

**Vertical Progression:**

<b>Kindergarten</b>	<p><b>K.MD.B Classify objects and count the number of objects in each category.</b></p> <ul style="list-style-type: none"> <li>○ <b>K.MD.B.3</b> Classify objects and count the number of objects in each category and sort the categories by count.</li> </ul>
<b>1<sup>st</sup> Grade</b>	<p><b>1.MD.A Measure lengths indirectly and by iterating length unit.</b></p> <ul style="list-style-type: none"> <li>○ <b>1.MD.A.2</b> 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. <i>Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</i></li> </ul> <p><b>1.MD.B Represent and interpret data.</b></p> <ul style="list-style-type: none"> <li>○ <b>1.MD.B.4</b> 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 in one category than in another.</li> </ul>
<b>2<sup>nd</sup> Grade</b>	<p><b>2.MD.D Represent and interpret data.</b></p> <ul style="list-style-type: none"> <li>○ <b>2.MD.D.9</b> Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show measurements by making a line plot, where the horizontal scale is marked off in whole-number units.</li> <li>○ <b>2.MD.D.10</b> Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.</li> </ul>
<b>3<sup>rd</sup> Grade</b>	<p><b>3.MD.B Represent and interpret data.</b></p> <ul style="list-style-type: none"> <li>○ <b>3.MD.B.3</b> Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></li> <li>○ <b>3.MD.B.4</b> 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.</li> </ul>

**Students will demonstrate command of the ELG by:**

- Measuring and recording the lengths of several objects to the nearest whole unit.
- Creating a line plot with a horizontal scale marked off in whole-number units.
- Recording length measurements on a line plot.
- Creating a picture or bar graph with up to four categories to represent data.
- Comparing data on a bar graph.
- Solving addition and subtraction problems using data from a picture or bar graph.

## Vocabulary

- attribute
- bar graph
- category
- centimeter
- data
- foot
- horizontal scale
- inch
- length
- line plot
- measure
- measurement
- meter
- picture graph
- table
- unit
- yard

## Sample Instructional/Assessment Tasks:

### 1) Standard(s): 2. MD.D.9

**Source:** [www.k-5mathteachingresources.com/support-files/measurement-line-plot.pdf](http://www.k-5mathteachingresources.com/support-files/measurement-line-plot.pdf)

**Item Prompt:** Measurement Line Plot

**Materials:** ruler, variety of objects to measure

- 1) Collect ten objects that are shorter than your ruler.
- 2) Use your ruler to measure each object to the nearest inch.
- 3) Record your measurements on a line plot.
- 4) Give your line plot a title and label the axis.
- 5) Record three facts about the data in your line plot.

### 2) Standard(s): 2. MD.D.10

**Source:** Howard County Public Schools

**Item Prompt:** Bag of Chips

**Materials:**

- One completed graph page, possibly made into a folder game and laminated.
- Dry erase boards, marker, and erasers for the center.
- A brown paper bag with red, blue, green, and yellow chips/color tiles.

**Directions:**

1. Students will work in partners or in a center with a partner.
2. One student will draw a colored chip from the brown paper bag.
3. The other student will record the chip drawn on the graph.

ELG 2.MD.D: Represent and interpret data.

4. The other student will take his/her turn.
5. Repeat until all chips are drawn.
6. Students will answer questions about their graph on another piece of paper.

**A Bag of Chips**

Number of Chips Drawn	10				
	9				
	8				
	7				
	6				
	5				
	4				
	3				
	2				
	1				
		Red	Blue	Green	Yellow

Color of Chips Drawn