Growing Shapes

**Objective:**Using algebraic reasoning, students discover growing patterns in various forms.

**Materials:**

* Record sheet
* Notebook paper
* Image of the growing pattern (pg. 61 and 220 from Boaler, J.)
* Linking cubes
* Pencil

**Process:**

1. Display the growing pattern picture to the students, and give each student a record sheet.
2. Ask the students, “How do you see the shapes growing?”
3. In small groups (2–3 students per group), have the students discuss what they saw in the growing shape
4. Students can draw or use linking cubes to show their growing shape
5. As a whole class, display and discuss the different ways student discovered the growing pattern.
6. Have students create their own growing pattern using the linking cubes and draw the first three images on a notebook paper.
7. Have students switch pattern papers with a partner to see if their partner can discover their pattern.



**Resources**

Boaler, J. (2016). *Mathematical mindsets*. Jossey-Bass.