

6-8 Activities Carrot

Calculations



Target Standards:

- MCC6.RP.1: Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
- MCC6.RP.3: Use ratio and rate reasoning to solve real-world and mathematical problems.
- MCC7.RP.2: Recognize and represent proportional relationships between quantities.
- MCC8.SP.1: Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
- MCC8.SP.2: Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.

Time needed: 2 hours

Materials:

- Carrots for Taste Test
- Materials for Student Voting
- Student Surveys
- Group Data Collection Sheet (Included)
- Student Worksheets (Included)

Lesson Outline:

1. Students will participate in a taste test of carrots and will vote for one of three choices: I loved it, It was okay, or Didn't care for it. Votes will be grouped by grade level.
2. Students will also give their opinion on the taste test on a paper survey where they will rate the carrots on a scale of 1-10.
3. Working in groups, students will figure out each grade level's percentages of students who loved it, it was okay, and didn't care for the carrots.
4. Students will create proportions for each category of loved it, it was okay, and didn't care for the carrots for each grade level.
5. Students will create a scatter plot for each grade using the survey information.
6. Each group will present their findings to the class. The class will then discuss what the data and percentages show about each grade level and the school as a whole.

Modified from a lesson by: Dawn Burrell, Wilbanks Middle School, Habersham County, GA

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Data Collection

Collect the taste test data in **one** of the following ways:

1. Ask for a show of hands and record responses in a chart like this:

Taste Tested Item Carrots

Number of Participants	Loved it	It was Okay	Didn't Care for It

2. Students put a sticker or thumb print on one of three posters titled "I loved it", "It was okay", or "Didn't care for it".
3. Students vote with paper ballots placed in boxes or jars.

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Data Collection (continued)

Also collect individual students' opinions on a scale of 1-10 using the following survey.

✂-----

Current grade: 6th 7th 8th (Circle one)

Please rate your opinion of the carrot taste test on the scale below:

10 9 8 7 6 5 4 3 2 1

Loved it!

Ok

Didn't Care for it

✂-----

Current grade: 6th 7th 8th (Circle one)

Please rate your opinion of the carrot taste test on the scale below:

10 9 8 7 6 5 4 3 2 1

Loved it!

Ok

Didn't Care for it

✂-----

Current grade: 6th 7th 8th (Circle one)

Please rate your opinion of the carrot taste test on the scale below:

10 9 8 7 6 5 4 3 2 1

Loved it!

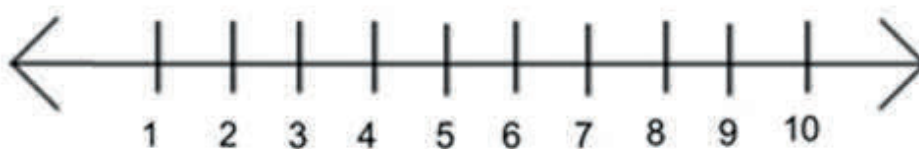
Ok

Didn't Care for it

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Using the tally marks above, create a scatter plot on the number line below.



Analyze your scatter plot to answer the following questions.

1. Are there any outliers and if so, what are they?
2. Are there any clusters of data?
3. How do you think the single grade's data will compare with the whole school's data?

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Group Data Collection Sheet

Date _____

Group Members _____

Grade Surveyed: _____

Percentages

Tally up the votes in each category and write totals below.

Loved It _____ Okay _____ Disliked _____ Total Votes _____

Calculate the percentage for each category.

Loved It Percentage _____

Okay Percentage _____

Disliked Percentage _____

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Ratios

Write each category's data as a ratio.

1. What is the ratio of "Loved it" responses to total responses for this grade?
2. What is the ratio of "Okay" responses to total responses for this grade?
3. What is the ratio of "Disliked" responses to total responses for this grade?
4. What is the ratio of "Loved it" responses for this grade's data vs. the entire school's "Loved it" responses?
5. What is the ratio of "Okay" responses for this grade's data vs. the entire school's "Okay" responses?
6. What is the ratio of "Disliked" responses for this grade's data vs. the entire school's "Disliked" responses?

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Scatter Plots

Place a tally for each vote counted.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10