

# Teacher Guide

**BMC Issue:** #55, Growing Sequences

**Subjects:** Algebra

**Grade Level:** 6th grade and up

**Topics:** Sequences & Series

## Lesson Aim/Objectives:

- Model growing sequences with objects and drawings
- Investigate patterns in growing sequences
- Write recursive rules and closed formulas for sequences
- Use variation tables to explore families of sequences
- Compare linear and non-linear growth

## Common core standards:

### CCSS.MATH.CONTENT.HSA.SSE.A.1

Interpret expressions that represent a quantity in terms of its context.

### CCSS.MATH.CONTENT.HSA.CED.A.1

Create equations and inequalities in one variable and use them to solve problems.

### CCSS.MATH.CONTENT.HSF.LE.A.2

Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

### Practices

2. Reason abstractly and quantitatively.
4. Model with mathematics.
7. Look for and make use of structure.

## Materials:

- Print
  - BMC issue
- Bring
  - Color pens or pencils
  - Any paper
  - ~20 counters per student (chips, beans, etc.)

## Terms:

Algebra: sequence, growing sequence, steps, equation, recursive rule, closed formula

## Instructions:

1. Read activities in newsletter
2. Register for BMC meeting to get Zoom link
3. Instruct students to consider the hosts as guests in the classroom.
4. Pass out a copy of newsletter to each student.
5. Tell students we encourage participation; they should share results, drawings, and ask questions. They can show their papers to the camera.

## Notes:

- Test technology; if problems arise, please let hosts know.
- Use the recap issue to revisit problems in the classroom
- Provide feedback