

BACKYARD IMPROVEMENTS

Getting Ready

What You'll Need

Pattern Blocks, 1 set per pair (only squares are needed)
Activity master, page 99

Overview

Students use Pattern Blocks to build increasingly larger squares and staircase models, and examine the underlying number sequence patterns. In this activity, students have the opportunity to:

- recognize patterns

- discover properties of arithmetic sequences

- learn about square and triangular numbers

- make predictions based on patterns

- compare sequences to see how they are related

Other *Super Source* activities that explore these and related concepts are:

Ripples, page 14

Marquetry, page 19

The Pyramid Mystery, page 24

Bees in the Trees, page 29

The Activity

On Their Own (Part 1)

Alan is planning to build a square patio in his backyard using square pieces of slate that measure 1 foot by 1 foot. He needs to decide what dimensions to make the patio so that he can determine how many pieces of slate to order. What information can you gather that might help Alan with his project?

- Use the orange Pattern Blocks to represent the square pieces of slate. Working with your partner, build models of increasingly larger square patios, beginning with the smallest possible patio, the one made from one square.

- Each time you build a new patio model, record the number of blocks you added to the previous model to build the next bigger square, the perimeter of the patio, and the total number of blocks in the new patio. Organize your data in a table.

- Record the data for the first ten squares, but build squares only until you discover a pattern that will produce all the numbers needed for your table.

- Pattern recognition
- Arithmetic sequences
- Square and triangular numbers
- Organizing and interpreting data