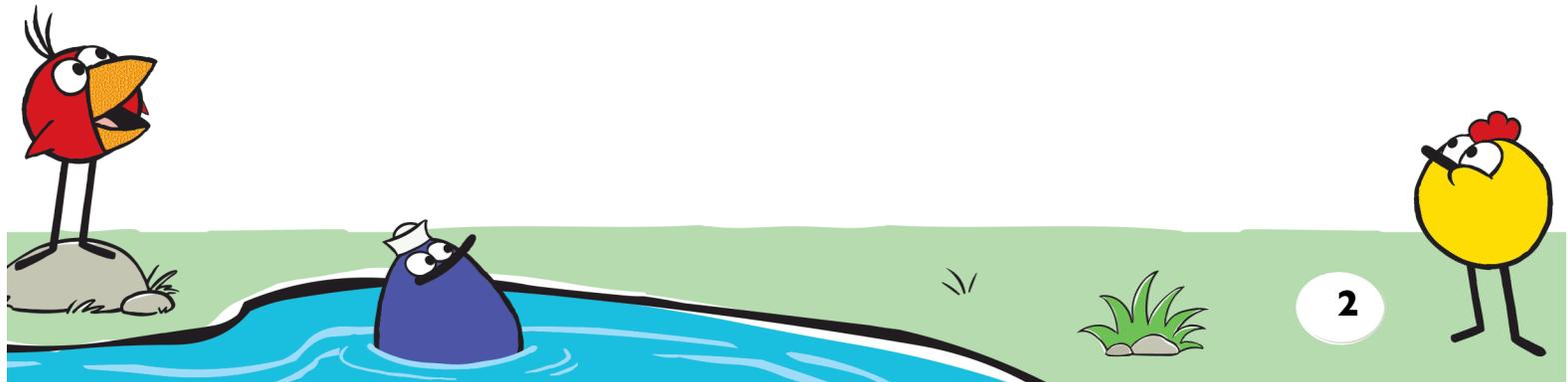


## Teaching Strategy: Planning a Learning Environment

### *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 ramps. 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:** Add paper towel rolls, cardboard, and tape to your block area for ramp building. Hang up photos of wheelchair ramps, moving van ramps, highway on-ramps, skateboard parks, and roller coasters in your art center to inspire children's drawings and diagrams. Add ramp materials to your outdoor play area so children can use slides, seesaws, hills, slanted sidewalks, sandboxes, and hills to explore ramps.
- **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 set up a ramp and then leave out several objects for children to test on the ramp. Set out paper and pencil and ask children to draw a picture of all the objects that rolled on one side of the paper and all the objects that slid on the other.
- **Work with what you have.** Creating a rich learning environment for ramp exploration doesn't take a lot of additional materials. After all, ramps and inclines can be found all around us—a hill or a playground slide make great ramps and can lead to hours of exploration and fun.





# Explore RAMPS



- **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 ramps?
  - What are their interests, abilities, and cultural backgrounds?
  - 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 ramps?
  
- **Place materials in accessible locations.**
  - If materials such as paper towel rolls, cardboard, blocks, and tape 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.**
  - Science can get messy. Make sure there are clearly marked boxes and bins for children to return materials when they are finished. Marbles in particular need to be stored after each use.
  - 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 observing when you are there. Science is play too!  
**Example:** Children can bring objects to the playground and roll/slide them down the slide. Before each object is released, children can predict whether it will roll, slide, or stay put.  
**Example:** Encourage children to be on the lookout for hills, mounds of dirt or sand, and other natural inclines that would make a good ramp.





# Explore RAMPS



## 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

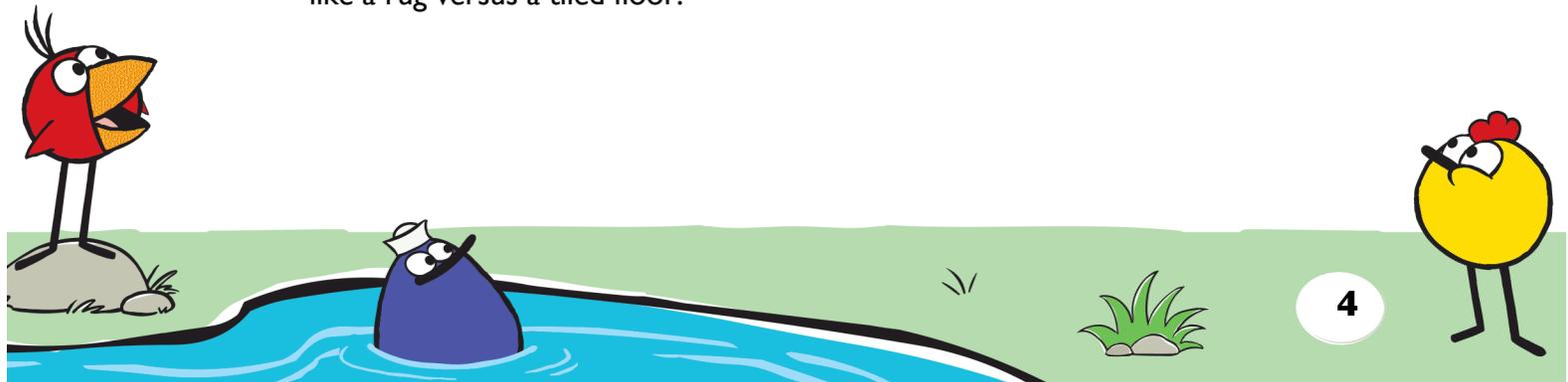
### *Why is offering choices an effective teaching strategy?*

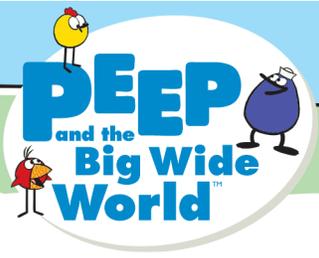
Children appreciate options. Flexibility and choice are key when setting up a learning space. Offer children different and varied experiences, and let them follow their interests. This strategy not only helps address a child's individual needs, but it also helps children to become independent learners.

