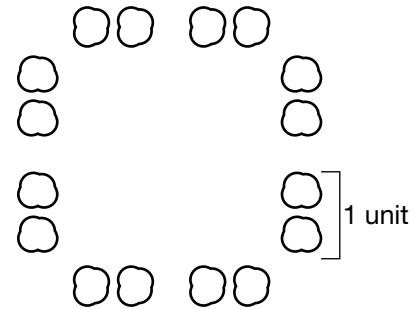


Problem Solving: Solve a Simpler Problem and Make a Table

Squares A student is making a pattern of squares out of cotton balls. Each unit on a side of the pattern is made up of 2 cotton balls. How many cotton balls will the student need to make a pattern that is 4 units high and 4 units wide?



Read and Understand

Step 1: What do you know?

There are 2 cotton balls in each unit. The square is 4 units high and 4 units wide.

Step 2: What are you trying to find?

How many cotton balls are needed in all?

Plan and Solve

Step 3: What strategy will you use?

Problem 1: How many cotton balls are needed for a 1-unit by 1-unit square?

8 cotton balls are needed for a 1-unit square.

Strategy: Solve a simpler problem.

Problem 2: How many cotton balls are needed for a 2-unit by 2-unit square?

16 cotton balls are needed for a 2-unit square.

There are 2 cotton balls for each unit on the side.

There are always 4 sides, so the pattern is the number of units in each side, multiplied by 2 cotton balls, multiplied by 4 sides.

Square units	1×1	2×2	4×4
Cotton balls needed	8	16	32

Answer: 32 cotton balls are needed.

Look Back and Check

Step 4: Is your work correct?

Yes, all of my computations are correct, and I saw the correct pattern.

- Joan works for 6 hours each weekday and 8 hours total on the weekends. She earns \$6 an hour on weekdays and \$9 an hour on weekends. How much money does she earn each week?
