

2.2 Frequency Table and Histograms

Learning Objectives:

In this section, you will:

- Display data by constructing frequency table and histograms.

Constructing a Frequency Table

The following data represents the amount of Tar (mg) in various nonfiltered cigarettes. Use the data to construct a frequency table and histogram.

11; 18; 18; 18; 18; 18; 18; 18; 19; 19; 19; 19; 20; 20; 20; 20; 20; 21; 21; 22; 23; 23; 23; 23; 25; 25; 25; 27; 28

1. Decide how many classes to represent data. Usually 5 to 15.

Find **range = largest value – smallest value**

2. Calculate class width.
3. Calculate lower class limits.
4. Calculate upper class limits.
5. Find Frequency and Relative Frequency.

Tar (mg) in Nonfiltered Cigarettes	Frequency	Relative Frequency

Constructing a Frequency Table

A **histogram** is a graphic version of a frequency distribution. The graph consists of bars of equal width drawn adjacent to each other. The horizontal scale represents classes of quantitative data values and the vertical scale represents frequencies. The heights of the bars correspond to frequency or proportion. Histograms are typically used for large, continuous, quantitative data sets.

1. Calculate class boundaries.
2. Calculate class midpoints.
3. Graph histogram using the class boundaries and frequency.
4. Graph histogram using the class midpoints and relative frequency in percent.

For more information and examples see online textbook OpenStax Introductory Statistics pages 67-77.

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