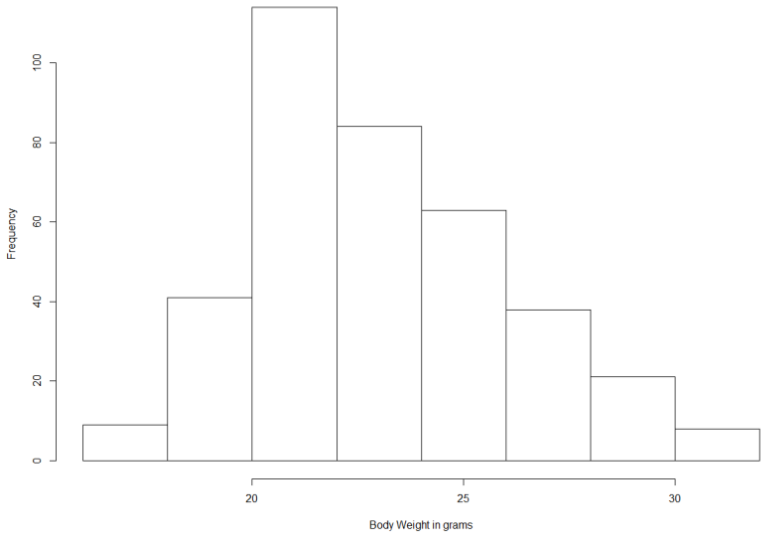
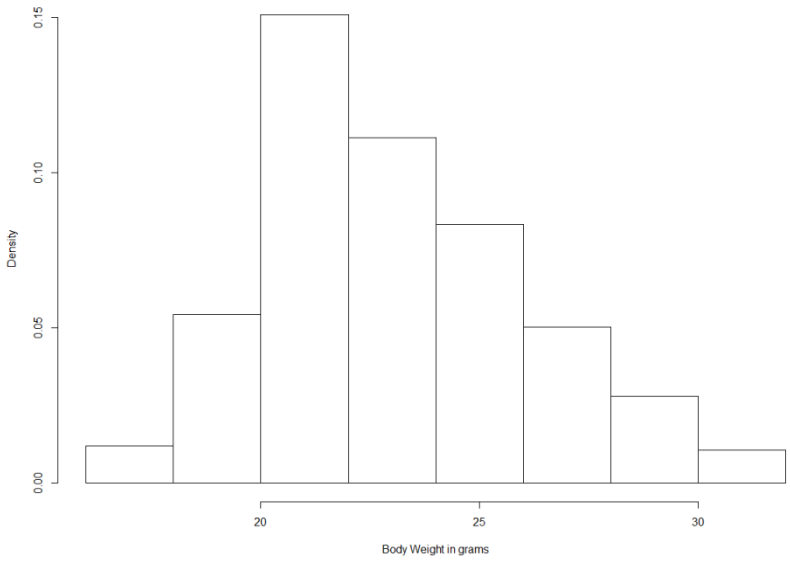
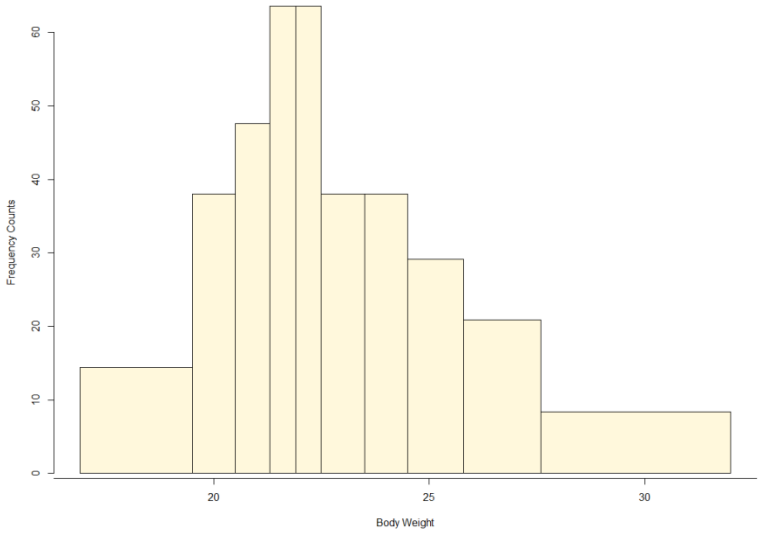
Standard Frequency Histograms are a visual depiction of a frequency table. They "bin" data into equal sized intervals and the Y axis of the graph is simply a frequency count of the number of cases in each bin. Here is an example of body weights of adult mice. The number of bins is a default number determined in R by the method recommended by Sturges.



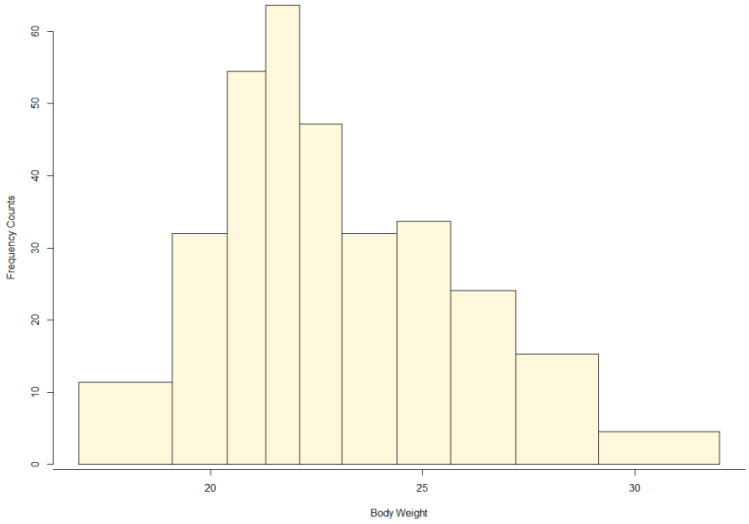
If the Y axis is expressed as a density, the total area of the bars is equal to 1.0.



Another method to tabulate the data and draw a histogram is to construct the graph such that the bars all have the same area, thus an Equal Area Histogram. Equal Area histograms permit a more precise localization of regions of high and low density of data points This graph was produced by a function from Denby and Mallows, 2009.



Another method developed by Denby and Mallows (2009) is to produce varying bin widths that avoid some of the complications that can happen with some data sets when using the Equal Area Histogram. This graph is called a Diagonally Cut Histogram.



Reference: Denby, L., & Mallows, C. (2009). Variations on the Histogram. *Journal of Computational and Graphical Statistics, 18*(1), 21-31.