Educational Software Directory

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· APPLE II EDITION ·

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APPLE II Edition

STERLING
SWIFT publishing company
1600 fortview road
austin, texas 78704

Table of Contents

Introduction

Computer use in education has been on the horizon for years --
and it has finally arrived. The Apple computer is now
established in many school systems across the country, with more
schools each day eagerly joining the ranks of those who have
discovered the amazing Apple. Both the capabilities of the Apple
in instruction, computer literacy, and in school administrative
functions as well as its low cost have contributed to its
overwhelming acceptance by schools (and parents) all over the
world.

One of the most frequent questions asked by the new Apple owner
as well as the prospective school buyer is "Where can I get more
education software?" We hope this directory is an answer to that
question. All of the software that has made the Apple the number
one choice in education is included in this directory.

What to Know When Using This Directory

Some software publishers are marked with a special symbol.

☆

These publishers are school publishers, and their packages for
the Apple are specially designed for use in the classroom.
Usually they will include teacher's guides with instructional
objectives so that they can be properly fitted into school
curricula.

Some lessons are also marked with a special symbol.

▷

This symbol indicates a particularly important lesson or package
of lessons. It may mean that the lesson contains material that
is very highly regarded, or that this single entry actually
represents a large number of hours of curriculum material.

To make it easier to read and use this directory, the following conventions are used:

(1) Assume that a program uses Applesoft unless it is marked Integer. Most material produced today is in Applesoft; much of the older software was written in Integer. Occasionally a publisher will not indicate which language he has used. When in doubt, always check before buying.

(2) Assume that a program is on disk unless it is marked cassette. Most all new software is coming out on disk; most old software is being reissued for disk. Where there is a cassette and a disk version, only the disk version is listed and priced. If you have a cassette system, check with the publisher to see if they have the software you want in cassette.

(3) While we have tried to list the memory requirements of the programs, it is good to check that with the publisher to make sure the program will run on your configuration.

(4) If you can not find a publisher's software at your Apple dealer, or there is no direct order phone number, write to the publisher and ask them where to find it. Very small software shops sometimes only offer their software through the mail. The big educational publishers like Milliken and SRA have salesmen calling on schools and their software may not be available in computer stores. Also some of the publishers sell their software through software distributors. Generally, distributors are not listed here since their software listings would be duplicates of the publishers they carry.

All of the prices listed are retail prices. In some cases (Sterling Swift Publishing Company, for example) schools buying direct from the publisher receive a special school price. Call or check with the publisher to see if they have special prices for sales to schools.

What Kind of Programs Are Listed Here

We have tried to list all of the programs that fall into the following areas:

Computer Literacy or Awareness

Programs teaching BASIC or having anything to do with the Apple. Really a special case of the next category.

Computer Assisted Instruction (CAI)

Programs which teach or instruct in any way. The following
types of CAI are included:
    Tutorial
    Drill and Practice
    Simulation
    Problem Solving
    Teaching Aids
    Games

Games were included only when they have some clear
educational basis. Sorry, no adventure games or air flight
simulations.

Administrative

Teacher grading programs, school registration programs, and
other software to make the life of the teacher and
administrator easier.

Statistical Packages

Programs calculating mean, standard deviation, and other
useful statistical measures.

Future Education Software Releases

If you have education software for sale or available for
distribution, please forward information for the next edition
to:

Educational Software Directory
Sterling Swift Publishing Co.
1600 Fortview Road
Austin, TX   78704

All program descriptions are based on either having seen the
programs or on material supplied by the program's publisher or
from ads or announcements by the program's publisher. The
information contained herein was believed to be correct at the
time of publication. Neither the author nor the Sterling Swift
Publishing Company assume any liability arriving from the use of
the information.

The name Apple is a registered trademark of Apple Computer Inc.

Commercial Publishers
of Education Software

Commercial publishers represent the vast majority of education
software on the market today. While it is impossible to put them
into neatly defined categories, there clearly is a large range
of types, from the small garage shop or bedroom operation, to
the multi-million dollar education publishing house.

Who should we buy from? Judge programs and publishers on their
own merits. One good example of a garage shop enterprise that
made good is Apple itself. There are many good lessons available
from the smaller publishing companies, at very affordable
prices. Many of those lessons are written by educators and
reflect their knowledge of the classroom. From the larger
companies, prices tend to be higher -- and also the software
tends to be more completely suited to school usage with
teacher's guides, instructional objectives clearly defined, and
well tested and documented packages.

