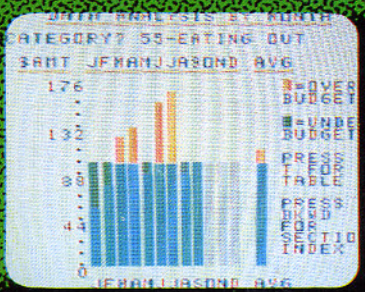
BY THE EDITORS OF CONSUMER GUIDE®

THE BEST TEXAS INSTRUMENTS SOFTWARE

EDUCATIONAL · GAMES · BUSINESS
WORD PROCESSING
HOME & PERSONAL USE



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BEEKMAN HOUSE
New York

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Louis Weber, President
Publications International, Ltd.
3841 West Oakton Street
Skokie, Illinois 60076

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Manufactured in the United States of America
10 9 8 7 6 5 4 3 2 1

Library of Congress Catalog Card Number: 83-73273

ISBN: 0-517-42476-2

This edition published by:
Beekman House
Distributed by Crown Publishers, Inc.
One Park Avenue
New York, New York 10016

Writer: Brian Starfire
Design: Jeff Hapner and Barbara Clemens
Cover Photos: Courtesy of Texas Instruments Incorporated and Extended Software Company

INTRODUCTION

Owners of the Texas Instruments TI-99/4A can choose from hundreds of programs that can be used on their computers, and new software programs come out every month. These products span a wide range of applications, from word processing to entertainment to education to business. With so many programs to choose from, how can computer owners find the ones that are right for their needs?

Choosing the right software has just been made easier with **The Best Texas Instruments Software.** Written by the Editors of Consumer Guide® and TI software expert Brian Starfire, this is an essential book for owners of the TI-99/4A. From accounting packages to adventure games, from music makers to menu planners, this is the number one source of Texas Instruments software. Every review is clear, simple, and complete — written in language that anyone can understand. One quick reading will tell you what a program does, how it can help you, and why that particular program is better than competing products.

Each program has been rated on a scale of 1 to 10 by the leaders of Texas Instruments user groups (clubs of Texas Instruments computer owners) around the U.S. and Canada. These are people who have been using Texas Instruments software on a daily basis, so their ratings are based on real experience. Only the programs that received an average rating of 5.0 or better from these experienced users were included in **The Best Texas Instruments Software.**

Each software review describes the program's purpose and features, detailing its advantages as well as its disadvantages. The program is evaluated for ease of use, quality of both written and on-screen instructions, and overall performance. Also included is the basic information you'll need to purchase and use the program: price, publisher, software format(s) in which the program is available, and hardware requirements. A quick reference chart for each program gives an overall rating and summarizes key points in the evaluation.

For some types of programs, additional information is provided. If you're looking for an educational program or a game, for example, you need to know the level of difficulty. Therefore, we have included the approximate reading level required to use each educational program. For arcade games and strategy games, we have indicated whether novice, intermediate, or expert game-playing skills are required to enjoy each game.

Consumer Guide® has a long tradition of helping consumers choose the best products to

serve their needs, and **The Best Texas Instruments Software** continues in that tradition. Any program with a star by its name is considered a "best buy" — an exceptional value for the price.

The following information is included in every review:

DESCRIPTION: This is a concise description of what the program is or does. It tells you right away whether this is a program you want to know more about.

SOLD BY: This is the name and address of a company that sells the program. It may not be the only source of that program (in fact, most of the software in this book is available through local computer stores), but it is the source to turn to if you're having trouble finding the program.

REQUIREMENTS: This tells you what extra hardware or software is required to run the program. Also included are optional accessories that can be used with the program.

PRICE AND FORMAT: The price listed here is only approximate; software prices can vary drastically from dealer to dealer. The format tells you whether the program comes in a cartridge, cassette, or disk.

PROTECTION: This lets you know whether or not you can make a backup copy of the program; if it's a protected disk or tape, you can't. Many software companies have done something to their cassette tapes or disks to protect them from being copied. Although cartridges are not usually protected by the software companies, the average consumer does not have the expensive equipment needed to copy cartridges.

WARRANTY: This tells you whether or not the program comes with a written warranty. Usually the warranty is on the media only, which means it covers only physical defects in the disk, tape, or cartridge.

USER GROUP RATING: This is the average of the ratings given by the Texas Instruments user groups for each software package. For a few of the programs, the user groups didn't supply a rating (usually because the program was too new). In these cases, we used an overall rating provided by the author and editors instead.

In addition to the user group rating, several other aspects of each program are also rated on a scale of 1 to 10. These extra ratings vary depending on the type of software reviewed, and include such aspects as documentation, performance, reliability, and ease of use. These ratings are explained in the legend on each page.

CHAPTER 1
WORD PROCESSING

These programs turn your computer into an electronic typewriter. They include many of the same features found on large and expensive word processing systems.

There are several important features to look for in a word processing program for your TI-99/4A. Global editing commands like *search and replace* will save time when you need to edit your work. Full cursor control and extensive formatting ability allow you to make the text look exactly the way you want it to, and a large file size is necessary if you don't want individual documents to be limited to just a few pages. Another important feature is the ability to print to the screen in order to see text in final form before printing.

The following special terms are used in word processing:

block move Moving a section of text (as a unit) to a different location in a document.

format file A feature that allows you to create and store your own formats for printing text.

formatting Using commands to specify the layout of text when printed on hard copy (such as margins, spacing, indenting, ending a page). *Embedded* formatting commands are inserted within text where you want the instructions to be carried out. In *continuous* formatting, text is formatted on the video display just as it will appear when printed.

global edits The ability to have a specified editing command (or string of commands) be carried out at all appropriate locations throughout a text file.

justified margins Spacing of text to produce even, vertically aligned right and left margins.

search and replace The ability to find a specified character, word, or string each time it appears in the text and replace it with another character, word, or string.

spelling checker A program that compares each word in a document to a built-in dictionary, then indicates and/or corrects possibly misspelled words.

★COMPANION

Description: word processor
Sold by: Intelpro
5825 Baillaregeon St.
Brossard, Quebec, J4Z 1T1
CANADA
Requirements: TI Extended BASIC, disk drive, 32K Memory Expansion Unit, printer
Price and format: not available

Protected: unknown
Warranty: unknown

User group rating: 9
Performance: 8
Ease of use: 9
Reliability: 9
Documentation: 10

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Companion is a powerful word processing program that provides an alternative to the popular *TI-WRITER* (see separate review). The program offers most of the features needed in a professional word processor, and yet it is still simple to use.

Companion displays 40 characters of text on each line, even though the TI normally displays only 32. You can type in your text and then use all of the standard keys on the TI keyboard to edit it. The screen automatically reformats the text (fills lines and indents paragraphs) when you make changes, and you can even center text on a line. If you have a printer that handles wide paper, you'll appreciate *Companion*'s ability to print up to 132 characters per line.

Companion is a good word processor with two limitations: it does not have a Search and Replace option, and it will not justify text. According to the program's maker, however, a Search and Replace option will be available very soon.

WORD PROCESSING
TEXTIGER II

Description: word processor
Sold by: Textiger
24433 Hawthorne Blvd.
Torrance, CA 90505
213/378-9286
Requirements: TI Extended BASIC, program recorder or disk drive; printer optional
Price and format: approx. $50 cassette or disk

Protected: no
Warranty: yes

User group rating: 7
Performance: 9
Ease of use: 7
Reliability: not rated
Documentation: 7

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Textiger II is a powerful low-cost word processor for the TI-99/4A. You can use *Textiger II* on a system without memory expansion or a disk drive; many of the other word processing software packages we have seen require added memory or a disk drive or both.

Textiger II lets you create and edit text on the computer's screen, save that text on cassette, and print it on your printer; these are the basic features that you should expect from any word processor. But what we liked about *Textiger II* was the format file feature it provides. It lets you create format files that control margins and form sizes for any special labels or forms that you are using. Once you have created a format file, you can combine it with a file of text, and print the file in your own special format.

Besides different formats, *Textiger II* can also create different print styles. You'll find it to be a surprisingly flexible word processor, considering its low cost. If you own a TI-99/4A, we recommend that you choose *Textiger II.* It will take full advantage of the shift and alpha lock keys on the TI-99/4A's keyboard.

Description: word processor
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: disk drive, 32K Memory Expansion Unit; printer optional
Price and format: approx. $100 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 9
Performance: 10
Ease of use: 7
Reliability: 10
Documentation: 10

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

TI-WRITER offers all of the major functions that you would expect to find in much more expensive word processing software. It is flexible, easy to learn, and relatively powerful.

You can insert and delete lines of text, move or copy blocks of text, and rearrange words, sentences, and paragraphs. You can justify text, causing all right-hand margins to form an even edge. This program also has an attractive feature not found in most word processing programs; if you accidentally erase a character or line, you can press just one key to get back the erased text. In addition, you can set tabs and indents, and search for specified words or phrases.

It would be nice to have an optional spelling checker, which *TI-WRITER* doesn't, and some of the keystrokes are awkward and a little irritating. Still, despite these minor limitations, *TI-WRITER* gives you a lot for your money. It is almost comparable to *WordStar*, a popular program for more expensive personal computers, and *WordStar* costs hundreds of dollars more than *TI-WRITER*.

CHAPTER 2
BUSINESS

Although the TI-99/4A is not primarily a small-business computer, there are some business programs available for it. These include database managers, electronic spreadsheets, and accounting packages.

Database managers are versatile programs that sort and organize information. Information is entered in the form of records; each record contains roughly the amount of information that can be written on an index card. After you have entered all of the information you need to work with, the database manager program will selectively rearrange records.

Mailing list programs are database managers designed specifically for use with lists of names and addresses. They allow you to sort a list and then print mailing labels.

Electronic spreadsheet programs are just what their name implies: the electronic equivalent of an accountant's spreadsheet. They allow you to enter rows and columns of numeric information (usually dollar amounts) and then specify relationships between various rows or columns. If you change a value or a relationship (equation), the resulting changes in other parts of the spreadsheet will be shown immediately. This makes electronic spreadsheets valuable planning tools.

The following special terms are used regarding business software:

cell A location determined by a specific row and column on an electronic spreadsheet. Spreadsheet capacity is measured by the total number of available cells (the number of rows multiplied by the number of columns).

database manager A program that stores information that can be selectively rearranged to generate answers, lists, or reports.

electronic spreadsheet A program for budgeting or planning in which calculations are made and displayed in a column-and-row format.

field In a database, a section within a record that holds a particular type of information (such as name, zip code, price, etc.).

file In a database, a full set of related information organized for a particular purpose.

mailing list A database designed specifically for handling lists of names and addresses.

record In a database, a section within a file that holds all information relating to one member of the file (such as all information regarding a particular customer — name, address, etc.).

FUTURA ACCOUNTS RECEIVABLE

Description: accounting package
Sold by: FUTURA Software
P.O. Box 5581
Ft. Worth, TX 76108
817/732-1687
Requirements: TI Extended BASIC, two disk drives, printer, 32K memory expansion
Price and format: approx. $150 disk

Protected: no
Warranty: 90 days

User group rating: 7
Performance: 8
Ease of use: 7
Reliability: not rated
Documentation: 6

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The *FUTURA Accounts Receivable* package is a set of programs designed to keep track of your company's incoming cash. It lets you recall up to 350 customer accounts. You can choose, from an on-screen menu, whether you want to recall the accounts by customer name or by account number.

The program keeps a record of all unpaid bills, and prints either of two trial balance reports. The first, called the condensed report, lists one line for each account and shows the account balances in order of their age. The second report, called a detail report, prints a detailed list of all open items, again by age.

We would have liked the flexibility to print reports alphabetically, but printing by age is sufficient for most business uses. The program can also print other reports. These include a monthly list of accounts, a customer sales analysis, a sales journal, and a cash journal. The files saved on disk by the program can be used by the *FUTURA General Ledger* (see separate review).

BUSINESS

FUTURA ACCOUNTS PAYABLE

Description: accounting package
Sold by: FUTURA Software
P.O. Box 5581
Ft. Worth, TX 76108
817/732-1687
Requirements: TI Extended BASIC, two disk drives, printer, 32K memory expansion
Price and format: approx. $150 disk

Protected: no
Warranty: 90 days

User group rating: 7
Performance: 9
Ease of use: 7
Reliability: not rated
Documentation: 6

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

FUTURA Accounts Payable is an extensive system that recalls up to 350 of your company's accounts from the files on a disk. This retrieval is done by vendor name or by vendor number. You choose the method by responding to a menu that appears on the screen.

The system selects open invoices (bills that you haven't paid) for payment on the invoice's due date, and indicates the cash requirements to pay the bills. We liked the dual check-writing feature, which lets you choose between manually writing your checks or automatically printing checks using the system. (To use the second option you'll need your checks printed on computer forms paper that fits your printer.) The reports printed by the program are printed in alphabetical order by vendor name; this helps minimize the amount of time it takes you to find a particular vendor. The program's disk files can also be used by FUTURA'S General Ledger system (see separate review).

FUTURA GENERAL LEDGER

Description: accounting package
Sold by: FUTURA Software
P.O. Box 5581
Ft. Worth, TX 76108
817/732-1687
Requirements: TI Extended BASIC, disk drive, printer
Price and format: approx. $150 disk

Protected: no
Warranty: 90 days

User group rating: 7
Performance: 8
Ease of use: 7
Reliability: not rated
Documentation: 6

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

If you want to perform serious accounting tasks on the TI-99/4A, FUTURA offers a powerful set of accounting programs that make it possible. The *FUTURA General Ledger* consists of a series of programs that let you enter accounting data and maintain the chart of accounts and balances that make up a general ledger.

A menu on the screen offers choices for the various accounting functions that the program can perform. You can access any of the accounts by account number. Each time that you make an entry, the program displays a description of that account. This feature helps prevent incorrect entries by the person using the program.

FUTURA General Ledger can print out a proof list of all entries made in the general journal. You can also generate printouts of all normal general ledger reports. These include the trial balance, balance sheet, and income statement. The *FUTURA General Ledger* lets you enter roughly 1200 entries in an accounting month, for a system of up to 200 different accounts. The program can also share information with the other accounting programs offered by the firm, i.e., *FUTURA Accounts Payable, FUTURA Accounts Receivable, FUTURA Payroll,* and *FUTURA Inventory Management* (see separate reviews).

BUSINESS

FUTURA INVENTORY MANAGEMENT

Description: database manager
Sold by: FUTURA Software
P.O. Box 5581
Ft. Worth, TX 76108
817/732-1687
Requirements: TI Extended BASIC, two disk drives, printer, 32K Memory Expansion Unit
Price and format: approx. $150 disk

Protected: no
Warranty: 90 days

User group rating: 8
Performance: 8
Ease of use: 9
Reliability: not rated
Documentation: 7

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

FUTURA Inventory Management does exactly what its name implies: it performs the job of managing an inventory of items. The program stores each item as a product name, inventory amount, and product price. You can print various reports based on the information that you enter into each category.

A stock status report will print your current inventory by product. A flexible "below minimum stock" report lets you select the level of stock that you don't want your inventory to fall below. Then, each time that you print the "below minimum stock" report, it will indicate items that need to be reordered.

We also liked this program's suggested order quantity option. As a history of inventory levels mounts up, the program can make suggestions as to how many items you should order, based on previous use of the item. The program provides on-screen menus for item entry, and is very easy to use.

FUTURA PAYROLL

Description: accounting package
Sold by: FUTURA Software
P.O. Box 5581
Ft. Worth, TX 76108
817/732-1687
Requirements: TI Extended BASIC, two disk drives, printer, 32K Memory Expansion Unit
Price and format: approx. $150 disk

Protected: no
Warranty: 90 days

User group rating: 7
Performance: 7
Ease of use: 8
Reliability: not rated
Documentation: 6

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

FUTURA Payroll is an employee payroll system that maintains personnel files and salary information files on floppy disks. Using this program, you can calculate and print employee earnings, deductions, and labor distribution reports for each pay period.

The program is flexible in the ways it lets you pay your employees. You can pay on an hourly, weekly, semimonthly, or monthly basis. In addition to the standard payroll deductions of social security, federal taxes, and state taxes, there are five open deduction fields. These let you enter your own deductions for items such as city taxes or union dues. The program is set up to calculate federal withholding taxes and social security (F.I.C.A.) taxes. You must enter into the program the methods and amounts used for state taxes for your particular state. You only have to do this once, however; the program then figures the state taxes for each pay period. The program is menu driven, meaning that choices appear on the screen to step you through the various options.

BUSINESS

MICROSOFT MULTIPLAN ELECTRONIC WORKSHEET

Description: electronic spreadsheet
Sold by: Microsoft Corporation
10700 Northup Way
Bellevue, WA 98004
206/828-8088
Requirements: disk drive; printer optional
Price and format: approx. $275 disk

Protected: yes
Warranty: yes

User group rating: 8
Performance: 9
Ease of use: 8
Reliability: 10
Documentation: 9

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Multiplan is one of the most versatile business software packages on the market, and it is now available for the TI-99/4A. It is an electronic spreadsheet program that allows you to divide your computer's screen into rows and columns and make detailed calculations on the figures contained in those rows and columns. *Multiplan* can be used for a wide variety of applications, such as budgeting, forecasting, and analysis of investments.

Multiplan is not the type of program that is needed in the average home for home finances. But if you're running a business out of your home, you can put *Multiplan* to good use. It offers a number of significant improvements over earlier electronic spreadsheets.

Commands are clearly displayed across the bottom of the screen, and each time you press the spacebar the cursor moves from command to command. This allows you to rapidly select various *Multiplan* commands. Multiplan's method for creating math formulas is very simple. With many other electronic spreadsheets, if you want to add the numbers from the spreadsheet locations A-1, B-5, and C-1, you must type A1+B5+C1 and then press the return key. With *Multiplan*, you just use the TI-99/4A's arrow keys to move the cursor to spreadsheet location A-1, then type a plus sign, then move to location B-5, then type a plus sign again, and finally move to location C-1 and press the return key. This method of creating formulas saves a great deal of time.

There is a great variety of software available for use at home. Some programs are strictly for fun, like the children's party activities program in this chapter. Others are self-improvement programs, like the exercise program and menu planning for weight control program included here. Most home programs help you perform practical tasks in managing your home and your personal finances.

You'll find home finance and accounting packages, tax preparation programs, inventories, mailing lists, and recipe files. With careful planning you can use them to balance a checkbook, calculate mortgage payments, or itemize your personal possessions. Investors can gain a great deal from investment analysis programs.

The choice of software for running your home is a personal one that should be made carefully. As you read a particular review in this section, ask yourself if you would really take the time to turn on the computer and load the program described. Can it save you time by repeating a chore you dislike? Will it perform enough calculations to make it worthwhile? When you've answered these questions, you've determined your home software needs.

Most home management and finance programs are of essentially the same types as those used in business, except that they are specifically adapted for home use. You might also take a look at the business programs reviewed in this book, since some business programs can be applied to home finances and record keeping.

The following special terms are used in this chapter:

accounting package A program for planning, recording, and reporting the results of various types of financial transactions.

database manager A program that stores information that can be selectively rearranged to generate answers, lists, or reports.

field In a database, a section within a record that holds a particular type of information (such as name, zip code, price, etc.).

mailing list A database designed specifically for handling lists of names and addresses.

menu planner A program that selects meals for the number of days specified; features may include the ability to describe each dish, to prepare a shopping list of needed ingredients, or to insert foods in the menus according to calorie count or nutritional value.

