Mini-Lecture 3.2
Linear Models: Building Linear Functions from Data

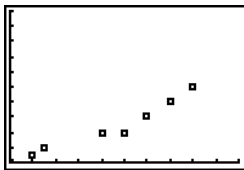**Learning Objectives:**

1. Draw and interpret scatter diagrams
2. Distinguish between linear and nonlinear relations
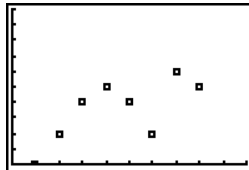3. Use a graphing utility to find the line of best fit

Examples:

1. Examine the scatter diagram and determine whether the relation is linear or nonlinear.

(a)   (b)

2. For the data below, draw a scatter diagram. Select two points from the diagram, and find the equation of the line containing the two points selected. Graph the line found on the scatter diagram.

x	-2	-1	0	1	2	3
y	-8	-4	-2	2	5	7

Teaching Notes:
- Students will enjoy this, but if they don't have a graphing calculator you need to keep the examples simple.
- This is a good chance to make the students aware of real world uses of mathematics.

Answers:
1. (a) linear   (b) nonlinear
2. $y = 3x - 2$