**Histogram-** A Histogram is a graphical display of data using bars of different heights. It is similar to a Bar Chart, but a histogram groups numbers into **ranges**. And you decide what ranges to use! Histograms are a great way to show results of continuous data, such as: weight, height, how much time, etc. But when the data is in categories (such as Country or Favorite Movie) we should use a Bar chart.

 

*The histogram to the left, displays the number of orange trees at different heights. For example, there are 30 trees between the heights of 150 cm to 200 cm.*

**Box Plot-** A graphical display of data where the data is divided into to four quartiles where each quartile represents 25% of the data.



**Dot Plot-** a graphical display of data using dots. A survey of "How long does it take you to eat breakfast?" had the following results:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Minutes | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| People | 6 | 2 | 3 | 5 | 2 | 5 | 0 | 0 | 2 | 3 | 7 | 4 | 1 |

Which means that 6 people take 0 minutes to eat breakfast (they probably had no breakfast!), 2 people say they only spend 1 minute having breakfast, etc. And here is the dot plot:



|  |  |
| --- | --- |
| **Frequency Table** | **Relative Frequency Table** |
| Values and their frequency (How often each value occurs).***Example:*** These are the numbers of newspapers sold at a local shop over the last 10 days:***22, 20, 18, 23, 20, 25, 22, 20, 18, 20***We can count the frequency of each one. So there are 2 stores who sold “18.” There are 4 stores who sold “20”. It is also possible to **group** the values. Here they are grouped in 5s:

|  |  |  |  |
| --- | --- | --- | --- |
| **Paper Sold** | 15-19 | 20-24 | 25-29 |
| **Frequency** | 2 | 7 | 1 |

 | How often something happens divided by all outcomes.***Example:***We asked a class what type of music they liked and 19 said pop, 12 said Rock n Roll, 6 Hip Hop, and 4 other.

|  |  |  |
| --- | --- | --- |
| **Items** | **Frequency** | **Relative Freq.** |
| **Pop Music** | 19 | 19/41 = 46% |
| **Rock n Roll** | 12 | 12/41 = 29 % |
| **Hip Hop/Rap** | 6 | 6/41 = 15 % |
| **Other** | 4 | 4/41 = 10 % |
| **Total** | **41** | **100%** |

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