Finally, there are more sources and more education programs
available with each month that goes by. The real software
explosion for the Apple is just beginning. This next year will
probably see a doubling in the amount of available software as
more companies enter the marketplace and more tools become
available to allow the developers of software to do a better job
producing lessons in a shorter period of time.

And as the amount and quality of software doubles, so does the
usefulness of our Apples.

Commercial Publishers of Education Software

Table of Contents

Apple Computer, Inc.

10260 Bandley Drive
Cupertino, CA 95014
408/996-1010

EDUCATION SERIES I — THE SHELL GAMES

A series of shells in which teachers or parents can create their own quizzes. The diskette comes already set-up with a series of "fun" quizzes in three forms: multiple choice, matching, and true/false. Simply by following the manual, with no programming knowledge, teachers can substitute their own quiz material into any of these formats. Price $29.95 (Integer, 32K).

EDUCATION SERIES II — ELEMENTARY MY DEAR APPLE

Teaching aid for home or classroom, includes four educational games for children 12 years and up. Lemonade is a simulation of running a lemonade stand, including changes in the weather and fluctuations in the cost of sugar. Darts teaches fractions and fraction estimation by "throwing" darts at a numberline. Supermath is a drill and practice program for basic math facts. Don't Fall is a variation on the game "hangman" for word recognition and spelling. It includes directions allowing parents and teachers to apply special words for a particular age group or subject. Price $29.95 (Applesoft and Integer, 48K).

▷ APPLE MUSIC THEORY

Music fundamentals developed for Apple by the Minnesota Educational Computing Consortium (MECC). Complete drill and practice exercises in aural intervals, counting, enharmonics, key signatures, naming notes, note types, visual intervals, music terms, rhythm, scales, sevenths, triads, and whole and half-step intervals. Includes two copies of the Music Theory diskette and an instruction manual. Price $50.00 (Dos 3.3).

▷ APPLE PILOT

A powerful, easy to use system designed to support courseware development for CAI. If you are already familiar with the PILOT language, you will have no trouble with Apple PILOT, as it is based on earlier PILOT implementations with some significant extensions.

A high level, easy to use language, PILOT was designed for use by educators, trainers, and courseware developers, and has been in use since 1968 as a language for creating CAI. In fact, PILOT is the most widespread CAI language available today.

Although the PILOT language does require some training and practice, producing CAI materials with PILOT is a simple task compared to other high-level languages. And even though programming is easy, powerful courseware can be written which fully utilizes the capabilities for sound and graphics.

Apple PILOT provides three important extensions to common PILOT, upon which it was based. These extensions allow you to create graphics, music, and special characters without any programming. By using the graphics editor, the user can position points, draw lines and circles, fill in areas, choose circles, and see immediate results. The graphic is then saved and referred to by name in the Apple PILOT program.

Sound is another major extension that Apple PILOT offers. Music is composed or transcribed by specifying note selection, order, duration, and special effects.

The third major extension, the character set editor, allows the user to draw and save special characters for specific programs. A Greek or Russian alphabet, for example, can be created and used for a language drill and practice. This feature was formerly offered on only the most expensive CAI systems.

Apple PILOT system requirements are an Apple II or an Apple II Plus with 48K of memory, one disk drive for LESSON MODE or two disk drives for LESSON MODE and AUTHOR MODE, and the Apple's new Disk Operating System, DOS 3.3, or the Apple Pascal Language System.

The following education programs are available at a nominal charge from your local dealer as part of the Contributed Programs program:

SEVEN TOWERS OF HANOI
     Problem solving exercise to teach the student about exponentiation.

INTERNAL COMBUSTION ENGINE SIMULATION
     Simulation of the operation of an internal combustion engine. Watch the different strokes of the engine and see what makes your car run.

DRIVERS LICENSE TEST
     Test your knowledge of the rules of the road.

THE GREAT AMERICAN PROBABILITY MACHINE
     A fascinating and delightful verification of the law of probability and the normal curve.

Some other useful utilities available from APPLE Computer Inc.:

APPLE POST
Mailing List System designed for your Apple II that allows you to enter, edit, and store names, addresses and telephone numbers. With the Apple attached to a printer, Apple Post will also print mailing labels, address and telephone lists, and your personal zip code directory. Price $49.95.