HOME

ELECTRONIC PARTY ★

Description: children's party activities
Sold by: Scholastic Inc.
730 Broadway
New York, NY 10003
212/505-3000
Requirements: program recorder; speech synthesizer optional, Terminal Emulator II optional, printer optional
Price and format: approx. $40 cassette

Protected: yes
Warranty: 90 days

User group rating: 8
Performance: not rated
Ease of use: 9
Reliability: not rated
Documentation: 10

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

For an unusual greeting card, a guest list for a party, or just simple fun, *Electronic Party* is a good program for children from five to ten years old. This package includes two games: Make a Card and Surprise.

In Make a Card, the child helps Bertha the Bear choose objects and letters to build a greeting card. Your child controls where the letters or objects will appear. Hearts, flags, stars, a butterfly, and a rocket can be included in the design. All letters of the alphabet and any numerals can be used for a greeting.

In Surprise, your child searches through piles of presents on the screen for a hidden message. Each surprise asks the child to perform an unusual act, such as talk like a duck, or hold one's toes while walking in a circle. This game isn't much fun for one child, but a group will have a lot of fun with it.

Both games can use the Texas Instruments speech synthesizer and a Terminal Emulator II module, but these peripherals are not necessary. Greeting cards and surprises can be saved on cassette. *Electronic Party* comes with a well-done, if oddly shaped, instruction manual.

HOME FINANCIAL DECISIONS

Description: home accounting package
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Performance: 9
Ease of use: 7
Reliability: 10
Documentation: 8

One of the strengths of *Home Financial Decisions* is its ability to go beyond short-term financial problems such as checkbook balancing. This software package is designed to analyze loans, home and automobile purchases, lease and purchase comparisons, long-term personal savings trackings, and more. Menu driven, the program is divided into four general areas: loans, residence, car, and savings.

The loan analysis section explains five ways to analyze a loan based on the amount to borrow, the payment size, the number of payments, the size of a down payment, and an early payoff of the loan. You enter the amount borrowed, interest rates, or other information, and the loan analysis appears on the screen.

Housing decisions are analyzed on the residence option of the program. You can ask the computer to consider situations ranging from buying or renting a home, to refinancing a mortgage. Factors such as property taxes, savings account interest rates, and your income tax bracket are taken into consideration, and the resulting analysis details total mortgage or rental costs, insurance costs and property taxes, tax savings, and the equity that should mount in your present home.

The car analysis section compares the costs of buying and leasing a car, and examines the expense of purchasing a new car compared to keeping your present one. The savings analysis section calculates how savings will accumulate over a given time period, or how much you must save regularly to reach a certain amount.

Home Financial Decisions is very easy to use and is fast in its calculations. The program's only drawback is that there is no provision to print the results. You'll find in this program a handy set of useful financial tools.

HOME

HOUSEHOLD BUDGET MANAGEMENT

Description: home accounting package
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Performance: 7
Ease of use: 7
Reliability: 9
Documentation: 8

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Household Budget Management is more than a glorified calculator. Its powerful analysis features keep track of your household income and expenses. You enter amounts for income and expenses, and the program maintains totals by the months and year-to-date.

The program is run completely by menu, and it lets you create a detailed budget for each area of expense. Income is entered under take-home pay, interest income, and other income. Expenses are divided into 13 categories. You can also create specific categories.

The program first asks you to plan income and expenses through the end of the current year. This time-consuming task can take from thirty minutes to two hours, depending on the detail, but you need to do it only once. Then, each month, you enter actual income and expenses. This data is added to the budget information that the program has saved on cassette or disk.

A table feature calculates the difference between your planned budget and actual expenses. You can then create colorful graphs to display the information on a monthly or yearly basis.

For all of its power, the program has a few faults. Numbers cannot include a decimal point. The table feature is slow in displaying expense totals. Finally, a written list of the program's index numbers is a handy reference, since asking for an on-screen display quickly becomes annoying. In spite of its quirks, however, *Household Budget Management* is recommended for monitoring your budget.

PERSONAL FINANCIAL AIDS

Description: loan analyzer
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive; printer optional
Price and format: approx. $15 cassette, $20 disk

Protected: no
Warranty: 3 months

User group rating: 7
Performance: 9
Ease of use: 7
Reliability: 8
Documentation: 6

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Personal Financial Aids is a package of three accounting programs: an amortization schedule, a depreciation analysis program, and a mortgage analysis program. The amortization schedule calculates the amount of interest and principal that makes up each payment of a loan. The depreciation program uses three of accounting's most common depreciation methods: the straight-line method, the declining balance method, and the sum of the years method. The mortgage analysis program calculates mortgage payments, appreciation, and equity values, and also breaks down the amount of interest paid and tax savings.

You need to know loan amounts, length of the loan in years, property taxes, your income tax bracket, and the like, before using *Personal Financial Aids.* The programs also have printing capabilities.

The instructions on the screen are clear and straightforward in all three programs, and the package is easy to use.

HOME

PERSONAL REAL ESTATE★

Description: investment analyzer
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive optional, printer optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 9
Performance: 10
Ease of use: 7
Reliability: 10
Documentation: 9

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

With the *Personal Real Estate* program, you can define investments, analyze loans, calculate lease payments, and print depreciation schedules. You can also print amortization schedules for a particular piece of real estate. Information need only be entered once, then used in different parts of the program.

Personal Real Estate takes various factors into account, including principal and interest payments, balloon payments, rents and operating expenses, and rates of returns. You can save analysis information to the cassette or disk, vital to getting the most of this program.

This program is flexible; it does a lot of little tasks that are common in the real estate field. The different parts of the program work well together, and it is fairly easy to use. Some of the terminology may be confusing, but detailed instructions help explain its meaning.

★PERSONAL RECORD KEEPING

Description: personal database manager
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive optional, printer optional
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 9
Performance: 10
Ease of use: 7
Reliability: 9
Documentation: 7

Personal Record Keeping serves as an electronic file of index cards to organize a collection of facts. This program is ideal for household records such as insurance lists, small inventories, and mailing lists.

As you set up the file, you must name and define each category you will use. This is the most time-consuming part of using the program. Depending on how complicated a file is, you may spend from a few minutes to an hour doing this. (Fortunately, it need only be done once for any file of information.) Different categories that the program will handle include characters (such as names), integers (ages or zip codes), decimals, and scientific notation.

Once the file is set up, you can enter the information that you wish to file. You set up pages of information and work with one at a time. On each page, you enter the information to be cataloged.

You can electronically sort a file (e.g. a group of students could be listed by ages). The program also analyzes records by certain conditions (if you were tracking those students' test scores, you could analyze the grades of all students whose averages fell between 75% and 85%).

Personal Record Keeping lets you save your files on cassette or disk. The instructions for saving files appear on the screen and are easy to follow. The program also offers a generous amount of storage space for the average home file. A TI-99/4A with no memory expansion file can hold 170 pages of name and address information for a greeting card list. And if the file gets too large, you can break it up into smaller sections.

HOME
PHYSICAL FITNESS

Description: exercise program
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Performance: 8
Ease of use: 9
Reliability: 9
Documentation: 7

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Physical Fitness starts by asking your age and sex. The program then calculates your pulse rate by having you count your pulse beats between two tones of the computer.

Next, the computer puts you through a series of warm-up exercises that include toe touches, knee lifts, sit-ups, and push-ups. The program then measures your pulse again. Finally, the fun begins; a series of circulatory exercises (running in place, jumping, skipping rope, or distance running) appears in sequence on the screen. You follow this routine for six minutes. When you're done, you check your pulse rate twice—once immediately after the workout, and again after a cool-down period.

Physical Fitness paces your exercise rate, and screen graphics illustrate the routines. There are five levels in this program. The higher levels prolong the workout and increase the number of exercises.

★ WEIGHT CONTROL AND NUTRITION

Description: menu planner
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 9
Performance: 8
Ease of use: 10
Reliability: 9
Documentation: 10

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

While there is no substitute for sensible eating, *Weight Control and Nutrition* makes menu planning easier for dieters. The program begins by asking for personal information such as age, sex, height, weight, and the amount of physical exertion you normally perform on a daily basis. You then enter the amount you would like to weigh, and when you would like to reach that goal.

The next section of the program creates menus, literally. A food screen lets you choose foods you like, then the computer plans a series of menus for the entire week, based on your preferences and diet plans. If you try to create an extreme plan (like losing 20 pounds in two weeks), the computer warns you of the danger and suggests you change your goals.

You can update your weight records as often as you like, though the program suggests once a week. A progress report is always available, and information displayed on the screen can be printed at any time.

The documentation with *Weight Control and Nutrition* includes more than program instructions. Detailed explanations of basic food groups, calories, and body weight accompany 40 pages of calorie counts, vitamin lists, and 62 recipes.

CHAPTER 4
EDUCATION

Over the last year, there has been a revolution in computer educational software. Until very recently, most educational programs were little more than text games. Recent releases, however, are much more sophisticated. They use the computer's graphics and sound capabilities to hold the student's interest and are available for almost any subject. These programs can be used to continue school instruction at home or to provide supplemental education.

There are several different types of educational software. One of the simplest and most common is the drill-and-practice program. In this type of program, a variety of problems requiring the same basic skill are presented, and students must solve them as quickly and accurately as they can. The student must already understand the basic concepts.

Another type of program, the tutorial, is used to help students acquire new skills. These programs present new concepts one step at a time, and users can progress at any pace they feel comfortable with.

Although most of the software in this chapter is intended for children, there are also some programs that can be helpful for adults. For example, *Touch Typing Tutor* is a fine typing tutorial, no matter what your age.

The following special terms are used in this chapter:

drill-and-practice program A learning program that gives the student exercises or problems, assuming the student already understands the basic skills or concepts involved.

early-learning program A program for young children that teaches basic skills (such as shapes, letters, numbers, counting) or simple concepts (such as above, below, left, right).

learning game A learning program in which the student practices skills or learns concepts within a game.

problem-solving or **logic game** A program in which the user must apply logic skills to solve a problem, mystery, or puzzle.

simulation A program in which the computer lets you imitate the experience of some real-life situation (such as flying an airplane or running a business). You make choices as you try to perform the task, and the computer tells you what would happen if you made those choices in real life.

tutorial program A program that teaches a new skill or concept, going through the subject one step at a time (such as learning typing or a foreign language).

A+ SPELLING

Description: spelling drill
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: program recorder or disk drive; speech synthesizer optional
Price and format: approx. $20 cassette, $20 disk

Protected: no
Warranty: not written

User group rating: 5
Graphics and sound: not rated
Difficulty: intermediate readers
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

A+ Spelling is an educational package that is designed to give children in grades three through eight a chance to practice spelling. The program comes without any words stored in it, and you must type in the words to be used. Once the words have been typed in, they can be saved on cassette or disk.

You can type in up to 100 words, and if you have a speech synthesizer it will pronounce them as you enter them. An option of the program called Study Word Lists allows you to study any of the lists of words that have been stored. Another option will let you correct the spelling or pronunciation of words that have been entered.

The most useful part of the program is the Take A Quiz option. In this section, the computer will pronounce a word and then ask you to spell it. If you spell it correctly, the program congratulates you and goes on to the next word. If you misspell the word, the computer spells it correctly on the screen, while the speech synthesizer spells it out loud.

A+ Spelling is a versatile spelling drill that is particularly useful when combined with a speech synthesizer. One word of advice when using this program, however: make sure that the person entering the words knows how to spell them.

EDUCATION
ADDITION

Description: elementary math exercises
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 9
Difficulty: novice readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Addition is an educational package that covers mathematics material taught in kindergarten to grade four. The program is divided into 60 levels of difficulty. The series begins with simple exercises to add two numbers with sums through six. Each subsequent level is slightly more difficult than the last, until a student is able to add numbers with sums through 9999. Advancement depends solely on a child's progress.

The program begins by requesting the level to use and the child's name. Giving you a choice of levels makes it easy to go directly to the material you want to study or repeat. The child's name is used in a progress report that appears at the end of each level. On-screen messages, like "GOOD NEWS BRANDON," give a personal touch.

During each exercise level, a running progress report also appears across the bottom of the screen. Information such as Problem Level, Total Correct, Total Problems, and Average are constantly displayed. These figures are updated as the child works through the exercises.

After entering the level and name, an addition problem appears on the screen. If the problem is answered correctly, an animated picture entertains briefly, and a funny noise is sounded. The child must press ENTER to continue to the next problem.

If five out of six problems in a row are answered correctly, the computer displays a GOOD NEWS message. The program then advances to the next level.

If the answer to a particular problem is not correct, the child gets a second chance to respond. If a second incorrect answer is entered, the border of the screen changes color. The child presses ENTER to continue, and the computer reveals the correct answer. Accompanying the display is a message to study the solution. If three problems in a row are answered incorrectly, a BAD NEWS report is displayed, and the child moves back one level.

Level 26 presents a challenging option. The child can regroup (carry digits to the next decimal column) visually on the screen or mentally. Pressing the spacebar selects regrouping on the screen.

Overall, this is an excellent addition program for the early elementary grades. A child's progress is carefully monitored, and the many skill levels encourage personal growth. The rewards for getting a problem correct, however, may not be strong enough to hold your child's attention.

ADDITION/SUBTRACTION 1

Description: basic math drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: speech synthesizer optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Graphics and sound: 7
Difficulty: nonreaders
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Addition/Subtraction 1 is an educational package aimed at developing the concepts of adding numbers from one through nine. The program holds nine different activities, including counting objects, adding groups, subtracting, and adding and subtracting columns. When a child answers a series of questions correctly, the program advances to more difficult problems. If a child misses a problem, that section of the lesson is repeated.

A positive aspect of *Addition/Subtraction 1* is its gentle instructional feedback for wrong answers. If a child answers incorrectly, a soft, short tone is heard, and an *X* appears on the screen. If two wrong answers are given for the same problem, the software repeats the lesson designed to teach that particular skill.

This program is ideal for the very young. It is simple to use, and will require little or no help from an adult. You cannot set skill levels, however, and as a result, the program appeals to a fairly narrow range of children. It is a good package for kindergarten or early first-grade students.

ADDITION/SUBTRACTION 2

Description: basic math drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: speech synthesizer optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Graphics and sound: 9
Difficulty: beginning readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

A good complement to *Addition/Subtraction 1* (see separate review), this program completes a two-part educational series by Scott-Foresman. *Addition/Subtraction 2* is divided into individual lessons on particular number skills. Each activity presents the skill, then drills the student with questions.

The program holds eight activities: counting to ten, grouping numbers greater than ten, addition facts, adding multiple numbers, adding columns, subtraction facts, subtracting multiple numbers, and subtracting columns.

Addition/Subtraction 2 is well done. A six- or seven-year-old can insert the cartridge and use the program without extensive help from an adult. If a wrong answer is given, the computer displays TRY AGAIN and plays a simple tone. This feedback is clear yet gentle, and a young child is not intimidated by the program's response. *Addition/Subtraction 2* is designed for children beginning their math studies.

EDUCATION
ALGEBRA I★

Description: algebra tutorial
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: program recorder or disk drive
Price and format: approx. $60 cassette or disk

Protected: no
Warranty: none

User group rating: 8
Graphics and sound: not rated
Difficulty: intermediate readers
Documentation: 10

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Algebra I is a comprehensive course in basic algebra. The program teaches real numbers, absolute value, powers, fractions, decimals, percentages, constants and variables, fundamental laws, use of parentheses, simplifying math functions, and basic, variable, and quadratic equations.

Each topic covered in *Algebra I* includes a set of problems and an instruction section that explains concepts and presents examples. Lessons in the instruction set are clear and accurate. The package includes a comprehensive manual of written summaries of the lessons and additional sample problems. Solutions are given for some of the problems.

The program is meant to supplement a first year algebra course, not teach one. *Algebra I* covers its subject well. Because of the extent of the program, the package includes three disks or twelve cassettes.

BASIC NUMBER FACTS
PLATO COURSEWARE

Description: algebra tutorial
Sold by: Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126
800/233-3784 (in California 800/233-3785)
Requirements: disk drive, PLATO interpreter cartridge
Price and format: approx. $50 disk

Protected: yes
Warranty: 10 days

User group rating: 7
Graphics and sound: not rated
Difficulty: intermediate readers
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Basic Number Facts is a series of instructional programs that combine a question-and-answer format with programmed teaching to reinforce the concepts of sets. It is a good introduction to the basic concepts of high school algebra.

Lesson 1, Introduction to Sets, defines a set and its elements, and explains subsets. It also teaches how to draw sets. In Set Operations, the second lesson, the union and intersection of two sets is presented, and identifying null sets is explained. The final lesson teaches the concepts of odd, even, prime, and composite numbers. You'll also identify the factors, or divisors, or a whole number, and learn to recognize prime and composite whole numbers.

The lessons are on three sides of a set of two disks. The tutorial style of *Basic Number Facts* is clear and easy to understand.

EDUCATION
BEGINNING GRAMMAR

Description: grammar drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Graphics and sound: 8
Difficulty: intermediate readers
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Beginning Grammar is an educational package to help children study the parts of speech. Nouns, verbs, adjectives, pronouns, adverbs, prepositions, and conjunctions are explained and accompanied by examples and questions.

Each of these seven study groups starts with a definition of the particular part of speech. The next screen shows how it is used in a sentence. Then the computer displays various sentences, and asks the student to identify the part of speech each contains. A wrong answer prompts the computer to repeat the original definition.

The graphics in *Beginning Grammar* are colorful, and the program plays plenty of music to hold a child's attention. This is a good piece of software for classroom drills, but has limited use at home. After three or four uses, the lessons become repetitive.

★ COMPUTER MATH GAMES VI

Description: elementary math drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: not rated
Graphics and sound: 9
Difficulty: beginning to intermediate reader
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Computer Math Games VI is a package designed to teach the concepts of equality, less than, and greater than, and addition, subtraction, multiplication, and the skills of division. The program includes four educational activities.

Math Asteroids uses a space theme to teach less than, greater than, and equals. The player must decide the relationship of numbers displayed, then destroy the correct asteroid before time runs out. In Around the Schoolyard, players advance around a yard by answering questions correctly. Math Baseball tests addition, subtraction, multiplication, and division skills. In the fourth game on the cartridge, Math Triangles, two players or teams compete, making three-sided figures by connecting circles.

This educational package has great graphics and music, but on some of the games players are at the mercy of the computer. The package was designed for students in the first to the ninth grade. It may be too hard for first and second grade students, however.

EDUCATION

COMPUTER MATH GAMES II★

Description: elementary math drills
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 7
Graphics and sound: 9
Difficulty: adult readers
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Computer Math Games II consists of a variety of games to support or enhance math skills. These drills test your knowledge rather than teach concepts. Students are encouraged to compete and socialize with others as they play. Sections of the program include Your Number's Up, Math Basketball, Match Up, Tic-Tac-Math, and Horserace.

In Your Number's Up, one to three players try to achieve the highest or lowest score by placing a random digit on a value grid. Math Basketball is for two players or teams. Each player is presented with a problem and must respond within 12 seconds. The computer displays a grid of numbers in Match Up. The player must use these random digits to write an equation equaling a number on the grid. Tic-Tac-Math is similar to Match Up, with players practicing addition, subtraction, multiplication, or dividing whole numbers, decimals, or integers. One or two players race the computer to the finish line in Horserace. The object of this timed game is to answer the problems as quickly as possible, and move the horse down the track.

