

Growing on a Graph

Drawing Diagrams - Lesson 1

For the Classroom:

- Group structure - small group
- Location - school garden, where okra is growing
- Approximate time - 5 minutes, multiple times throughout growing season

Standards:

CCSS.MATH.CONTENT.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:

- [Okra Growth Line Graph](#) (1 per child)
- Clipboard (1 per child)
- Pencil (1 per child)
- Measuring tapes, rulers, and assorted measuring tools (1 of each)
- Step ladder (1), gloves (2 pairs)



Procedures:

1. Engage:

- “Okra plants can grow from a seed smaller than your fingernail to a plant taller than you in two months! We are going to chart the growth of one of our okra plants over time.”
- Distribute the Okra Growth Line Graph to each child on a clipboard. Instruct children to write their name on the back of their line graph.
- “Look around the okra patch and choose one plant that you will watch over the next month.” Instruct children to write a description or map of the plant’s location on the back of their line graph.

2. Explore:

- “First, let’s fill in our measurement for today, Day 1. Decide which measuring tool you should use and measure from the ground to the top of the stem.” Provide time for children to select tools and measure. The students may want to wear gloves and keep some distance from the plant since okra plants can be itchy. They also may eventually need a step ladder to reach the top.
- “When you have completed your measurement, make a dot on your line graph above ‘1’ on your x axis and on the correct measurement on the y axis.”

3. Explain:

- “We will visit your okra plant a couple of times in the next month, to measure again and chart the growth.”

Teacher’s Notes:

- Measurements do not have to be recorded daily, in fact, weekly is probably best. Students will simply connect the dots over time to create a line graph showing the growth trajectory.
- Another variation of this lesson would be watching the growth of an okra pod daily over a few consecutive days. In this case, students may want to mark the specific pod with plastic flagging ribbon and will need to measure to fractions of an inch.

Lesson Created by Jenna Mobley for Georgia Organics