

Student Discussion Questions: When Do Lilacs Flower?

Part A: Flowering Times for One Year

Instructions: Examine your assigned boxplot and read the 'About The Graphs' document to learn more about the data. Answer the following questions about your boxplot.

1. Describe the data by answering the questions below.
 - a. Estimate the following from your boxplot.
 - i. Median
Date _____ *Day of Year* _____
 - ii. Minimum
Date _____ *Day of Year* _____
 - iii. Maximum
Date _____ *Day of Year* _____
 - iv. Sample Size _____
 - b. Describe the shape of your data. (Is the data clustered around a central point or is it more evenly spread out? Are there any apparent outliers?)

2. What factors might cause variability in recorded day of first flower? (i.e., Why do you think some observers are reporting earlier flowering times than others and vice versa?). List both factors related to plant biology AND factors related to research method/data collection protocols.

3. Multiple locations in North America hold annual week-long lilac festivals to celebrate spring.
 - a. Based on your data, what dates would you suggest people hold a lilac festival? Remember that the festival can only last 7 days.
 - b. How confident are you in your suggestion? Is there any information that would help you make a recommendation?

Part B: Flowering Times for Two Years

Instructions: In your group, examine the boxplots for two separate years of data. Answer the questions below:

1. Compare and contrast the data from each year (Refer to your answers in Part A #1).
 - a. What is different about your datasets? What factors might have caused your datasets to differ? (Again, think about factors related to plant biology and research method.)
 - b. What is similar about your datasets? Why do you think these similarities exist?
2. Compare the suggestions you made about when to hold a lilac festival (Part A, #3). Why did each of you suggest the dates you did? Would you change your suggestion based on the additional data?

Part C: Flowering Times for a Decade

Instructions: Examine the 10-year boxplot (Day of Lilac First Flower 2011-2021) and answer the questions below.

1. What do you notice in the graph? Is there a trend in flowering time across years or more variation year-to-year?
2. Do any years stick out? Are the lilacs flowering particularly early or late that year?
3. What questions do you have about this data? Generate as many questions about this graph and the data shown as you can in 3 minutes.
4. Choose one question that could guide future research on topics related to flowering times. Why did you choose this question? Will the answer help you understand a particular phenomenon or add new meaning to the data?