

LESSON: Math Rocks!**GRADE:****3****OBJECTIVES:****Measurement & Data****Represent & interpret data**

- **3.MD.B.4.** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

MATERIALS & RESOURCES:

- Rocks collected by students or photos of rocks too large to bring
- Book *If You Find a Rock*, Christian, P.
- Examples of bar or picture graphs
- Markers
- Large paper
- Pencils
- Rulers

PRESENTATION:

Read the book *If You Find a Rock* and brainstorm different categories of rocks with students (i.e. round smooth rocks, rocks with straight edges, etc.) Narrow the number of categories to about four, and not more than six. Explain that for the next few days, students should be collecting rocks in the categories or taking a photo if rock is too big. Later in the week measure the rocks and use the information to make bar or picture graphs and a line plot.

DIRECTIONS:

1. Collect rocks on the playground and at home that correspond with the 4-6 categories.
2. Divide into small groups and sort rocks into categories.
3. Review the process of creating a bar or picture graph, using examples. In small groups, make bar or picture graph of the amounts in each category.
4. In small groups, have students measure the lengths of their smallest rock and biggest rock with a ruler. Have them use whole numbers, halves or quarters.
- 5.
6. As whole class, have someone report the size of smallest and biggest rock in each group, and create a line plot of rock sizes.
7. Save rocks for future use.

TIME:

60-90 min
+ rock collecting

PROCESSING THROUGH THE SIX PILLARS:

WHAT HAPPENED?

- What did you learn from your rock hunt?

SO WHAT?

- What did you talk about with other students as you chose your rocks?
- How did you decide where to look for rocks?
- How many rocks did you want to find?

NOW WHAT?

- How will you look at rocks any differently now?
- How do you know when it's ok to pick up rocks?
- What do you think about differences after this experience?