

Modeling Linear Data *Teacher's Guide*

GRADE LEVEL: 8th

SUBJECT AREA/COURSE: Algebra I

SUNSHINE STATE STANDARDS:

- Big Idea #1: Analyze and represent linear functions and solve linear equations and systems of linear equations.
- Big Idea #3: Analyze and summarize data sets.
- Supporting Idea #6: Number and Operations

ACADEMIC OUTCOMES/LESSON OBJECTIVES:

- Students will analyze graphical data to determine tendencies.
- Students will compare variables to determine relationships.
- Students will gather data and extrapolate information.
- Students will determine equations that describe given data.

TEACHER INFORMATION: Preview the student activity. Use Lake Tarpon first, then the four lakes listed below. Some lakes have water levels controlled, so they will not make appropriate graphs if you decide to use other lakes on the Atlas. You may want to have a selection of graphs on transparencies for class discussion after students have made graphs. The assignment is to repeat the data collection/analysis for four other lakes after completing Lake Tarpon, and compare all 5 for the specified date range. This can be quite lengthy so the assignment may be edited for a limited number of lakes to be compared.

The four additional lakes with stations date ranges are:

- a. Cliff Stephens Park Lake (1991-1998)
- b. Crescent Lake (5/9/90-7/31/07)
- c. Eagle Lake (10/27/91-4/16/02)
- d. Mirror Lake (8/22/89-6/27/95)

If you want to edit the assignment, students can simply select "Graph this data" instead of downloading the data. There is an option for "graph a trend line" under the display options. They can simply compare the trend lines, although they cannot review the specific data collected unless they download the data. Keep in mind these graphs and corresponding trend lines are specific to all of the data collected on the specified parameter from one station and cannot be edited for a particular time frame.

MATERIALS NEEDED: Graph Paper, Internet access with www.Pinellas.WaterAtlas.org bookmarked, overhead projector, transparencies.

SAFETY: N/A

VOCABULARY: Slope, Intercept, line of best fit.

AUTHOR: Ron Browning - Modified from the original lesson plans created for the Seminole County Watershed Atlas.

Name:

Date: