

**Appendix A**

**Introduction to Graphing**

**Overview and Objectives**

This optional lesson is provided for the class that needs it, either because the students have not yet studied graphing or because they need a review.

* Students get an introduction to graphing.
* Students identify parts of a graph and interpret data recorded on a graph.

# Background

This lesson should be used as an introduction to graphing and not as an introduction to the unit on Wisconsin Fast Plants™. It should be scheduled before the planting date because once the seeds are planted there is simply not enough time to teach the skill before students are expected to use it.

The unit assumes that the children know how to graph and can do it independently. The students get lots of practice applying graphing skills to a real-life situation.

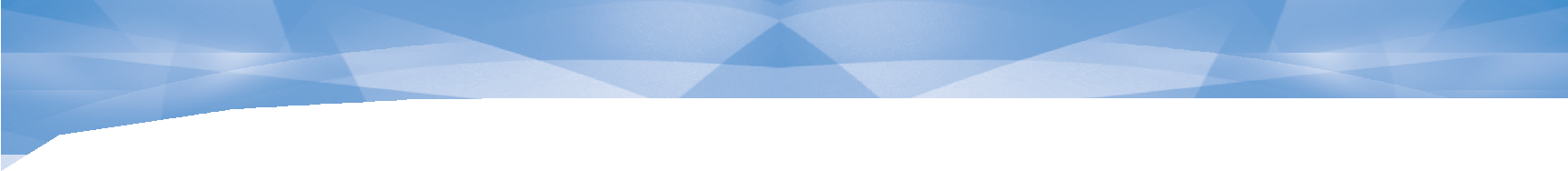
If your class has already studied graphing, feel free to omit this lesson or to use it as a quick review before beginning the unit.

**Materials**

**For the class**

Overhead projector and screen

1 set of transparencies, Graphing



**APPENDIX**

**A**

**Preparation** [15 minutes]

1. Set up audiovisual equipment.
2. Preview the lesson and the transparencies. (Transparency masters are provided at the end of this appendix.)

# Procedure

1. This lesson involves using five transparencies to help children see why symbols are useful and how graphs can help them organize information. Begin by projecting Frame
   1. Ask students to count the objects on the screen. Because the objects are disorganized, children will have trouble counting them. Try to help them understand why it is difficult to count the objects.
   2. Remove Frame 1 and project Frame 2.

Ask: “How many of each kind of plant do you see?” Mention that they seemed to be able to count faster this time. Try to get them to see that the reason for this is that the plants are grouped (sorted, classified, organized) by kind.

Remove Frame 2. Ask: “Suppose we want to know how many more peanuts there are than lima beans. Can you think of a good way to show that in a picture?” Accept all students’ ideas.

* 1. Project Frame 3.

Have students compare the number of peanuts with that of lima beans. Help students recognize that the reason they were able to see this so quickly is that each kind of plant is arranged in a straight line. Tell students that this drawing is called a picture graph.

But point out that drawing these pictures takes up a lot of room. Help them realize that using symbols to stand for plants is a much more efficient way to draw a graph. Discuss different symbols that could be used to stand for plants.

* 1. Remove Frame 3, and project Frame 4. Explain that this graph uses seeds as symbols for plants. Point out that if there were a key, it would explain what the seed stands for.
  2. Leave Frame 4 on the screen, and put Frame 5 on top of it. Discuss the parts of a graph and why it is so easy to read. Point out that the graph title, the labels on the two sides (axes), the grid arrangement, and a key all contribute to readability. One way to make the graph even easier to read is by changing it into a bar graph.
  3. Keep Frames 4 and 5 on the screen, and place Frame 6 on top of them.

Point out that the bar graph shows the same information. Next, rotate the transparencies so that the bars go up and down rather than right to left. Ask: “Is the information on the graph different now?” Point out that even though you are reading in a different direction, the graph still tells you the same things.

* 1. Remove all transparencies and turn off the projector.

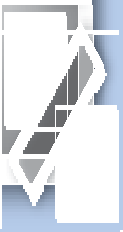
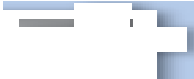
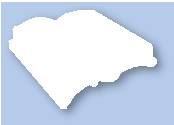


# Final Activities

Tell students that they will be doing a lot of graphing of plant growth over the next few weeks and that it is important that they understand it now before the unit begins. Ask a few review questions to clear up any trouble spots.

