

## Technology Activity

(Use with Lesson 7-7)

## Making a Single Box-and-Whisker Plot

In Lesson 7-7B, you will learn how to make two box-and-whiskers plots to compare sets of data. In this activity, you will learn how to make a single box-and-whisker plot on a TI-82/83.

## Example

The table at the right shows the top ten states with the most persons per household. Make a box-and-whisker plot of these data. State the least value, lower quartile, median, upper quartile, and greatest value.

State	Number of Persons in Household
Alaska	2.81
California	2.82
Hawaii	2.98
Idaho	2.75
Louisiana	2.71
Mississippi	2.73
New Jersey	2.72
New Mexico	2.75
Texas	2.74
Utah	3.12

Source: U.S. Census Bureau

Clear all of the lists. Then enter the data into L1 by pressing **STAT** 1. To make the box-and-whisker plot, set the window

as follows.

$$Xmin = 2.6$$

$$Ymin = 0$$

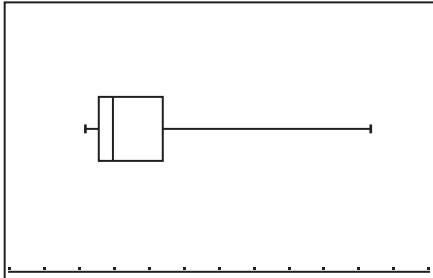
$$Xmax = 3.2$$

$$Ymax = 1$$

$$Xscl = .05$$

$$Yscl = 1$$

Then press **2nd** **STAT PLOT** 1. Turn the plot on and highlight the box-and-whisker type (it's the fourth choice). Then press **GRAPH**.



For these data, the least value is 2.71, the lower quartile is 2.73, the median is 2.75, the upper quartile is 2.82, and the greatest value is 3.12.

Make a box-and-whisker plot for each set of data. Using the TRACE function, explore each plot. Record the least value, lower quartile, median, upper quartile, and greatest value in the blanks below.

1.

Most Popular Ice Cream Flavors	
Flavor	Percent Preferring
Butter Pecan	5.3
Chocolate	8.9
Chocolate Chip	3.9
Cookies & Cream	3.6
French Vanilla	3.8
Vanilla/Fudge Ripple	2.6
Neapolitan	4.2
Praline Pecan	1.7
Strawberry	5.3
Vanilla	29.0

Source: International Ice Cream Association

1.7, 3.6,  
4.05, 5.3,  
29.0

2.

Maximum Life Span of Several Animals	
Animal	Life Span (years)
Chimpanzee	59
Condor	72
Elephant	70
Hippopotamus	60
Human Being	120
Lake Sturgeon	152
Monkey	53
Orangutan	59
Tortoise	116
Whale	87

Source: Zoological Society of San Diego

53, 59,  
71, 116,  
152