Unit 6, Lesson 1

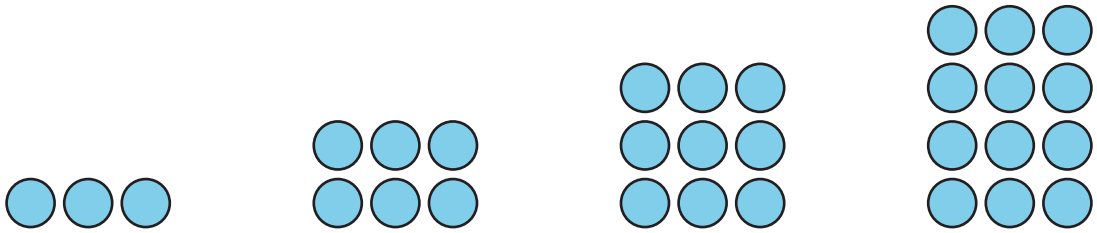
Patterns that Grow

Let's create and describe growing patterns that follow a given rule.

Warm-up

Notice and Wonder: Sets of Circles

What do you notice? What do you wonder?



step 1 step 2 step 3 step 4

Activity 1

Bottle Cap Patterns

Han and Lin create patterns with bottle caps. Here are the first 2 steps.

1. Han starts with 1 row of 5 bottle caps. He adds a new row of 5 bottle caps in each step.
   a. Describe or draw how Han's pattern will continue.

   b. What do you notice about Han's pattern? Why do you think this happens?

2. Lin creates a different pattern. She starts with 1 row of 5 bottle caps. Then she doubles the number of rows of bottle caps.

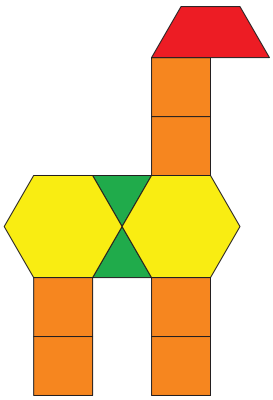
   a. Describe or draw how Lin's pattern will continue.

   b. What do you notice about Lin's pattern? Why do you think this happens?

Activity 2

Taller and Taller

Jada uses pattern blocks to make a giraffe. She wants to create a pattern with this giraffe as the first step. For each step that follows, her rule is to add 2 square blocks to make the giraffe's neck longer.

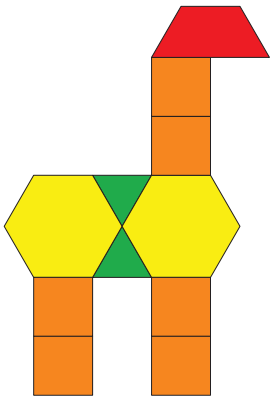


Partner A:

1. Create the next 3 steps of Jada's pattern. Use pattern blocks or draw to continue Jada's pattern.
2. List the number of square blocks in each of the first 5 steps. Write 2 observations about the numbers in the pattern.

3. Will a step ever have 25 square blocks? Explain or show your reasoning

Jada uses pattern blocks to make a giraffe. She wants to create a pattern with this giraffe as the first step. For each step that follows, her rule is to add 2 square blocks to make the giraffe's neck longer.



Partner B:

1. Create the next 3 steps of Jada's pattern. Use pattern blocks or draw to continue Jada's pattern.
2. List the total number of blocks in each of the first 5 steps. Write 2 observations about the numbers in the pattern.

3. Will a step ever have a total of 25 blocks? Explain or show your reasoning.