

Spring, Rock, Math
2018 April
1st Grade Garden Parent Lesson #15

Objective: Hands-on garden work helping prep the old willow bed for new planting. Sorting rocks by size. Counting rocks around beds in groups of 10+ groups (math tie-in) Think about Rocks, soil, local soil: Every rock has a story. Gross motor skills, working in pairs, collaborative inquiry in the garden, discovering what's under the soil besides rocks, roots, bugs etc..

Time/location: The entire lesson can be done in 35-45 min.

Materials: *Rocky Bed to prep, trowels, rakes, tilling tools, COLOR CHALK*

Books: **Everybody Needs a Rock** by Byrd Baylor (Revisit: Read to them in the fall during Library/Garden special)

https://www.goodreads.com/book/show/320154.Everybody_Needs_a_Rock

Poems: See Below/ Any other good stone or rock poems?

Part 1 /Stones

- The garden needs it's stone edges given a little tlc
- Pick Stones from the old bed/ till, dig, sort.
- Organize by Size? Small ones go in the wheel barrow/ larger ones can be used to start lining the bed.

If you have a couple extra hand, pull out the kids in groups of 5-6 to go count the larger rocks lining the beds, in 10 groups s, and then write/draw out their thinking on the path.

- Using colored chalk and in pairs, count the stones using 10-groups.
- Each pair will mark sequential 10 stones with a different color to make the groups.
- Each pair can select their own way of writing a sentence/drawing a number bond, etc, on the sidewalk to show their thinking.

Part 2 /Stones and Rocks Background (we didn't get to this, can revisit- we did say: every rock has its story)

https://education.usgs.gov/lessons/schoolyard/RockStories_TeacherGuide.pdf

- Every rock tells a story about how it formed, the environment where it has been, and what it has experienced.
- Each of these stories is a grand adventure.
- To learn a rock's story, we need to learn how to read the rock like a book.
- To start, I want you to picture a rock. When I say the word, "rock," what do you see (besides rock music)?
- What does it look like?
- Each of those grains goes through its own adventure on its way to become part of the final rock.
- It starts off as part of another rock.
- Wind, rain, and other agents break the rock down into smaller pieces.
- They often move pieces far away from the original rock, until they settle down somewhere else.
- Eventually, a pile of individual grains will get cemented together into one solid rock.
- Erosion and Weathering affect grain shape. Bottom of river bed, beaches, mountains, foothills.
- You may find that none of the rocks in your schoolyard are rounded.
- The reason you find angular grains in your school-yard's building materials?
- Some older concrete is made with very rounded grains.
- Because they are rounded, we know that they came from an environment that smoothed them out -- probably the bottom of river bed. However, a lot of newer cement has very angular grains.
- Why the change? It turns out that most cities and towns have grown so much over the years that they have used up all of the easily accessible river gravels nearby