APPLE WRITER
Turns your Apple Computer System into a sophisticated text editor -- providing you with the capability to write, revise, edit and print all types of documents quickly and inexpensively. You can easily perform every editing task, from correcting typographical errors to moving whole paragraphs. And you can precisely format and print your text letter-perfect every time. (Must of course be used with a printer). Price $75.00 (32K).

APPLE PLOT
Allows you to use your Apple Computer System to create, revise, and print highly detailed charts and graphs quickly and easily. Any information, from sales and stock activities to caloric intake and miles per gallon, can be presented in a visually appealing comprehensive bar, line or scatter chart. The program allows you to specify each axis, update and change information, and label the charts exactly as you wish. Hard copy can be printed for reports and later analysis.

Alladin Computer Corp.

3420 Kenyon Street
Ste. 131
San Diego, CA 92110

All programs are written in Integer Basic.

MATH-TER-MIND
Nursery song is used in this elementary mathematics program. Pre-school addition and subtraction. Price $11.95.

LUNAR LANDING
     Simulation of a controlled descent to a Moonbase.
Dangers on your mission include a diminishing fuel level,
meteor showers, and the rough moon terrain.

STIX
     Variations on the ancient game of NIM. Try to pick up
the last stick from 2 to 5 piles. Price $11.95.

MASTER MIND
     Solve puzzles posed by the Apple. Price $11.95.

Apple-Cations

21650 W. Eleven Mile Road, Suite 103
Southfield, MI 48076
313/354-2559

SCHOOLHOUSE FIVE
     A series of programs for the primary grades: Spelling
Words, Hangman, Word Fun, Adding Columns, Fraction Problems,
and Division with Remainder. Price $14.95.

STUDY QUIZ FILES
     Allows the user to create quizzes. Price $18.95 (32K).

MULTIPLE CHOICE FILES
     Allows the user to create multiple choice quizzes. Price
$18.95 (32K).

Bell & Howell

7100 McCormick Road
Chicago, IL 60645
312/673-3300

► GENIS I
     A generalized instructional system for education and
training. These programs enable teachers without any
programming knowledge to begin developing lesson materials.

Bell & Howell's GENIS system is composed of two interrelated software systems. They can be used independently or in conjunction with each other. The Courseware Development System (CDS) enables educators to develop interactive instructional materials without any microcomputer programming knowledge. It has two parts -- an authoring system which allows a teacher to create authoring materials, and a presentation system which provides a means to deliver these materials to the student.

The other piece of GENIS is MARK-PILOT, an enhanced Computer Assisted Instruction language. It functions as a kind of computer shorthand which allows educators to develop CAI lessons quickly and efficiently. Price $300.00.

Borg Warner Educational Systems ⋆

600 West University Drive
Arlington Heights, IL   60004
800/323-7577
800/942-6995 (Illinois)

▷ MICROSYSTEM80 CRITICAL READING

A reading improvement system, emphasizing the skills of inference, paragraph meaning, and general comprehension. It begins with simple two-sentence stories and continues with complex paragraphs to teach reading basics. By varying the length and difficulty of the material, Critical Reading leads the student through a logical progression of skills.

The student receives immediate feedback and the teacher may change the program to tailor it for a particular child's needs. Each student is tested before, during and at the conclusion of the series assuring the teacher knowledge of the exact reading level of each student.

The initial materials in the Critical Reading program are designed for developmental use in the third through the sixth grade and are also effective for remedial use in middle school and junior and senior high school.

Each diskette contains a pretest, teaching lessons, progress checks, a post test and management systems. The cost for the complete set of 8 diskettes and teacher's guide is $750.00. The package runs on an Apple II with 48K.

Note: Borg Warner plans to add three additional releases to the series: Mathematics Problem Solving, Computational Skills, and College Entrance Exam Preparation.

Charles Mann and Associates

7594 San Remo Trail
Yucca Valley, CA 92284
714/365-9718

THE TEACHER PLUS

Eighteen lessons to aid the student in learning the operating requirements and command system for BASIC programming in Applesoft. Only Apple reference manuals are needed as supplements. Price $39.95.