Activities in this package are designed for students in grades one to nine. They are best used in a classroom environment or at a party, since some of the games are for two players with similar math skills.

DECIMALS

Description: math drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 7
Graphics and sound: 7
Difficulty: intermediate
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Decimals is a series of mathematics practice skills. In 56 skill levels, the program covers the use of decimals from basic conversions of fractions to dividing decimals by tenths and hundredths.

The program is designed in a question-and-answer format. Virtually all the exercises present a review problem, so this is a good reinforcement of classroom lessons. The program gives practice in recognizing decimals as fractions, determining the right order of decimals, and rounding off decimals. Correct answers eventually lead to the next level, while incorrect responses move the student back a level.

Decimals is a good method of polishing decimal skills. There are enough difficulty levels on the program to make it worthwhile.

EDUCATION
DIVISION I

Description: arithmetic drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: speech synthesizer optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Graphics and sound: 10
Difficulty: beginning readers
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

This program is ideal for children learning division skills. Nine different activities teach mathematical skills in progressively harder levels, and the lessons are clearly illustrated.

The first level exercises consist of brief tutorials. Common objects like paper clips and crayons are graphically shown in groups to illustrate the idea of division. The program also makes excellent use of graphics to teach the concept of remainders; paper clips move smoothly into boxes in matching sets, leaving some behind as the remainder.

A final exercise reviews all of the concepts presented in the program and combines questions from all previous sections. One nice feature is the display at the end of the program that shows each child some recommended problems to study; these recommendations are made by the computer based on the incorrect answers given during each lesson.

Division I can reinforce basic mathematical skills, but does not teach division. It is best used as a way to test the concepts a child learns in school and to provide practice through drills and exercises.

EARLY LEARNING FUN

Description: basic skills drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Graphics and sound: 7
Difficulty: beginning readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Designed for preschool children, *Early Learning Fun* is a series of activities teaching the basic concepts of numbers, shapes, groups of objects, and letters of the alphabet.

In the number exercises, a choice called Counting Up introduces the young to the concept of counting from one to nine. The exercises called Number, Please and How Many Things will reinforce a child's ability to identify numbers, while in the Shape Activities section of the program, children are introduced to basic shapes like squares, rectangles and triangles.

In the Make a Match exercise, children hunt for matching shapes, while the Odd One Out exercise asks the child to identify which shape is different from a collection of other shapes on the screen. The final lesson is a lesson on the alphabet, in which a letter is displayed on the screen, and the child must press the key that matches the letter shown. In other cases, a picture of an object (such as an elephant) appears on the screen, and the child must type the first letter of the word describing that object.

The program requires some simple reading skills, and young children will need help in getting the program loaded and started since the written instructions that appear at the beginning of the program are not simple. Still, the skills taught by *Early Learning Fun* are important ones for the very young.

If your children are in kindergarten, *Early Learning Fun* may be a bit too basic for their skills. But for preschoolers, these activities offer a good introduction to computer-based instruction.

EDUCATION
FACEMAKER

Description: shape recognition game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $30 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 9
Difficulty: beginning readers
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Facemaker is part game, part learning experience, and all fun. It's ideal for young children, and consists of three entertaining activities that teach the rudimentary concepts of computer programming.

In Build a Face, your child can create a colorful face from a variety of eyes, ears, noses, mouths, and hair patterns. The details are identified by a number, and it's a simple matter to press a number key to make a choice. Program a Face lets the child type various letters in a row to make the face smile, wink, cry, or frown.

In the Game option, the computer makes the face move, and the child responds by typing the key that matches the action. For example, if the computer face frowns, then the child types the letter *F*.

This game is excellent for building recognition skills in youngsters. *Facemaker's* graphics are sharp, colorful, and entertaining, and the program is very easy to use.

HIGH SCHOOL SKILLS: MEASUREMENT PLATO COURSEWARE

Description: metric measurement drill
Sold by: Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126
800/233-3784 (in California 800/233-3785)
Requirements: disk drive, PLATO interpreter cartridge
Price and format: approx. $50 disk

Protected: yes
Warranty: 10 days

User group rating: 8
Graphics and sound: 9
Difficulty: intermediate readers
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Measurement is a series of four programs on two disks. These programs will introduce you to the metric series of measurement, along with the formulas for solving area and volume problems.

In the first lesson, you start by examining metric prefixes, and the standard units used in the metric system are explained. The program then asks you to make metric-to-metric conversions, such as converting centimeters to millimeters, or kilometers to meters.

The next lesson teaches you to solve area problems by using the metric units as a measurement of area. The final lesson teaches you how to calculate the volume of three-dimensional shapes from metric measurements.

Measurement provides a series of tutorial lessons with good graphics that teach you metric measurements. The computer draws rectangles, triangles, parallelograms, and cubes on the screen to illustrate the concepts of measurements in area and volume.

EDUCATION

HIGH SCHOOL SKILLS: MATH SENTENCES IN ONE VARIABLE, PART ONE AND PART TWO PLATO COURSEWARE

Description: basic algebra tutorial
Sold by: Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126
800/233-3784 (in California 800/233-3785)
Requirements: disk drive, PLATO interpreter cartridge
Price and format: approx. $50 disk

Protected: yes
Warranty: 10 days

User group rating: 7
Graphics and sound: 9
Difficulty: intermediate to adult readers
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

This review covers two separate software packages that teach the same concepts at different levels: *Math Sentences In One Variable, Part One* and *Math Sentences In One Variable, Part Two.* These programs introduce math expressions that use one variable. The programs also develop skills in simplifying math expressions.

Math Sentences In One Variable, Part One includes three lessons. In Lesson 1, Sets and Variables, you learn to punctuate mathematical sentences, to complete math operations, and to simplify expressions by using math symbols. In Lesson 2, Monomials, you learn to define, add, subtract, multiply, and divide monomials. (Monomials are math expressions that have exactly one term.)

In Lesson 3, Binomials, you are introduced to the simplest form for those expressions that have an algebraic variable and an addition or subtraction symbol. In these activities, you solve equations by adding, subtracting, multiplying, and dividing monomials and binomials.

Math Sentences In One Variable, Part Two includes three programs that teach methods of solving linear inequalities and quadratic equations with one variable. You practice different methods for solving the equations and determining the value of the variable. The problems grow more difficult as the levels increase, beginning with linear equations and moving on to linear inequalities and quadratic equations.

In Lesson 1, Linear Equations With One Variable, you examine the similarities between sentences in the English language and math sentences (or equations). You then use these similarities to learn the functions of math variables. Finally, you practice different methods of solving equations.

Lesson 2 details the concepts of inequalities, which are math sentences in which one half is greater than or less than the other half. The computer uses detailed text and graphics to show inequalities on a number line.

Lesson 3 covers quadratic equations, which involve problems where the variable may be multiplied by itself.

Text appears on the screen throughout the lessons to explain the concepts being taught. Wrong answers give you a second chance, and if the second answer is wrong the program displays the correct answer, along with an explanation of why the problem is answered that way.

EDUCATION

HIGH SCHOOL SKILLS: MATH SENTENCES IN TWO VARIABLES PLATO COURSEWARE

Description: algebra tutorial
Sold by: Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126
800/233-3784 (in California 800/233-3785)
Requirements: disk drive, PLATO interpreter cartridge
Price and format: approx. $50 disk

Protected: yes
Warranty: 10 days

User group rating: 8
Graphics and sound: 6
Difficulty: intermediate to adult readers
Documentation: 5

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Math Sentences in Two Variables is a series of three programs introducing the concepts of coordinate planes and linear and system equations.

In the first lesson in the package, you explore the basic form of a coordinate plane. Practice exercises include naming, plotting, and locating points by coordinates. The problems become more complex as the lessons progress. The second lesson presents linear equations with two variables, *x* and *y*. The computer illustrates solutions by drawing the line on the screen.

In Lesson 3, Systems of Equations, you apply the solutions for linear equations to groups of equations. You also solve for the variable in a system of equations, using addition and subtraction.

Be prepared for a lot of questions. Because of the detailed subject, this particular PLATO Courseware program poses more questions than others.

HIGH SCHOOL SKILLS: GEOMETRY PLATO COURSEWARE

Description: geometry tutorial
Sold by: Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126
800/233-3784
(in California)800/233-3785
Requirements: disk drive, PLATO interpreter cartridge
Price and format: approx. $50 disk

Protected: yes
Warranty: 10 days

User group rating: 7
Graphics and sound: 6
Difficulty: intermediate readers
Documentation: 5

Key:
User group rating: Summation of all ratings factors
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Geometry is four lessons that introduce how the relationships between parts of angles, circles, and triangles can be used as measurement tools. You then use these concepts to measure angles between lines, angles inside of triangles, parts of a circle, and the lengths of the sides of a right triangle.

In Lesson 1, Special Angles, Part 1, you learn to define and identify complementary, supplementary, and vertical angles. In Lesson 2, Special Angles, Part 2, you learn how to define and identify alternate interior angles and alternate exterior angles, and how to measure angles by using the known measurements of other related angles.

Lesson 3, Circles, Arcs, and Circumferences, teaches how to define the parts of a circle, how to find the circumference of a circle, and how to determine arc length on a circle.

Lesson 4 concludes the package by explaining the parts of a right triangle, and teaching how to find the length of the sides of a right triangle.

As in the other math packages in the PLATO series, this program provides many explanations of the concepts being taught.

EDUCATION

LAWS OF ARITHMETIC

Description: arithmetic concepts drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4074
Requirements: none
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 6
Graphics and sound: 6
Difficulty: adult readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Laws of Arithmetic is a skills builder designed to teach the fundamental concepts of arithmetic: the property of zero, the principle of identity elements, and the communicative, associative, and distributive properties of numbers.

This program aims to reinforce the relationships between common math problems, such as why $(8+6)+4$ is the same as $(4+6)+8$. *Laws of Arithmetic* includes 19 lessons that cover these relationships in addition problems and multiplication problems. The proper way to deal with zero in arithmetic problems is also covered in the lessons.

Laws of Arithmetic does reinforce the concepts once someone has taught these concepts. However, we disagree with the statement on the package that describes the program as a tutor of these principles. There is not enough tutorial material to make this a package that will independently teach these concepts. But after the basic skills are learned, this cartridge is a good way to reinforce and sharpen those skills.

MARKET SIMULATION

Description: business simulation game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive
Price and format: approx. $20 cassette or disk

Protected: no
Warranty: 3 months

User group rating: 7
Graphics and sound: not rated
Difficulty: intermediate to adult readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Market Simulation is an educational game that lets two players compete against each other by running two competing companies. From its title, we thought that *Market Simulation* could embroil us in a Wall Street stock market battle. Actually, the game has little to do with Wall Street, but it is entertaining and educational nevertheless.

Both companies sell the same product. Each company's success is determined by how well the player in control of it manages production, advertising spending, and product pricing. The program asks you to make various decisions on the price of your product, the number of products that you want to build each quarter, and how much you'll spend on ads. As you might suspect, a great deal of reading is required in order to play this game.

Market Simulation is made more interesting by the unforeseen expenses and product delays that occur at random intervals. The game ends when one company passes $12,000 in assets, or when one company files for bankruptcy. We felt that this simulation does a good job of imitating the corporate world.

EDUCATION

MATHEMATICS ACTION GAMES, MODULE A

Description: arithmetic drill
Sold by: Scott, Foresman Electronic Publishing
1900 E. Lake Avenue
Glenview, IL 60025
312/729-3000
Requirements: speech synthesizer optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 7
Graphics and sound: 9
Difficulty: novice readers
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Mathematics Action Games, Module A contains math games designed to let children from kindergarten through grade three practice simple math skills like addition, subtraction, and multiplication. There are two games: Frog Jump and Picture Parts.

Frog Jump is a two-player game that asks questions, and a frog jumps on the screen in response to the correct answer. The players' scores are determined by how quickly they can answer the question. In Picture Parts, parts of a face, such as eyes, noses, and mouths, are added to a partially drawn face on the screen if the answers to the math questions are correct.

The use of color graphics and sound is extensive throughout the program, to help keep young players' attention. The documentation is good, and it includes a teacher's guide with student record forms that can be copied for classroom use.

MATHEMATICS ACTION GAMES, MODULE B

Description: arithmetic drill
Sold by: Scott, Foresman Electronic Publishing
1900 E. Lake Avenue
Glenview, IL 60025
312/729-3000
Requirements: speech synthesizer optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 7
Graphics and sound: 9
Difficulty: intermediate readers
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Mathematics Action Games, Module B is a set of drill and practice exercises in multiplication and division aimed at children in grades three through six. There are two learning games in this package: Pyramid Puzzler and Star Maze.

Pyramid Puzzler is a game for one or two players. (If one player plays, the computer acts as the opponent.) Each player must try to be the first to reach the top of the pyramid by correctly answering math questions.

In Star Maze, the player must correctly answer problems to work through a maze that's displayed on the screen. You can set a limit on the amount of time allowed to get through the maze, and you can pick different routes for different scores. Good documentation and a teacher's guide (with record forms that can be copied) are included with the package.

EDUCATION
MULTIPLICATION

Description: multiplication drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Graphics and sound: 6
Difficulty: intermediate readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Multiplication is an educational package designed to help your child develop multiplication skills. Divided into 62 levels of difficulty, this program can be used by children in grades three through eight.

At the lowest level of difficulty, the program presents multiplication problems with multipliers from 1 through 5 and multiplicands of 1, 2, 3, and 10. Correct answers are rewarded with an animated picture that appears on the screen. If one mistake is made, the child will get to try again. If two mistakes are made, the computer will give the correct answer and then encourage the child to study the answer before going to the next problem.

When a certain number of problems are answered correctly, a GOOD NEWS report is displayed on the screen, and pressing the ENTER key will advance the program to the next level. If three problems in a row are answered incorrectly however, a BAD NEWS report is displayed and the child moves back a level. At the highest levels, the program displays problems with multipliers from 1000 through 9999. On more complex problems, additional chances to get the correct answer are given.

Help is available if a child is having difficulty with a particular problem. The computer displays a message to let the child know when help is available. The program will then go through the problem step-by-step, demonstrating the correct way to solve it.

Many math techniques are presented in this package. *Multiplication* is a good choice for developing great multiplication skills as your child goes through elementary school.

NUMBER MAGIC

Description: math drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 7
Graphics and sound: 7
Difficulty: beginning readers
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Number Magic is a basic math skills program that provides drills in addition, subtraction, multiplication, and division. The program is divided into three parts: Comp Quiz, a skill builder in problem parts; Quick Quiz, an addition and subtraction activity for children who have just begun learning about math; and Electroflash, a quiz that presents randomly selected problems.

All of the quizzes keep score of the number of correct and incorrect answers on the screen. Quick Quiz has two levels of difficulty and is appropriate for ages five and six. Comp Quiz has four levels and lets you choose whether the problems will involve addition, subtraction, multiplication, or division. Electroflash lets your child choose whether problems will be selected from an addition table, a subtraction table, a multiplication table, or a division table. We found the Electroflash section particularly good for providing basic drills in multiplication and division.

If you want to buy one software package that provides drills in all basic math skills, consider *Number Magic.* Its range of options and exercises make it a good skill builder for elementary school children.

EDUCATION
NUMBER READINESS

Description: math drill
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 7
Graphics and sound: 6
Difficulty: intermediate readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Number Readiness is a math skills program for children in kindergarten and first grade, and it has multiple levels of difficulty. At the simplest level, it displays a group of objects and asks how many are displayed. If the child answers correctly, the next group of objects is displayed; if a mistake is made, the child gets to try the problem again. At the highest level of difficulty, a series of numbers is displayed (such as 3, 4, 5, ___, 7) and the child must guess the number that is missing.

This is a good basic math skills builder, with one minor fault: after the child gives an answer, the RETURN key must be pressed twice before moving on to the next problem. This is something you will have to teach your children to do, since the on-screen instructions are rather complicated.

In other respects, *Number Readiness* is easy to use and covers its intended lessons clearly and in a friendly tone.

PERCENTS

Description: math drill
Sold by: Milliken Publishing
100 Research Blvd.
St. Louis, MO 63132
314/991-4220
Requirements: disk drive
Price and format: approx. $35 disk

Protected: yes
Warranty: 30 days

User group rating: 7
Graphics and sound: 7
Difficulty: adult readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Percents, as its name implies, is a drill and practice program dealing with percentages. It is divided into fifteen skill levels of ten problems each.

Percents begins by showing problems that ask you to convert fractions to percentages, and decimals to percentages. At the higher levels, the program presents problems that ask the correct percentages of dollar values and which of two percentage values is greater.

Answer problems correctly and you can move ahead in skill levels, but too many incorrect answers will move you back. Like other programs in the Milliken math series, *Percents* is only a question and answer package. It does not teach these skills, but instead is a good drill for those that already have them. Children can use this package after learning the basic concepts of percentages.

EDUCATION

PLATO INTERPRETER AND SKILLS SURVEYS

Description: PLATO software utility
Sold by: Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126
800/233-3784 (in California 800/233-3785)
Requirements: disk drive
Price and format: approx. $50 disk

Protected: yes
Warranty: 10 days

User group rating: 8
Graphics and sound: not rated
Difficulty: adult readers
Documentation: 9

The *PLATO Interpreter and Skills Surveys* is a single package that lets you use the PLATO software offerings for the TI-99/4A. Before you run out and buy it, however, you should know just what you're getting into, and what PLATO can do for you.

The PLATO series of software is designed to provide instruction in advanced subjects, typically at the high school level. To run any of the programs in the PLATO series, you need the *PLATO Interpreter.* It's a plug-in cartridge that you insert into the computer's cartridge slot whenever you are running any of the PLATO software.

The *PLATO Interpreter and Skills Surveys* includes, along with the PLATO Interpreter, a series of tests on disks. These tests cover reading and math skills. The tests are not used to teach any of these skills, but rather, the tests are designed to help parents or teachers decide which of the PLATO software packages is appropriate for a student. Once a student has taken the PLATO tests in a particular subject area, you can then select the best PLATO software in that area.

When you buy the PLATO Interpreter you're making a commitment to use the rest of the PLATO software. PLATO is the only high school level instructional software readily available for the TI-99/4A, but before you buy the PLATO Interpreter, make sure that the PLATO packages fit your needs. If your children are in elementary school, PLATO will probably be too advanced for them. Some of the more popular PLATO packages are covered in the following reviews; these will give you an idea of how PLATO works.

QUIZMASTER

Description: quiz generator
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: program recorder or disk drive
Price and format: approx. $25 cassette or disk

Protected: no
Warranty: none

User group rating: 7
Graphics and sound: not rated
Difficulty: intermediate readers
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Quizmaster is an educational program that lets you create your own electronic quiz. You must supply the questions and answers, and *Quizmaster* will use those questions and answers to generate quizzes.

Quizmaster lets you enter up to fifty questions and answers. After entering the questions and answers, you can choose one of three quiz formats: a sequential quiz, a random quiz, or a timed quiz. The sequential quiz presents the questions in the same order that you originally typed them in. The random quiz picks randomly from among the questions that you entered, and the timed quiz lets you set a time limit for answering each question. The timed quiz picks questions at random, like the random quiz.

Quizmaster is straightforward and relatively simple to use. All of the quizzes have musical rewards for correct answers, and they also give the number of correct answers out of the total number of questions asked by the program. There are 27 prepackaged quizzes, called QUIZ PACKS, available on cassette from the program's maker. We didn't review any of the quiz packs but they cover topics such as state and national capitals, U.S. and world history, and the U.S. Constitution.

