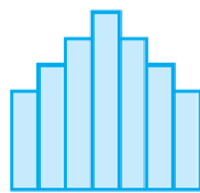


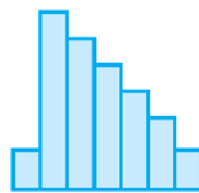
Frequency Tables and Histograms

- One type of table that is used to present *quantitative data* is a **frequency table**, also called a **frequency distribution**.
- A **frequency distribution** is used when the amount of data is very large. Individual data items are grouped in “classes” to help in the analysis of the distribution of the sample
- Constructing a frequency distribution, there are several guidelines that should be followed:
 - Each class should be the same “width”—that is, span the same number of possible data items.
 - Classes should not overlap. Each data item should belong to only one class.
 - Frequency distributions should contain approximately 5 to 12 classes.
 - Use an even or “easy to count” class width whenever possible
- A **histogram** is a bar graph used to picture a frequency distribution. Each bar represents a class of numbers in the frequency distribution. The height of each bar indicates the frequency in that particular class.
 - The bars should always touch because the width of a bar represents a range of numbers (a quantitative value).
- Each bar represents a range of values, it is usually labelled with one number called the **midpoint of the class**.
 - This number is calculated by adding the lower and upper class limits of one class and dividing by 2

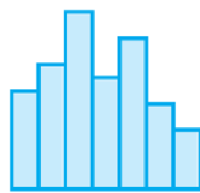
Shapes of Histograms



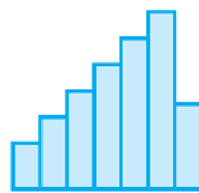
Normal Distribution



Positive Skew



Bimodal Distribution



Negative Skew