

Red Giant (Emma Johnson)

Echo Lake Trail invites hikers into a world of high-elevation serenity, where each step offers a new perspective of the Sierra Nevada's rugged charm. The trail meanders through forests of fir and pine, occasionally opening up to panoramic views of the sparkling Echo Lakes below. Along the route, the gentle sound of wind through the trees and the occasional call of mountain birds create a calming atmosphere. It's a trail that appeals to both casual walkers and seasoned adventurers, offering a rewarding experience that highlights the quiet beauty of Tahoe's alpine wilderness.

EXAMPLES OF DATA TABLES

Once the data are collected, they must be organized and summarized so that the scientist can determine if the hypothesis has been supported or negated. Tables and graphs (also called "figures") have two primary functions. They are used to (1) help you analyze and interpret your results and (2) enhance the clarity with which you present the work to a reader or viewer. They are also useful to display several dependent variables at the same time. For example, average pulse rate before and after exercise, average respiratory rate before and after exercise, and recovery time could all be presented in one table.

In lab, you will collect data from your experiments in the form of a list of numbers that may appear at first glance to have little meaning. Look at your data. How could you organize the data set to make it easier to interpret?

Computer-generated data tables can be created easily. Notice that the table below has a caption or title placed above it that describes its contents. Each title should also include the date and location where the data was collected. The title should give enough information to allow the table to be understandable apart from the text. *each* table's columns need headings above them (**labels**). Any units needed (inches, seconds, grams, etc.) should appear in the headings, *not* within the table. Rows may also need labels, to identify each variable.

High school reports working with specific animals or plants should include the scientific as well as the common name. Always remember to underline or put into *italics* all scientific names. Several data tables may be included on one page, as long as the format is clear and easy to read. Tables are numbered consecutively throughout a lab report or scientific paper.

Table 1. Number of students at Long Beach Polytechnic High since 1950.

YEAR (A.D.)	NUMBER OF STUDENTS (in thousands)
1950	3.1
1960	3.2
1970	3.3
1980	3.6
1990	4.1
20M	3.3

Table 2. The number of brine shrimp found in sections of tubing after the shrimp were exposed to changes in light, pH, or temperature, on October 2, 2011 at Poly High.

VARIABLES I	SECTION 1	SECTION 2	SECTION 3	SECTION 4
CONTROL	24	30	18	25
LIGHT	10 (light)	13	40	26 (dark)
pH	8 (acid++)	3 (acid-)	52 (base+)	3 (base ++)
TEMP	13 (hot)	24 (warm)	38 (cool)	21 (cold)

EXAMPLES OF GRAPHS

Graphs are a perfect way to visually present your data. A data table will show your results in numbers but is often uninteresting or difficult to interpret. A graph can take the same data, make eye-catching and easily show large differences in your results. Graphs are great to show comparisons between 2 or more groups or relationships among the independent and dependent variable(s). The independent variable is usually graphed on the **X** (horizontal) axis and the dependent variable is graphed on the **Y** (vertical) axis. By looking at a graph, then, you can visualize the effect that the independent variable has on the dependent variable.

A graph cannot stand alone - it **MUST** be preceded by a data table! The data table contains the exact details from an experiment that a graph often cannot show. They complement each other: one gives the details, one displays the trends.

The intervals labeled on each axis should be appropriate for the range of data so that most of the area of the graph can be used. For example, if the highest data point is 147, the highest value labeled on the axis might be 150. Generally, begin both axes of the graph at zero (the extreme left corner). To avoid generating graphs with wasted space, you may signify unused graph space by two vertical tic marks between the zero and your lowest number on one or both axes. The intervals labeled on the graph should be evenly spaced. For example, if the values range from 0 to 50, you might label the axis at 0, 10, 20, 30, 40, and 50.