EDUCATION
READING FUN★

Description: reading primer
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: speech synthesizer optional
Price and format: approx. $55 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 9
Graphics and sound: 8
Difficulty: beginning readers
Documentation: 10

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Reading Fun is an electronic storybook for early readers. It is divided into three stories, each of which contains colorful graphics that help hold a child's interest.

Each story is combined with practice exercises and reviews. In the first story, Almost Too Late, the child helps a girl who is always late be on time. The second story, Why Things Happen, attempts to explain the reason for darkness and why bats fly at night. The Lion and the Mouse, the third story, questions your child about the feelings (happy, sad, angry, etc.) of various characters in the story. New vocabulary words are introduced in each story.

Although the instruction book to *Reading Fun* says that the stories are designed for children in grades one through three, most first graders will need help with the language. The program is more appropriate for second and third graders.

READING ON

Description: graphic story program
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $55 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Graphics and sound: 10
Difficulty: beginning readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Reading On is an educational software package that teaches the ability to read and understand maps, graphs, and schedules to children in grades two through four. The program uses a series of three stories to accomplish its teaching goals. In the first story, a family uses a map to hunt for a relative's house. In the second story, goblins fill a graph with mushrooms to explain how graphs are used. In the third story, the concept of schedules is explained by a young heroine who must follow a schedule of space flights in order to save her planet.

Each story is followed by a question-and-answer drill about the theme of the story, and there is also a final test in the program that reviews all of the skills taught in the three stories. The stories are well written, and the detailed graphics show precise images of maps, charts, and schedules.

Although *Reading On* is excellent in overall design, the average child will probably read these stories a maximum of three times before losing interest. As with all storybook programs, therefore, parents must decide whether the short-lived use of this program is worth its price.

EDUCATION
READING RALLY

Description: electronic storybook
Sold by: Scott, Foresman Electronic Publishing
1900 E. Lake Avenue
Glenview, IL 60025
312/729-3000
Requirements: none
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 6
Graphics and sound: 7
Difficulty: beginning readers
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Reading Rally is an electronic storybook with questions and answers that teach or reinforce three important reading concepts: fact and opinion, author's purpose, and the bias or connotations of words. The program is divided into four stories, with question and answer sessions built into each story.

The first story, The Race, uses a bicycle race to teach the difference between opinion and fact. The second story, A Visit To Pilo, uses two robots aboard a spaceship to help teach the concept of an author's purpose in writing. The third story uses a soccer team to teach what bias and connotations of words are about. A final activity, a question-and-answer story about the Boston Tea Party, provides a review of all the skills covered in the first three stories.

Reading Rally is well done, but like most electronic stories, it is best suited for classroom use. It teaches the concepts mentioned above, but your child is likely to lose interest after reading the stories a few times.

READING ROUNDUP

Description: word meaning tutorial
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $55 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 6
Graphics and sound: 8
Difficulty: intermediate readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Reading Roundup is an educational program designed to improve your child's knowledge of word meanings, figures of speech, and idioms. It is designed for preschool children and provides important help in developing conversational skills.

Each subject is taught by telling a story with examples and then presenting questions to the child at the end of the story. If a large number of wrong answers are given, the program will ask the child to try the exercise again. Each story is colorfully illustrated and makes extensive use of the child's name to maintain his or her interest.

This is not the type of program that you can simply hand over to your child and walk away. The on-screen instructions are too difficult for a child to read and understand, and the questions asked by the program need to be answered in a variety of different ways.

If you have the time to sit down with your child each time you run the program, *Reading Roundup* is highly recommended.

EDUCATION
SPEAK AND SPELL

Description: spelling tutorial
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: disk drive, joystick, speech synthesizer, speech editor cartridge
Price and format: approx. $30 disk

Protected: no
Warranty: 3 months

User group rating: 7
Graphics and sound: not rated
Difficulty: beginning readers
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

If your system is already equipped with a disk drive, speech synthesizer, and speech editor, then you might want to consider *Speak and Spell*, particularly if there are young children in the family.

The program provides the same features as the Speak and Spell learning toy that is sold in stores; children hear a word pronounced correctly, then the word is spelled out. There are three different learning activities on the disk: Spell pronounces a word and asks the child to type the correct spelling; Mystery Word selects a word, and the child tries to guess the word by spelling it correctly; and Say It prompts a child to first say a word and then spell it.

Speak and Spell lives up to its name; it helps children become more at ease with the spelling of different words, and the speech is understandable, even coming from a computer. The only possible drawback may be the total cost; *Speak and Spell* is a good buy if you already have the required accessories. But if you have to buy them in order to use *Speak and Spell*, you'll probably save money by purchasing the hand-held Speak and Spell from a toy store.

SQUARE PAIRS

Description: word game
Sold by: Scholastic Inc.
730 Broadway
New York, NY 10003
212/505-3000
Requirements: program recorder
Price and format: approx. $40 cassette

Protected: yes
Warranty: 90 days

User group rating: 7
Graphics and sound: 4
Difficulty: beginning readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Square Pairs is a word matching game played on a computer. The computer screen displays a board with numbered boxes; on each turn, you uncover two boxes, and the goal of the game is to find as many pairs of matching boxes as possible.

Square Pairs can be played alone or with up to four players. Although it is designed for young children, the program has the ability to use custom words of your own choosing; adults can create an entertaining version of the game and save it on cassette tape.

There are five games included in *Square Pairs.* In Animals, you must match the names of the animals that appear behind the 12 boxes on the screen; in Cities and Countries, you must match each city with its country. In Oppostands, strange opposite words are matched (like handle with footle). In Computer Terms, you must match pairs of computer words, and in Addition, you match the two halves of an addition problem.

Square Pairs offers three board sizes: a small board containing six boxes, a medium board containing twelve boxes, and a large board containing eighteen boxes. If you make your own word games, each word can be up to eight characters long. *Square Pairs* is a good game for groups of children.

EDUCATION
SUBTRACTION

Description: elementary math exercises
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 9
Difficulty: beginning to intermediate readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Subtraction is an elementary mathematics program that covers concepts taught in kindergarten through the sixth grade. It is a good complement to *Addition,* also by Texas Instruments (see separate review).

This detailed program is notable for its personal touch. *Subtraction* begins by requesting the child's name. After each level of exercises, the computer displays a progress report, including messages like "GOOD NEWS JOHN" to congratulate the student. A running progress report appears across the bottom of the screen during each exercise, displaying information such as Problem Level, Total Correct, Total Problems, and Average. These figures are updated as the exercises are completed.

More than 50 levels of difficulty are available on *Subtraction.* The lessons begin with an exercise of subtracting numbers less than ten, and advance to problems of five decimal places.

To use the program, a student first enters the appropriate study level. Then a subtraction problem appears on the screen. If the question is answered correctly, an animated picture fills the screen, accompanied by an amusing sound. The child must then press ENTER to continue to the next problem.

When five out of six questions are answered correctly, a GOOD NEWS report is displayed on the screen. The child then advances to the next level.

If the answer is incorrect, the child is given a second chance. Should another incorrect answer be entered, the border of the screen changes color and the child must press ENTER to continue. The computer then gives the correct answer, with a message to study it.

If three problems in a row are answered incorrectly, a BAD NEWS report is displayed and the child moves back one level.

Advanced levels introduce the concept of carrying digits to the next decimal column. At this point, the option is available to perform the process mentally or visually on the screen. Pressing the space bar selects carrying (regrouping) on the screen.

The simple visual rewards for answering problems correctly may not be enough to hold your child's attention for a long period of time. In other regards, however, this is a very good subtraction program for elementary school children. The many difficulty levels and excellent treatment of the subject matter make this package worth the price.

EDUCATION

TOUCH TYPING TUTOR

Description: typing tutorial
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 9
Graphics and sound: 8
Difficulty: adult reader
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Touch Typing Tutor is a good way to develop new typing skills or to polish old ones. The program is divided into a series of 14 lessons.

The beginning lesson introduces the home row keys (A, S, D, F, J, K, L, and ;); then you move to the other keys. Random combinations of letters appear on the screen for you to type. Then the program displays a series of single letters to repeat. At the end of each lesson, the screen shows your speed in words per minute, along with a target speed to work toward.

If you're already an accomplished typist, the program has a test mode to measure your speed. This section measures the number of mistakes you make and suggests practice drills.

A game option is included as well. On this screen, an airplane flies across the top, leaving a message written in its wake. You must repeat the words at the keyboard, keeping up with the plane's ever-increasing speed. If the plane outruns you, the game ends. Your score and the number of errors are displayed at the bottom of the screen.

WORD INVASION

Description: language skills game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 7
Graphics and sound: 8
Difficulty: intermediate readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Picture an alien octopus whose job is to defend her turf from a screenful of advancing parts of speech, and you'll have *Word Invasion.* This educational game is designed to teach language skills to young children, and its arcade-game format helps keep their attention.

The name of a part of speech (such as a noun, pronoun, adjective, or verb) appears in a window in front of the octopus. While the invading words are approaching, a magic ring moves from arm to arm. To successfully destroy an invading word, the child must match a word to the part of speech shown in the window.

Word Invasion provides practice with the six major parts of speech. Since you can control the speed at which the words advance on the screen, *Word Invasion* can provide different challenges to children of different ages and skill levels.

EDUCATION
WORD RADAR

Description: word recognition and memory skills game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 7
Graphics and sound: 8
Difficulty: beginning to intermediate readers
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Difficulty: The reading level required to use the program
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Word Radar is a learning game that helps children build memory and word recognition skills while having a good time. In this game, various words pop up on the screen and then disappear, only to be replaced with blank boxes. Then the words are again displayed, one by one, at the bottom of the screen. Using the joystick, the child controls a radar beam that sweeps across the screen. As it passes the blank boxes, words briefly appear. When the word that appears in the box matches the word at the bottom of the screen, the child fires to score points.

The graphics in this game are vivid and colorful, and the format of the game challenges a child's memory. The words used in *Word Radar* are common early-level reading words that will help build a child's vocabulary skills.

Communications is one of the fastest growing areas of computer technology. New networks are being started almost every day, and TI-99/4A owners can easily gain access to most of them by using the terminal program reviewed in this chapter. The latest stock reports, movie reviews, and airline schedules are available, along with up-to-the-minute news and weather. You can even shop by catalog or look at copies of the *New York Times, World Book Encyclopedia,* the Bible, or the latest congressional legislation. The Source and CompuServe are the two most popular information services, but there are now many others as well.

To take advantage of these services on your TI, you need a terminal program and a modem. Modems for personal computers usually have a fixed baud rate (the rate at which information is transmitted and received), and the terminal program must operate at the same baud rate.

The following special terms are used in computer networking:

baud rate The speed at which data is transmitted (in bits per second) either between two computers or between a computer and a peripheral.

bulletin board system A private network that lets users send and receive electronic messages and exchange computer programs by modem.

download In networking, to transfer a computer program into your own system from another computer.

modem A device that converts computer data into audible signals and also converts audible signals back into computer data, so that information can be sent from computer to computer over the telephone lines.

terminal program A communications program that allows your computer to exchange information with other computers through a modem.

upload In networking, to transfer a computer program from your own system to another computer.

NETWORKING

TERMINAL EMULATOR II★

Description: terminal program
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: RS-232 interface and modem; speech synthesizer optional, disk drive optional, printer optional
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Performance: 9
Ease of use: 7
Reliability: 9
Documentation: 10

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

TI's *Terminal Emulator II* is a cartridge-based software package that lets you use your computer as a communications terminal. It can handle color, speech, sound, and graphics. With *Terminal Emulator II* and a modem, you can gain access to The Source, Dow Jones News/Retrieval Services, TEXNET, CompuServe, and free computer bulletin boards provided by computer hobbyists throughout the world.

An important feature of the program is its File Transfer option. Using this feature, you can collect information that is received from another computer and save that information on a cassette or floppy disk. An option is also provided that allows you to check the stored copy for errors. A speech synthesizer option that will let the TI speak words as you receive them over the phone line is provided as well. (A speech synthesizer is required for this, however.)

A disk drive and printer are not required to use *Terminal Emulator II,* but they will add to the program's usefulness if you have them. A printer, for example, can be used to print copies of closing stock prices from the financial pages of The Source or CompuServe.

Terminal Emulator II makes use of the control keys to do certain operations. For example, holding down the control key while pressing the number 2 key causes the entire screen image to be printed on your printer (if you have one). Control and the number 4 key causes the information that has been received to be saved on a cassette or disk.

Terminal Emulator II is not easy to use, but the instruction manual is well done. Even experienced users should not attempt to use the program without thoroughly reading the documentation first. Many options need to be set, such as baud rate and parity, and the program makes heavy use of the control keys to change these settings.

To help you remember the function of the control keys, a plastic overlay strip is provided with the program. *Terminal Emulator II* is flexible, easy to use, and a favorite among TI users.

CHAPTER 6
STRATEGY GAMES

There are hundreds of strategy and adventure games available for the TI-99/4A, and this chapter reviews the best of them.

Adventure games come in two types: text adventures and graphic adventures. In text adventure games, a written description of each scene is provided. In graphic adventures, a computer rendition of each scene is displayed on the screen, usually with a brief description below it. Both types require you to enter text commands (short phrases in English) to progress to the next scene.

Simulations of board games like Othello are also included in this chapter, along with sports games, tactical games, and card games.

The following special terms are used in this chapter:

graphic adventure A game in which the adventurer's experiences are shown in graphic displays.

simulation A game in which the computer lets you imitate the experience of some situation.

tactical game A game that challenges logic and thinking skills.

text adventure A game in which the adventurer's experiences are described in text only (rather than pictured through graphics).

speech synthesizer A device capable of audibly reproducing human speech. Used to add interest to some games.

ADVENTURELAND/ ★ ADVENTURE SERIES

Description: text adventure
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive
Price and format: approx. $25 cartridge (includes disk and cassette)

Protected: yes
Warranty: 3 months

User group rating: 9
Graphics and sound: text only
Playability: 10
Difficulty: expert
Documentation: 10

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Adventureland is part of the popular *Adventure Series* developed by Scott Adams. Your enemies in this interactive fantasy include monsters, dwarfs, trolls, and other underworld creatures. To play, you need both the *Adventure Series* cartridge and the *Adventureland* game on cassette or disk.

Clear thinking is the most important requirement for completing any adventure generated by this program. A series of written messages describes a scenario, and by using one- or two-word commands like "go west" or "get knife," you give the computer commands that determine your fate. The rules of the real world don't necessarily apply, and some rather strange commands are needed occasionally to survive.

Adventureland is an exciting and challenging text adventure. Once you own the series cartridge, you can purchase the other nine Adventure games on cassette or disk and continue the fun.

BACKGAMMON

Description: backgammon simulation
Sold by: Not-Polyoptics
13721 Lynn St.
Woodbridge, VA 22191
703/491-5543
Requirements: TI Extended BASIC, program recorder
Price and format: approx. $18 cassette

Protected: yes
Warranty: not written

User group rating: 7
Graphics and sound: 9
Playability: 10
Difficulty: expert
Documentation: 4

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Imagine the popular board game backgammon on your computer's screen, with your choice of playing against the computer (a skilled opponent) or playing against another person. That's what you'll get in *Backgammon.*

Using bright, detailed graphics, the screen imitates a conventional backgammon board. The computer rolls the dice and plays as the opponent in the single-player game. A letter (from A through X) is displayed over each backgammon row. The computer asks you to type the letter of the row containing the piece you want to move and the number of rows to move it.

If you pick a move that's illegal, the computer ignores your request and asks for another choice. Like in real backgammon, the computer (or the other player) can land on your row and move your piece into a captive zone at the center of the board. In the two-player game, the computer serves only to display the board. But if you want to play backgammon and have no one to play against, this program will come in handy.

BANKROLL

Description: investment simulation
Sold by: Not-Polyoptics
13721 Lynn St.
Woodbridge, VA 22191
703/491-5543
Requirements: TI Extended BASIC, program recorder
Price and format: approx. $18 cassette

Protected: yes
Warranty: not written

User group rating: 6
Graphics and sound: text only
Playability: 8
Difficulty: expert
Documentation: 4

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Bankroll is an investment game in text form that simulates investing in stocks, bonds, tax shelters, and the like. This game probably appeals primarily to financially minded adults. It's a complex game to follow, and it assumes that you have some knowledge of the investment world. (If you don't, you'll learn a lot from a few rounds of *Bankroll.)*

The object of *Bankroll* is to be the first (of up to four players) to gain financial success by reaching a certain level of net worth. At the start of the game, you decide what the net worth level will be for all players. An amount of up to $999,999 can be chosen. Each player starts with $10,000. Players can buy or sell shares of stock, corporate bonds, municipal bonds, petroleum reserves, real estate, oil, or gold. Random factors (including interest-rate fluctuations, war in the Middle East, and the U.S. fighting an "unspecified" war) affect the outcome of your investments.

Playing *Bankroll* is a lot like playing the board game Monopoly. You must be prepared to spend some time and make a number of decisions to play this game through to the end.

BLACKJACK AND POKER

Description: card game simulation
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 7
Graphics and sound: 8
Playability: 8
Difficulty: novice
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Blackjack and Poker is a straightforward computer adaptation of two classic card games. The program is a simple and reasonably good simulation of a game of cards.

Blackjack lets one to four people play against the dealer (the computer), and the object is to score as close to 21 points as possible without going over. In Stud Poker, each player is dealt five cards, one at a time. As in real poker, players place bets, drop out, or fold. After final cards are dealt and betting is finished, the computer determines the highest hand and awards the winnings. The cards are clearly detailed, and the computer automatically shuffles the deck from time to time.

CONNECT FOUR

Description: grid game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $20 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 7
Graphics and sound: 8
Playability: 9
Difficulty: novice
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The basic premise of *Connect Four* is to drop checkers into slots on the screen, attempting to create a horizontal, vertical, or diagonal line of four checkers of your color.

The screen is a 6×7 grid of squares. When a checker is dropped into a slot, it falls as close to the bottom as possible. If the slot is already occupied, the checkers are stacked.

The game has four skill levels. The computer is easy to beat on the first level. At level four, however, the computer puts up a surprisingly good fight.

Connect Four can also be played by two people, with each taking turns at the keyboard. One game option lets your checkers fall from the bottom of the slots. Another features a "wild" checker that can be used by either player to complete a row of four.

DOW-4 GAZELLE

Description: flight simulation
Sold by: John T. Dow
6560 Rosemoor St.
Pittsburgh, PA 15217
412/521-9385
Requirements: program recorder, joystick
Price and format: approx. $30 cassette

Protected: no
Warranty: none

User group rating: 8
Graphics and sound: 7
Playability: 7
Difficulty: expert
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

This program is an exciting and realistic simulation of flying a small private aircraft. *Dow-4 Gazelle* turns your computer screen into a control panel that will challenge even players with a pilot's license.

Most of the flight controls, such as the elevators and rudders, are manipulated with the joystick. You use the keyboard to set engine power, the angle of the aircraft's flaps, and the timing of refueling. The instruments on the screen indicate the status of the aircraft as you fly.

The one-second response time may seem slow at first, but it's a true representation of how a real aircraft responds. In some ways, this program is almost too realistic. A good deal of coordination, knowledge, and skill is necessary to maneuver the aircraft successfully. You can easily lose control of the plane and end up crashing.

The program's detailed manual gives complete instructions for monitoring, reading, and controlling the instrument panel. Younger children will probably need some coaching from adults, but this program is enjoyable and exciting for anyone interested in aviation.

