

VIDEO: "HISTOGRAM DEFINITION" (1:57)

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Let's start by giving some definitions. A frequency table counts the number of times each unique value appears in the dataset. While a histogram displays a frequency table usually as a bar chart sometimes a frequency table and a histogram are used interchangeably. Let's look at an example, remember that the frequency table counts the number of their unique values.

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So suppose a researcher asks 100 people a survey of questions and wants to analyze the responses. The question is 5 possible answers- a,b,c,d, and e. The data is just a sequence of a, b, c's, d's and e's and we want to know how many of these responses appeared in the data. A frequency table has two columns one list the possible values and the other column gives the number of times the corresponding value appeared in the number of data. Our table shows we have a total of 40 a's and 20 b's.

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Several things to know. This data was rather special, and it only had a few unique values and these values were easy to list as they were discrete. The values do not have to be numbers. Notice all that the total number of columns should add up to the number of values in the data set.

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Now let's look at the histogram for the survey response. The histogram usually refers to the graphical display of a frequency table, using a bar chart. For the frequency table of the survey response the bar chart looks like this. The x axis has the unique values that appear in the data. The y axis represents the count and the title identifies the data. The histogram gives a lot about the data about how the set of the histogram values are disrupted. Notice that we are using a bar chart to display the frequency table not the original data. If we display the original data, we will get 100 bars each with the height corresponding to the data item