Echo Point (Anna Thompson)

Echo Park Trail offers a peaceful and scenic walking path in the heart of Los Angeles, surrounding a lake filled with lotus flowers and lined with tall palm trees. The trail is paved and easy to follow, making it perfect for walking, jogging, or simply enjoying a leisurely stroll. Along the way, you'll find benches to sit and take in the view, grassy areas for picnics, and opportunities to rent paddle boats on the lake. The atmosphere is vibrant yet relaxing, with views of the city skyline in the background. It's a great spot for families, nature lovers, and anyone looking to unwind in an urban green space.

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	1 0 (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.

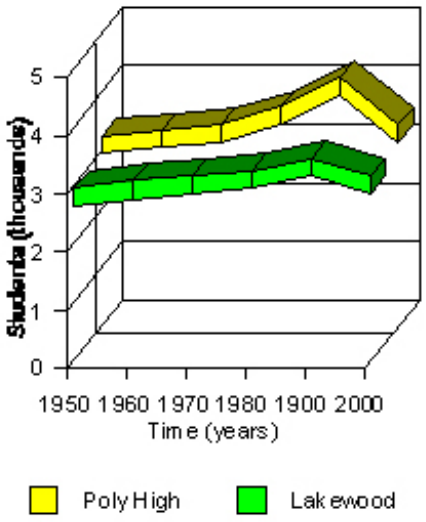


Figure 1. Number of students attending Poly High and Lakewood High since 1950.

Choose the type of graph that best presents your data. Line graphs and bar graphs are most frequently used. The choice of graph type depends on the nature of the variable being graphed. Like data tables, graphs must be properly labeled and titled.

Line graphs show changes in the quantity of the chosen variable and emphasize the rise and fall of the values over their range. For example, changes in the dependent variable pulse rate, measured over time, would be depicted best in a line graph. Use a line graph to present continuous data.

Plot data as separate points. Generally, do not connect the points dot to dot, but draw smooth curves or straight lines to fit the values plotted for any one data set. If more than one set of data is presented on a graph, provide a key to indicate which set is which.

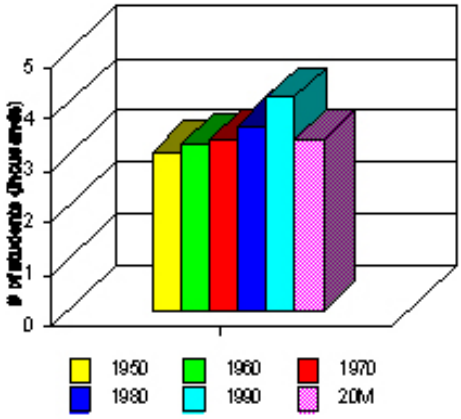
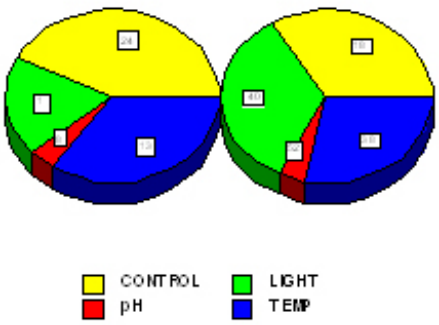


Figure 2. Number of students attending Long Beach Polytechnic High since 1950.

Bar graphs are constructed like line graphs, except that a series of vertical bars are drawn down to the horizontal axis. Bar graphs are often used for data that represent separate or discrete groups or categories, thus emphasizing the discrete differences between the groups. For example, a bar graph might be used to depict differences in pulse rate for smokers and nonsmokers.



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.

Bucket List

- A WARNER BROS. STUDIO TOUR HOLLYWOOD™
- B UNIVERSAL STUDIOS HOLLYWOOD™
- C THE HOLLYWOOD SIGN
- D GRIFFITH OBSERVATORY
- E HOLLYWOOD WALK OF FAME
- F THE GETTY CENTER
- G ACADEMY MUSEUM OF MOTION PICTURES
- H LA BREA TAR PITS
- I VENICE CANALS
- J WATTS TOWERS

San Fernando Valley

1. WESTFIELD TOPANGA & THE VILLAGE
2. VALLEY RELICS MUSEUM
3. THE JAPANESE GARDEN
4. GREAT WALL OF LOS ANGELES
5. HOLLYWOOD BURBANK AIRPORT
6. IDLE HOUR

Greater Hollywood

7. HOLLYWOOD BOWL
8. OVATION HOLLYWOOD
9. HOLLYWOOD PANTAGES THEATRE
10. HOLLYHOCK HOUSE
11. SILVER LAKE RESERVOIR

Downtown/LA Metro

12. ECHO PARK LAKE
13. DODGER STADIUM
14. CHINATOWN CENTRAL PLAZA
15. OLVERA STREET
16. WALT DISNEY CONCERT HALL/THE MUSIC CENTER
17. THE BROAD
18. GRAND CENTRAL MARKET
19. L.A. LIVE/CRYPTO.COM ARENA
20. LOS ANGELES CONVENTION CENTER

