

How's the Weather

Your family is considering moving to one of three cities. They would like you to study the average monthly temperature of these three cities to see how they compare. The average monthly temperature as reported by <http://www.worldclimate.com> are listed below.

Average Monthly Temperatures in Seattle, WA

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	4.5	6.3	7.5	9.5	12.8	16.0	18.4	18.6	15.8	11.5	7.3	4.7	11.1
°F	40.1	43.3	45.5	49.1	55.0	60.8	65.1	65.5	60.4	52.7	45.1	40.5	52.0

Average Monthly Temperature in Salt Lake City, UT

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	-1.7	0.9	5.2	10.1	14.9	20.4	25.2	24.1	18.4	11.6	4.6	-0.3	11.1
°F	28.9	33.6	41.4	50.2	58.8	68.7	77.4	75.4	65.1	52.9	40.3	31.5	52.0

Average Monthly Temperature in Denver, CO

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°C	-1.2	0.7	3.8	9.0	14.0	19.3	23.0	21.8	16.8	10.7	3.8	-0.5	10.1
°F	29.8	33.3	38.8	48.2	57.2	66.7	73.4	71.2	62.2	51.3	38.8	31.1	50.2

Create 1 regular box plot for the average monthly temperature for each of the cities.

Make a sketch of the three box plots.

Trace along each plot and record the Xmin, Q1, Median, Q3, and Xmax.



For each city identify the

	Seattle, WA	Salt Lake City, UT	Denver, CO
median temperature			
lower quartile value			
upper quartile value			
range of data between the upper and lower quartile			
minimum monthly temperature			
maximum monthly temperature			

Based on the information you have collected do the monthly temperatures seem close together or varied? Explain your reasoning based on the box plot.

What can you conclude about temperatures in the two cities based on the box and whiskers plots?

If you were looking to move to a city where the temperatures varied over the year, which city would you recommend. Support your reasoning based on the box plots.

Based on the median temperatures, could you conclude that temperatures in the three cities are similar? Explain your reasoning.

Extension Activities

Suppose you chose Seattle as you city you would like to move to. Suppose all the average monthly temperatures rose by 1 degree C. How would this change the information about this city.

Press LIST and move to the top of that list and enter L1+1 and ENTER.

Trace along the graph to see what has changed.

What information changed? How did it change?

What information did not change? Why didn't it change.

Would you still want to move to Seattle? Why or why not?