# Literacy/Extensions

* + 1. Work together as a class to create a graph. Decide on a topic, what kind of data will be collected, and how to label the parts of the graph. Then ask the children to fill in the information on a blank sheet of graph paper. Here are some topics you might use:

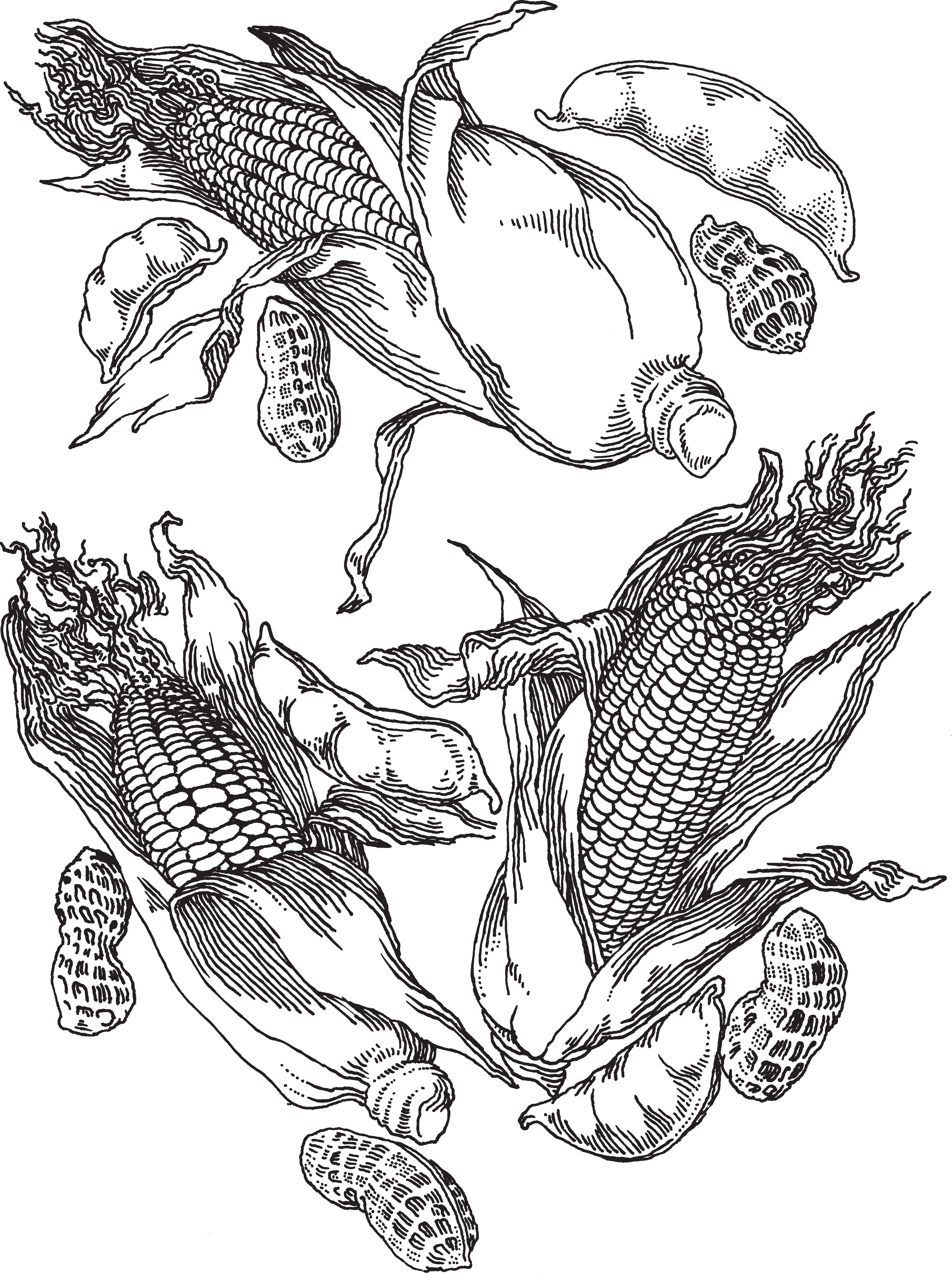


* + - * Shirt color. Find out how many children are wearing blue shirts, white shirts, pink shirts, others.
      * Shoe style. Survey the group and find out how many are wearing sneakers, sandals, boots, others.
      * Hours of TV watching. How much time does each child spend watching each day?
      * Height. Measure everyone!
      * Favorite after-school activity.

