REFLECTIONS

Learn about mirror images by acting like a reflection.

[60 minutes]

Materials:

- Pattern blocks (multiple sets) You can purchase these online, or download and print out paper patterns here: http://mason.gmu.edu/~mmankus/Handson/manipulatives.htm
- Paper
- Pencil
- A partner

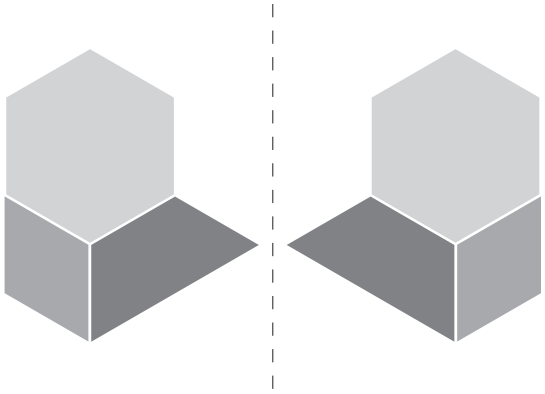
Try This:

Step 1 Play the mirror game: Stand face-to-face with your partner. One partner will be the "leader", the other partner will be the "reflection" in the mirror. The "reflection" should do everything that the "leader" does, but in a way that will look like a mirror image.

Step 2 Both of you, try standing with one hand on your hip, mirroring each other. Then, without switching hands, stand side-by-side. You'll see that one person has the right hand on the hip, and the other has the left hand on the hip. You are reflections of each other, not exact copies.

Step 3 Try making reflections with your pattern blocks. You'll need a piece of paper with a line drawn down the middle. You should sit on one side of the line, and your partner on the other. The line represents a mirror.

Step 4 Put two blocks down on the paper on your side of the line. Your partner should place blocks on his or her side of the line so that the blocks are a reflection of yours.



Step 5 Take turns adding one block at a time to the paper. Each time a block is added, the other partner should make the reflection.

Step 6 In the end, your design should look symmetrical. In other words, if you were to fold it in half, the two parts would match up exactly from one side to the other like the wings of a butterfly.

Step 7 What other shapes can you find or think of that are symmetrical?

From the National Council of Teachers of Mathematics (NCTM)

REFLECTIONS

Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships:

- Investigate and predict the results of putting together and taking apart two- and three-dimensional shapes.

Apply transformations and use symmetry to analyze mathematical situations:

- Recognize and apply slides, flips, and turns;
- Recognize and create shapes that have symmetry.