THE FLOATING POINT DICTIONARY

A reference tool to go with The Teacher Plus and The Basic Teacher. Working examples of statements are formed on the screen as well as definitions. Practice test programs are also given that assist the student in viewing the results of the commands they used. Price $29.95. Both packages are available together for $59.95.

THE BASIC TEACHER

Thirteen lessons to aid the student in learning Integer Basic. All basic programming concepts are included. Price $34.95.

THE ELECTRIC GRADE BOOK

A teachers grade record system for detailed class records. The system prepares class and individual summaries throughout the grading period. Price $49.95.

THE LIGHT PEN QUIZ

General purpose teaching program to allow the instructor to create and edit quizzes. Quizzes are designed to be taken with a light pen. Student progress reports and printed copies of the tests are available. Price $49.95.

THE COUNSELLOR'S PROGRAM

Allows the school guidance counselor to prepare master student records and file folder labels. Designed to operate in conjunction with "The Grading System Programs," this program can prepare semester by semester summaries of student grades and record details as needed of teacher comments. Price $89.95.

THE CLASS SCHEDULING PROGRAM

Match individual student course requests with available course and section offerings. Allows schools to test various proposed course offerings for conflicts and suitability. System allows priority assignments for required courses and

selection of the best available elective courses. The system
will handle up to 2,400 students per run and up to 1,000
courses with up to 16 course choices and alternatives per
student. Price $249.95.

THE GRADING SYSTEM PROGRAMS

Grade maintenance programs designed to help school
administrators and teaching professionals keep track of
grades, cumulative averages and school credits. Using both
keyboard entry and lightpen, the system handles both
numerical and letter grading systems. It can prepare
rosters, class schedules, student grade summaries, handling
up to 600 students per diskette. The number of diskettes is
unlimited. Each school can define its own grading scale,
report card comments, honor roll definitions, and credit
requirements. The package requires an 80 column printer and
costs $199.95. A light pen is available with the same package
for $249.95.

STATISTICS PAC

Battery of programs for curve fitting, probability,
general statistics, distributions, and test statistics. Will
graph curves, histograms, and distribution arrays. Price
$89.95 (32K).

For most Charles Mann software, the documentation can be
purchased on examination for $25.00.

COMPress

P.O. Box 102
Wentworth, NH 03282
603/764-5831

COMPress provides programs and simulations for teaching college
level subjects. Program packages are designed to run with a
minimum of 32K. Each package is complete on one disk.

The cost of most program packages is $60.00. Texts are available
for each program package for an additional cost.

POPULATION GROWTH (POPGROW)

A computer-simulated laboratory in population growth. It

is based on a simple algebraic model of population growth designed for the instruction of beginning students of biology, ecology, and related fields such as wildlife management. Included are four units : exponential growth, density-dependent growth, variations in carrying capacity, and delays in regulatory response. Text $6.95.

MENDELIAN GENETICS (GENIE)
    A simulation laboratory in Mendelian genetics. Simulates a wide range of genetic phenomena including dominance, partail dominance, lethality, linkage, and sex linkage. As many as three traits may be simulated at any relative map location the same or different chromosomes. Multiple allele systems may have up to five alleles and may display any combination of dominance and partial dominance. Text $6.95.

DESCRIPTIVE STATISTICS
    Comprised of four programs. FREQDIST constructs frequency distributions and histograms; scale and/or frequency groups may be altered by the user. FREQTAB constructs frequency tables and line graphs. SRARMEAS orders data and computes measures of location and dispersion. GROUP computes grouped mean, variance and standard deviation for continuous data. Text $6.95.

PSYCHOLOGICAL STATISTICS
    Fifteen simple programs for students to see how the following are computed: generation of random numbers, mean and standard deviation, correlation between variables, and other scientific decision making and estimations. Text $9.95.

ELEMENTARY NUMERICAL TECHNIQUES FOR ORDINARY DIFFERENTIAL EQUATIONS
    Material intended for a post-calculus differential equations course. Constructed to complement a standard textbook by having the student study the numerical technique immediately after covering the corresponding material in the text. Price $65.00.

ENERGY AND ENVIRONMENT
    Four programs designed to be used with physical science courses. The Apple is used as an interactive model for instruction and calculation. Programs include PROFILE which calculates stable age distributions for stationary and growing populations using U.S. mortality statistics; POPULATE simulates a dynamic population, allowing the student to enter appropriate population statistics or use those of the U.S.; ABSORB calculates earth surface temperature for various carbon dioxide concentrations using a one-layer atmosphere

model with simple absorption; GLACIER shows latitude dependent temperature for changes of solar constant albedo varies for .32 to .62 depending on temperature. Price $65.00.

