Unit Overview – Statistics and Probability (SP)

Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range and mean absolute deviation) can also be useful for summarizing data because two very different sets of data can have the same mean and median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps and symmetry considering the context in which the data were collected.

6.SP.A.1	Recognize a **statistical question** as one that anticipates variability in the data related to the question and accounts for it in the answers.
6.SP.A.2	Understand that a set of data collected to answer a statistical question has a **distribution** which can be described by its center, spread, and overall shape.
6.SP.A.3	Recognize that a **measure of center** for a numerical data set summarizes all of its values with a single number, while **measure of variation** describes how its values vary with a single digit.
6.SP.B.4	Display numerical data in plots on a number line, including **dot plots**, **histograms**, and **box plots**.
6.SP.B.5	**Summarize numerical data set**s in relation to their context, such as by:
6.SP.B.5a	Reporting the **number of observations**.
6.SP.B.5b	Describing the **nature of the attribute** under investigation, including how it was measured and its units of measurement.
6.SP.B.5c	Giving quantitative **measures of center** (median and/or mean) and **variability** (interquartile range and/or mean absolute deviation (MAD)), as well as describing any **overall pattern** and any striking **deviations** from the overall pattern with reference to the context in which the data were gathered.
6.SP.B.5d	Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.