Graphing Calculator Lab
Scatter Plots

TI-73 Explorer

A TI-73 Explorer graphing calculator is useful for creating and analyzing scatter plots of large sets of data.

ACTIVITY

1 **LEISURE** **The table gives the weekly number of hours spent watching television and weekly number of hours spent exercising for each person in a survey. Make a scatter plot of the data.**

Weekly Television (h)	17	20	11	10	15	38	5	25
Weekly Exercise (h)	5	4.5	7.5	8	6.5	1	7.5	3

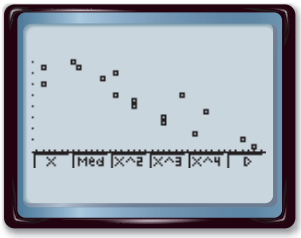
Weekly Television (h)	25	32	5	17	40	28	20	30
Weekly Exercise (h)	2.5	3.5	6	7	0.5	5	4	1.5

STEP 1 Clear the existing data by pressing [LIST] [▲] [CLEAR] [ENTER].

STEP 2 Next enter the data. Input the number of weekly hours spent watching television in L1 and press [ENTER]. Then enter the weekly hours spent exercising in L2.

STEP 3 Turn on the statistical plot by pressing [2nd] [PLOT] [ENTER] [ENTER]. Select the scatter plot and confirm L1 as the Xlist, L2 as the Ylist, and the square as the mark.

STEP 4 Graph the data by pressing [ZOOM] 7. Use the Trace feature and the left and right arrow keys to move from one point to another.



Analyze the Results

1. Describe how the data are related. Explain your reasoning.

2. **WEATHER** Use a graphing calculator to make a scatter plot of the following weather data. Store the data in L3 and L4 and use Plot 2 to create the graph. Then determine whether the data have a *positive*, *negative*, or *no relationship*. Explain your reasoning.

Average Monthly Temperature (°F)	77	42	45	55	57	63	76	65
Average Monthly Rainfall (°C)	6.0	4.8	7	3.2	6.8	4.8	5.7	7.2

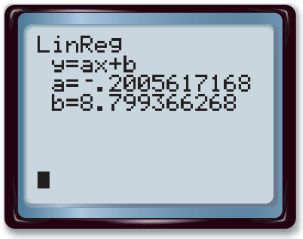
Average Monthly Temperature (°F)	67	73	51	81	84	86	64	43
Average Monthly Rainfall (°C)	2.6	5.5	5.9	6.3	7.9	4.2	6.3	4.5

ACTIVITY

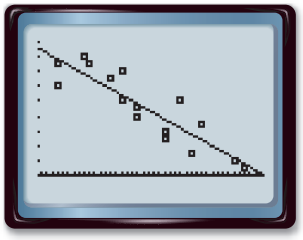
2 LEISURE **Find and graph a line of fit for the data in Activity 1.**

STEP 1 Access the CALC menu by pressing 2nd STAT ▶ ▶ ▶.

STEP 2 Select 4 to find a line of fit in the form $y = ax + b$. Press ENTER to find a line of fit for the data in lists L1 and L2.



STEP 3 Graph the line of fit in Y1 by pressing Y= and then 2nd VARS 3 to access the **Statistics**... menu. Use the ▶ and ENTER keys to select **EQ** and then press 1 to select **RegEQ**, the line of fit equation. Finally, press GRAPH.



Analyze the Results

3. **MAKE A PREDICTION** Use the TRACE feature to predict the average number of hours of exercise someone who watches 35 hours of television would get.

4. **COLLECT THE DATA** Collect a set of data that can be represented in a scatter plot. Enter the data in a graphing calculator. Determine whether the data have a *positive*, *negative*, or *no relationship*. Then use the calculator to find a line of fit and to make a prediction.