FEMALE REPRODUCTIVE CYCLES
Experimentation with different types of cycles. Price $50.00 (32K).

NUCLEIC ACID CONNECTION
Allows you to create mutation based on chemical and radiational mutagenic agents. Price $50.00.

POPULATION SIZES
Population growth programs. Price $50.00 (32K).

POPULATION GENETICS
Mutation, selection, migration and drift on alleles in a population. Price $50.00 (32K).

PREDATION
Interactions between a predator and two competing prey species. Price $50.00 (32K).

TWO POPULATIONS
Interactions between competing or predator populations using the Lotka-Volterra Equation. Price $50.00 (32K).

NUMBER THEORY
Teaching number theory as an experimental science. Instructor's manual contains fourty-one experiments, an explanation of each experiment, a program to do the experiment, and a sample run of the program. Price $95.00 (32K).

OTHER TITLES AVAILABLE
Super Life, Drosophilia Genetics.

CompuSoCo

26251 Via Roble
P.O. Box 2325
Mission Viejo, CA 92690
(800-824-7888) Operator 966
(800-824-7919) In California
(800-852-7777) Alaska and Hawaii

THE ELECTRIC GRADE BOOK
   A teachers grade record system for detailed class records. The system prepares class and individual summaries throughout the grading period. Price $49.95. (Also distributed by Charles Mann).

EDUCATION I
   A courseware development system that allows you to create up to 10 lessons at a time for student use. Price $25.00 (32K).

EDUCATION II
   A set of programs teaching word skills using the crossword puzzle. Price $25.00 (32K).

EDUCATION III
   A set of mathematics programs. Price $35.00 (32K).

Computer Corner

1800 Georgia — Unit 4
Amarillo, TX 79109
806/355-5618

   SPELLING TEACHER SOFTWARE
   A package for the development of spelling drills. Lessons, tests, and pronunciations are set up by the teacher. (Must be used with the Mountain Hardware Supertalker).

Cook's Computer Company

1905 Bailey Drive
Marshalltown, IA 50158

Cook's programs are written by educators and field tested in schools. They are available on either disk or cassette. Each individual program is priced at $5.95 with a media charge of $3.00 per disk. Cook's has an Educator's Disk Special with 14 programs (many of the ones listed here and some games) for $19.95.

LEGACY

The user must discover and use the built-in multiplication tables. The game then becomes a form of timed drill on multiplication facts. Grades 4 through 6.

TAKE IT

Drill-game on addition, subtraction, multiplication, and division of positive and negative integers. The Apple automatically adjusts the problem level. Grades 4 through 9.

BAGLES

Number-guessing game. Students learn to draw inferences from clues and develop problem-solving strategies.

CLOCKS

Time-guessing game. Students develop problem-solving strategies, and learn to draw inferences from clues.

TWENTY QUESTIONS

Number guessing game teaches use of the "<" and ">" symbols, problem-solving, and binary search strategies. Grades 4 through 9.

SQ. BINOMIALS

Drill on squaring binomials. Grades 7 through 12.

SLOPE

Practice is provided in this program for slope and intercept concepts using linear equations.

TYPING

Provides instruction on finger placement and drill for touch typing on the Apple keyboard. Drills are graduated in difficulty beginning with "home base" keys and progressing through a planned sequence of words and phrases. A speed test identifies keys which need more work, as well as indicating over-all speed. The disk includes six programs and 19 test files. Disk and 32K minimum required. Price $14.95.

DRILL

Provides timed drill in basic facts of multiplication, addition, subtraction, and spelling. Auxiliary programs keep records of student progress for the teacher whose students are using this disk. Includes a Teacher's manual. Price $14.95 (32K).

PILOT

By Earl Keyser. All PILOT core instructions and special graphic and sound commands. Manual, 5 sample lessons, including tutorial on PILOT. Price $25.00 (32K).

ALCOHOL
Program determines the effects of alcohol on the body by the amount of drinking.

FANCY FROGS
Develop logic and problem solving strategies for pre-schoolers.

