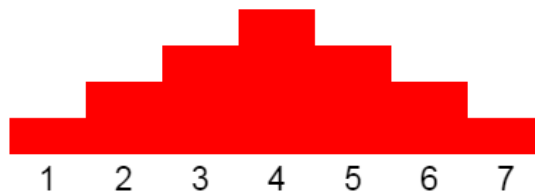# Looking at Data

Graphic displays are useful for seeing ☐ in data. ☐ in data are commonly described in terms of: ☐, ☐, ☐, and ☐ features. Some common distributions have special descriptive labels, such as ☐, ☐, ☐, etc.

http://stattrek.com/statistics/charts/data-patterns.aspx

Center

Graphically, the ☐ of a distribution is located at the ☐ of the distribution. This is the point in a graphic display where about ☐ of the observations are on ☐ side. In the chart below, the height of each column indicates the ☐ of observations.
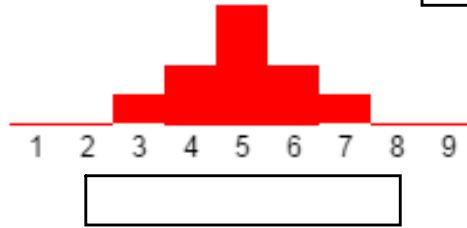

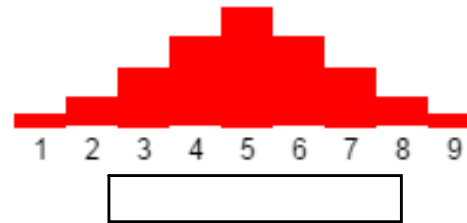Here, the observations are ☐ over 4.

Spread

The spread of a distribution refers to the [____] of the data. If the observations cover a [___] range, the spread is [____]. If the observations are clustered around a [____] value, the spread is smaller.

In the figure on the top, the data values ranging from 3 to 7

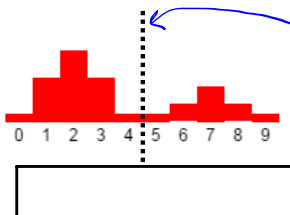In the figure on the bottom, the bar graph has the values ranging from 1 to 9.

Conclusion: The figure on the bottom is [___] variable, so it has the [____][____]
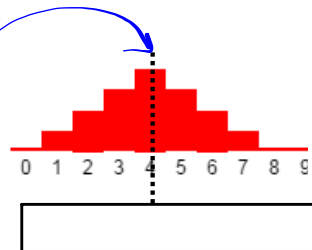
Shape

The shape of a distribution is described by the following characteristics.

Symmetry. When it is graphed, a symmetric distribution can be [____] at the [____] so that each [___] is a [____] image of the other.
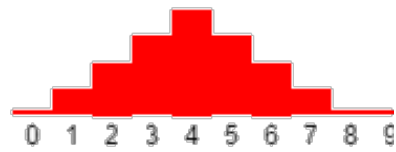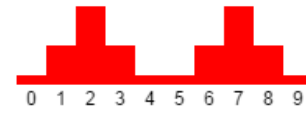
Line of Symmetry

Number of peaks.

Distributions can have few or many peaks.

Distributions with ☐ clear peak are called ☐

☐
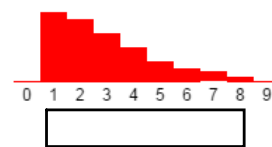
Distributions with ☐ clear peaks are called ☐

☐

When a symmetric distribution has a single peak at the center,
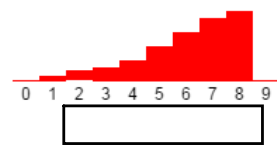
it is referred to as ☐ and can be described as

☐

Skewness.

When they are displayed graphically, some distributions have many more observations on one side of the graph than the other.
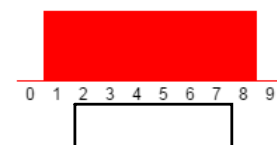
Distributions with fewer observations on the ☐ (toward higher values) are said to be skewed ☐ (The ☐ is on the ☐)

☐

Distributions with fewer observations on the ☐ (toward lower values) are said to be skewed ☐ (The ☐ is on the ☐)

☐

Uniform. When the observations in a set of data are ☐ spread across the ☐ of the distribution, the distribution is called a ☐ distribution. A uniform distribution has ☐ clear peaks.

☐

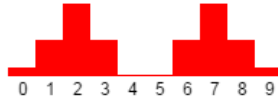If the ☐ < ☐ < ☐ then the distribution will be skewed to the Left

If the ☐ > ☐ > ☐ then the distribution will be skewed to the Right

In a skewed distribution, the ☐ is farther out in the long tail than is the ☐

Unusual Features

Sometimes, statisticians refer to unusual features in a set of data. The two most common unusual features are ☐ and ☐.

Gaps. Gaps refer to areas of a distribution where there are ☐ The figure below has a gap; there are ☐ in the middle of the distribution.

Outliers. Sometimes, distributions are characterized by ☐ values that ☐ greatly from the other observations. These extreme values are called ☐ The second figure below illustrates a distribution with an ☐ Except for one lonely observation (the outlier on the extreme ☐), all of the observations fall between 0 and 4.