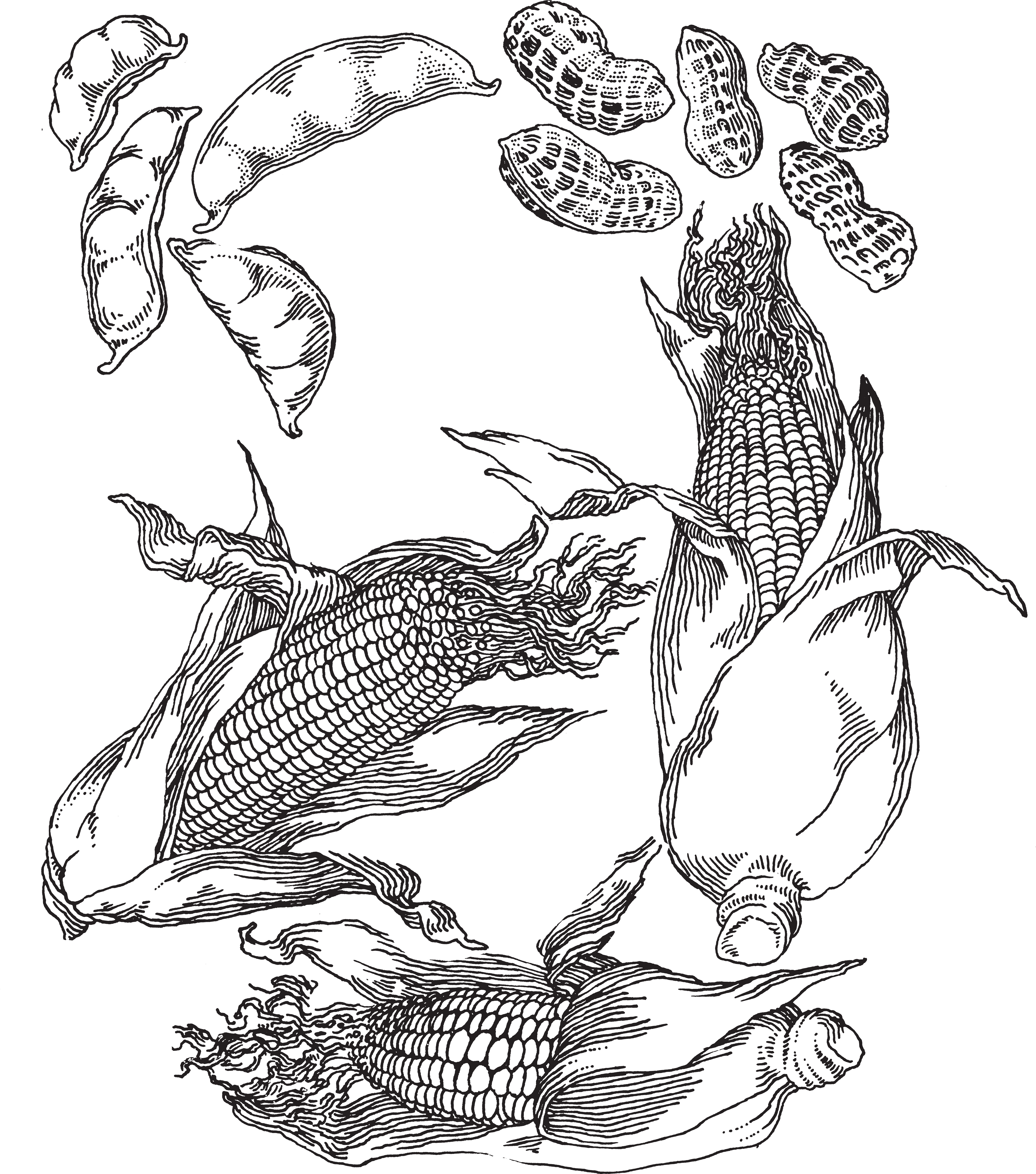
# Assessment

This lesson can help you diagnose any graphing problems early on while there is still time to do some extra teaching. Look for difficulties such as confusion about what the graph means, inability to identify the parts of a graph, adding information to the graph in the wrong place, or indicating the wrong quantity.