## 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 ramps in a variety of ways:

- **Open space:** This learning area (indoors and outdoors) allows children to move their bodies. Children can practice rolling and sliding with their own bodies. It also gives them plenty of room to create long and elaborate ramps so that objects can roll or slide farther distances.
- **Water area:** The water table is a great place to experiment with moving water. Children can pour water down plastic tubes and see what happens when they hold this tubing at different angles.
- **Rug:** This is where children can get comfortable for read-alouds, browsing books about ramps, and building large ramps in a big, open space. It also allows them to experiment with how far a ball travels on different textured surfaces, like a rug versus a tiled floor.





# Explore RAMPS



- **Table:** Tables provide a natural location for making small ramps and sorting objects into "roll, slide, and stay put" piles. It's also a good starting place for a ramp—children can tape flat cardboard or tubes to the edge of the table.
- **Library area:** In the library area, children can browse through and read more ramp-related books.
- **Art area:** Here children have access to easels, smocks, paper, crayons, markers, and paints. They can draw their ramps before or after they create them or make up imaginary ones, like fantastical roller coasters.
- **Quiet area:** Setting aside a quiet area gives children a place to spend a few peaceful moments looking around as others experiment.
- **Sensory area:** The sensory area is ideal for hands-on activities. Children can explore ramps with different textures—rugs, bubble wrap, corrugated cardboard, towels, plexiglass, and tiles make for interesting ramp experiments.
- **Display area:** Use a bulletin board, wall, and/or table to display art, charts, and works in progress, such as home made ramps.

## Materials

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

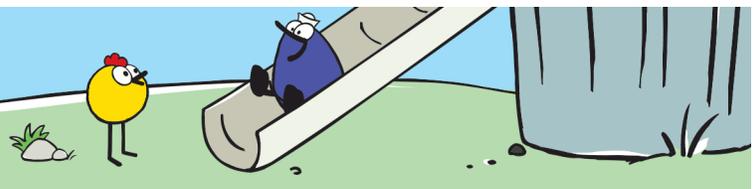
- **Flat ramps:** flat pieces of cardboard, foam core, or wood
- **Tube ramps:** toilet paper and paper towel tubes, cutting some lengthwise in half to make open troughs; poster tubes; PVC tubes; and wooden molding of different lengths, if available
- **Flexible tubes:** foam pipe insulation, some of which can be cut in half to make open troughs; hoses from sump pumps or shop vacs, cut into 4- to 6-foot lengths
- **Objects to roll or slide down the ramps:** markers, rolls of duct tape, balls of various sizes and weights, toy cars, paper clips, plastic utensils, paper plates, etc.
- **Boxes and other objects** for supporting the ramps

**Remember to be selective, however**—too much choice can be overwhelming for young children.





# Explore RAMPS



## 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 or piece of cardboard)?

## Teaching Strategy: Encouraging Exploration Throughout the Day

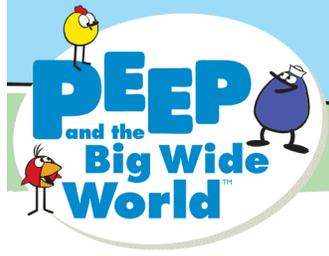
### *Why is encouraging exploration an effective teaching strategy?*

- 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 ramps, 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.)

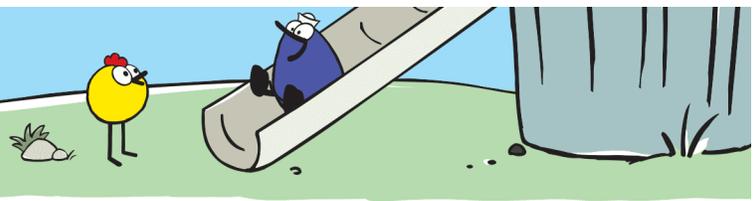
### *The following strategies will help encourage learning everywhere:*

- **Allow lots of free exploration.** This may lead children down new and perhaps unexpected paths, and help them become invested in learning about ramps.  
**Example:** You may have a learning center with a ramp and an observation journal for children to write and draw about the things that they notice.
- **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 a hill that she thinks would make a good ramp, call everyone over and encourage them to test it out by rolling balls and even their own bodies down the hill. Take photos showing children's experiments and create a gallery in the classroom.





# Explore RAMPS



- **Integrate ramp learning throughout the day.** Everyday routines offer an easy way to explore ramps.  
**Example:** During snack time, roll a grape down a place mat. Change the angle of the mat to make it more and less steep and see how this affects the way the grape rolls.
- **Use the whole space as a palette for learning.** Your environment and the world right outside your doors offer plenty of opportunities for learning about ramps. Have children look for ramps indoors or outdoors, and encourage them to build ramps spontaneously wherever they are, using books, boxes, pillows, or furniture.

## 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?

## 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, Plants, 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.