Mid-City

21. THE WILTERN
22. HOLOCAUST MUSEUM
23. THE ORIGINAL FARMERS MARKET/THE GROVE
24. LACMA
25. PETERSEN AUTOMOTIVE MUSEUM

Westside

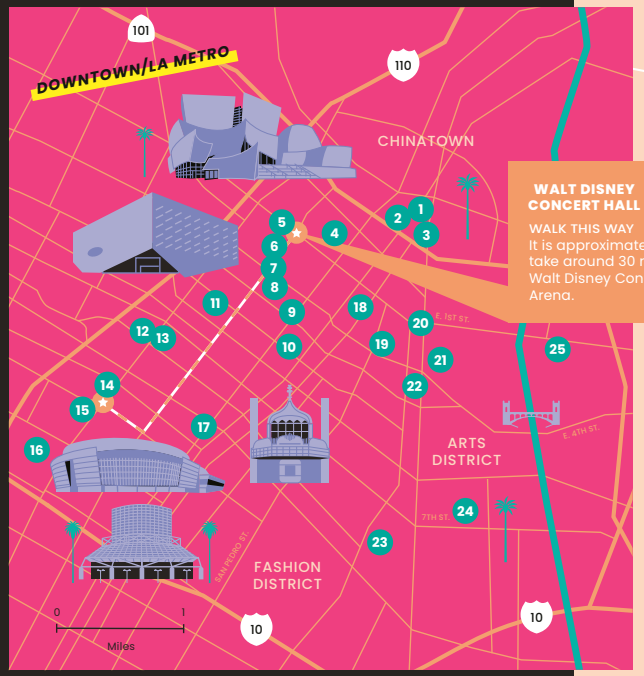
26. RODEO DRIVE
27. UCLA
28. SONY PICTURES STUDIOS
29. WENDE MUSEUM

South Los Angeles

30. KENNETH HAHN STATE RECREATION AREA
31. LEIMERT PARK VILLAGE
32. USC
33. EXPOSITION PARK:
    - CALIFORNIA SCIENCE CENTER
    - NATURAL HISTORY MUSEUM
    - CALIFORNIA AFRICAN AMERICAN MUSEUM
    - BANC OF CALIFORNIA STADIUM
    - LOS ANGELES MEMORIAL COLISEUM
34. THE FORUM
35. SOFI STADIUM

Beach Cities

36. MALIBU PIER
37. SANTA MONICA PIER
38. VENICE BEACH SKATEPARK
39. LAX
40. MANHATTAN BEACH PIER/ ROUNDHOUSE AQUARIUM
41. REDONDO BEACH PIER
42. PORSCHE EXPERIENCE CENTER
43. SOUTH COAST BOTANIC GARDEN
44. THE BANNING MUSEUM
45. BATTLESHIP *IOWA*
46. KOREAN FRIENDSHIP BELL
47. POINT FERMIN LIGHTHOUSE



WALT DISNEY CONCERT HALL ⟷ **CRYPTO.COM ARENA** 1.5 mi

WALK THIS WAY
It is approximately 1.5 miles and would take around 30 minutes to walk from Walt Disney Concert Hall to Crypto.com Arena.

Downtown

1. OLVERA STREET/ AVILA ADOBE
2. LA PLAZA DE CULTURA Y ARTES
3. LOS ANGELES UNION STATION
4. GRAND PARK
5. WALT DISNEY CONCERT HALL
6. THE BROAD
7. MUSEUM OF CONTEMPORARY ART
8. ANGELS FLIGHT RAILWAY
9. GRAND CENTRAL MARKET
10. THE LAST BOOKSTORE
11. CENTRAL LIBRARY
12. SEVENTH STREET/ METRO CENTER
13. THE BLOC
14. L.A. LIVE
15. CRYPTO.COM ARENA
16. LOS ANGELES CONVENTION CENTER
17. THE THEATRE AT ACE HOTEL
18. WELLER COURT
19. JAMES IRVINE JAPANESE GARDEN AT JACCC
20. JAPANESE AMERICAN NATIONAL MUSEUM
21. ANGEL CITY BREWERY
22. LITTLE TOKYO MARKET PLACE
23. ROW DTLA
24. INSTITUTE OF CONTEMPORARY ART
25. SELF HELP GRAPHICS & ART

THE GREAT WALL OF LOS ANGELES
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HOLLYWOOD SIGN
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HOLLYWOOD WALK OF FAME
HOLLYHOCK HOUSE
SILVER LAKE
VISTA THEATRE
DODGER STADIUM
BEL AIR
WEST HOLLYWOOD
GETTY MUSEUM
PACIFIC DESIGN CENTER
THE ORIGINAL FARMERS MARKET
ACADEMY MUSEUM OF MOTION PICTURES
HAMMER MUSEUM
CENTURY CITY
WESTSIDE
MID-CITY
PACIFIC PALISADES
SANTA MONICA BLVD.
DOWNTOWN/ LA METRO
THE COLISEUM EXPOSITION PARK
BANC OF CALIFORNIA STADIUM
SONY PICTURES STUDIOS
SANTA MONICA PIER
VENICE SKATEPARK/ BOARDWALK
CRENSHAW
SOUTH LOS ANGELES
BEACH CITIES
LAX
SOFI STADIUM
INGLEWOOD
WATTS TOWERS
101
110
170
134
405
10
2
1
187

SANTA MONICA ⟷ **DOWNTOWN** 15 mi

The distance from Downtown LA to Santa Monica Pier is approximately 15 miles. While it can take up to 40 minutes by car, you can also make this trip by train: take the E Line.

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Miles