**Data Displays: Dot Plot, Histograms, and Box-and-Whisker Plots**

**Dot Plots**



* A graphical display using dots
* Take data set, and display each piece of data using a dot above a number line.

Data Set:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of books read this school year |  |  |  |  |  |  |  |  |  |  |

**Histograms**



* Shows the frequency of data with bars.
* The bars touch (unlike a regular bar graph) due to the continuous nature of the data.
* Consists of two axes (sides) in order to show the frequencies and characteristics.
* Consists of intervals (ranges) that have the same amount of values in each.

Data Set:

Number of people living in your home

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| Intervals | Frequency (tally total for each interval) |



**Box Plot (A.K.A. Box and Whisker Plot)**



* Displays data along a number line and splits the data into quartiles (quarters, 4 sections)
* Each quartile represents 25% of the data (sizes may differ depending on the variability of the data.
* There are 5 pieces needed to graph a box plot: the minimum value (smallest), the maximum value (largest), the median (Q2), Lower Quartile (Q1), and the Upper Quartile (Q3).

HOW TO CREATE A BOX PLOT:

1. Arrange data from least to greatest.
2. Identify the minimum, maximum, and median
3. Use the median to identify the upper half of the data, and the lower half of the data.
4. Find the median of the upper half of the data, this will be your Upper Quartile (Q3).
5. Find the median of the lower half of the data, this will be your Lower Quartile (Q1).
6. Create, and plot the 5 values, on a number to display that graph.

Data Set:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of states visited by students |  |  |  |  |  |  |  |  |  |  |