

Micro
Courseware

Troll

Apple Disk
Apple II/II+//IIe/IIc/IIgs
Applesoft, 48K
Mac LC with IIe Card

GRAPH MAKER

Introduction to Graphs & Charts



A TROLL LEARNING CENTER

This Unit Contains: 1 Micro-Software Disk
and a User's Guide

Troll

COURSEWARE

USER'S GUIDE

GRAPH MAKER

Introduction to Graphs & Charts



Troll Micro-Software

GRAPH MAKER

Introduction to Graphs & Charts

Micro User's Guide

System Requirements

1. Apple IIGs, IIc, IIe, II+, or II (with Applesoft and at least 48K of RAM), or Macintosh LC (with Apple IIe Card).
2. One disk drive.
3. A TV set or video monitor (color is recommended).
4. A graphics-capable dot matrix printer is optional.

Overview

GRAPH MAKER: Introduction to Graphs and Charts is an interactive program designed to help students learn to construct, read, and interpret graphs, charts, and tables. Students answer questions and analyze data from graphs and tables, collect, organize, and describe original data, and make print-outs of graphs and charts. Students also explore the concepts of chance and are introduced to sampling. This program supports the Statistics and Probability curriculum standards set by the NCTM, which recommends that students at this grade level learn to construct, read, and interpret graphs, charts, and tables that summarize data from real-world situations.

Getting Started

If you are using a printer, make sure it is connected properly, set the paper in place, and turn the printer on.

Insert the program disk into the disk drive with the label facing up. Turn on the monitor and computer. The red light on the disk drive lights up as the program loads.

When the program has loaded, you are asked if sound is desired, and reminded that the program has a print option.

IMPORTANT: In order to properly print a picture, the program needs to know the type of computer, printer, and interface you are using. Based on the type of computer used, the program makes certain assumptions about the other equipment. If you are using one of the following combinations (or a compatible printer or interface), the program will print.

COMPUTER	PRINTER	INTERFACE
IIc, IIGS	ImageWriter II	Printer Port
II, II+, IIe	ImageWriter II	Apple Super Serial Card in slot 1
II, II+, IIe	Epson FX-80	Apple Parallel Card in slot 1
Macintosh LC	ImageWriter II	Printer Port

The first time you use the program, you may wish to go through the program and print a picture to see if the “default” settings work for your equipment. If they do not and you cannot print, then you will need to use Printer Options (see the Printer Options section) to change a few settings. (NOTE: If you do not have a printer, or if you do not want your students to print, you need to use Printer Options to turn off printing.) You will only need to do this once for a particular computer and printer, since the program can save this information. (The program only saves printer settings. Graphs and data tables cannot be saved.)

WARNING! If the printer settings are not set properly and students try to print, the program may “freeze.” If this happens, reload the program and change the printer settings.

After the sound inquiry, the Troll logo appears, followed by the title. Then the menu appears. The student presses **1** to choose **Graph Maker** or **2** to choose **The Mystery Spinner Game**.

While using the program, the student may press **?** for a help screen, **control-X** for the main menu, or **control-O** to turn the sound on or off.

Part 1 **GRAPH MAKER**

The two main sections of the Graph Maker part of the program, **READ** and **BUILD**, appear on the menu bar running across the top of the screen. The student uses **space** to highlight menu selections and the **return** key to choose selections throughout the program.

READ

Rain forest notebook

The student may select to read about four rain forests. Each rain forest selection displays the rain forest’s location on a small map, along with interesting facts and information.

About Charts and Graphs

This is the basic tutorial for the program. The student selects charts or a type of graph from the menu. The choices are:

- Charts and Tables
- Bar graphs (horizontal and vertical)
- Pictograph
- Line graph
- Circle graph

With each choice, the student is introduced to an animated animal guide. The guide describes the chart or graph and engages the student in answering thematic questions, as well as interpreting and analyzing graph data.

BUILD

In this part of the program the student first selects a type of graph to build:

- Vertical bar graph
- Horizontal bar graph
- Pictograph
- Line graph
- Circle graph

To build a graph, the student must put data for the graph on the program's data table. The student may supply data for the graph from either of two menu choices: **Use the program's data** or **Use your own data**.

Use the program's data

The student uses data from fixed data tables provided by the program. When a topic is selected from the **Data Table Menu**, a data table with labels and corresponding number data appears on the screen. The **space** and **return** keys are used to highlight and choose labels. A check mark will appear beside each label as it is chosen. The **left arrow** key (<-) will **undo**, or cancel, a selected label and remove the check mark. At least two labels from the data table must be selected before a graph can be built or viewed on the graph screen. The student may press **P** to make a print-out of the data table if a printer is available and turned on.

Press **S** to see the graph. A print-out of the graph can be made from this screen if a printer is available.

To add or remove any labels on the graph, press **S** to return to the data table, and follow the same procedure to select or undo a label described earlier. Press **S** to return to look at the graph screen at any time.

The key labeled **esc** returns the student to the BUILD menu to select another type of graph or data table.

Use your own data

The student enters original number data into data tables whose topics are provided by the program. A wide variety of topics that cover real-life interests at home as well as school can be selected from the **Data Table Menu** in this part of the BUILD section.

After a topic is selected, a data table with labels, but no number data, appears on the screen. To enter number data, the student first chooses **Type in data**. The student then moves the highlight bar (in the right hand column of the data table) to the desired space and presses **return**. A cursor appears in the space and the student types in the number. Numbers may range from 0 to 9999.