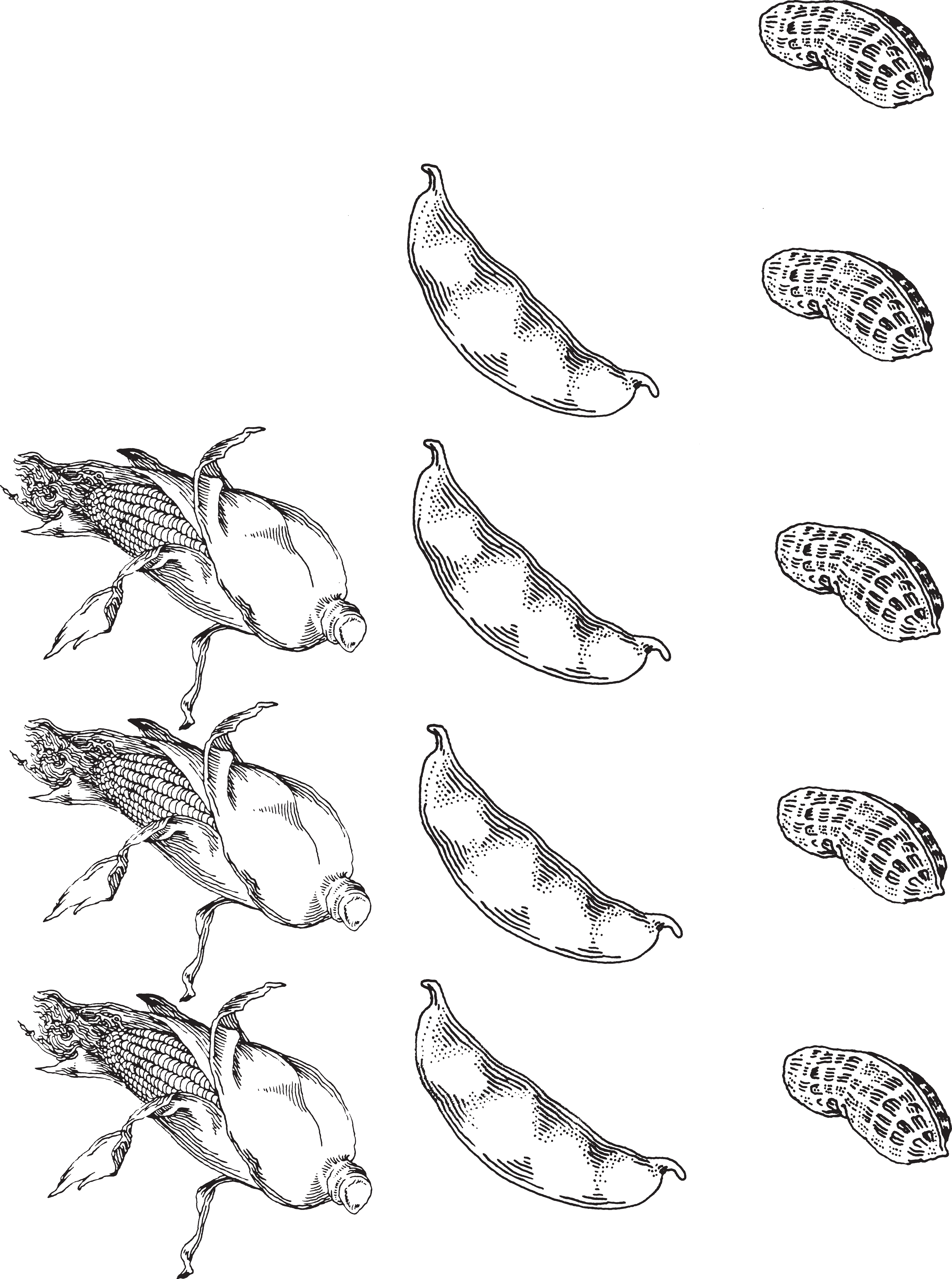
**Frame 1**



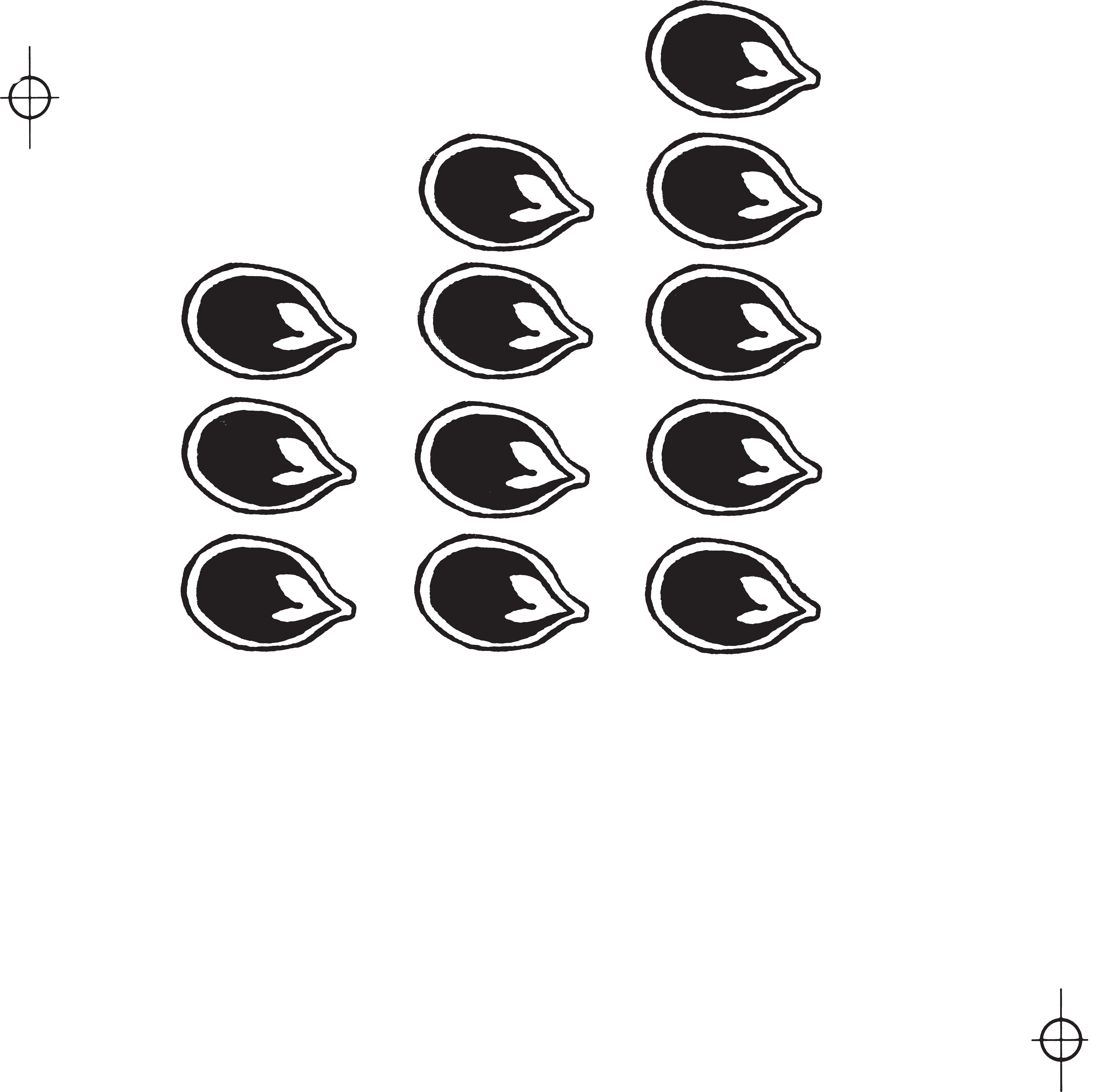
**Frame 2**



**Frame 3**