Description: football simulation
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 10
Playability: 8
Difficulty: expert
Documentation: 10

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Football does a good job of presenting a game from the coach's point of view. Choose an effective play against your opponent, and you gain yards and score. Make a poor decision, however, and you forfeit yards, fumble the ball, or lose the game entirely. A thorough knowledge of football is helpful.

For one or two players, the game begins as two teams square off on a football field. You control the strategic planning of a play, but once the play begins, it's up to your players to gain yards or score. You can select from a number of defense scenarios such as 3–2–6, prevent, dive play, blitz, punt return, or others.

Football is an intellectual challenge, so don't expect to use the joystick too often. You should be familiar with football strategy before tackling this program.

THE GAME OF WIT

Description: word game
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: TI Extended BASIC, program recorder
Price and format: approx. $17 cassette

Protected: yes
Warranty: 10 days

User group rating: 5
Graphics and sound: 6
Playability: 8
Difficulty: intermediate
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The Game of Wit is a Scrabble-type challenge for several players. Each player forms words to interlock with letter combinations already on the screen. Words can be placed at various locations to take full advantage of letter values and bonus squares.

Each player receives a random collection of letters, and play is timed. When the letter pool is empty, the player with the highest score wins. The challenge of this game depends entirely upon the players; the computer merely provides a simulated playing board.

The 16 numbered rows and columns on the screen can be confusing at times. *The Game of Wit* functions according to the manual, but it might be easier to play this type of word game on a regular board.

HANGMAN

Description: word game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 7
Graphics and sound: 5
Playability: 9
Difficulty: intermediate
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Hangman has always been a popular and highly entertaining educational game. If you have youngsters who need practice in spelling, this computerized version is a worthwhile investment.

The first step in using this program is to enter a vocabulary into the computer. Words can vary in length from five to nine letters, and you can enter custom words of your own making. As many as 60 words can be stored in the computer's memory and saved on cassette or disk for later use.

Like in the traditional version of *Hangman,* you must correctly guess the spelling of a hidden word. As you make incorrect tries, the hanging platform, noose, and finally the victim are drawn on the screen. You have up to 11 chances to finish a word. Choosing vowels first provides early hints, and typing an asterisk (*) at any time buys a letter, but this costs you three moves.

Fans of word games will love this program. *Hangman* can be played by one or two people.

HUNT THE WUMPUS

Description: maze adventure
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 7
Playability: 7
Difficulty: novice to expert
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Hunt the Wumpus presents the familiar game scenario of stalking your prey through a maze of hidden tunnels. As the hunter, you are equipped with a single arrow. Available mazes range from an easy grid to an expert collection of winding passageways. Your path appears on the maze as you travel through it. You have only one chance to kill the beast, so you must search and aim carefully.

Slime pits are scattered throughout the caverns. You can select a blindfold option that hides your tracks, leaving your chances of success to your powers of memory. Clues to help you find the goal consist of bloodstains the Wumpus leaves in his hiding area. You must also deal with bats that randomly lift you from one cavern and deposit you in another.

Hunt the Wumpus is a good test of detective skills. Its variety of difficulty levels make it an excellent choice for expert or novice adventurers.

HUSTLE

Description: box-your-opponent game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 6
Playability: 9
Difficulty: intermediate
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Hustle is an entertaining and unusual strategy game for one or two players. You use the joystick to leave a trail of lines across the screen. The goal is to draw these lines to complete a box around your opponent's marks.

Some variations make *Hustle* different from most games of this type. First, you are working against the clock and have only 45 seconds in which to win. Secondly, the lines that you draw are not necessarily permanent and have an annoying habit of disappearing at random intervals.

Playing against the computer quickly becomes predictable and monotonous in *Hustle*. After a few games, you'll find you can beat your electronic opponent in no time at all. The two-player version is more of a challenge.

INDOOR SOCCER

Description: soccer simulation
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 7
Playability: 8
Difficulty: intermediate
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Designed for two players, *Indoor Soccer* puts you in control of a five-man team on a conventional soccer field. Your strategy varies depending on the position of the ball and whether you're playing offense or defense.

In a defensive mode, you can move across the entire field vertically and horizontally. When playing offense, you control the player carrying the ball. To kick, you set both timing and direction with the fire button on your joystick. When your opponent's ball is in the goal zone, joystick control shifts to your guard. You can intercept and save a ball, and commit fouls if you're not careful.

Besides constantly tracking your opponent's moves and protecting the goal, you must also deal with the game clock. At the beginning of *Indoor Soccer,* you set the length of play in minutes, and the clock ticks away throughout the game.

Texas Instruments has managed to duplicate all the effects of soccer on your screen. *Indoor Soccer* is as challenging as your opponent's expertise.

NIT-WIT

Description: word game
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: TI Extended BASIC, program recorder, joystick
Price and format: approx. $17 cassette

Protected: yes
Warranty: 10 days

User group rating: 7
Graphics and sound: 6
Playability: 7
Difficulty: intermediate
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Nit-Wit is a challenging and unusual word game for two players. It is similar to an electronic version of Scrabble, except that both opponents play at once, racing to form a word first.

In *Nit-Wit,* a series of letters drop down "drainpipes" on the screen. You control a plug that can close the pipes to hold a letter in place. Since various letters drop randomly down the screen, it takes a bit of skill to plug a drain at the right time to catch the letter you need. And while you are trying to form a word, your opponent is doing the same.

You cannot build words of more than six letters—a limit on the creativity permitted. Still, *Nit-Wit* is an entertaining game that forces you to think and act quickly.

STRATEGY GAMES
OTHELLO

Description: board game simulation
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 7
Graphics and sound: 8
Playability: 10
Difficulty: novice
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Based on the popular board game, *Othello* is a test of strategy. The screen displays white and pink disks on a green background, and you must capture a row of your opponent's markers between your own. This Texas Instruments version of Othello lets you play against the computer, or another person.

This program successfully imitates the board version of Othello; it even flips the disks when necessary. The program is fun for a beginner, but the computer plays a fairly predictable game, and experienced players will miss the potential challenge.

PIRATE ADVENTURE

Description: text adventure
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive
Price and format: approx. $25 cassette or disk

Protected: no
Warranty: 90 days

User group rating: 7
Graphics and sound: none
Playability: 8
Difficulty: intermediate
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Pirate Adventure is a text adventure game in the "yo-ho-ho-and-a-bottle-of-rum" tradition. The computer begins by displaying text that describes the setting. In this case, it's a flat in London. That may seem like an unlikely place, but you'll discover that by saying a secret word (no, we're not going to tell you what it is!), you are transported to a pirate's isle, where the real fun begins.

By giving text commands like "take the rum," "get sneakers," and "up stairs," you'll traverse among the various situations of this adventure. The computer is helpful enough to provide hints when you're really stuck. An inventory command will tell you what you're carrying at any instant. Given these helpful features and the general tone of the adventure, *Pirate Adventure* ranks somewhere in the middle in terms of difficulty. It's not so difficult that you need to be an expert to enjoy it, but it's no simple task either.

ROMEO

Description: obstacle course
Sold by: Extended Software
11987 Cedarcreek Dr.
Cincinnati, OH 45420
513/825-6645
Requirements: TI Extended BASIC, program recorder or disk drive
Price and format: approx. $15 cassette or disk

Protected: yes
Warranty: 15 days

User group rating: 7
Graphics and sound: 7
Playability: 10
Difficulty: expert
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

ROMEO features a romantic young man in search of his lady. It is not an easy quest — the hero faces a series of inhuman dangers along the way.

As the game opens, Romeo is caught in the sand dunes of a burning desert. You can free him by making him jump to catch a floating balloon. Release the balloon at precisely the right moment, and Romeo faces a stream infested with floating logs, sharks, and alligators. All these obstacles must be avoided before Romeo can claim his maiden as a reward.

Although *ROMEO* has a simple theme, the game is very difficult. Perfect timing is essential.

★SANTA PARAVIA AND FIUMACCIO

Description: text adventure
Sold by: Instant Software, Inc.
Route 101 and Elm St.
Peterborough, NH 03458
800/343-0728
Requirements: program recorder
Price and format: approx. $15 cassette

Protected: no
Warranty: yes

User group rating: 8
Graphics and sound: text only
Playability: 9
Difficulty: intermediate
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Santa Paravia and Fiumaccio is a text adventure set in 1400 A.D. As ruler of a small Italian city-state, you are faced with the task of running a small kingdom.

During the course of the game, your decisions include how much seed to plant, the amount of grain necessary to feed your kingdom, tax levies, and military defense. Correct choices make your realm prosperous and wealthy. Wrong decisions, however, may prompt your subjects to overthrow you.

An ironic twist to this game is the increased chance of winning after certain disasters. For example, if an unexpected plague kills half the population of your kingdom, it is suddenly easier to feed the survivors. Plagues occur at random, and you cannot control this aspect of play.

Santa Paravia and Fiumaccio is challenging and requires some concentration on your part. Be prepared to spend 15 to 30 minutes per game.

SPACE BATTLE 2056

Description: space game
Sold by: American Software Design
P.O. Box 246
Cottage Grove, MN 55016
612/459-0557
Requirements: program recorder or disk drive
Price and format: approx. $14 cassette, $16 disk

Protected: no
Warranty: not written

User group rating: 7
Graphics and sound: 6
Playability: 8
Difficulty: expert
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Space Battle 2056 combines arcade graphics with a strategy game. In this game, you control Earth's last remaining starship, its fighters, and its refueling station. The enemy has three base ships, and each base ship carries a fleet of fighters.

Space Battle 2056 requires more than just watching a screen and firing shots at images, however. You must consult a battle map that is included with the program. The battle map gives you the locations of the enemy, as well as information regarding the enemy's strength and numbers.

Using your judgment and information gleaned from the battle map, you type in decisions on which fighters and/or fleets you will send into battle. The computer then decides the battle's outcome, complete with damage repairs and the status of your fleet. The scenario goes on and on until one side is destroyed. The on-screen graphics serve mostly as a visual accompaniment to the thinking and tactics involved in this game.

SPY MISSION

Description: graphic adventure
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: program recorder
Price and format: approx. $13 cassette

Protected: no
Warranty: 10 days

User group rating: 6
Graphics and sound: 3
Playability: 7
Difficulty: intermediate
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The object of *Spy Mission* is to find clues scattered throughout a foreign embassy. Secret papers vital to your country's security are hidden in an embassy safe in this adventure.

To make your task harder, the building abounds with hazards such as locked rooms, booby traps, armed guards, and total darkness. You can overcome these by using a flashlight, gun, tape recorder, bomb, or other tools at your command. You give the computer various commands based on the scenario, and the program updates you with detailed descriptions of your progress. Graphics are limited, and *Spy Mission* has three levels of difficulty. It is an interesting adventure challenge.

TI TREK

Description: space adventure
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: TI Extended BASIC, disk drive; speech synthesizer and speech editor optional
Price and format: approx. $15 disk

Protected: yes
Warranty: 90 days

User group rating: 8
Graphics and sound: not rated
Playability: 10
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

TI Trek is a fascinating adventure simulation of an interstellar space battle. You are piloting a starship patterned after the USS Enterprise of the popular TV show *Star Trek.*

Phasers and photon torpedoes fill your arsenal, impulse power moves the starship around the quadrants, and warp drive transports you from one quadrant to another. The defense of multiple quadrants make *TI Trek* a challenge. Monitoring your ship's condition and the locations of the enemy under various battle conditions keeps you busy. You must conserve fuel to reach starbase for repairs and refueling.

The speech synthesizer and speech editor cartridge add to the realism of this game, but they are not necessary for play. Graphics are limited in this strategy game.

TUNNELS OF DOOM

Description: graphic adventure
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive optional
Price and format: approx. $25 cartridge (includes a cassette or disk)

Protected: yes
Warranty: 90 days

User group rating: 8
Graphics and sound: 7
Playability: 9
Difficulty: expert
Documentation: 10

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Tunnels of Doom is a complex adventure that exercises your memory, judgment, and instinct for survival. In this fantasy you lead a party of adventurers, do battle with monsters, and risk dangers to rescue fair maidens.

The program includes two games: Quest for the King is an adventure designed for adults, and Pennies and Prizes is an easier game for younger children.

Quest for the King places you in a dungeon where the monarch is held captive by monsters. You must rescue him and locate the royal rainbow orb of power before time runs out. Pennies and Prizes is an adventure along similar lines.

With three levels of difficulty, these games are entertaining and challenging. They can keep you involved for hours at a time, and a game can be saved to cassette or disk to resume later.

VIDEO CHESS★

Description: chess simulation
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 7
Graphics and sound: 7
Playability: 8
Difficulty: intermediate
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

In *Video Chess,* you can play against the computer at three skill levels, or use the program as an electronic chessboard to challenge a human opponent.

Like most computerized versions of the popular board game, this program divides the screen into horizontal rows and vertical columns. Chess pieces are automatically placed in starting position. You move by entering a piece's existing position and the desired new location.

The computer will suggest moves if requested. As difficulty increases, so does the time the computer spends making a move. Chess buffs will find a highly skilled and patient electronic opponent in *Video Chess.*

WIT'S END

Description: word game
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: TI Extended BASIC, program recorder
Price and format: approx. $17 cassette

Protected: yes
Warranty: 10 days

User group rating: 5
Graphics and sound: 6
Playability: 4
Difficulty: novice
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Wit's End is an advanced version of *The Game of Wit* by the same manufacturer (see separate review). Like its predecessor, this game resembles the popular board game Scrabble. Players form words from six letters on the screen. The words are connected in crossword fashion as each player takes a turn.

Two factors make this contest more difficult than *The Game of Wit.* First, you must form each word by using one of the colored bonus squares scattered around the board. Second, *Wit's End* sets a three-minute time limit for forming a word. If you can't supply a word by then, you forfeit your turn to your opponent.

Scores are based on the length of the words and the color of the bonus square. The game ends when all of the available letters have been used.

WITTLE TAGS

Description: word game
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: TI Extended BASIC, program recorder
Price and format: approx. $17 cassette

Protected: yes
Warranty: 10 days

User group rating: 5
Graphics and sound: 6
Playability: 7
Difficulty: intermediate
Documentation: 4

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Wittle Tags is a word game for two to six players. On the screen is an automobile with a license plate displaying three letters and three numbers. You have 60 seconds to compose the shortest word possible that includes all the letters on the screen. Opposing players can challenge the validity of a proposed word.

Points are determined by the length of a word and the numbers on the plate. Scoring is complicated, but the computer handles the details. A set of instructions scrolling across the top of the screen is easy to follow, and eliminates the need for understanding the somewhat confusing written documentation.

YAHTZEE

Description: dice game simulation
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Graphics and sound: 10
Playability: 8
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

This program is an accurate and entertaining version of the popular dice game Yahtzee. You can play against the computer or another human. The computer handles the mundane tasks of rolling the dice and keeping score, leaving you free to concentrate on strategy.

Yahtzee includes two playing modes. In the regular Yahtzee, the opening dice rolls are random. The Challenge Yahtzee mode lets both players start with the same dice roll.

When the dice are rolled, you decide which combinations (three of a kind, full house, large straight, etc.) you want to keep. The screen consists of a scoreboard showing the points accumulated in the various categories. It is helpful to be familiar with the rules and procedures of Yahtzee before attempting this computerized version.

CHAPTER 7
ARCADE GAMES

Arcade-style games are the most popular form of computer software, consistently outselling all other categories. Home computers can't reproduce the graphics and play action of many arcade games, but some of the arcade games for the TI are spectacular nonetheless.

In addition to copies of arcade classics, this chapter includes games written specifically for home computers. *TI Invaders* and *Choplifter* are two of the most popular.

Because many arcade games are abstract and unusual, it's hard to give them an accurate two- or three-word description. Games as diverse as *Astromania* and *Strike Force* are included under space shoot-em-ups, for example. In this chapter, therefore, you have to read the review if you really want to know what a game is like. The brief descriptions just break the chapter into rough categories.

The following special terms are used in this chapter:

game paddles Game control devices on which a rotating dial moves a cursor (or other figure) in only two directions on the screen.

ladder game A game in which the player uses ladders (or other means) to move a figure around the screen to reach a goal (such as *Donkey Kong*).

maze game A game in which the player moves a figure through a network of passages on the screen (such as *Pac-Man*).

pause feature A feature built into some games that allows the player to temporarily stop the action in order to rest or plan strategy.

pinball simulation A video game that represents a traditional arcade pinball game on the screen.

shoot-out or **shoot-em-up** A game in which the player shoots at a variety of targets to score points.

trackball A game control device on which a rotating ball moves a cursor (or other figure) in all directions on the screen.

Description: mountain climbing game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional, speech synthesizer optional
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 9
Difficulty: intermediate
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Alpiner is an arcade-style game that turns you into a mountain climber. You must scale a peak displayed on the screen in high-resolution graphics. The choice of mountains includes Mount Everest, Mount Hood, Mount McKinley, the Matterhorn, Mount Kenya, and Mount Garmo.

This choice adds several degrees of challenge to the game, as obstacles differ from peak to peak. Your goal is to reach the summit without falling or being killed by mountain lions, bears, avalanches, falling rocks, or forest fires.

The graphics and sound in this program are excellent. With the Texas Instruments speech synthesizer, you can also hear some entertaining voices.

A-MAZE-ING ★

Description: maze game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 8
Playability: 8
Difficulty: novice to expert
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The *A-Maze-Ing* cartridge holds two separate games. Escape the Maze challenges you to find your way through a labyrinth. In Cheese Nut, you maneuver a mouse through a maze in search of food. You can select a complex or simple version of either one.

The games can be further complicated by adding options such as invisibility, stationary obstacles, and cats. In an invisible maze, you'll find yourself constantly bumping into walls. Opt for cats, and you face one or two felines of varying speed and intelligence.

A-Maze-Ing has enough options to suit any skill level. It is excellent for a household with a wide range of interests and ages.

Description: maze game
Sold by: Funware
405 N. Bowser St.
Richardson, TX 75081
Requirements: none
Price and format:
not available

Protected: cartridge
Warranty: unknown

User group rating: 8
Graphics and sound: 8
Playability: 10
Difficulty: 9
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Ambulance is a maze game with a unique setting. The maze consists of a colorful grid of streets, houses, and office buildings. An assortment of ill patients are stranded in the buildings, and they must be rushed to the hospital soon or they will—as the game mildly puts it—expire. It's your job to get them there, by driving an ambulance through busy city traffic.

You must drive to a building, pick up a patient, and get the patient to the hospital before time runs out. On the way, you must contend with oncoming traffic and crossing trains. The trains randomly cross your path just before you reach the hospital grounds.

To further challenge your skills, the volume of traffic increases as you drop off more patients at the hospital. *Ambulance* is an unusual game with good graphics and an interesting theme.

ANT EATER★

Description: tunneling game
Sold by: Romox, Inc.
476 Vandell Way
Campbell, CA 95008
408/374-7200
Requirements: joystick
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 8
Playability: 10
Difficulty: expert
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

A colony of three ants is under your control in *Ant Eater.* The object of this game is to tunnel through sand on the screen, steal food from a picnic basket, and carry it to the colony's underground nest without being stopped by the anteaters.

The anteaters pursue the ants through the subterranean tunnels you create on the screen. The enemy can be eliminated, however, if an ant drops an egg bomb. The bomb blocks a passageway and destroys any anteaters in the area. You also can tunnel beneath a surface rock, lure an anteater to the area, and then watch the rock fall under its own weight and crush the creature.