The student presses **return** to enter the number on the table. The student presses the **esc** key (**done**), when finished adding data to the table. The data table needs at least two entries before the student can continue.

Now the student is ready to choose which entries from the data table are wanted on the graph. The student selects the labels and data for the graph as in the **Use the program's data** section. The student moves the highlight bar to a label and presses **return** to choose it for the graph. A check mark will appear beside each label as it is chosen. Only entries with number data may be chosen. The **left arrow** key (**<-**) will **undo**, or cancel, a selected label and remove the check mark. The student may press **P** to make a print-out of the data table if a printer is available.

Two or more labels need to be chosen to make a graph, or before the graph can be viewed on the graph screen.

Press **S** to see the graph. A print-out of the graph can be made from this screen if a printer is available.

To add or remove labels on the graph, press **S** to return to the data table, and follow the same procedure for choosing labels described earlier.

To add or remove number data from the data table press **esc** to change table. Then select **Type in data** to modify number data..

Pressing **esc** returns student to the BUILD menu to make new selections .

Part 2 **THE MYSTERY SPINNER GAME**

The object of this game is to guess what the Mystery Spinner looks like. To do this, press **space** to spin the blank spinner in the lower part of the screen. Each time the spinner stops, the bar graph on the screen records and displays a color the spinner stopped on: green, black, or white. As the spinning is continued, the lengths of the color bars on the graph provide a clue to the color pattern of the Mystery Spinner.

When the student has gathered enough data from spinning, **return** is pressed to see 4 spinners, each with a different color pattern. One of these spinners is the Mystery Spinner. Press a number from 1 to 4 to guess the Mystery Spinner. If the guess is correct, the program will display a correct answer response. If the guess is incorrect, the program displays a message to spin some more. The student may press **return** to go back to the screen with the blank spinner and continue spinning to collect more data. The student should remember that data collected by lots of spinning results in a more educated guess.

PRINTER OPTIONS

If you wish to change the options related to printing, enter **Printer Options** by pressing **control-P** in the Game Menu or before selecting **P** to print.

An introductory screen explains the purpose of Printer Options. Then the current settings are displayed.

Printer available: YES

Printer: APPLE IMAGEWRITER II

Interface: APPLE SUPER SERIAL

Slot: 1

Save settings to disk: YES

The first time you enter Printer Options, the current settings are default settings, which are determined by the program based on the computer you are using. The default settings you see may be different from the ones above, depending on your computer.

To change a setting, use the arrow keys to highlight the setting you want to change, then press **return**. If there are two possible settings, pressing **return** will switch back and forth between them. If there are more than two possible settings, a list of the possible settings is displayed. Use the arrow keys to highlight the setting you want, then press **return**.

Printer available This should be set to YES if you have a printer and want your students to be able to print their graphs and data tables. If you do not have a printer, or you do not want your students to print, set it to NO.

Printer This should be set to your printer. If your printer does not appear in the list of printers, it may still be possible to print. Many printers act like other, more popular, printers. This is called emulation. Check your printer's manual to see if it can emulate one of the printers on the list.

Interface This should be set to your interface. Your interface may be a card installed in a slot in your computer, or it may be a port built into your computer. For example, the Apple IIc has a built-in serial port which acts as a printer interface. If you are not sure, try the default interface setting.

Slot This should be set to your printer's slot. If your interface is a card, use the number of the card's slot. If your interface is a built-in port, the slot depends on the port you use. See your computer's manual for more details. If you are not sure, try the most common setting, slot 1.

Save settings to disk This lets the program "remember" your settings by saving them onto the program disk. Set it to YES if you want the settings saved, NO otherwise.

If you make a mistake and want to cancel all changes (returning all the options to their settings when you entered Printer Options), press **esc**.

When everything is set as desired, press **space**. The settings are saved to the program disk (if you chose to do so), and the program continues from the point that you entered Printer Options.

If the program does not print properly and you are sure the settings are correct, try turning the computer and printer off and then on again. If you still have problems printing, consult your printer manual.

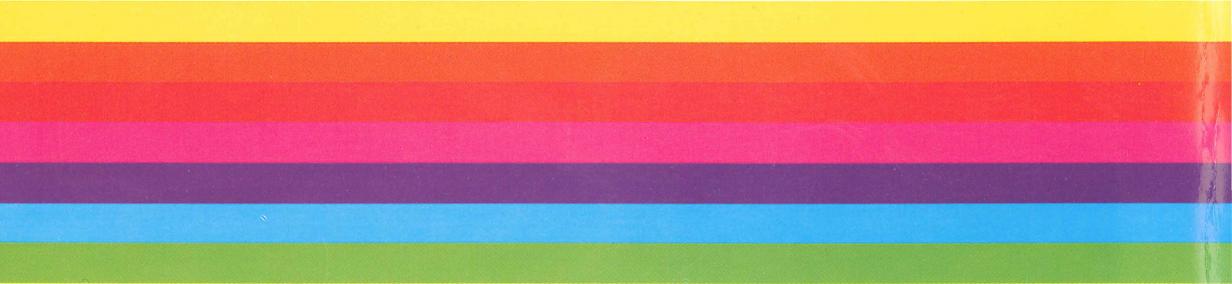
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