

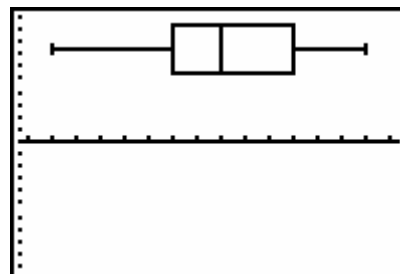


7TH GRADE TI-84 ACTIVITY 26: DO YOU MEASURE UP?

ACTIVITY OVERVIEW:

In this activity we will

- Collect data to plot a box and whisker plot
- Investigate variation in student heights



You are going to collect data about the height of students in your room. In order to be efficient, there should be 3 stations with two meter sticks taped to the wall from the floor. Make sure on both rulers the numbers start from the bottom.

Collect the student height data. If possible, have the same 3 people conduct the readings. Write the readings in centimeters, to the nearest tenth of a centimeter. Make sure the readers are looking straight at the sticks.

Put all the height data on the board, so it is easily seen by all students. Have students enter the data into their TI-84 calculators.

Students should enter the data into List 1 (L1) of their calculator. Press the **[LIST]** key and enter the data into L1. If there is data in L1, arrow up to the top of the list(see on right), press the **[CLEAR]** key and press **[ENTER]**.

L1	L2	L3	1
-----	-----	-----	
L1 =			

As you enter each data point, use the down arrow or press **ENTER** to prepare to enter the next data point.

L1	L2	L3	1
162.2			
170			
145.5			
163.4			
184.4			
171.6			
L1(B) =			

Once you have entered the data, set up the plot for the data. Press the **2nd** and **[PLOT]** keys. Press **ENTER** to select plot 1.

```

STAT PLOTS
1:Plot1...Off
  [L1] L2
2:Plot2...Off
  [L1] L2
3:Plot3...Off
  [L1] L2
4↓PlotsOff
  
```

Set up the plot as seen on the right. Use the arrow keys to reach the highlighted areas and press **ENTER** to highlight them. The third type on the second row is highlighted.

```

Plot1 [Off] Off
Type: [L1] [L2] [Type] [Freq]
      [Type] [Type] [Type] [Type]
Xlist:L1
Freq:1
  
```

Press the **WINDOW** key, Set up the Xmin 5 cm less than your smallest measurement and Xmax 5 cm higher than the greatest measurement. Set the Xscl to 10. Press **Y=** to clear out any equations. Press **GRAPH** to explore your plot.

Press the **TRACE** key and use the left and right arrows to record the 5 number summary on the right.

Min = _____
 Q1 = _____
 Med= _____
 Q3= _____
 Max= _____

EXTENSION

If half of the people are below the median, does that mean the median is the mean of the min and max?

What would happen if you added someone who was 226cm to your readings? Would the graph change noticeably?