If you survive the first screen, you progress to the next level of the game, where the pace picks up and more anteaters appear. *Ant Eater* is one of the better games for the TI-99/4A from an independent company. It is highly recommended.

ASTROMANIA

Description: space shoot-em-up
Sold by: Moonbeam Software
P.O. BOX 959
Northampton, MA 01061
413/586-6290
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 6
Graphics and sound: 8
Playability: 5
Difficulty: intermediate
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

A space shoot-em-up, *Astromania* offers game play in three different settings.

In the first, you face cannonfire from four directions. If you survive that attack, the second setting forces you to pilot a spaceship through a dense meteor field. The third screen features Zircon droids that quickly dart from the right and left sides of the screen. Complete the third screen, and the game cycles again from the beginning.

Astromania is a difficult game to handle. Joystick response is very slow. Response time is no problem when using the keyboard, however.

THE ATTACK★

Description: space shoot-em-up
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 9
Difficulty: expert
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The Attack is an unusual space shoot-em-up. As commander of a spaceship, you are traveling through an area infested by aliens and spores. Spores cannot harm you, but they move continuously around the screen to avoid your fire. The aliens, however, add the challenge to this game. If you touch one, your ship is instantly destroyed.

Keeping the aliens at bay is easy on the first two levels of *The Attack,* and possible at level three. The fourth level is very difficult to master.

The odd-looking aliens and spores move erratically around the screen, accompanied by organ music, but the atmosphere and challenge of *The Attack* make it an appealing game.

BLACKBEARD'S TREASURE

Description: diving game
Sold by: Millers Graphics
1475 W. Cypress Ave.
San Dimas, CA 91773
714/599-1431
Requirements: TI Extended BASIC, program recorder or disk drive
Price and format: approx. $15 cassette, $18 disk

Protected: yes
Warranty: 15 days

User group rating: 6
Graphics and sound: 8
Playability: 8
Difficulty: intermediate
Documentation: 3

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

BLACKBEARD'S TREASURE is a diving game. You begin on a boat on the ocean's surface, pursuing treasures scattered below. Between you and the booty are hungry sharks and octopuses swimming around, searching for careless divers.

Evading these creatures is relatively easy at first. But more sharks appear as you accumulate treasures. The sharks also swim faster as time passes. Carrying too much bounty at once slows you down and makes you good shark bait.

The documentation with *BLACKBEARD'S TREASURE* could stand improvement. Written instructions are nil. Playing directions appear on the screen when you run the program. The unusual setting and game play of *BLACKBEARD'S TREASURE* make it worthwhile, however.

BLASTO

Description: battle game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 9
Playability: 8
Difficulty: intermediate
Documentation: 10

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

You control a tank in *Blasto,* fighting an enemy who is similarly equipped. The battlefield has its share of obstacles, including trees and lakes. You can spin the tank, move forward, and fire the cannon to knock down trees along the way.

Options in this game include a variety of trails, and you can add land mines to the terrain to increase the action. Choosing an invisible mine field adds to the uncertainty.

Blasto can be played by one or two people. The computer offers little challenge, however, making the one-player mode more of a race to beat the clock.

Description: jumping game
Sold by: Extended Software
11987 Cedarcreek Dr.
Cincinnati, OH 45240
513/825-6645
Requirements: TI Extended BASIC, program recorder or disk drive, joystick
Price and format: approx. $15 cassette or disk

Protected: yes
Warranty: 15 days

User group rating: 7
Graphics and sound: 8
Playability: 8
Difficulty: expert
Documentation: 4

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The screen in *BOUNCER* is divided into a series of platforms in the shape of octagons. With the joystick, you control a red ball that slowly bounces across the screen. You must touch each of the platforms with the ball.

Impeding your progress is a flurry of arrows that appears from time to time. Any one of the arrows will deflate the bouncing ball, given the chance.

Timing is important in this game. You need to wait for the right moment between the volleys of arrows to move the ball successfully. If you demand fast action, *BOUNCER* is not for you. It's a strategist's game for careful thinkers.

ARCADE GAMES
CAR WARS★

Description: car racing game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 10
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Car Wars is one of the most popular games for the TI-99/4A. Two cars appear on a race field, one driven by you and the other controlled by the computer. The cars travel in opposite directions, and the objective is to avoid crashing while racing around the track.

The joystick is used to change lanes and to increase or decrease speed. Avoiding collisions is fairly simple at the beginning, but winning is more difficult with each level. The graphics are entertaining, especially after a crash when cars fly everywhere and dark clouds fill the air. The sound effects are quite realistic.

This program's only limitation is that two players cannot race at once. The computer is a challenging opponent, however.

★ CAVERN QUEST

Description: cave game
Sold by: Moonbeam Software
P.O. Box 959
Northampton, MA 01061
413/586-6290
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

CAVERN QUEST is an arcade game in the style of *Donkey Kong* (see separate review). Three separate screens present a host of challenges to test your agility.

On the first screen, you have to avoid bats, scorpions, and snakes that inhabit a series of underground caverns. The second section of the game places you at the edge of a bottomless pit. The only way across is by swinging on vines. If you don't hurry, a poisonous spider climbs the vine and attacks you. Survive this, and you enter the third setting, where you must fight off an assortment of monsters as you struggle to collect treasures.

When you complete this final section, the program returns to the first screen. This time, however, more monsters have been added to increase the challenge.

CHISHOLM TRAIL★

Description: shoot-em-up maze
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 9
Playability: 10
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Chisholm Trail is a shoot-em-up maze, not an adventure as its packaging claims. The object of the game is to drive a herd of cattle to market, while avoiding rustlers.

The screen displays a rectangular playing field with a series of horizontal and vertical alleys. Throughout the alleys lurk a rustler and four quick, trigger-happy wranglers intent on stealing your steers. With the joystick you move your steer up, down, and across the grid, while firing at the enemies. For each wrangler or rustler you hit, you're awarded a mileage figure, necessary for advancing your herd up the Chisholm Trail.

Destroying a certain number (depending on the skill level) of rustlers completes a day's work, and you can assess your progress along the trail at the end of a day.

The action is fast in this game, and it may be too much of a challenge for some. Your opponents are skillful shots, and since you can move only one steer onto the field, you're battling five enemies at once. The joystick reacts well, graphics move quickly, and skill level options vary from slightly difficult to nearly impossible.

Description: rescue game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: cartridge price not available

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 9
Difficulty: expert
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Your mission in *Choplifter!* is to fly a helicopter past enemy lines to rescue 64 hostages. The prisoners are in four barracks surrounded by enemy tanks. Carrying as many passengers as possible, you risk unfriendly fire to return them to safety.

Choplifter! features some of the most detailed action graphics of any cartridge for the TI-99/4A. Your chopper can fly up, down, forward, and backward, controlled by the joystick. As you land, the prisoners run out to meet you on the screen. They wave frantically and scramble to board the craft. The chopper blades rotate, and if you're hit by enemy fire, you'll see the helicopter disintegrate in a falling ball of flames.

CUBIT★

Description: jumping game
Sold by: Artios Software
3211 NW 26th Street
Oklahoma City, OK 73107
Requirements: program recorder or disk drive, TI Mini Memory cartridge or TI Editor/Assembler or TI Extended BASIC, joystick
Price and format: cartridge price not available

Protected: unknown
Warranty: unknown

User group rating: 8
Graphics and sound: 9
Playability: 8
Difficulty: expert
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Cubit is a TI-99/4A version of the popular arcade game *Q*bert*. It has good graphics and plays very well.

In *Cubit*, you use a joystick to jump BIT, the game's main character, around on a pyramid of cubes. The first time that BIT lands on a cube, it changes color. Your goal is to make BIT land on every single cube in the pyramid, changing all of them to the same color.

BIT cannot jump off the edge of the pyramid, or he'll fall into a fiery pit. Also, he must avoid BIT-Buster, a viscious creature that randomly hops around the pyramid.

This is a good adaption of *Q*Bert* for the TI. You can reset the game and select difficulty levels directly from the joystick, which is very convenient. *Cubit* comes in several versions so that it can be used on systems equipped with the *Mini Memory* cartridge, Extended BASIC, or the Editor/Assembler. Make sure that you order the right version for your system.

★ DEATH DRONES

Description: shoot-em-up
Sold by: Moonbeam Software
P.O. Box 959
Northampton, MA 01061
413/586-6290
Requirements: program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 8
Graphics and sound: 10
Playability: 9
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Waves of aliens are attacking your city in *DEATH DRONES.* In your solitary spaceship, it's up to you to defend the area.

When a drone successfully fires at you, it then bombs your nuclear power plant. Six bombs dropped on the plant result in the destruction of the city. Your nuclear plant is rebuilt every 1000 points, then another wave of aliens attacks, and your defense begins again.

This shoot-em-up can be played with a joystick or by the keyboard. The game's graphics are very good, with detailed and colorful explosion scenes. Game play is extremely challenging.

DIABLO★

Description: maze game
Sold by: Extended Software
11987 Cedarcreek Dr.
Cincinnati, OH 45420
513/825-6645
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $20 cassette or disk

Protected: yes
Warranty: 15 days

User group rating: 9
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

DIABLO is an unusual game. The playing field is a complicated maze on the screen. A ball appears from the edge and starts rolling slowly through the tracks of the maze. If left alone, it would soon roll out of one side and fall to the bottom of the screen, ending the game. You prevent this by changing the layout of the maze.

Control is by joystick or keyboard. When a ball crosses the track, that section of the maze disappears, and a point is added to your score. After 60 points, the ball begins to wrap around the screen, leaving from one side and reappearing on the other. The game increases in difficulty and speed as fewer tracks are left on the screen.

★ DIG DUG

Description: maze game
Sold by: ATARISOFT
P.O. Box 427
Sunnyvale, CA 94086
800/538-8543 (in California 800/672-1404)
Requirements: joystick
Price and format: approx. $30 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 9
Playability: 9
Difficulty: expert
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

In *Dig Dug* a copy of the arcade classic of the same name, you assume the role of a mole-like character digging your way through a maze of underground tunnels. You're out to eat your way through vegetables and fruits, while trying to stay out of the way of dangerous underground adversaries. These include fire-breathing dragons and the Pooka monster. You can try to drop rocks on your opponents to do them in.

Dig Dug is entertaining, partially because the playing field changes as you dig the tunnels. *Dig Dug*'s graphics and sound are excellent. There are ten levels of difficulty to help this game appeal to a wide range of playing skills.

ARCADE GAMES
DONKEY KONG ★

Description: ladder game
Sold by: ATARISOFT
P.O. Box 427
Sunnyvale, CA 94086
408/745-4691
Requirements: joystick
Price and format: approx. $45 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Donkey Kong recreates the classic arcade game in which Mario struggles to rescue his girlfriend from the clutches of an ape.

This version includes a screen filled with slightly inclined ramps, connected by ladders. Mario must climb these to the top of the screen to save the lady. Meanwhile, Donkey Kong is rolling barrels down the screen, and Mario must jump over them or be killed.

The graphics in this program are outstanding. Mario's jumps are realistic, his arms flail back and forth as he runs, and he keels over when struck by a barrel. Vivid colors and captivating music in *Donkey Kong* take full advantage of the system's capabilities.

DRIVING DEMON

Description: driving game
Sold by: Funware
405 N. Bowser St.
Richardson, TX 75081
Requirements: joystick optional
Price and format: not available

Protected: cartridge
Warranty: unknown

User group rating: 9
Graphics and sound: 9
Playability: 10
Difficulty: 10
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

If you're looking for a driving game that can give you the same excitement as coin-operated arcade driving games, you should consider *Driving Demon*. This game puts you in the cockpit of a racecar traveling around an Indy-500-style racetrack. The screen graphics are sharp, and the response is excellent as you drive along the track. *Driving Demon* can be played with the keyboard if you don't have a joystick, but it is much easier to control the car using a joystick.

You start the game with five cars in your collection of racers, and you're given another car each time you wreck one; after five wrecks your game is over. You'll have other racers to contend with, and you can drive as slowly and safely or as quickly and recklessly as you want.

FROGGY

Description: jumping game
Sold by: Extended Software
11987 Cedarcreek Dr.
Cincinnati, OH 45240
513/825-6645
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette or disk

Protected: no
Warranty: 15 days

User group rating: 7
Graphics and sound: 9
Playability: 8
Difficulty: intermediate
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

FROGGY is an adaptation of the popular arcade game, *Frogger.* You must maneuver five frogs, one at a time, across a busy freeway with ten lanes of traffic. The traffic is headed in both directions, so your timing must be precise.

If you get your frogs past this obstacle, you then face a stream filled with floating logs. The logs are a bit more predictable than the random highway traffic.

Slow response from the Texas Instruments joystick increases the challenge of moving through traffic. *FROGGY* also takes advantage of the TI-99/4A's sound capabilities to add to the fun.

GARBAGE BELLY

Description: eating game
Sold by: Moonbeam Software
P.O. Box 959
Northampton, MA 01061
413/586-6290
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 7
Graphics and sound: 9
Playability: 7
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

GARBAGE BELLY is an arcade-style game with a twist. You control a lovable little creature that simply wants to eat and will devour anything in its path. You must maneuver the Garbage Belly among floating pieces of garbage, letting it eat the ripe, red items, and avoiding the raw, green pieces. Raw garbage is fatal.

On the second screen, the Garbage Belly moves up and down ladders, avoiding arrows. Letters are randomly distributed around the screen, and the Garbage Belly must eat these in sequence to spell "garbage" and advance to the third screen. There, the Garbage Belly must catch waves of falling bombs. If any of the bombs strike the ground, the game ends. The first screen is relatively easy to master, but the second and third present quite a challenge. Typical of games from Moonbeam Software, the graphics and sound in *GARBAGE BELLY* are entertaining and well-detailed.

GARKON'S GETAWAY

Description: dodging game
Sold by: TEXware Associates
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: TI Extended BASIC, program recorder, joystick
Price and format: approx. $16 cassette

Protected: yes
Warranty: 10 days

User group rating: 8
Graphics and sound: 9
Playability: 9
Difficulty: intermediate
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Garkon's Getaway has excellent graphics and sound and unusual game play. You control Garkon, a small figure lurking at the bottom of a dungeon.

Lasers in the ceiling fire randomly, and you must move Garkon to avoid the shots. When a laser beam hits the ground, it creates a block that Garkon must get around. Garkon can jump onto single layers of blocks, but nothing higher. Destroying the blocks is a slow process.

This game keeps you busy moving Garkon around, avoiding the lasers, and trying to climb out of the dungeon all at once. The rapidly changing nature of the dungeon's floor plan adds to the interest of *Garkon's Getaway.*

JAWBREAKER

Description: maze game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $30 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 7
Graphics and sound: 7
Playability: 9
Difficulty: novice
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

In *Jawbreaker,* you're a grinning set of teeth, eating all of the candy that appears as you travel through a horizontal maze. The maze consists of a set of moving walls. Doors appear at random so you can travel to other parts of the maze.

Each piece of candy you eat is worth points. Bite down on a jawbreaker, however, and you'll lose your teeth. The teeth are controlled with the joystick. At the end of a game, a huge brush appears to clean your teeth, and you proceed to the next level. There are 28 levels of play in *Jawbreaker.*

Jawbreaker is entertaining, but not very challenging for older children or adults. It is a simple version of the familiar *Pac-Man* theme.

KONG★

Description: ladder game
Sold by: Extended Software
11987 Cedarcreek Dr.
Cincinnati, OH 45420
513/825-6645
Requirements: TI Extended BASIC, program recorder or disk drive, joystick
Price and format: approx. $15 cassette or disk

Protected: yes
Warranty: 15 days

User group rating: 9
Graphics and sound: 10
Playability: 8
Difficulty: expert
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

KONG is an arcade game very similar to the popular *Donkey Kong* (see separate review). The hero must fight his way up through a warehouse to save Roxanne, a damsel in distress, on the top floor. Making the task difficult is the evil Igor, who hurls barrels and other obstacles down at Kong. A bomb is ticking all the while, ready to blow Roxanne to bits, so Kong's time to rescue her is limited.

Each successful rescue leads to another level of difficulty. As the levels get higher, Kong faces more barrels and bombs, discs, and missing pieces of scaffolding. Points are awarded for each level of play that you reach.

KONG is a difficult game, even at the first level of play. Standard joystick response is adequate but a bit sluggish at times.

Description: battle simulation
Sold by: Not-Polyoptics
13721 Lynn St.
Woodbridge, VA 22191
703/491-5543
Requirements: TI Extended BASIC, program recorder; joystick optional
Price and format: approx. $15 cassette

Protected: yes
Warranty: unlimited

User group rating: 4
Graphics and sound: 5
Playability: 7
Difficulty: novice
Documentation: 4

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Laser Tank simulates a tank battle of the future. Your vehicle sports an infrared laser designed to destroy enemy tanks. To beat this game you must destroy three enemy tanks without losing your own squad.

The screen displays a direct view of the area in front of your tank, as if you were looking through a window. A radar view shows the position of enemy tanks from above.

There are three levels of difficulty in *Laser Tank*. Despite this design, however, the game is not much of a challenge. Victory is easy at the first level, but you may never advance since the game ends if you eliminate all of the enemy tanks. *Laser Tank* is too easy to beat.

LOST PATROL★

Description: battle simulation
Sold by: DataWare Development
4204 Sorrento Valley Blvd.
San Diego, CA 92121
619/453-7660
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $14 cassette, $16 disk

Protected: yes
Warranty: 90 days

User group rating: 8
Graphics and sound: 10
Playability: 9
Difficulty: intermediate
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

In *Lost Patrol*, you command a squad of five Marines stranded deep in enemy territory. Between you and safety are acid rain, land mines, a river full of piranha, and a field of poison gas and enemy soldiers.

The joystick or keyboard controls the speed of your men. You must maneuver them one at a time past the various obstacles. The acid rain is heavy and appears at random. Passing it requires precise timing. The piranha can easily be avoided by swimming beneath them, and land mines are easy to jump over. But the fields are filled with deadly clouds of poison gas and enemies who can kill your men.

The instructions are well-detailed and include helpful strategy hints. Seven levels of difficulty in *Lost Patrol* keep this game from growing old too quickly.

MAD DOG II

Description: racing game
Sold by: DataWare Development
4204 Sorrento Valley Blvd.
San Diego, CA 92121
619/453-7660
Requirements: program recorder or disk drive, Mini Memory Module; joystick optional
Price and format: approx. $16 cassette, $18 disk

Protected: yes
Warranty: 90 days

User group rating: 7
Graphics and sound: 9
Playability: 9
Difficulty: expert
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Mad Dog II is an arcade car-racing game that provides good graphics and requires sharp reflexes. The game places you in a car on a roadway. Your mission is to run over spiders that appear in the road and avoid collisions with fast-moving trucks that have a nasty tendency to swerve across the road. For each spider that you manage to run over, you are awarded points. Driving off the roadway and into the sand lowers your score, and as the levels of play get higher the road gets narrower, increasing the challenge. Score 5000 points, and you are awarded with an extra car (you'll need one if you run into a truck). If a truck hits your car, the game ends.

Mad Dog II can be quite challenging at the higher levels; in fact, it's difficult to get past level two at all. This game has good graphics and excellent response, because it is written in assembly language; however, you must follow a special procedure to load it into your computer. You must insert the TI Mini Memory cartridge and press various keys to start loading the cassette. Fortunately, the instructions that come with the game explain this in a clear, straightforward manner.

