Creating Scatterplots & Performing Linear Regressions on the TI-83

To create a scatterplot:

1. Press STAT, and select Edit. You should see columns labeled L1 and L2.
2. To clear previous data, arrow up to L1 (or L2) and press CLEAR, ENTER.
3. Enter the x-data in the L1 column and the y-data in the L2 column.
4. To set up the graph, press 2nd STATPLOT. Select Plot 1. In Plot 1:
    a) Select On.
    b) Select scatterplot (the icon with various points on the graph.)
    c) Select L1 for the x-data and L2 for the y-data.
    d) Select the boxed point as the mark for the data.
5. After setting the plot, press GRAPH. You may need to adjust the WINDOW to see all the data points. Or you can press ZOOM 9, which automatically sizes the window to fit your data.

To perform a linear regression on the data:

1. Press 2nd QUIT to return to the home screen.
2. Press STAT, and select Calc, item 4: LinReg. This pastes the linear regression algorithm back to the home screen. Press ENTER.
3. The linear equation is displayed in the form $y = mx + b$. Copy this down.
4. Press Y= . Clear any unneeded functions. Type in the linear equation created in the previous step.
5. Press GRAPH. The scatterplot will be displayed, and then the best-fit line will be drawn through the points.

Correlation. The correlation coefficient of the data describes, in a sense, how close the data points are to the line. A correlation coefficient near 1 means the points are "close" to the line, while a coefficient near 0 means they are not "close". To display the coefficient of correlation for a linear regression:

1. Press 2nd QUIT to return to the home screen.
2. Press 2nd CATALOG. (Yellow command above the zero.)

3. Arrow down to DiagnosticsOn. Select this by pressing ENTER. This pastes the command back to the home screen.
4. Press ENTER. From now on, the calculator will give the correlation coefficient for all regression calculations.