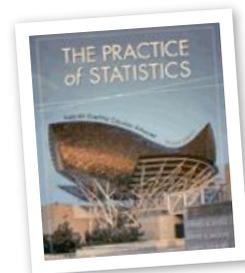# AP Stats Chapter 3: Examining Relationships

"Thou, nature, art my goddess; to thy laws my services are bound..." ~ Shakespeare's King Lear & Gauss' Motto}

Tentative Lesson Guide					
Date		**Stats**	**Lesson**	**Assignment**	**Done**
Tues	10/10	3.1	Scatterplots	Rd 121-134 Do 1-4,6-7,15-19, 22	
Wed	10/11	3.2	Correlation	Rd 140-145 Do 24-29, 33	
Thu	10/12	3.3	Least Squares Regression	Rd 149-156 Do 38-41	
Fri	10/13	3.3	Least Squares Regression	Rd 157-165 Do 42-43, 45	
Mon	10/16	3.3	Residuals	Rd 167-176, Do 46, 48	
Tues	10/17	**Rev**	**Review**	Rd 181-183 Do 62-65, 67-73	
Wed	10/18	**Exam**	**Chapter 3 Exam**	**Online Quiz Due**	
Thu	10/19	*EdMn*	*EdMn Break*		
Fri	10/20	*EdMn*	*EdMn Break*		

Note:

The purpose of this guide is to help you organize your studies for this chapter.
The schedule and assignments may change slightly.

Keep your homework organized and refer to this when you turn in your assignments at the end of the chapter.

Class Website:

Be sure to log on to the class website for notes, worksheets, links to our text companion site, etc.

http://web.mac.com/statsmonkey

Don't forget to take your online quiz!. Be sure to enter my email address correctly!

http://bcs.whfreeman.com/yates2e

My email address is:

jmmolesky@isd194.k12.mn.us

Chapter 3 Objectives and Skills:

These are the expectations for this chapter. You should be able to answer these questions and perform these tasks accurately and thoroughly. Although this is not an exhaustive review sheet, it gives a good idea of the "big picture" skills that you should have after completing this chapter. The more thoroughly and accurately you can complete these tasks, the better your preparation.

SCATTERPLOTS

☐ Given a sample of data from a situation, and a few variables, be able to describe the association (direction, strength, and form), by using words, visual displays (both scatterplots and residual plots), and numerical measures of association. All of this must be in context of the data.

☐ Be able to spot and describe individual cases on a scatterplot.

☐ Recognize influential observations and outliers in a scatterplot. Remember that these aren't necessarily the same thing - outliers are values which "buck the trend." In most cases they have high residuals. Influential observations often "set the trend," but may throw off the association in the bulk of the data. They are often outliers in the x - direction.

☐ Given two variables in a scenario, be able to decide whether one should be the "explanatory variable" and the other the "response variable," *or if it doesn't matter.*
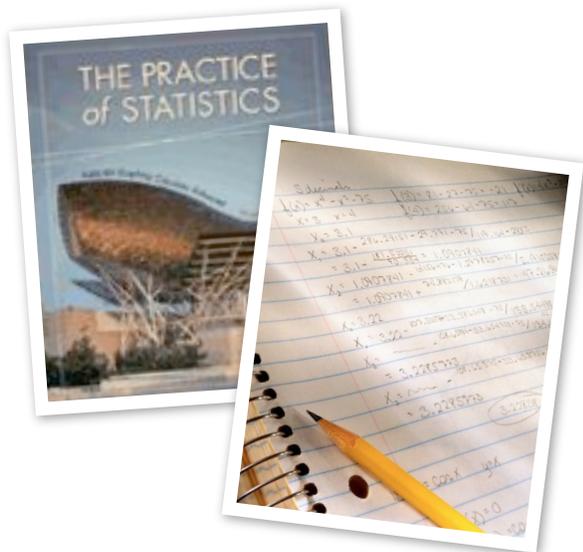
CORRELATION AND REGRESSION

☐ Understand the interpretation and properties of r.

☐ Use the TI-83/84 OR a computer printout to determine the least squares regression equation for predictions.

☐ Interpret the meaning of the numerical values of the slope and intercept of the regression equation, in proper context.

☐ Understand the technical meaning of r^2

☐ Use means and standard deviations of x and y to find the slope and the intercept of the regression line.

☐ Use the regression line to predict y values for a given x value.

☐ Recognize extrapolation, and be aware of its dangers.

☐ Calculate the residual for a given observation and Interpret residual plots.

☐ Recognize the fallacy: "correlation does not imply causation." Understand how to resolve the fallacy by explaining the role of lurking variables, common response, or confounding.

☐ TI 83 skills you must have: make a scatterplot, find LSRL, find r and r^2, make a residual plot.