M*A*S*H★

Description: rescue game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $30 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 10
Playability: 8
Difficulty: intermediate
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

*M*A*S*H* is based on the popular television program of the same name. You play the part of Capt. Hawkeye Pierce, flying a helicopter over a battlefield, picking up the wounded, and taking them to the 4077th MASH hospital. Pierce is competing against Maj. Frank Burns, controlled by the computer or another player. As you proceed, you have to evade an enemy tank that fires at the character who has collected the most points.

Once you return to the hospital, you must operate on the wounded. You have 15 seconds to remove as many pieces of shrapnel as you can. In a third playing option, you must use the helicopter to rescue sky-diving medics stranded in the Korean terrain.

An attractive aspect of this game is the non-violent theme. You are never destroying any enemies in *M*A*S*H*. The action, like on the show, always centers around saving lives.

★ MIND CHALLENGERS

Description: memory games
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 9
Playability: 10
Difficulty: expert
Documentation: 10

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Two games, Memory Match and Mind Grid, make up the *Mind Challengers* program.

In Memory Match, you're presented with a screen of four squares, each with a corresponding tone. The computer plays a sequence of sounds and squares, and you must repeat it. The game gets difficult as the sequences get more complicated, but this is a fairly simple challenge, suitable for youngsters.

The second game, Mind Grid, is a test for any analytical mind. Mind Grid lets you construct a grid by choosing the number of rows or columns. The computer then hides various shapes behind the squares, and you must guess their location. The goal is to determine the correct layout in the least number of tries.

One drawback of Mind Grid is the confusing number responses from the computer. No words explain what the figures mean, so you often have to refer to the documentation.

MOONBEAM EXPRESS★

Description: space shoot-em-up
Sold by: Moonbeam Software
P.O. Box 959
Northampton, MA 01061
413/586-6290
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

As the captain of a spacecraft in *MOONBEAM EXPRESS*, you must defend nine sectors of space from enemy fighters. The screen holds a view from your cockpit, and the sectors display numbers representing enemy ships.

When you enter a sector, you are immediately attacked by the enemy. Using the joystick, you center the enemy in your sights and hit the fire button to destroy it. This is difficult since only a nearby enemy can be centered. At such close range, however, your ship attracts enemy fire.

You cannot leave a sector until you rid it of the enemy ships. You must keep track of remaining fuel, battle damage, and sector locations. The graphics and sound are excellent. Enemy ships hit your own with explosions and flashes of light that encompass the entire screen. This game's action requires fast thinking and quick reactions.

MOONVASION

Description: space shoot-em-up
Sold by: Moonbeam Software
P.O. Box 959
Northampton, MA 01061
413/586-6290
Requirements: program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 7
Graphics and sound: 7
Playability: 8
Difficulty: intermediate
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

MOONVASION is an outer space shoot-em-up. You appear at the center of the screen, piloting a laser-equipped moon launch. Your enemies are alien starfighters, and they appear one at a time from any of the four sides of the screen. The joystick aims and shoots your ship's laser in any one of the four directions.

This game has ten difficulty levels, each with ten attacking ships. The multiple levels make *MOONVASION* a good family choice. Levels one to four are predictable and easy; level five is somewhat of a challenge; level six is difficult; and the rest approach the impossible range.

The keyboard version is more challenging, because the keys are slower to respond when you are under attack.

OPHYSS

Description: chase game
Sold by: Not-Polyoptics
13721 Lynn St.
Woodbridge, VA 22191
703/491-5543
Requirements: program recorder, joystick
Price and format: approx. $13 cassette

Protected: no
Warranty: not written

User group rating: 6
Graphics and sound: 7
Playability: 7
Difficulty: expert
Documentation: 4

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

When was the last time you drove a snake? In *Ophyss,* you use a joystick to drive a snake across your screen, trying to help the snake eat frogs. The length of the snake's life is determined by the number of frogs it eats. The frogs move fast, so catching them is no easy trick.

The screen is divided by a jagged pond, and frogs can cross the pond to avoid the snake. There's a very narrow bridge that the snake can use to cross the pond, but the snake can easily fall in the pond and drown.

Ophyss has seven different difficulty levels to add to the game's appeal.

The only drawback is the game's slow response. After you move the joystick, you must wait a moment for the snake to react. This is a common trait among games that run in standard TI BASIC, as this one does. On the other hand, the advantage to this is that you don't need an Extended BASIC cartridge to run *Ophyss.*

Description: maze game
Sold by: ATARISOFT
P.O. Box 427
Sunnyvale, CA 94086
408/745-4691
Requirements: joystick
Price and format: approx. $45 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

This version of the classic *Pac-Man* is extremely well done. The friendly yellow Pac-Man, elusive ghosts, and brightly colored mazes from the original arcade version are faithfully recreated on your computer screen.

You move the circular *Pac-Man* character around the screen with your joystick, gobbling valuable power pellets that add points to your score. You must avoid the ghosts who can destroy you with a single touch. By devouring an energizer dot on the screen, Pac-Man can chase and kill the ghosts for a few seconds.

There are nine different levels of play in *Pac-Man,* and you choose a starting level at the keyboard. Joystick response is quick and precise, and the graphics and music are excellent. The ghosts turn blue when eaten and drift back to the center of the screen, just as they do in the arcade version. *Pac-Man* is highly recommended.

PARSEC★

Description: space shoot-em-up
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 7
Playability: 10
Difficulty: expert
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Like most space games, *Parsec* puts you in command of a fighter equipped with a laser for defense. But, unlike others, the enemies in *Parsec* change often, in both design and skill.

You control the speed and altitude of your ship. Two waves of enemy fighters are launched, and you must eliminate them and avoid being rammed. Attack cruisers, firing lasers, and torpedoes vary in accuracy, and enemy saucers sneak up from behind at random. These do not fire, but they will crash into your craft. If you survive these challenges, you must then fly through a rapidly changing asteroid field, and enter narrow ground tunnels for refueling. The game ends if you lose your five ships.

When you reach the asteroid belt, the screen background changes to green. This is level two of *Parsec;* the enemy ships look the same, but you must hit one twice to destroy it. Survive the wave of enemy ships and asteroids, and you proceed to the next level where an enemy craft is vulnerable only to three hits.

Parsec's graphics are excellent. The colors are varied, and the enemies appear in a variety of shapes and move quickly. A standard joystick doesn't respond quickly enough, however.

★ PICNIC PARANOIA

Description: bug-swatting game
Sold by: ATARISOFT
P.O. Box 427
Sunnyvale, CA 94086
408/745-4691
Requirements: joystick
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 8
Graphics and sound: 7
Playability: 9
Difficulty: expert
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

In this game George, the main character, has planned a picnic, but it has been interrupted by a swarm of insects. With the help of your joystick, George spends all of his time in *Picnic Paranoia* swatting pests on the prowl for food.

Armies of ants, stinging wasps, and poisonous spiders are determined to ruin the feast. They do a pretty good job of it, too. Your only strategy is to hold out against the insects for as long as possible.

Four tables appear on the screen, and they hold various amounts of food. George can move up, down, and across any of the aisles, so he has to swat insects before they reach the center of the table. You move George in any direction with the joystick, and you swat bugs with the fire button. Each round of play lasts 90 seconds, and the score depends on the number of bugs eliminated. For each 5000 points, George earns an extra weapon—a can of bug spray.

The graphics are good in *Picnic Paranoia,* but not as spectacular as those in other programs from ATARISOFT. The game plays very well.

PRINCESS & FROG★

Description: jumping game
Sold by: Romax, Inc.
476 Vandell Way
Campbell, CA 95008
408/374-7200
Requirements: joystick
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Princess & Frog is an interesting variation of the popular arcade game *Frogger.* You hop a frog across a field to an ivory tower, where a princess awaits.

Crossing the field is no simple matter. Four rows of horsemen carrying lances charge in both directions. Once past the obstacles, the frog is faced with a moat of snakes and alligators. The frog must jump onto the backs of the swimming beasts. But since an alligator dives at random intervals, this is a tricky maneuver.

At the edge of the river, you must time your jump so the frog lands in one of the castle's six rooms. Miss the room, and you'll hit the castle wall and slide into the moat. Inside the castle, you have to chase the princess from room to room. She moves at random, so timing and perseverance are necessary to catch her.

★ PROTECTOR II

Description: rescue game
Sold by: ATARISOFT
P.O. Box 427
Sunnyvale, CA 94086
408/745-4691
Requirements: joystick
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 10
Playability: 9
Difficulty: expert
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Your goal in *Protector II* is to rescue 18 survivors of a space war, who are stranded atop a skyscraper. You have a fast, maneuverable ship at your command, but you face dangers such as enemy rockets, meteoroids, lasers, and an erupting volcano. Your ship can hover, travel forward, backward, up, or down. The fire button on the joystick shoots lasers to destroy attacking vessels.

The primary goal of this game is to rescue the people waving to you from the building. As you hover nearby, they grab your ship and hang on. You must then fly past the enemy missiles and over the volcano to reach the City of Hope where you drop the refugees. If the trip is successful, you return to the battle zone to pick up another group.

Protector II has great graphics. The war-torn city is laid out beneath your ship, and the people wave at you realistically. As you fly forward or backward, you pass over the city and objects from the landscape zoom into view. *Protector II* will appeal to true arcade fans.

PULSAR★

Description: space game
Sold by: C.A. Root and Associates
Suite B109, 33125 15th Ave. S.
Federal Way, WA 98003
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $15 cassette, $17 disk

Protected: yes
Warranty: 90 days

User group rating: 9
Graphics and sound: 9
Playability: 10
Difficulty: expert
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

There are few games available that push the technical capabilities of your TI-99/4A to its limits and offer true arcade-style speed and graphics, but *Pulsar* is that type of game, with appealing graphics and sound effects. The fast-changing images add realism to the game.

In *Pulsar*, you are the commander of a fleet of robot-operated mining vessels. Your objective is to gather ore from various star systems. It sounds like a simple task, but various levels of play combine with subtle and not-so-subtle diversions to make your task difficult.

Your biggest threat is that the star in the star-system that you are sent to is about to explode, and gamma rays that are emitted by nearby stars must be avoided. The Sceneric Empire Pirate Ships also roam the various galaxies, seeking to rob your ships of valuable cargo. Random sunspots cause navigational changes, and you are given a limited period of time to dock with the mother ship for cargo unloading and refueling. Action is controlled with the joystick, and cargo is loaded and unloaded by using the fire button.

We found one minor problem in using *Pulsar*. The game is offered on cassette. If you have a disk drive connected to your system, you'll get a "memory full" error when you try to run this program. You'll need to disconnect your disk drive before using this program, but the documentation doesn't warn you of this. Otherwise, *Pulsar* lives up to its claim of being one of the best space games for your TI.

RING DESTROYER

Description: shoot-em-up
Sold by: Republic Software, Inc.
P.O. Box 23042
Washington, DC 20024
202/978-3554
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $20 cassette or disk

Protected: yes
Warranty: unwritten

User group rating: 7
Graphics and sound: 8
Playability: 7
Difficulty: expert
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Ring Destroyer is an accurate imitation of the popular arcade game *Asteroids.* If you liked *Asteroids,* then *Ring Destroyer* should get your attention.

The scenario is the same. Your lone ship starts out in the center of the screen. You must fire at oncoming asteroids, which float across the screen and come from various unpredictable angles. You can accelerate your ship and move around the screen. The screen wraps around in *Ring Destroyer,* so your ship can fly off the right edge of the screen and reappear on the left side. The joystick response is acceptable, and the graphics, while not spectacular, are also satisfactory. *Ring Destroyer* comes in two versions: a regular version for standard systems, and a 32K version for machines equipped with extra memory. The 32K version has better graphics.

ARCADE GAMES
ROBOT RUNNER

Description: climbing game
Sold by: Moonbeam Software
P.O. Box 959
Northampton, MA 01061
413/586-6290
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 7
Graphics and sound: 8
Playability: 8
Difficulty: intermediate
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

ROBOT RUNNER is an arcade game with seven screens. Using the joystick or arrow keys, you control an android past a number of moving robots. There is a series of ladders to climb, and the android must avoid acid pits, speeding security forces, and corridors filled with enemy robots.

Each of the seven screens in *ROBOT RUNNER* is different. The first three are easy to play, but the difficulty increases considerably with the fourth. An annoying aspect is the necessity to start at the beginning of the game each time.

ST. NICK

Description: maze game
Sold by: Funware
405 N. Bowser Rd.
Richardson, TX 75081
Requirements: unknown
Price and format:
not available

Protected: cartridge
Warranty: unknown

User group rating: 8
Graphics and sound: 8
Playability: 8
Difficulty: intermediate
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

St. Nick is a maze-style arcade game in which you help jolly old St. Nick pick up toys that have been scattered about the maze. Elves have scattered the toys all over the place and poor St. Nick must pick them all up in a specific order.

To complicate matters, witches fly around and St. Nick must dodge the witches while picking up the toys. The letters that spell out the word SANTA are placed next to the toys, and St. Nick must pick the toys up in that order. This will freeze the witches while St. Nick picks up as many toys as possible. If the witches catch St. Nick, or if he picks up the toys in the wrong order, the elves will run out and throw more toys on the floor. With seven different screens and six levels of difficulty, this game is an enjoyable one.

SNEGGIT

Description: animal game
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $30 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 6
Graphics and sound: 8
Playability: 7
Difficulty: novice
Documentation: 6

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Sneggit is an arcade game with an unusual setting involving a yellow chicken, pink bunnies, and colored eggs.

The object of *Sneggit* is to maneuver the yellow chicken around the screen, picking up the eggs and carrying them back to the nest. The pink bunnies will get in the way, often causing you to drop and break the eggs. You must also put up with a green snake that will try to eat the chicken or the eggs. Your chicken is faster than the snake, but the snake seems to have more maneuverability than you do. If you manage to get an egg to the nest without dropping it or being eaten by the snake, the egg hatches into a little chickling that flies away. Points are scored for each egg that hatches.

The graphics are good, and *Sneggit* is a very easy game to play. It is highly recommended for children up to eight years old.

★ STRIKE FORCE 99

Description: space shoot-em-up
Sold by: Moonbeam Software
P.O. Box 959
Northampton, MA 01061
413/586-6290
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 8
Graphics and sound: 10
Playability: 8
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The setting in *Strike Force 99* is a narrow channel on an enemy death ship. You are flying a small fighter over the surface of the ship, battling enemy fighters that appear at regular intervals. Ventilator shafts (in the form of circular black holes) randomly appear on the surface of the ship.

A large number of hits are necessary to destroy the death ship, and your craft is able to sustain potentially fatal battle damage. Ventilator shafts can be eliminated by a quick shot from your missiles.

The individual enemies in *Strike Force 99* don't offer as much of a danger as the game does in its entirety. *Strike Force 99* is a constant challenge.

TI INVADERS★

Description: space shoot-em-up
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $25 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 10
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

TI Invaders is a Texas Instruments version of the classic *Space Invaders.* You have to return enemy alien fire from one of your four missile bases, and shoot down a yellow control ship that occasionally skirts the top of the screen.

The waves of invaders appear in five levels of red, blue, and green saucers. Your only protection consists of four small white shields that are slowly eroded by enemy fire.

Two levels of difficulty are available. In the easier mode, the enemy's firepower remains fairly constant. The fire increases in intensity as it drops down the screen in the harder mode. Hitting the fast-moving control saucer earns you a bonus, and every 10,000 points, one of your destroyed missile bases will be restored to action.

The arcade-style graphics of *TI Invaders* are sharp and fast. This game is a challenge in survival.

★TOMBSTONE CITY

Description: shoot-em-up
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional
Price and format: approx. $11 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 9
Graphics and sound: 9
Playability: 10
Difficulty: intermediate
Documentation: 4

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The setting of *Tombstone City* is a ghost town of the Old West, projected into the twenty-first century. You are defending the territory against an invading horde of green alien morgs.

The screen shows a playing field with safe, blue squares in the center. Around this area, tumbleweeds are moving randomly from place to place. The tumbleweeds occasionally breed aliens that can destroy you. Armed with a laser gun, you must eliminate as many aliens and tumbleweeds as possible.

It's the aliens that make this game enjoyable. Once an alien is destroyed, it turns into cactus bushes that impede your progress. You can unwittingly create a maze of cactus bushes that make the game more difficult as time goes on. The aliens are unusually smart, finding you behind cacti, tumbleweeds, and any other place you may be hiding.

Pressing the BACK function key lets you select from one of three possible skill levels. At higher levels, more aliens reproduce behind the tumbleweeds. The documentation that comes with *Tombstone City* is unnecessarily complicated, but you'll enjoy this game.

VIDEO GAMES I

Description: assorted games
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: joystick optional, speech synthesizer optional
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 7
Graphics and sound: 5
Playability: 9
Difficulty: novice
Documentation: 9

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Video Games I is an entertaining combination of three games in a single cartridge.

Pot Shot is reminiscent of a circus arcade rifle range. You're presented with a field of trees, brush, and a lake. Target rabbits, deer, and birds appear randomly from both sides of the screen. Using the joystick, you maneuver a set of cross hairs to aim at the targets, then fire.

Pinball simulates a game of arcade pinball. You're given five balls. When you move the joystick, the flipper guides the ball around the screen. *Pinball* is fairly easy to master, and does not present a great challenge. It is a good game for the very young.

The best game of the package is *Doodle,* an entertaining challenge. Two spiders travel up, down, and across an open field, drawing lines behind them as they go. Since neither spider can cross a line, the object is to box in your opponent's spider by drawing lines around it. *Doodle* can be played in a single-player mode (against the computer) or by two people, with each using a joystick.

Description: treasure hunt
Sold by: Data/Ware Development
4204 Sorrento Valley Blvd.
San Diego, CA 92121
619/453-7660
Requirements: TI Extended BASIC, program recorder or disk drive, joystick
Price and format: approx. $15 cassette, $17 disk

Protected: yes
Warranty: 90 days

User group rating: 8
Graphics and sound: 10
Playability: 10
Difficulty: expert
Documentation: 4

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Three separate screens hold the treasures you seek in *Wyvern.* Locating the treasure is easy, but you must often overcome obstacles in order to retrieve it.

One room contains a giant spider that spins a web to impede your progress. The spider is simple to avoid on the lower levels of play. After uncovering the first treasure, you may move into the baby dragon's room. Here you must quickly weave in and out of the moving rows of dragons to survive.

The third screen is very difficult. It contains the fast-moving Wyvern with his deadly fire breath. The Wyvern usually kills you before you can get situated in the room, much less locate the treasure.

The rooms cycle at random, so you have no way of knowing which one you will enter next. This uncertainty adds to the challenge of *Wyvern.*

Z-BURT

Description: jumping game
Sold by: TEXware
350 First North St.
Wellington, IL 60973
217/352-8594
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $18 cassette or disk

Protected: yes
Warranty: 10 days

User group rating: 6
Graphics and sound: 8
Playability: 7
Difficulty: intermediate
Documentation: 5

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Z-Burt is a colorful computer adaptation of the popular *Q*bert* arcade game. The premise is the same: you must move Z-Burt from block to block of a multicolored pyramid on the screen. You can use either the keyboard or the joystick to direct the creature. When Z-Burt touches a cube, it changes color. The game proceeds to the next level when all the blocks have changed.

Your enemy in this game is a character called "Oh No!" He chases Z-Burt around the pyramid, seeking to destroy him. You score varying points for each cube you change, for completing all 28 squares in the pyramid, and for jumping onto a magic square. The game ends when you run out of the four Z-Burts you had at the beginning.

