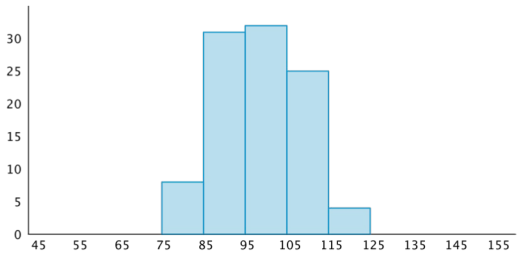
Lesson B2: Introduction to Histograms

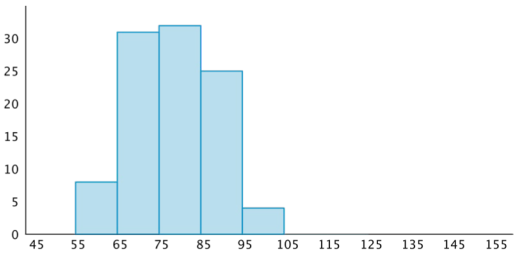
Warm Up

1) Which one doesn't belong? Choose a graph that you think does not match the others and explain why it does not belong.

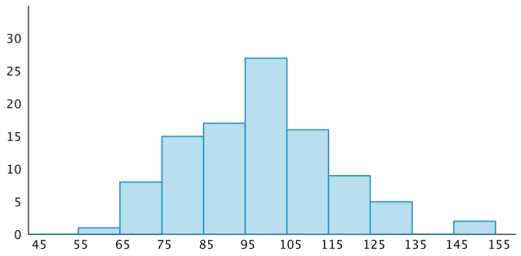
A



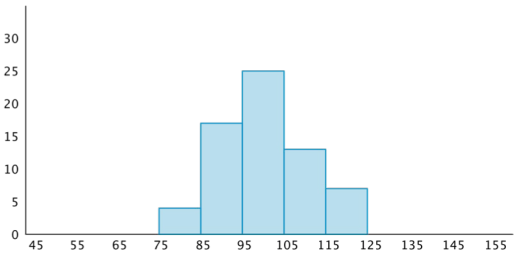
B



C



D



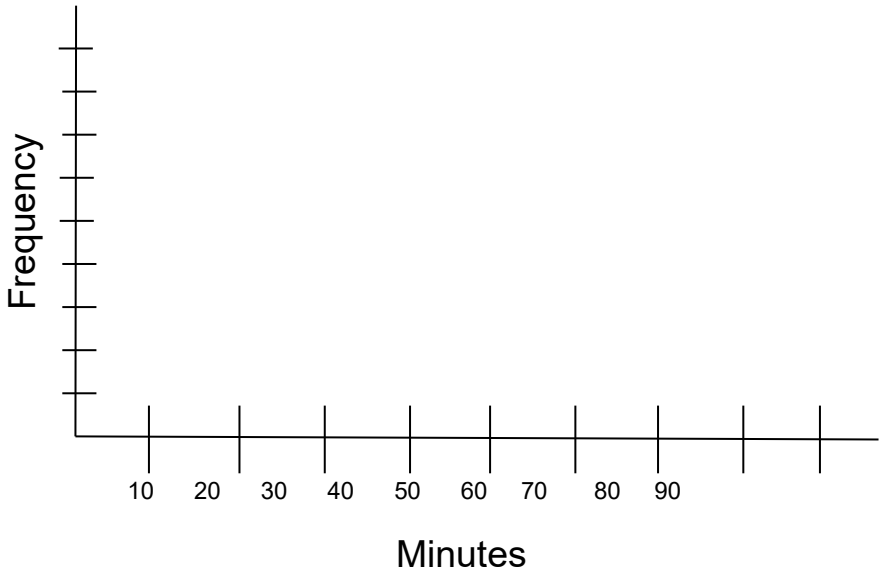
2) The gang is back at the theme park. They are there on a popular weekend and the place is packed! They have to wait in lines longer than they have ever experienced! Sam uses his park app to check the times (in minutes) for lines, they are listed below. How can you organize this data to make sense of what the lines look like this weekend?

3) Another strategy to show single variable data is a *histogram*. Histograms use "intervals" to show quantities in a range. Let us create a *frequency table* and we will set our intervals at a width of ten minutes.

