

Use of Excel 2007 for Descriptive Statistics.

If not done previously, install the Analysis ToolPak-VBA into your Excel software, as follows:

Step 1: Go to the Office Button.

Step 2: Click the Excel option.

Step 3: Click on the Add-Ins option listed in the left panel.

Step 4: Install the Analysis ToolPak-VBA.

Make a column heading "Birth Wt (oz.)" in cell D14. Then enter the birth weight data set into cells D15 to D34 as follows. This puts the data set in the middle of the page, if you like it there. If you prefer, you can put the data set in column A.

			Birth Wt (oz.)
			58
			120
			123
			104
			121
			111
			91
			104
			128
			133
			118
			86
			134
			132
			68
			121
			122
			115
			106
			115

Next let us look at the *ordered data values*.

Step 1: Copy and paste the data set into new cells E15-E34.

Step 2: Select the new cells, i.e., E15-E34.

Step 3: Right click and select "Sort Smallest to Largest".

This column will become replaced by the following one, alongside the original data.

		58	58
		120	68
		123	86
		104	91
		121	104
		111	104
		91	106
		104	111
		128	115
		133	115
		118	118
		86	120
		134	121
		132	121
		68	122
		121	123
		122	128
		115	132
		106	133
		115	134

Next we will find several descriptive measures.

Step 1: Click on Data listed at the top of Excel.

Step 2: Click on Data Analysis.

Step 3: Choose Descriptive Statistics.

Step 4: In the box for "Input range", put D15:D34.

Step 5: Click Summary Statistics.

Step 6: Click OK.

You will see the following table.

<i>Column1</i>	
Mean	110.5
Standard Error	4.63709301
Median(Med)	116.5
Mode	104
Standard Deviation	20.7377104
Sample Variance	430.052632
Kurtosis	1.27116641
Skewness	-1.2938299
Range	76
Minimum	58
Maximum	134
Sum	2210
Count	20

"Standard Error" above is sometimes called "Standard Error of the Mean".

The 1st quartile and the 3rd quartile are not included in the table. You can calculate these separately, as below, if you want.

Step 1: Write Quartile (Q1) and Quartile (Q3) in the cells B98 and B99, respectively.

Step 2: Write =QUARTILE(D15:D34,1) and =QUARTILE(D15:D34,3) in the cells C98 and C99, respectively.

You will see the following results.

	Quartile 1(Q1)	104
	Quartile 3(Q3)	122.25

Excel does not compute boxplots, dot plots, or stem-and-leaf plots in its Analysis ToolPak-VBA. For these, one can obtain macros separately, but the results are clumsy.

Here we will make a *histogram*.

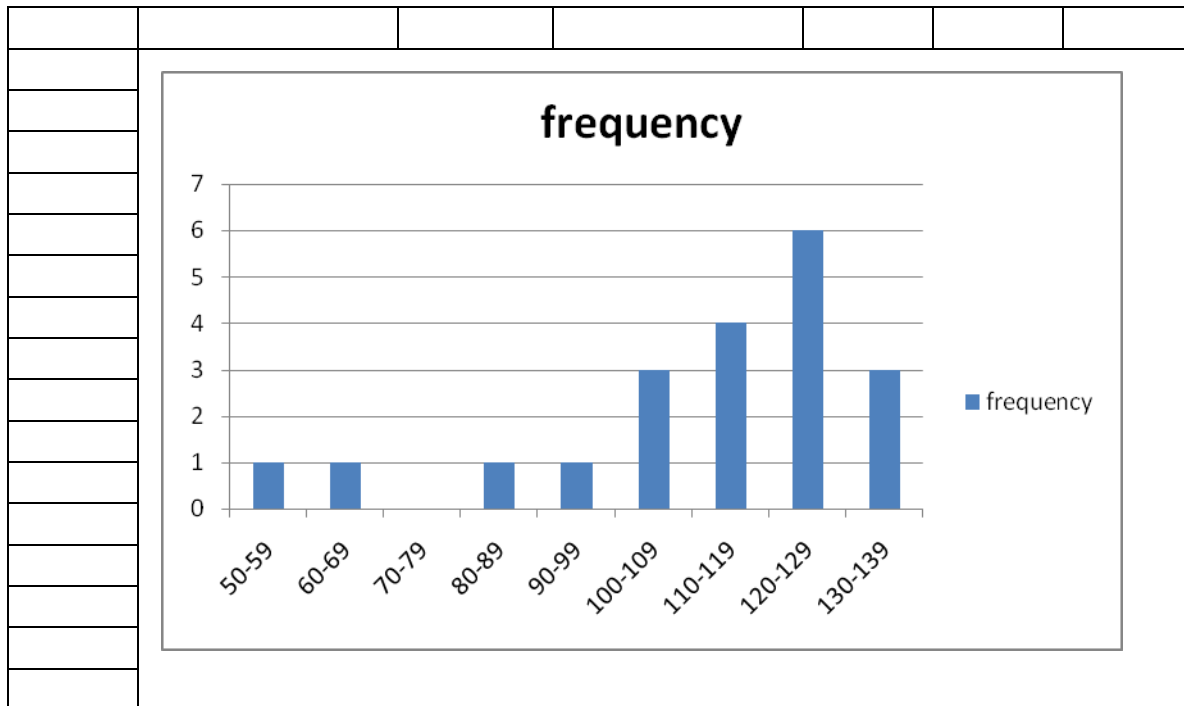
Step 1: Classify the data into ranges 50-59, 60-69, 70-79, 80-89, 90-99, 100-109, 110-119, 120-129, and 130-139, and make the frequency table in cells B111-C119.

	Class	frequency
	50-59	1
	60-69	1
	70-79	0
	80-90	1
	90-99	1
	100-109	3
	110-119	4
	120-129	6
	130-139	3

Step 2: Select the above frequency table.

Step 3: Go to Insert. Click on Column.

Step 4: Select the 1st chart appearing in the 2D chart box. **You will see the following graph.**



Step 5: If you want, you can select and delete two “frequency” words from the graph. The above graph will be modified to the following graph.

