Prompt: Rock Stacking

Objective(s)

- How many rocks can you stack without falling?
- How many rocks can you stack into a tower or wall?

Activity that involves problem-solving and strategic thinking:

- Students will use varying sizes of rocks to build a tower or structure without it falling.
- Students will compare structures, how tall, who used the most rocks? Who used the fewest?

Standards/Objectives addressed:

- **1MD.C.4:** Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
- **KMD.A.1:** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
- **Social Studies - History 1.1** - compare life in the past to life in the present (how were stone walls used in the past?
- **CCSS.ELA-LITERACY.SL.K.1** - Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
- **CCSS.MATH.CONTENT.K.MD.A.2** - Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.
- **CCSS.ELA-LITERACY.SL.1.4:** Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
- **CCSS.MATH.CONTENT.1.MD.A.2:** Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.

Background knowledge needed:

- How to make a plan - sketch a design
- Observe rock walls/structures where rocks are stacked to make something

Materials:

- Any rocks! - Good engagement activity would be to look outside for rocks, go on a hike or walk

Prompts – questions or statements to elicit engagement:

- Why would people stack rocks? (i.e. rock walls)
- Which rocks would help make this structure more sturdy?
- How can you change the base to make it even taller?

Vocabulary:

- Base, sturdy, rock, stone, sketch, stack, formation, stability , height

Reflection prompts:

- What worked well? In the end, how did you get it so your rock structure wouldn't fall? (i.e. bigger rocks at the bottom, flatter rocks to make it more sturdy)
- What did you learn that would make it easier to do this build again?
- What else could you have done about…?

Extensions:

- Class discussion about real-world examples of balanced rock formations and what factors might contribute to their stability?
- Stack rocks using a combination of two formations to create a unique structure.