Unit 4 - Lesson B2

Introduction to Histograms

This lesson builds upon the previous day's exploration of dot plots. Students get to explore how to organize data into bins to create histogram representations. Students also continue their vocabulary of shape, spread, center from the previous day. More vocabulary related to histograms are developed.

CCSS content goal(s): 6.SP.B.1, 6.SP.B.4

Student Friendly Objectives

- I can create different graphs using the data I gathered to answer my statistical question
- I can interpret the graphs to make sense of the answer(s) to my statistical question

Agenda

Time (43 min)	Activity
8 min	Warm up (Which One Doesn't Belong): Individually, students will look at the four different graphs, pick out one that is unique and justify their choice. As a class, the teacher can facilitate a conversation that makes it so that every graph has a reason why it is unique from the others.
3 min	Setting up the context 2) Either as a class, small group, or individually, read through problem number two to set up the context of where the data is coming from.
10 min	Introducing the Intervals of a Histogram 3) Now is time students will begin sorting data into bins or "intervals". Teachers can facilitate conversations around the difficulty of using a dot plot in this situation. Dot plots with such large ranges can be difficult to construct and read quickly and might not give us the representation we are looking for.

18 min	Introducing the Histogram 4) As a class, use the intervals for part three to create the histograms bars for part four. 5) Allow students to write about trends they are noticing, compare with trends from lesson B1 6) Looking at these four graphs, students can note some similarities and differences. Make sure that students understand what the y-axis represents, the number of wait times that falls in that time frame. 7) When describing these vocabulary terms, the skew is the direction the "tail" goes. For example, Thursday is skewed right while Saturday is skewed left and Friday/Wednesday are symmetrical (symmetry here does not need to be "perfect"). 8) Wednesday or Thursday could be solid guesses, there appears to be less wait times on the left side of Wednesday so the mean will be pulled a little further right. Same as Thursday, the tail on the right will pull the mean a little bit off of the highest point. 9) Either Wednesday or Thursday depending upon what they said in #8. 10) The tail on Thursday means there are only a few ride times that are longer than 31 minutes. 11) They are both symmetrical but Friday is far more symmetrical than Wednesday. Give students space to come up with other possibilities.
4 min	Summary Encourage students to do these on their own. You can use these as an exit ticket to gauge student understanding. Something to consider is, where would a value of 16 fall, on the left side or the right side?