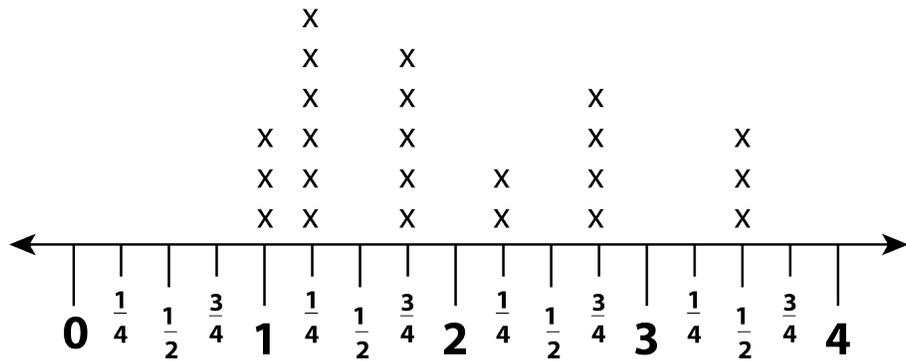


# Measurement and Data Activities Instructions (3.MD.4)

Standard: 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, quarters.

The Measurement Line Plot Form can be used for these activities. The ruler markings are drawn to scale and can be used to measure. X's can be added on the form to record data. A line plot allows for data to be graphed as it is gathered. The end result will be a chart to interpret the data.



A copy master of the *Measurement Line Plot Form* is in this packet. It is also available in the Resource Center at [www.mcruffy.com](http://www.mcruffy.com) for 3rd Grade Color Math by choosing the Form Worksheet Button. The direct link is: <https://mcruffy.com/pages/third-grade-math-form-worksheets>

This activity can be repeated throughout the year to meet the standard. You can also make up a data set and place x's or have students place x's rather than always collecting data.

Ideas for generating data to plot:

**Cuttings:** Prepare cut objects (cuttings) to measure. This might be string, ribbon, or strips of paper. You may want to work within a range of measurement. For example lengths from 2  $\frac{3}{4}$ " to 4  $\frac{1}{2}$ ". You can vary this from different times of doing the activity. You do not have to make cuttings for every  $\frac{1}{4}$ " within the range. You may choose to skip several, but include some of whole number lengths,  $\frac{1}{2}$  lengths,  $\frac{1}{4}$  and  $\frac{3}{4}$  lengths.

Instead of cutting multiples of the same length, you can instead place the cuttings into a bag or other container for students to randomly draw, measure, mark an X on the line plot, and then return to the container.

You may want to include multiples of some lengths of cuttings and have students guess which lengths had multiples by using the data on the line plot. If for example there were 3 strips that were 1  $\frac{1}{4}$ " and 1 of the other lengths, it's probably that 1  $\frac{1}{4}$ " will have the most X's.

Predetermine a number of total draws, such as 30, or predetermine a stopping point such as when one measurement has 8 X's.

## Measuring everyday objects:

If you have a collection of various sized pencils or crayons, they can be measured to the nearest  $\frac{1}{4}$ ". If you only have a few, you can do random draws, like with the cuttings.

## Ask questions about the data:

What measurement had the most (least)?

What is the difference between the longest and shortest lengths?

If all the draws from (one of the measurements) were laid end-to-end, how long would it be?

If there are multiples of lengths in random draws: Which length may have had more than 1 in the container?

How many were more the \_\_\_\_ (pick a number) inches? How many were less than \_\_\_\_ inches?