20	**15**	**5**	**60**	**73**	**14**	**6**	**45**	**27**	**12**
9	**17**	**16**	**7**	**82**	**24**	**16**	**12**	**9**	**47**

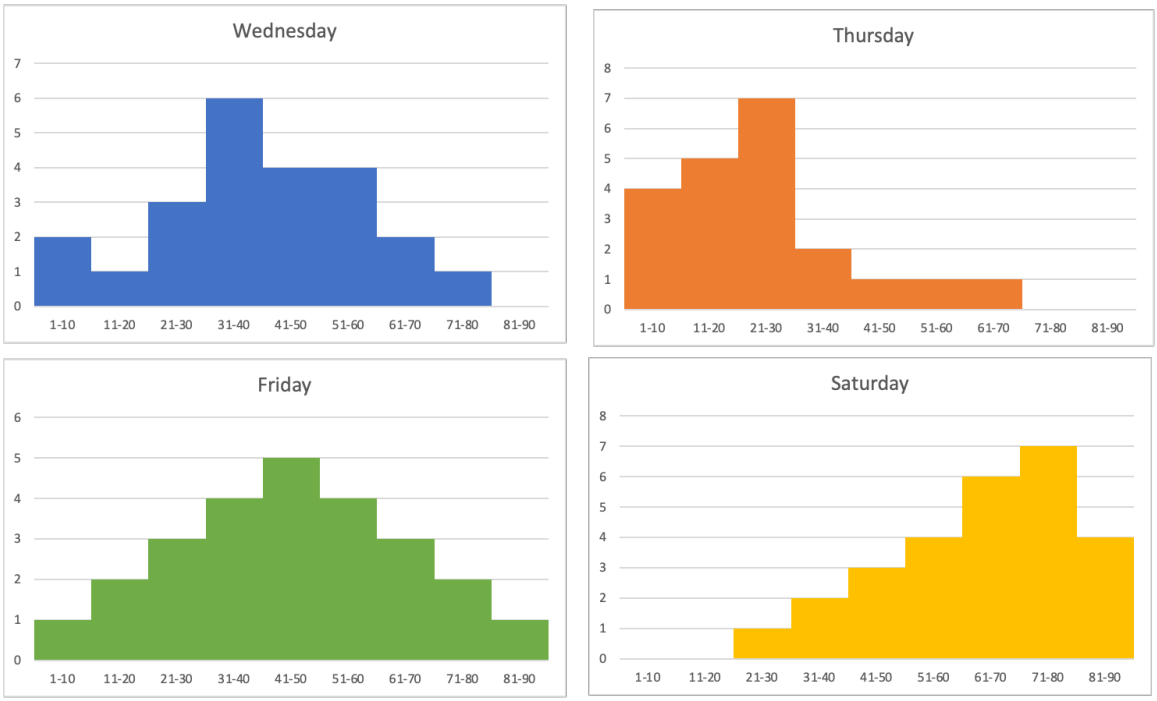
Minutes	**Frequency (Number of Rides in this range)**
1-10	
11-20	
21-30	
31-40	
41-50	
51-60	
61-70	
71-80	
81-90	

4) From the information above, we will create a histogram. Create bars to the frequency height that match the table you created above.



5) What trends do you notice in the histogram above?

6) The gang had such a good time at the amusement park that they decided to go back. It's summer vacation and the friends can go Wednesday, Thursday, Friday, or Saturday. They found data on how long the lines usually were on the different days for all the rides and plotted them in these histograms.



7) Label the histograms above as *symmetrical, skewed left, or skewed right.*

8) Which day of the week should the kids go if they want the shortest lines on average? Explain your reasoning.

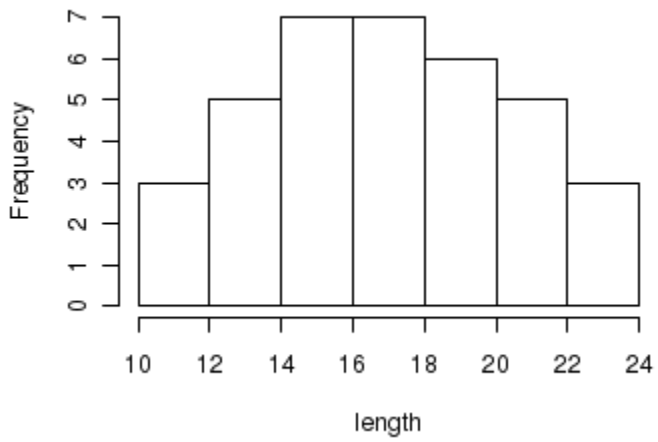
9) The kids were about to choose the best day, but then Sam couldn't go. What seems like the next best day and why is it not as good as the best day? Explain your reasoning

10) What do you think that "tail" on Thursday means?

11) What makes Wednesday and Friday similar? What makes them different?

Summary

Histograms are a visual representation for single variable data results. They use intervals to show the frequency of responses in a range of values. See the problems below for extra practice reading a histogram.



1) In the histogram above, how many responses landed between 16 and 18? _____

2) How many responses were given in total? _____

3) What shape would you describe this histogram as? _____

4) What scenario might this be a histogram describing? Write a short story about the data.