

## Lesson #3: Growing Patterns

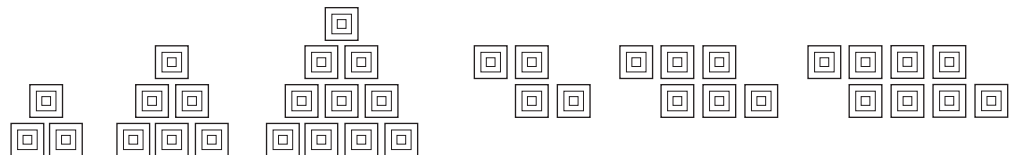
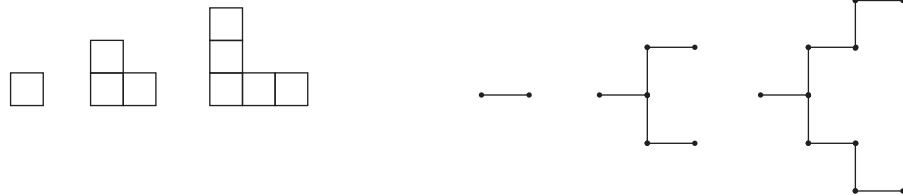
by Chris Oster

### Dear Parents,

“Many patterns surround us daily. A checkerboard is a pattern of squares. A musician encounters patterns in music. Homes have wall paper and floor coverings with patterns... [A doctors] studies cancer research and thinks about aligning cells. These situations all relate to patterns. Mathematics is the study of both visual *and* numerical patterns.”

National Council of Teachers of Mathematics  
Student Math Notes, May 1997

These are examples of patterns which get larger with each step in the sequence. We call them *growing patterns*. You can work with blocks, Legos, toothpicks, or any small material you have. Here are some examples:



1. Build a growing pattern with your child at home. It might work for you to do the first step and let your child make it grow. It doesn't matter how it grows, so long as the growth pattern is consistent.
2. Talk about how the pattern changes from step to step. How many were added at each time? What was the total in each step?
3. Choose your favorite pattern and record it on [a sheet of paper]. Note any observations you and your child had about the pattern as it grew.