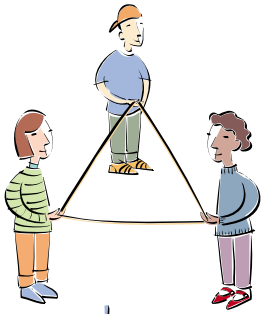
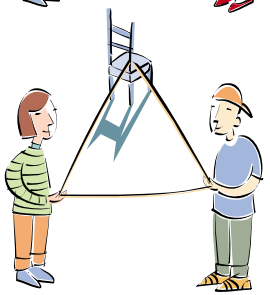
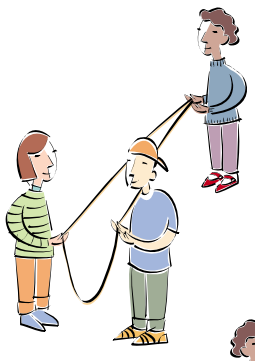
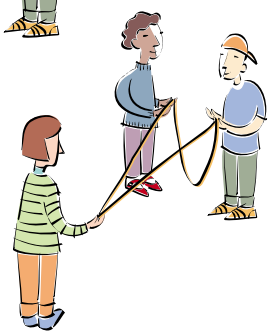
A TEACHER REFLECTS









For the string activities in Lesson 5, I told Julia, Kenny, and Janine to make an equilateral triangle. The group waited for some hints. I smiled, "That's it! Go to it!"

After some fidgeting with the string, Julia said, "I'll go get a meterstick." She returned and directed her partners to make a triangle, each of them holding the string to form a corner of a roughly equilateral triangle (Figure 1).

Julia couldn't hold her corner and measure with the meterstick, so she put her corner around a chair (Figure 2). She laid the meterstick along one side and pinched the string at one meter to mark it. She measured the remaining length, announcing, "It's five." She measured the second side using the same method. "Five again! It's one thing and five somethings!"

Kenny asked her if she was measuring in centimeters or inches. Janine said, "It doesn't matter, as long as you use the same thing all the time." She realized an important point: It didn't matter what unit they used, since they were interested in the relationship between the sides rather than the numbers that represented their lengths.

"Let me try something," Kenny said. He measured one side of the triangle with his pen. "Sixteen pens on this side." Kenny's method was really no different than Julia's. "Sixteen. Eighteen on this side. We need to fix it." They moved back and forth until they had a triangle that looked more equilateral.

Janine said, "Why don't we just put pairs of sides next to each other to see if they're equal?" They did (Figures 3 and 4), and found that all three pairings checked out!

Kenny wanted to try another method. He gathered all the corners in one hand and let the middles of the sides dangle down. "They all dangle to the same length!"

With hands-on activities, students often start from what they know best and branch out. Here, they tested equality by comparing the lengths of the sides to a standard measuring tool, and ended up physically comparing the sides. Given the opportunity, students break away from the familiar to explore their own ideas.