Surrounded and Covered

PreK

Materials: Some type of square tile, twelve manipulative tiles per group, picture of the patio tiles (2 by 6) for each student

Discussion on the rug: Teacher holds up a picture of the patio. **"This is a picture of a patio. What is a patio?"** Teacher solicits answers from students. **"This patio is made out of tiles. Each square in this picture is one of these tiles."** Teacher holds up a tile. **"What shape is this patio?"** Teacher might have students draw the outside perimeter to help students see the outside shape is a rectangle. "**How many tiles does it take to make this patio?"** Teacher solicits answers from students and has several students share how they counted them to find an answer.

In small groups: Each group has twelve tiles and a picture of the patio. **"Check to see how many tiles you have."** The teacher solicits the counts from each student. The teacher lists the counts. **"Please make a copy of the patio with your tiles. Please draw a picture of your patio."**

The teacher asks the following questions:

"Can you rearrange the tiles to make a patio of a different shape? How many tiles do you have now? Please draw it on a piece of paper."

"Can you rearrange the tiles to make a rectangle that is a different shape? How many tiles do you have now? Please draw it on a piece a paper."

"Can you rearrange the tiles to make a square with all the tiles?"

Teacher questions whether it is really a square. **"Explain why you think it is or is not a square."** At the end of the investigation, have students either discuss or dictate a response to these summary questions.