

Boards and Rollers

Materials Needed

Boards (several lengths and widths ranging from 24 to 60 inches long and 8 to 24 inches wide); Cardboard cartons (in which children can ride); rollers* (different sizes, for example, 1 inch, 1.25 inches, and 1.5 inches in diameter)

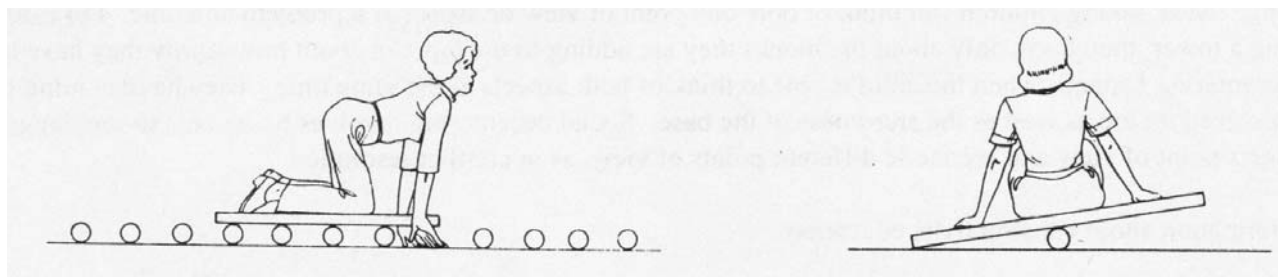
Purpose of Activity

As they act on the different objects, children make hypotheses (guesses) about what may happen and then observe the results. Sometimes the results confirm their predictions. However, frequently objects do not act the way children expect and they are surprised. Children are then led to vary their action (for example, change the position or the size of the rollers) and see what happens. They are stimulated to reorganize their thoughts to make sense of their experiences. In this activity, children can compare the differences in rides when a board is placed on different-sized rollers.

Exploration with these materials also lends itself to sociomoral development. By noticing how other children use materials, a child may be stimulated to use materials in new ways. As they create games (for example, playing with the teeter totter or giving and receiving rides), they must cooperate, negotiate, and make decisions with their peers. Social interaction facilitates language development. Sometimes conflicts arise (over use of materials, turn taking, etc.), and these offer opportunities to develop understanding of self and others.

Beginning the Activity

One way to begin this activity is to introduce the materials during group time and ask the children if they can think of ways to use them. The children may have many ideas. Accept them all and suggest that they try out their ideas during activity time. If interest wanes, the teacher may begin using the materials in different ways. Space the same sized rollers about a foot apart, put a board on the rollers at one end, and ride across the floor, or place one roller under a board and balance on it. Usually seeing new ways of using the materials stimulates children to try new ideas of their own. Teachers can also intervene at appropriate times with questions that encourage reflective thinking. By testing their ideas to see if they will work, young children construct their knowledge about physical causality.



*(One teacher used rollers 2 inches in diameter, but felt it was a little dangerous. Also, she cut the rollers the same length as the boards. The children hung onto the boards as they rolled and smashed their fingers between the boards and rollers. We recommend that you cut your rollers a couple inches narrower than your boards to avoid that problem.)

Constructivist Education

Constructivist education promotes learning and development by engaging children in interesting activities that inspire active experimentation with all its groping and error. These activities stimulate children to invent new problems and new solutions. Teachers foster cooperation between adults and children and among children themselves in a classroom atmosphere based upon mutual respect. This educational environment promotes children's self-regulation, assumption of responsibility, and a feeling of community among children and teachers.

Socioemotional Objectives

- To become increasingly autonomous (that is, capable of making choices and decisions in an environment where adults are supportive of children's efforts and respectful of their ideas and their rights);
- To respect the feelings, desires, and ideas of others and begin to co-operate (through decentering* and coordinating different points of view);
- To be alert and curious and use initiative in pursuing interesting problems, to have confidence in their abilities to figure things out, and to speak their minds with conviction.

Cognitive Objectives

- To exercise reasoning and develop intelligence;
- To develop an attitude of questioning and critical evaluation, and motivation to think about causes, implications, and explanations of physical, logical, and social events;
- To put objects and events into relationships and notice similarities and differences.

Physical Knowledge Activities

One type of physical-knowledge activity involves the movement of objects. When choosing activities involving movement, it is important to keep these four criteria in mind.

1. The child must be able to produce the movement by his or her own action;
2. The reaction of the object must be observable;
3. The reaction of the object must be immediate;
4. The child must be able to vary his or her actions in order to observe variations in reactions.

* Decentering: Most young children can think of only one point of view or aspect of a problem at a time. For example, when building a tower, they think only about the blocks they are adding to the top, not about how sturdy they have made the base. Decentering happens when the child is able to think of both aspects at the same time. They have in mind the blocks being placed on top as well as the sturdiness of the base. Social decentering involves being able to see things from another person's point of view and reconcile different points of view, as in conflict resolution.

For more information about constructivist education:

Kamii, C., & DeVries, R. (1978/1993). Physical Knowledge in Preschool Education: Implications of Piaget's Theory. New York: Teachers College Press.

DeVries, R., & Zan, B. (1994). Moral Classrooms, Moral Children: Creating a Constructivist Atmosphere in Early Education. New York: Teachers College Press.

Kamii, C., & DeVries, R. (1980). Group Games: Implications of Piaget's Theory. Washington, DC: NAEYC.