



## 6-8 / Math: Collecting Taste Test Data

### Overview:

Students will conduct a taste test of spinach with a random sample of students from throughout the grade level or school, asking students how they would rate the taste of spinach from 1 to 10. Students will collect that data on a number line dot plot and draw conclusions about the general population's opinion of spinach from their collection.

*(Time Needed: Approximately 45 minutes - with time for data collection)*

### Common Core Math Standards:

- Measurement and Data
  - 6th Grade:
    - CCSS.MATH.CONTENT.6.SP.B.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
  - 7th Grade
    - CCSS.MATH.CONTENT.7.SP.A.1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.

### Objectives:

- Students will be able to display numerical data of students' opinion of spinach on a scale from 1-10 in plots on a number line dot plot.
- Students will be able to collect data from a random sample of students, representative of the entire grade / school population, and make generalizations about the entire population from that data.

### Materials:

From the Grocery Store:

- Spinach, washed

From the Classroom:

- Clipboards
- Pencils and coloring supplies

### Reproducibles:

- Blank Dot Plot with a scale from 1-10

Outline:

- Engage: Host a spinach taste test
- Explore: Explore methods for data collection
- Explain: Explain the method of dot plots for a random sample
- Extend: Collect and analyze data

Lesson Plan:

- Engage (throughout the school)
  - Express to students that they are tasked with developing a way to communicate the entire school’s opinion of spinach to their principal and cafeteria staff.
  - Allow students to brainstorm ideas together for how to collect and share this data.
- Explore (whole group) - 10 minutes
  - Remind students that they can prepare a taste test of spinach and offer the spinach to a random sampling from the grade level or school - either during lunch time in the cafeteria or from classroom to classroom, choosing just a few students at random from each. Random sampling tends to produce representative samples and support valid inferences.
  - Students should create a dot plot to gather data from the students (at least 60 responses is ideal), specifically how much they like spinach on a scale from 1-10.
  - Resources:
    - [Planning a Taste Test \(in the Cafeteria\)](#)
    - [Dressing Recipes for Classrooms](#)
    - [Spinach Recipes for Classrooms](#)
- Explain (whole group / in seats) - 15 minutes
  - Explain that random sampling tends to produce representative samples and support valid inferences. Allow students to discuss the data that they collected to determine patterns and make inferences.
- Extend (small groups / in seats) - 20 minutes
  - Allow students to display this data in a way that would speak to their principal or cafeteria staff, sharing the data on students’ opinions of spinach and potentially accompanied by an opinion writing piece having a specific ask for the recipient - for example, offering spinach in the salad bar more often.
- Evaluate

*Example Evaluation*

Engage	Student participated in brainstorming methods for collecting data from the entire school population.	___ / 25
Explore CCSS.MATH.CONTENT.6.SP.B.4.	Student participated in collecting numerical data on a dot plot.	___ / 25
Explain CCSS.MATH.CONTENT.7.SP.A.1.	Student participated in building a valid inference from a representative sample of data.	___ / 25
Extend	Student participated in communicating the data collected effectively with the audience.	___ / 25
TOTAL		___ / 100