Building Boldly

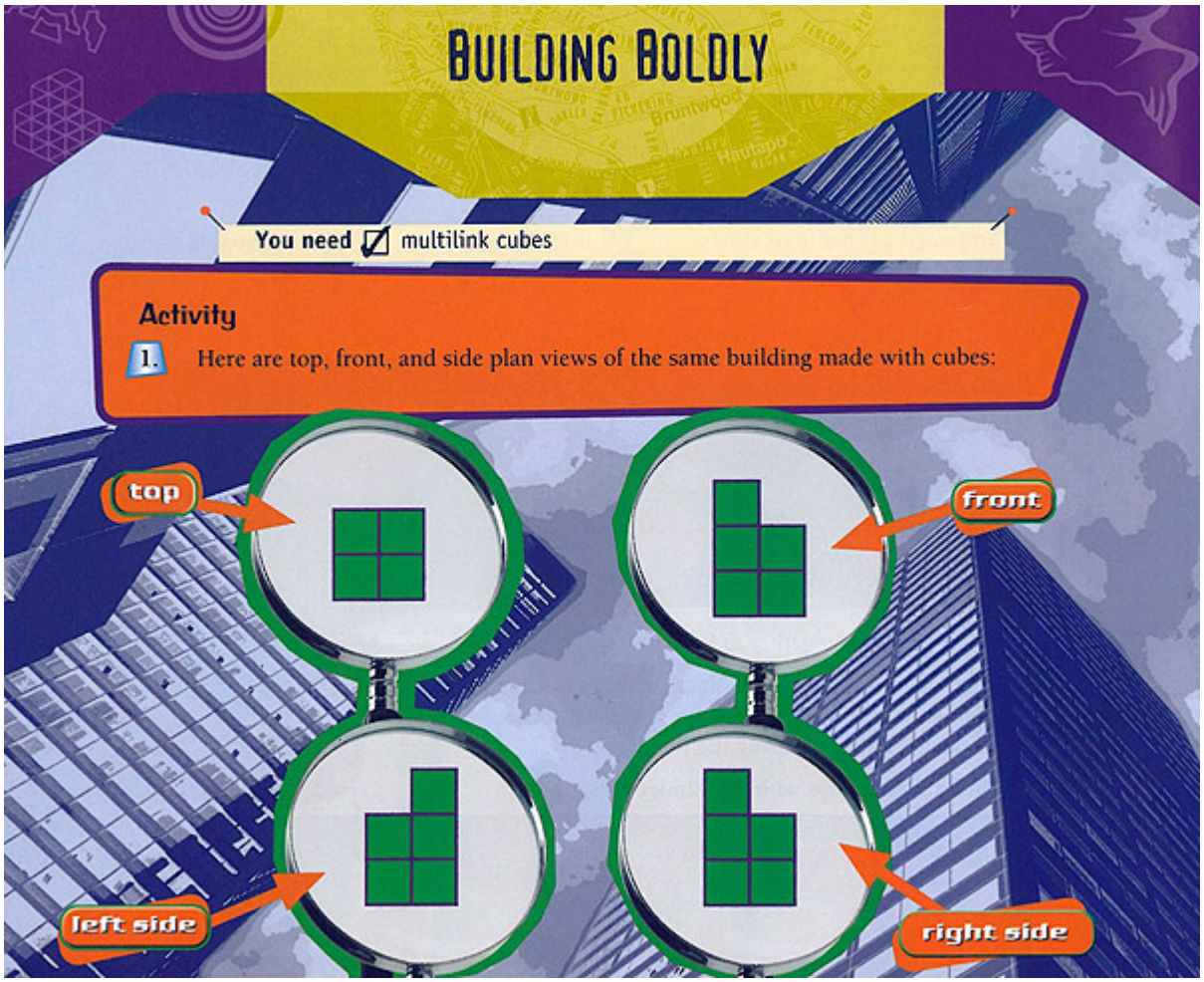
Annotation

Penina is able to view things from different perspectives to solve this problem. She can build a 3-dimensional model using cube blocks from 2-dimensional diagrams. She knows how to make adjustments to the model when the trial and error approach does not result in a correct solution and to keep checking from the different perspectives. She is able to describe her process using her own words.

Problem: Building Boldly

The teacher shows the student this page that includes top, front, and side views of the same building made with cubes. She poses this problem and places cubes in front of the student:

What would be the smallest number of cubes needed to make the building?



Student response

Penina uses cubes to create a 3D model of the building and says that 9 cubes would be needed.

Teacher: Tell me how you worked that out.

Penina: I used the cubes to make each side, put them together then counted the blocks. For the left side I put two blocks on top of two more blocks then one more on top, on the right. I did the same for the right side but put the top block on the left like the picture. Then I put both sides together. I looked from the top like you showed us and I was right, but when I checked the front it wasn't right. I took a block off the top of the right side and looked again from all sides, and I was right. Then I counted the cubes and there were 9 altogether.