

Stems to Scale

Drawing Diagrams - Lesson 3



For the Classroom:

- Group structure - whole group or small group
- Location - at tables
- Approximate time - 20 minutes

Standards:

CCSS.MATH.CONTENT.3.MD.B.3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories.

Materials:

- Journal or paper with measurements (created in Lesson 1)
- [“Sample Okra Measurements”](#) Posters
- [Graph paper](#) (1 sheet per child)
- Pencil (1 per child)



Procedures:

1. Engage:

- a. “One of the reasons okra is special is that it grows taller than most of our plants growing in the garden. We are going to draw a diagram of okra to scale, representing it’s true size, on our graph paper.”

2. Explore:

- a. “Review your measurements of your okra plant, specifically, how tall your okra plant was.” Review journal entries created in Lesson 1 or display [“Sample Okra Measurements”](#) Posters.
- b. Distribute 1 sheet of graph paper to each student. “First, decide what measurement each of the squares on your graph paper is going to represent. Remember, that the full height of your okra stem must fit on the page.” Provide time with children to guess and check their scales.
- c. “When you have decided, on your scale create a key showing that one box equals that certain measurement.”
- d. “Use the scale you created to draw your okra stem to the height that you measured.”
- e. “When you have finished, you may add branches, leaves, flowers, and fruit. They do not have to be exactly to scale but rather, generally proportionate.”

3. Elaborate:

- a. Early finishers may use an additional piece of graph paper (or the back of their graph paper), develop a new scale, and represent the measurements of the leaf, flower, or fruit.

Teacher’s Note: The graph paper linked above is 30 X 40. If the okra plant is under 6.5 ft, each square could equal 2 inches (if the okra plant is taller, another easy measurement would be each square equaling 3, 4, or 6 inches so the foot marks would land on a line of the graph paper). For students working on the leaf, flower, or fruit, each square may equal $\frac{1}{4}$ of an inch, for example.

Lesson Created by Jenna Mobley for Georgia Organics