

**Do all your work in your Engineering Notebook.**

|  |
| --- |
| **Activity 3.5 Applied Statistics** |

Procedure

1. Part of the manufacturing quality control testing for a toy is to measure the depth of a connector piece that must fit into another part. The designed depth is 4.1 cm. Every tenth part produced on the production line is measured. The following data was collected during a two minute production period.

4.1, 4.1, 4.0, 4.1, 3.9, 4.4, 3.9, 4.3, 4.0, 4.2, 4.0, 3.8

* 1. Calculate each of the following measures of central tendency: **Mean**, **Median** and **Mode**. Show your work.
  2. Calculate each of the following measures of variation for the data set: **Range**, and **Standard** **Deviation**.
  3. Create a histogram for the data. The horizontal axis should display each length measurement from the minimum to maximum recorded lengths. You may choose to begin with a dot plot and then fill in the bars. Be sure to label your axes.
  4. What class interval is appropriate for the measurement values reported as 4.1 cm?