

Graph Analysis – Questions to Answer After Completing Each Exercise

Exercise 1. Pie Charts

1. What patterns do the study trees have in common between the two schools?
2. How do the study trees differ between the schools?
3. Is this a useful way to compare study populations? Are there other kinds of graphs that might make the comparison clearer?
4. How might the patterns in study populations affect the interpretation of growing season results over time?

Exercise 2. Bar Graphs

1. Compare the graph you just made with the pie chart made in Exercise 1, and consider the questions asked above for the pie chart.
2. Which graph does a better job, in your opinion, of showing the information you want a viewer to see?

Exercise 3. Two different Bar Graphs Created from Pie Chart or Original Bar Graph

1. Compare these two bar graphs with the bar graph from Exercise 2.
2. Do the different graphs tell slightly different stories?
3. Do they suggest different questions?
4. Do you find one more compelling than another?

Exercise 4. Scatter Plot with Lines Showing Multiple Years of Data

1. Is there a pattern over time?
2. In what year was leaf-fall finished earliest? When was it finished latest?
3. What might explain the observed pattern?
4. How does the pattern fit with the basic hypothesis behind your schoolyard science study?

Exercise 5. Two Ways of Showing Dates of First and Last Leaf Fall

1. Do you find the bar graph or the individual points more informative?
2. Is there further formatting that would make either graph more informative?
3. Are there some anomalies that might need to be explained?
4. Are there questions raised by the patterns shown in the graphs that suggest additional research that is needed?