**PA Reporting Category:** M06.D-S Statistics and Probability

**PA Core Standards:** CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions.

**Assessment Anchor:** M06.D-S.1 Demonstrate understanding of statistical variability by summarizing and describing distributions.

**Descriptor:** M06.D-S.1.1 Display, analyze, and summarize numerical data sets in relation to their context.

**Eligible Content:** M06.D-S.1.1.3 Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered.

**Alternate Eligible Content Code:** M06DS1.1.3a

**Alternate Eligible Content:** Compare points in a line plot, histogram, or on a number line.

**Alternate Eligible Content - Coded**

<table>
<thead>
<tr>
<th>Know</th>
<th>DO</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Points</td>
<td>• Compare</td>
<td>• In a line plot, histogram, or on a number line</td>
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**Definition notes:**

**Line Plot** - A frequency distribution plot in which the data are single points on a number line and the frequencies are represented by dots, ×’s, or similar notation. The data may be categorical or numerical. Unless otherwise specified, it may be assumed that each mark (dot, ×, or similar notation) represents a value of 1.

**Histogram** – A type of data display that represents a frequency distribution. The class intervals (buckets) represent numerical data. The class intervals are located on the x-axis and form the bases of contiguous rectangular bars. Frequencies are listed on the y-axis.

The class interval representation of numerical data rather than categorical data, and contiguous bars rather than nonintersecting bars, are distinguishing features of a histogram in contrast to a bar graph.

**Number line** – A graph that represents real numbers as order points on a line. A number line may be either horizontal (left and right) or vertical (up and down). Starting at zero, the positive numbers progress to the right (or up) and the negative numbers progress to the left (or down).

**Intent Statement:** Identify what is the same or different about two points on a graph

1. **Most Complex Level (at the level as written):**
   - **Content target:** Compare two numbers on a line plot. (line plot with 4 points)
   - **Example:** The student will find the difference between two data points.

```
  X       X       X
 X       X       X
 X       X       X       X
 Bob     Dave    Alice  Chris
```
2. **Mid-Complex Level:**
   - **Content target:** Compare two numbers on a line plot. (Line plot with 4 points) but given an equation formula and visual and/or object supports to meet the unique needs of the student. The student will find the difference between two data points.
   - **Example:** Dave scored 4 goals and Chris scored one goal. How many more goals did Dave score?

   ![Line plot with 4 points and student names]

   $\text{Dave} - \text{Chris} = \text{Dave}

3. **Least Complex Level:**
   - **Content target:** Compare two numbers on a line plot when provided with the scores of each student. Visual and/or object supports can be used to meet the unique needs of the student and to enhance learning. The student will compare two numbers on a line plot to identify the biggest or lowest number.
   - **Example:** Who scored more goals, Alice or Chris? Use Language that is appropriate for your student. (ex. Boy/girl)

   ![Line plot with 2 points and student names]

   - Present the following line plot, reading the scores of each student.
   - Compare two numbers on a line plot to identify the biggest or lowest number.
   - Ex: Who scored more goals Alice or Chris?