Label each axis with the name of the variable and specify the units used to measure it (grams, cm, ml, etc). A key is needed if you use different colors or designs to visually separate data. A **key** is generally placed between the labels and the title, on the x axis (see example). The title for a graph goes at the *BOTTOM* of the graph and like a data table, includes a brief description of the kind of data the table contains, the date and location and any scientific names needed.

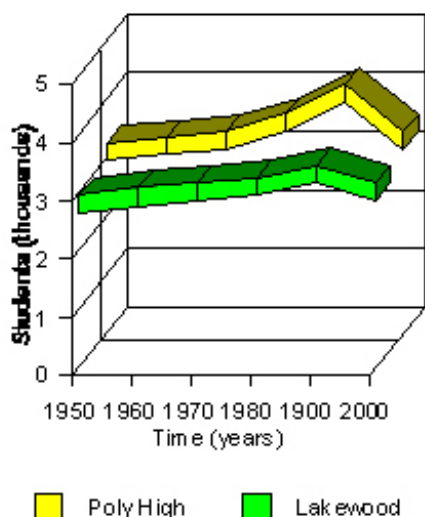


Figure 1. Number of students attending Poly High and Lakewood High since 1950.

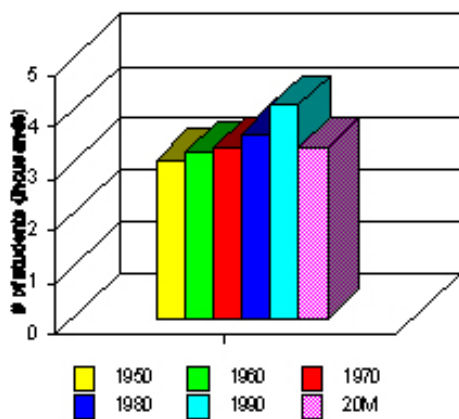
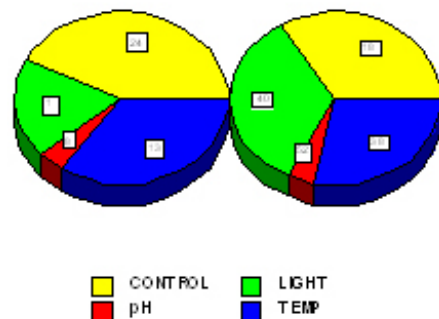


Figure 2. Number of students attending Long Beach Polytechnic High since 1950.

Pie graphs are constructed in a circular manner, with lines crossing through the center to create segments. Each segment represents a percentage of the whole "pie." Pie graphs are often used for data that represent discrete groups of data falling into percents. For example, a pie graph might be used to depict differences in eye color in a group of fruit flies.



Affiliation	Commenter Name	Topics where comments were assigned	Associated Comment numbers
Individual			
	Akhila Vijayaraghavan	Unclassified	I-1-2
		Topic 1	I-1-1
Organization			
Organization One	Robert Brown	Unclassified	O-1-1
Business			
Business One	Brianna Frank	topic 2	B-1-1

Comments and Responses:

Comments and Responses are grouped together and organized by topic. Under each topic heading you can see all the comments California Water and Lands Commission received for that topic followed by California Water and Lands Commission's single response to all the comments on that topic.

California Water and Lands Commission used the following topics to group comments together:

- Topic 1
- Unclassified
- topic 2

Comments on Topic 1

Summarized Commenters: Akhila Vijayaraghavan,

Commenter: Akhila Vijayaraghavan - Comment I-1-1

Test comment for excel export.

Response to Topic 1

Insert Response Here

Comments on Unclassified

Summarized Commenters: Akhila Vijayaraghavan, Organization One,

Commenter: Akhila Vijayaraghavan - Comment I-1-2

Another comment for Akhila

Commenter: Robert Brown - Comment O-1-1

Test comment

Response to Unclassified

Insert Response Here

Comments on topic 2

Summarized Commenters: Business One,

Commenter: Brianna Frank - Comment B-1-1

test comment

Response to topic 2

Insert Response Here

