

Developing Geometry Concepts

central shape and then branch out, in a symmetrical fashion, from that starting point. Other topics of conversation might be items that are the same shape, but a different size; how shapes look when they are turned (rotated), or flipped; and the types of lines that form the edges of the shapes.

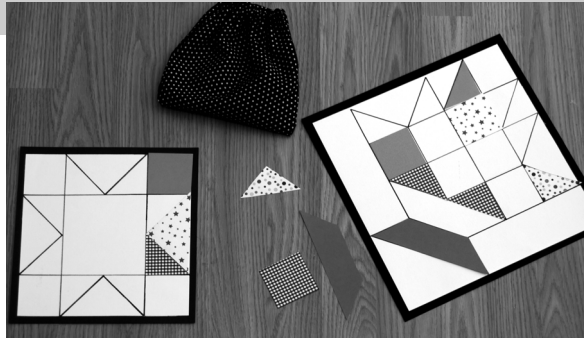
ACTIVITY 5.2

Quilt Bingo

Materials

The following materials are needed for this activity:

- Quilt-square game board for each child, created by tracing quilt designs that feature geometric shapes onto paper and mounting them to poster or tag-board
- Shapes that match all those used on the game boards, made by cutting the shapes from heavy-weight, colored paper and laminating (scrapbook paper is a good source)
- Grab bag, to hold the shapes



Description

This activity coordinates with the previous quilt activity and may serve as a precursor to it. Children take turns passing the grab bag and drawing shapes to match those on their game boards. The matching process encourages children to focus on the attributes of the shapes, especially when they are searching for a particular shape to complete their boards. In the process of playing the game, children may observe how particular shapes are combined to create interesting patterns.

Math Discussions

Once again, the discussions that occur during this activity are a critical component of the learning. Without the accompanying math talk, children may match shapes, but not learn their names or notice the patterns that they create. A main focus of the conversation should be on the attributes of the various shapes. For example, if a child is looking for a triangle, the teacher might ask whether it will have straight or curved sides, and how many points it will have. After several teacher-led clues, children may begin on their own to look for particular attributes.

In this activity, the mathematical problem is how to use the attributes of shapes to find particular shapes in the grab bag and then match them to the board. In many cases, children will need to use transformations to fit shapes into their proper spaces. Teacher scaffolding may be necessary, especially when flips are involved.

This activity also provides an excellent opportunity to talk about transformations. As children draw shapes from the grab bag, at first they may not be able to visualize where the shape can fit on their game boards. The teacher may need to scaffold, such as suggesting that the child turn the shape and look at it again. Other children can be brought into the conversation. For example, the teacher might say, “Jay, can you see a place where Margaret’s shape will fit on her board? What does she have to do to make it fit?” Conversations such as this help children not only to visualize the results of transformations but also to learn the accompanying terminology.