Creative Discount Software: Edusoft

256 South Robertson, Suite 2156
Beverly Hills, CA 90211
800/824-7888 (Operator 831)
800/852-7777 (California)

All programs run in 16K.

MATH TEACHER
Drill on the four basic operations. Price $16.50.

APPLE TEACHER
Set up lessons for students. Price $24.95.

STATE CAPITALS
Drill and practice on state capitals. Price $16.50.

SCRAMBLE WORDS
Try to unscramble the word. Price $16.50.

CROSSWORDS
Crosswords puzzle. Price $16.50.

Dr. Daley

425 Grove Ave.
Berrien Springs, MI 49103
616/471-5514

SOFTWARE LIBRARY
3 Social Science simulations (Hammurabi, Dictator, Market) 4 Preschool Children's Programs (Letter, Big Letter,

Faces, Hurkle) 5 Elementary School Programs (Math Test, Divide, Spell, Synonym & Hangman) Many other intellectual games e.g. Qubic, Checkers, Othello, Backgammon. Dozens of other programs. Price $79.95.

Education Software Professionals

38437 Grand River
Farmington Hills, MI 48018

STUDY QUIZ FILES
Create and run study quizzes, without any programming knowledge. Quizzes are easily revised. Random presentation is possible, as is a final score summary. Price $19.95.

MULTIPLE CHOICE FILES
Create your own multiple choice quizzes. Price $19.95.

APPLE-GRAMMAR
Parts of speech are presented in sentence quiz form to the student. The program allows a teacher or parent to choose specific areas of grammar that need attention and alter the quiz easily. Price $19.95 (16K).

Educational Activities *

P.O. Box 392
Freeport, NY 11520
516/223-4666

Educational Activities, Inc. offers a filmstrip/audio cassette series on BASIC programming as well as program packages in Mathematics, Language Arts, Spelling, and Classroom Management. Most program packages are available on either cassette or disk.

BASIC MATH COMPETENCY SKILL DRILLS
(Jr./Sr. High School) Allowing for teacher-chosen difficulty ranges, the following are step-by-step presentation and practice in math drills. Complete series of

disks is $135.00. Individual disks are $36.90. Available are Whole Number Operations, Number Tables, Fractions, and Decimals.

INTRODUCTION TO MATHEMATICS ON THE COMPUTER
     Designed to help slow learners and learning disabled students increase their mathematical abilities and interest. It covers addition, subtraction, multiplication, and division and includes six levels of difficulty. Available on cassette only, if bought separately (see next entry). Price $29.95.

INTRODUCTION TO DECIMALS ON THE COMPUTER
     Modeled on Introduction to Mathematics except that it deals with decimals. On one disk with Introduction to Mathematics. Price $64.90.

MISSING MATH FACTS
     Contains addition, subtraction, multiplication, and division examples on four levels of ascending difficulty. Each example is presented with the answer, but missing another component. If the student is unable to give the correct answer by the third try, the complete problem with the answer is displayed. Price $34.95.

ENGLISH BASICS — PARTS OF SPEECH
     Nouns I and II; Pronouns I and II; Verbs I and II; Adjectives I and II; Adverbs. Each topic comes on a disk and is priced at $34.95. The price for all five disks is $170.00.

ENGLISH BASICS — CONCEPTS IN LANGUAGE ARTS.
     Homonyms I and II; Synonyms and Antonyms I and II; Contraction's I and II. Each topic comes on a disk and is priced at $34.95. The price for all three disks is $99.95.

SCRAMBLED LETTERS
     Two students compete to unscramble the letters keying in the correctly spelled word. The computer "rewards" the student who spells the word correctly. At the end, all words are displayed spelled correctly. Words may be added by the teacher.

FLASH SPELLING
     New spelling words are flashed one-by-one on the screen. The student can type in the correctly spelled word. May be teacher modified. On one disk with SCRAMBLED LETTERS. Price $33.50.

READABILITY INDEX
     Enables the user to determine the readability of any text by approximate grade level. Parameters checked in the

program are average word length, average sentence length, and
calculated estimation of word difficulty.

GRADE AVERAGES
    Enables teacher to calculate grade averages by using
both numeric and letter grades without previous conversion.
On one disk with READABILITY INDEX. Price $24.90.