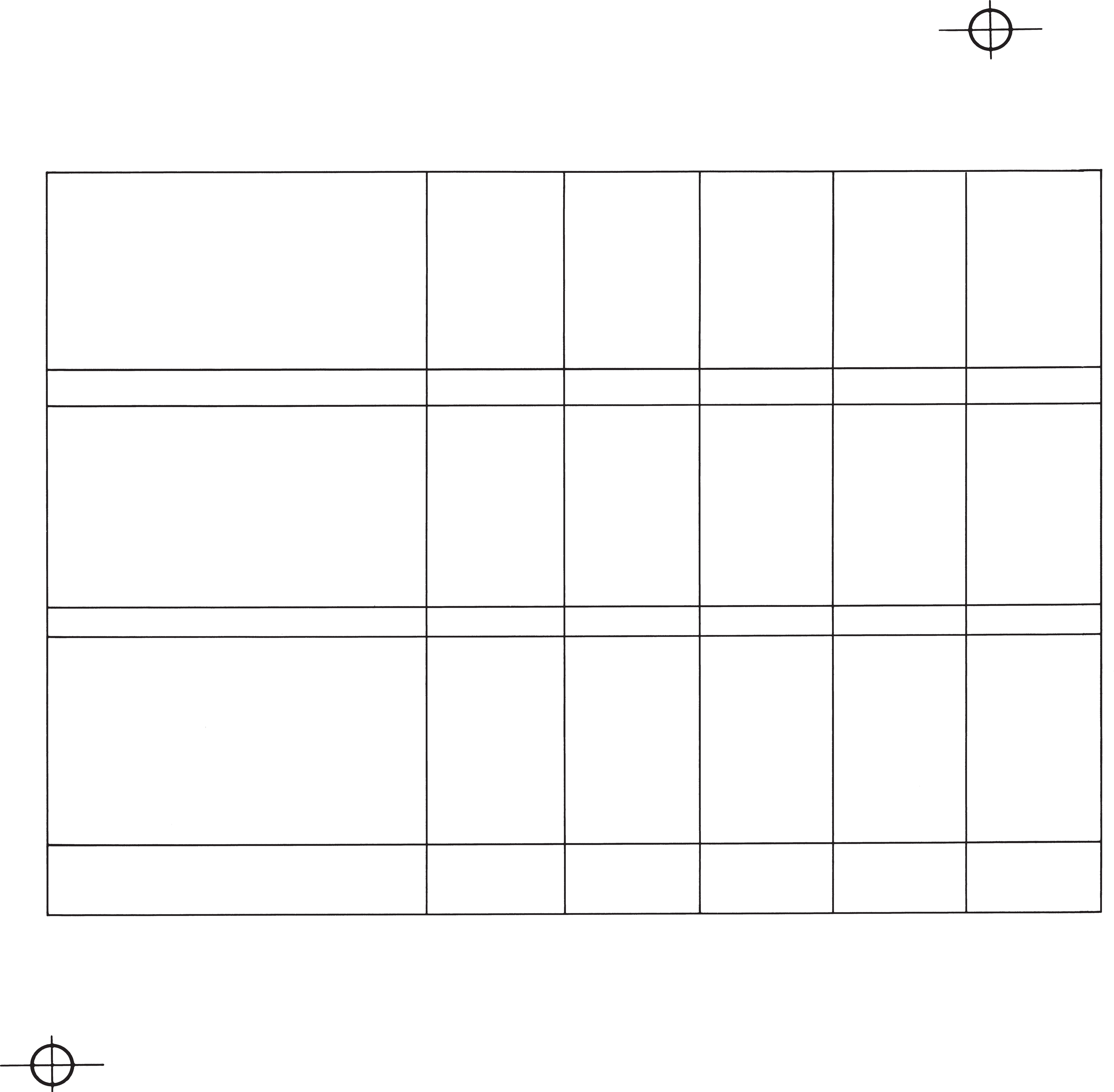
**Frame 4**



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**Frame 5**



**Seeds**

**I**

**Ate**

**Today**

**Corn**

**Lima**

**Beans**

**Peanuts**

**1**

**2**

**3**

**4**

**5**

**Frame 6**