Z-Burt is simple and fun to play at the lower levels of difficulty. The challenge increases at higher levels, where the enemies are faster and more numerous. The standard joystick response is very poor, and keyboard control is recommended.

ZERO ZAP

Description: pinball simulation
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive optional, joystick optional
Price and format: approx. $16 cartridge

Protected: cartridge
Warranty: 90 days

User group rating: 5
Graphics and sound: 7
Playability: 8
Difficulty: novice
Documentation: 8

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Zero Zap is a video pinball game for one or two players. Each player has five shots, and the colorful playing field holds a variety of crosses, diamonds, and squares.

You score points as the shots ricochet off the diamonds. If your ball strikes one of the black diamonds, the pinball disappears and scoring stops. The playing field in *Zero Zap* can be customized to suit your taste. A favorite screen field can be saved to cassette or disk.

Zero Zap is colorful, fast-paced, and has excellent sound. But one important pinball feature is missing—there are no flippers to give you continued control of the ball. Joystick control is poor, but *Zero Zap* can be played with the computer keyboard instead.

ARCADE GAMES
ZERO ZONE ★

Description: shoot-em-up
Sold by: Moonbeam Software
P.O. Box 959
Northampton, MA 01061
413/586-6290
Requirements: TI Extended BASIC, program recorder or disk drive; joystick optional
Price and format: approx. $10 cassette, $13 disk

Protected: yes
Warranty: 90 days

User group rating: 8
Graphics and sound: 10
Playability: 8
Difficulty: expert
Documentation: 7

Key:
User group rating: Average of user group ratings
Graphics and sound: Quality and aesthetics of each
Playability: How entertaining or interesting the game is
Difficulty: How much skill is required to enjoy the game
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

In *ZERO ZONE*, you are the sole defender of a city under attack from extremely fast enemy fighters. The program has three different types of enemies that increase in speed as the action progresses. Your city consists of a series of well-detailed skyscrapers.

By using the joystick, you fire at the attackers. But unlike most shoot-em-ups, your cannons are mounted at fixed angles. You must wait for the enemy to pass overhead, then accurately aim and shoot down a ship.

If the fighters succeed in destroying all your defenses, the enemy drops a bomb on the city. The result is a highly animated screen display of all the buildings being demolished. This is not a game for the squeamish.

The graphics in *ZERO ZONE* are sharp and lively. The single-position cannons make this game an above-average challenge.

CHAPTER 8
PROGRAMMING AIDS

This chapter covers a wide range of software, from programming languages to graphics and sound aids to utility programs. Most of these programs are of interest only to experienced programmers, but some—particularly the graphics and sound programs—are entertaining and simple enough that beginners will enjoy experimenting with them.

The TI-99/4A has powerful graphics capabilities, and understanding how these graphics work takes quite a bit of time and effort. Luckily, the programs in this chapter will allow you to take advantage of these capabilities right away.

After you have learned how to use TI BASIC, you may want to try another programming lanugage. Logo is an excellent learning language, and is covered in this chapter.

The following special terms are used in this chapter:

assembler A computer program that translates assembly language instructions (symbolic source code) into machine language instructions (binary object code).

assembly language A programming language consisting of symbolic codes that represent binary machine instructions and addresses.

machine language The language at its lowest level (in binary form) into which all data and programs must ultimately be translated before the computer can execute instructions.

machine language monitor Software that allows the programmer to check the step-by-step operation of a program.

operating system The software that runs the system and performs operations necessary to control all other software functions.

utility program A program that performs operations on files (such as transferring files from one storage medium to another, making copies of files, or reorganizing the sequence of files).

PROGRAMMING AIDS
DOW EDITOR/ASSEMBLER★

Description: assembler
Sold by: John T. Dow
6560 Rosemoor St.
Pittsburgh, PA 15217
412/521-9385
Requirements: program recorder, Mini Memory module
Price and format: approx. $25 cassette

Protected: no
Warranty: none

User group rating: 10
Performance: 9
Ease of use: 10
Reliability: 10
Documentation: 10

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

The *Dow Editor/Assembler* lets you program in assembly language on your computer. Assembly language programming is considerably more difficult than programming in BASIC, but in return it offers increased speed of program operation.

The *Dow Editor/Assembler* lets you save your assembly language programs onto cassette. Full editing capability is provided, including the ability to change, delete, or insert statements.

We particularly liked three features of this package. First, it has statement checking capability during program entry; in other words, it checks your commands for mistakes as you type them. Many other assemblers don't tell you that you have a typo until you try to run the program. Second, the *Dow Editor/Assembler* comes with very clearly written documentation. This is very helpful when dealing with a subject as complicated as assembly language programming. Third, you can convert programs written with the *Dow Editor/Assembler* to run under the *TI Editor/Assembler* without retyping the entire program.

If you're just starting out in assembly language programming, buy the *Dow Editor/Assembler.*

MINI MEMORY

Description: added memory cartridge
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder optional
Price and format: approx. $100 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 8
Performance: 8
Ease of use: 6
Reliability: 10
Documentation: 8

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Mini Memory is a plug-in cartridge that adds memory to your computer. It contains 4K (4,000 characters) of RAM (random access memory), 4K of ROM (read-only memory), and 4K of GROM (graphics read-only memory).

One of the most attractive features of the *Mini Memory* is its built-in battery that lets programs be stored in it and saved while the computer is turned off. If you write your own BASIC programs, you can easily store a program within the *Mini Memory* cartridge by using the command OLD MINI-MEM. This is much faster and easier than saving a program on cassette tape, and others can use the program by simply plugging the *Mini Memory* into their TI and loading the program from it.

There are also built-in programming utilities in the *Mini Memory,* for use by advanced programmers. Most of these are written for use in assembly language programs. Altogether, *Mini Memory* is a useful addition to the TI-99/4A. Only small BASIC programs can be stored in the 4K RAM, but the convenience is a big plus.

PROGRAMMING AIDS
MUSIC MAKER

Description: music programming aid
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive optional, joystick optional
Price and format: approx. $40 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 6
Performance: not rated
Ease of use: 2
Reliability: not rated
Documentation: 6

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

This program allows you to create and play musical compositions on your computer. You have the option of saving your creations on either cassette or disk, and the program gives you control of all basic elements of music, including note duration, and volume.

Music Maker operates in two ways: in a traditional mode that lets you draw notes on a musical staff and in a sound graph mode that lets you draw a series of horizontal lines on a graph. The traditional method is best for those who can read music, while the sound graph is designed for those with no previous musical experience or knowledge of music theory.

In both modes you use a joystick or the arrow keys on your keyboard to create notes and move the cursor to selected areas on the screen. You can create whole notes, half notes, quarter notes, eighth notes, and rests. In addition, you can play more than one note at a time — a nice feature that enables you to create chords.

The only drawback is that *Music Maker* is a little awkward to use. Each time you create a new note, you must move the cursor from one side of the screen to another, and cursor movement is very slow. In one instance it took a novice over 25 minutes to create a short song.

Still, once you create a melody you can save it on a cassette or disk. And if you want to use your TI-99/4A to compose fairly complex music, *Music Maker* is the only software available with enough flexibility to really do the job.

PROGRAMMING AIDS I

Description: BASIC programming aid
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $15 disk

Protected: no
Warranty: 90 days

User group rating: 5
Performance: 6
Ease of use: 4
Reliability: 7
Documentation: 6

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Programming Aids 1 is a set of utilities (programming tools) for the serious BASIC programmer. You may want to consider this package if you are currently using TI BASIC, since it provides some useful functions that are not provided in TI BASIC.

There are four different utilities in *Programming Aids 1:* I/O Subroutines, Lowercase, 2nd ASCII, and CHARDEF.

I/O Subroutines includes three BASIC program routines that will give you complete control of the display screen. You can write information to specific locations on the screen, and you can cause a copy of the entire screen to be printed.

The Lowercase utility is only useful to TI-99/4 owners. It lets you display characters on the screen in upper and lower case. This capability is built into the TI-99/4A, but was not included in the TI-99/4.

2nd ASCII is a utility that will let you display characters in more than one combination of colors. Strings of text can be displayed in a light blue color against a white background, for example.

The last utility, CHARDEF, is a program that lets you define your own characters. You can design four unique characters for use in your own programs.

While all of the utilities in this package are useful, you must load them first, type in the program you are creating, and then save the program. For large programs, this is a long and tedious process. For this reason, you may prefer to buy TI Extended BASIC, which includes all of the features offered by this package.

PROGRAMMING AIDS
TEACH YOURSELF BASIC

Description: BASIC programming tutorial
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: program recorder or disk drive optional
Price and format: approx. $30 cartridge, $35 disk

Protected: yes
Warranty: 3 months

User group rating: 4
Performance: not rated
Ease of use: 4
Reliability: not rated
Documentation: 1

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

If you have a desire to learn to program your computer in BASIC, consider using *Teach Yourself BASIC*. Developed by Texas Instruments in conjunction with Wolfdata Corporation, it is a series of interactive lessons in programming that work with with you in teaching the skills of programming. The program asks you to type in commands and statements, and shows you the results of those commands immediately.

Teach Yourself BASIC is broken up into a series of ten lessons. These lessons begin with the simpler BASIC commands such as PRINT and RUN, and steadily progress into the more complex BASIC commands such as FOR-NEXT and GOSUB.

An important advantage to this program is that it also teaches the color graphics and sound commands on the TI-99/4A. These commands are unique to the TI-99/4A, and you won't find explanations of them in generalized BASIC instruction books. For BASIC programming beginners, *Teach Yourself BASIC* is the best source of this information.

The instructions are well written throughout the lessons. In addition to explaining how BASIC programming works, they contain a large amount of general information about how computers work.

There is one significant flaw in *Teach Yourself BASIC*, however. The program was apparently written for the TI-99/4, TI's first home computer, which looks much like the TI-99/4A but the keyboard is very different. Many of the instructions in *Teach Yourself BASIC* tell you to use the wrong key for a particular function because the TI-99/4 keyboard is being referred to. For example, *Teach Yourself BASIC* instructs you to press shift C to stop a program while it is running. This was the proper command on the TI-99/4, but the TI-99/4A requires you to press the function key and the 4 key at the same time in order to stop a program. Pressing shift C on the TI-99/4A merely prints an uppercase C on the screen.

Other than the error mentioned above, *Teach Yourself BASIC* is an excellent program, and anyone interested in learning about BASIC programming should buy it. Just remember to refer to the inside cover of the documentation, where differences between the 99/4 keyboard and the 99/4A keyboard are listed.

PROGRAMMING AIDS
TEACH YOURSELF EXTENDED BASIC

Description: TI Extended BASIC tutorial
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: TI Extended BASIC, disk drive optional
Price and format: approx. $25 disk, $20 cartridge

Protected: yes
Warranty: 3 months

User group rating: 9
Performance: not rated
Ease of use: 4
Reliability: not rated
Documentation: 7

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

Teach Yourself Extended BASIC is an interactive tutorial program that teaches the capabilities of TI Extended BASIC (see separate review). It works with you, asking you to perform certain operations and then showing you the results.

The program only covers the additional features of TI Extended BASIC that are not included in TI BASIC. It assumes that you are already familiar with TI BASIC, and that you understand BASIC programming techniques in general. If you're still learning about regular TI BASIC, we recommend that you wait until you know its capabilities well before purchasing *Teach Yourself Extended BASIC*.

Teach Yourself Extended BASIC is divided into seven lessons, and each lesson covers one or more of TI Extended BASIC's features. New commands and editing are covered, along with new functions and subprograms, the use of input and output statements, special error-handling and error-trapping features, and the use of sprites (graphics characters that can move around the screen).

The lessons are detailed and well-written, and specific examples are provided for each of the topics covered. The only flaw in the program has to do with the differences between the TI-99/4 keyboard and the TI-99/4A keyboard. *Teach Yourself Extended BASIC* was written for the TI-99/4 (Texas Instrument's first home computer), and all references to special function keys are for that machine. If you run *Teach Yourself Extended BASIC* on a TI-99/4A, it will ask you to do things like "stop the program by typing shift C." Shift C stops a program on the TI-99/4, but the function 4 key must be used to stop a program on the TI-99/4A. Luckily, these differences are all explained on the inside front cover of the documentation, but it is still an annoying problem.

Other than that one problem, *Teach Yourself Extended BASIC* is very well done. If you have already learned TI BASIC and are ready to move on to greater challenges, *Teach Yourself Extended BASIC* is a good program to buy. It provides the easiest way for beginning BASIC programmers to learn how to use the power of TI Extended BASIC.

PROGRAMMING AIDS
TEXT-TO-SPEECH (ENGLISH)

Description: sound utility
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: TI Extended BASIC, disk drive, speech synthesizer, 32K Memory Expansion Unit
Price and format: approx. $30 disk

Protected: no
Warranty: 3 months

User group rating: 8
Performance: 10
Ease of use: 7
Reliability: 10
Documentation: 9

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

A powerful tool for experimenting with computerized speech, the *Text-to-Speech* package allows your computer to simulate nearly any word in the English language. You can type words at the keyboard which the computer will then speak. *Text-to-Speech* also provides the ability to build sentences by constructing words and phrases.

The good thing about this package is that it gives you real control over speech. Too many computers have speech options with very mechanical-sounding speech because of limits in the ways that the computer can pronounce words. This program, however, lets you change varied speech characteristics, such as pitch, contour, inflection, and pause to create the specific voice you need. From a proper Boston accent to an east Texas drawl, *Text-to-Speech* will simulate the range of speech you need. This program's only disadvantage is that your system must be fully equipped with added memory and Extended BASIC to use it.

TI EXTENDED BASIC

Description: enhanced BASIC language
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: none
Price and format: approx. $100 cartridge

Protected: cartridge
Warranty: 3 months

Overall rating: 9
Performance: 8
Ease of use: 7
Reliability: 9
Documentation: 9

Key:
Overal rating: Summation of all rating factors
Performance: Rating of program's capabilities
Ease of Use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

TI Extended BASIC is an enhanced version of the BASIC programming language. It provides additional capabilities not found in TI BASIC.

Many useful programming features are included in *TI Extended BASIC*. Multiple statement lines are supported, which means that you can combine several short program lines into one long line. The PRINT command has an optional feature called PRINT USING, which allows you to print information on the screen in a predefined format. *TI Extended BASIC* subprograms can use arguments and local variables, and chaining is supported (the ability to run one program from another program).

TI BASIC already has several commands for generating graphics, and *TI Extended BASIC* enhances these commands by allowing you to generate up to 28 sprites. Sprites are graphics shapes that the programmer defines, and they can move around the screen in any direction and at any speed. Other features of *TI Extended BASIC* include ON ERROR statements, Boolean algebra functions, arrays of up to seven dimensions, and autobooting of disk programs.

TI Extended BASIC is a must for serious BASIC programmers. It will allow you to write BASIC programs that fully use the capabilities of the TI-99/4A.

PROGRAMMING AIDS
TI LOGO II★

Description: programming language
Sold by: Texas Instruments
P.O. Box 53
Lubbock, TX 79408
800/858-4075
Requirements: 32K memory expansion
Price and format: approx. $100 cartridge

Protected: cartridge
Warranty: 3 months

User group rating: 10
Performance: 9
Ease of use: 10
Reliability: 10
Documentation: 10

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

TI LOGO II is an updated and refined version of *TI LOGO*. It is more than just a program; it is a programming language for your TI-99/4A.

Logo is the famous computer learning language pioneered by Seymour Papert at the Massachussetts Institute of Technology in the 1970s. Although Logo was designed especially for children, anyone who wants to learn about the basic concepts and techniques involved in computer programming can benefit from and enjoy using Logo. And Texas Instruments' latest, refined version of Logo is a good one.

The most striking feature of *TI LOGO II* is its graphics capabilities. You can create images and shapes (line drawings) by using a turtle, a triangular-shaped image that is displayed on the screen. You can move the turtle anywhere on the screen by typing in simple commands like TELL TURTLE FORWARD and LEFT 90. As the turtle moves, it leaves a line in its path. This is how shapes and designs are drawn on the screen. Because the commands used in *TI LOGO II* are simple English words, even children as young as four years old can learn to communicate with the computer. At the same time, the child is learning to give the computer a sequence of commands to perform a task—an essential concept in computer programming.

In addition to the line drawings created by turtle graphics, *TI LOGO II* offers the ability to use animated graphics called sprites. The program includes five predefined sprite shapes. You can also create and define your own sprite shapes and make them move about on the screen. The sprites can be used anywhere in a Logo program.

TI LOGO II is much more than just a programming language; it is a whole learning experience that makes use of the discovery or exploratory method of learning. Children learn by experimenting and trying things out. Along the way, they discover ideas and concepts. Children are learning about computers and simple programming, but they are also discovering basic concepts of geometry and math. They are developing skills in spelling, communication, problem solving, and logical thinking.

TI LOGO II has color commands to change the colors on the screen. It also includes music with three voices and one noise generator.

PROGRAMMING AIDS
TURTLE TRACKS★

Description: learning language
Sold by: Scholastic Inc.
730 Broadway
New York, NY 10003
212/505-3000
Requirements: TI Extended BASIC, program recorder
Price and format: approx. $40 cassette

Protected: yes
Warranty: 90 days

User group rating: 8
Performance: 7
Ease of use: 10
Reliability: 9
Documentation: 10

Key:
User group rating: Average of user group ratings
Performance: Rating of program's capabilities
Ease of use: How quickly the user can learn to use the program
Reliability: Consistency of results
Documentation: Quality of printed instructions

Excellent: 8–10; Good: 5–7; Poor: under 5

If you're looking for an easy way to get started in Logo programming, *Turtle Tracks* may be just what you need. It provides all of the basic capabilities of Logo and is inexpensive and easy to use. A small turtle is displayed on the screen, and the user moves it around and makes it draw lines by typing various commands.

Like Logo, *Turtle Tracks* uses simple and obvious programming commands to draw on the screen. If you type DF3, for example, the turtle will draw forward three steps, leaving a trail of asterisks behind it. TL tells the turtle to turn left, TR tells it to turn right, and JF tells it to jump forward without drawing.

Turtle Tracks also has commands to play musical notes and draw in color, and you can save your programs on cassette tape. The only feature of *Turtle Tracks* that seems awkward or unnecessary is the requirement for line numbers on program lines. Line numbers are required in BASIC, but they are not normally required in Logo.

Turtle Tracks is a programming language that is easy enough for children to use and teaches the basic concepts of computer programming.

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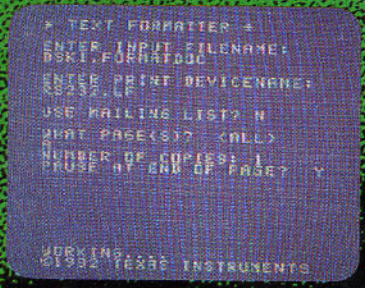

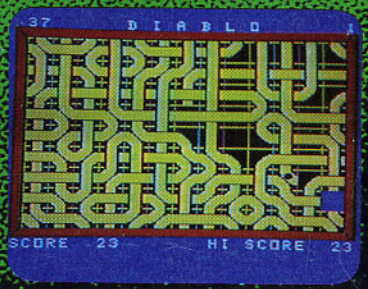

BEEKMAN HOUSE
Distributed by Crown Publishers, Inc.
One Park Avenue
New York, New York 10016

ISBN 0-517-42476-2