Activities

Pulley Play

Grades: PreK–K, 1–2

Clocks and More Clocks
By Pat Hutchins

Push and Pull
By Patricia J. Murphy
Overview
Kids explore how pulleys work and how simple machines can make it less difficult to lift something and friction can make it more difficult.

Materials:
• string or twine
• two small pulleys
• hammer and nail or hooks
• duct tape
• small baskets with handles, berry baskets, or small pails
• clothespins
• camera
• chart paper and marker

Developing Skills:
• math
• language
• cooperative skills
• problem-solving

In Advance: Cut a long piece of string and secure the ends with tape, instead of knots, so the string moves easily around the pulleys.
ACTIVITY
Show children a set of pulleys during meeting time and ask if they have ever seen or used pulleys. Run string through both pulleys and invite pairs of children to investigate how the pulleys work.

Place baskets, pails, and clothespins on the floor and ask children to think of ways they could use the pulleys with the materials in the classroom. Invite children to experiment with the materials.

Separate the pulleys and attach a separate string to each one. Ask a child to hold one pulley and invite him/her to think of how he/she could use one pulley at a time to lift or pull the materials.

Invite children to investigate the classroom to determine the best place to set up the pulleys. Assist children with attaching the pulleys by hanging them on nails or hooks. Leave pulleys in the area for a few days so everyone has an opportunity to use them. Then, move the pulleys to another area so children can think of different ways to use them with different materials. Photograph children’s investigations to document the various ways the pulleys were used.

Use the photographs to create a wall display documenting the various ways the class used the pulleys. Record children’s descriptions of each picture and include a summary of what they learned.

Remember: Children may not initially have ideas on how to use pulleys so you may need to develop one or two activities to show them possibilities.

Take-Home Activity
Electric Machines. Ask parents to take a walk through their home with their child and identify machines and appliances that run on electricity. Encourage parents to talk to their child about electric outlets and appliance safety.
Curriculum Connection: Science
Ramps. Collect a variety of small vehicles, rubber and foam balls, and other objects that roll. Invite a few children at a time to experiment with ramps. Provide blocks, cardboard, and paper or plastic tubes. Assist children in creating several ramps at varying angles. Ask children to roll materials down the ramps. Which materials move fastest? How does the angle of the ramp affect the speed of the material? Do different materials move faster than others?

Books:

Clocks and More Clocks
by Pat Hutchins
(Simon & Schuster Children’s, 1994; $5.99)

Push and Pull
by Patricia J. Murphy
(Scholastic Inc., 2001; $4.95)

• Subjects:
Science, Simple Machines, Force, Technology