HANDOUT 11:
PCF: Engaging Families

Bringing It All Together

Building a Castle

The teacher had noticed that several children in her group had shown a strong interest in castles. They built castles in the block area, in the sandbox, and even looked for castles in fairy tale books when visiting the library. The teacher suggested that the group build a big castle outside. They started by gathering the materials. The children brought from home different-size boxes and figures or characters to be included in the castle. The teacher also offered big cylinders, cones, building blocks, construction boards, and other materials. The children made different suggestions: "Put all the big boxes here and the small ones on top of them." "I put it above this for the roof." "We can use these for the tower."

The teacher described their ideas using names of shape and spatial terms. "So you want to put the small square blocks on top of the big rectangle blocks." "Are you suggesting using the cylinders to build the tower?" The children enjoyed building the structure, using different shapes and materials, and were proud of it.

During circle time, the teacher invited children to describe the castle and how it was built. "Look at the castle you built. Can you tell me what it looks like?" Children were encouraged to use spatial words and the names of shapes in their talk. The activity evolved into a long-term project. The children kept adding more pieces to the structure and added different elements to decorate the castle.

The teacher presented a topic of interest to the children in the group. The castle project exemplifies how children can learn about geometry concepts by physically touching, moving, and putting together objects of different shapes. In the process of building the castle, children were encouraged to use the names of shapes and the words to describe spatial relationships (e.g., *above, below).* The teacher has made it a rich learning experience by offering children objects in a variety of shapes, observing children in their work, describing children's ideas in words, asking questions, and inviting children to observe and describe the castle in their own words. The project not only facilitated increasing the children's knowledge of shape and spatial concepts, it also promoted collaboration work and creativity.

Engaging Families

The following ideas may help families to develop children's awareness of geometric shapes:

- ✔ **Encourage parents to refer to shapes in the environment when talking with children.** Parents and other family members can support children's development of geometry concepts through everyday interactions with children. Teachers should encourage parents to refer to shapes in the environment when talking with children, "Look at your pancake. It's a circle. We can use this rectangle pan to bake this cake." When parents and other family members talk with children about shapes, they illustrate the concept of shape and

introduce children to the names of different shapes in their home language. Parents can also help children learn names of shapes by playing games. For example, play I Spy and have children look around the house and identify as many items of a certain shape. When driving, or on the bus, parents can use traffic signs as an opportunity to identify and describe shapes. "Look at this yellow sign. What shape is it?" "The stop sign is red. It is the shape of an octagon. It has eight sides. Let's see if you can find another stop sign." In addition to identifying and naming shapes, children should explore and describe shapes. The teacher should communicate to parents that children learn best about geometry concepts through hands-on experiences. Holding and manipulating objects of different shapes, building with blocks, drawing and tracing shapes, creating shapes with play dough, or doing a puzzle all help children learn about the characteristics of different shapes.

- ✔ **Encourage parents to use spatial words in everyday interactions with children.** Parents use spatial words to describe position and direction in space in everyday interactions and play with children ("I am right *behind* you," The book is *on* the chair," "Put the shoes *under* the bed"). Parents should be aware of children's opportunities to experience and describe themselves in space using words such as *above, under, up, down, in* and *out.* By listening to parents and other family members using these words, children will have a better understanding of spatial concepts and will learn spatial vocabulary in their home language. Children will start identifying themselves in space by using spatial words ("I was hiding *under* the table," "I'm going *down* the slide," "I'll climb *up* the stairs").

Questions for Reflection

1. How would you expand the castle project to include additional mathematical skills such as comparing, measuring, counting, and classifying?
2. What materials in your preschool environment engage children in exploring and manipulating shapes?
3. What songs or games involving movement in space do you sing and play with children? How could you use these opportunities to encourage children to use words describing spatial relationships?
4. How could you use hands-on construction activities (such as the Building a Castle project described above) to compare and discuss the attributes of shapes?
5. In what ways could you support and scaffold English learners' access to learning English words for shapes and spatial relationships?