GRADE STORAGE DISKETTE
    Specially made to go with all Educational Activities
programs for recording and storing students' scores from
multiple programs. Price $11.95.

CRYPTO
    A challenging game program for developing skills of
logic using letters, words, and punctuation. Teacher may
modify with additional entries. Price $15.95.

Educational Programming Systems

1328 Baur Boulevard
Saint Louis, MO 63132
314/991-0300

Educational Programming Systems is introducing a series of
training type courses that combine comprehensive text with
automated activities for the Apple II.

PERSONAL FINANCIAL PLANNING
    250 page text with the following activities on the
Apple:

    Preparing a personal balance sheet for use in analyzing
    net worth.

    Compiling annual income and expense summaries from past
    years.

    Creating automated systems for maintaining records of
    your personal insurance and investment portfolios.

    Analysis of insurance, investment, and retirement
    programs.

Edutek

415 Cambridge, #14
PO Box 11354
Palo Alto, CA 94306
415/325-9965

Individual programs are priced at $15.00 each, with a media charge of $4.50 per disk. Cassette is available.

EASE
Edutek's Arithmetical Skill Enhancer is an integrated system of programs designed to ease the learning of the basic arithmetic facts. Addition, subtraction, multiplication, and division operations are presented with 17 to 20 levels of skills and reviews. Students progress at their own pace with respect to each operation -- progress is automatic and based upon student performance. Demand reports on students' progress are available to the teacher. The teacher can manually raise or lower a student's skill level for any operation. Price $50.00.

KEYBOARD FUN
Introduction to the keyboard for young children.

COOPERATION GAME #1
Requires that students cooperate in moving "blinky" (a blinking cursor) from the upper left corner to the flag in the upper right corner without bumping into the barriers.

COOPERATION GAME #2
Continuation of #1 with additional stationary barriers and one moving block.

LET'S MAKE A DESIGN
Allows the drawing of a picture or design in sixteen colors using paddles A and B.

MUSIC #1; PLAY A TUNE
Allows the student to pick ten notes using paddles A and B. The program then plays a tune based on the chosen notes. A light show accompanies the tune.

MUSIC #2; FIND THE KEY
Teaches the names of the piano keys.

MUSIC DRILL #4

Find the keys on a thirty-two note piano keyboard that correspond to notes on a musical staff before the time runs out.

CRAZY SENTENCES

Allows play with nouns, adjectives, verbs, and adverbs to produce "crazy" sentences.

WHAT WAS THAT WORD?

Read the word that is flashed onto the screen and win big play money. (A tachistoscope game.)

SHORT VOWEL EXERCISE

Provides practice in saying the short vowel sounds.

COUNT TO 10

Uses paddle A to make the blocks dance from their lines to the center of the screen, and count to ten with the program.

COUNTING NUMBERS LESS THAN 101

Use the game paddles to set the counting speed.

COUNT BY *

An introduction to multiplication, using counting of whole numbers.

ADDITION FUN

Interactive practice in addition.

SUBTRACTION FUN

Interactive practice in subtraction.

DIVISION FUN

Interactive practice in division.

FINGER ABACUS

Teaches recognition of the Chisanbop finger positions.

A CLOCK GAME

Quiz game for learning to tell time.

TAKE 'EM

Computer version of the old match stick game of "Nim".

BRAIN TEASER

Non-numeric logic game.

Edu-Ware Services, Inc.

22035 Burbank #223
Woodland Hills, CA 91367
213/346-6783

EDU-WARE offers education software packages with an end user
warranty, and up-dates with their products. Their educational
packages include specific measurable objectives, pre-testing,
and sequenced learning units followed by post testing.

COMPU-READ
An aid to increase comprehension and retention. Four
independent programs and two file building routines to help
you increase comprehension and retention. You set the initial
difficulty level, and the Apple matches itself to your
performance. Character recognition, Highspeed Word
Recognition; Synonyms and Antonyms; Sentence Comprehension.
Price $24.95.

COMPU-SPELL
Teaches spelling by displaying correctly spelled words
and asking the user to replicate them. All words are
displayed in sentences, using upper and lower case. All
reinforcement is positive. Includes a classroom operating
system and routines which build custom word lists. The main
program disk includes the core system, complete documentation
and sample spelling units from each of the six data disks
(levels 4,5,6,7,8 and secretarial). Price $19.95 for the main
program disk and one data diskette; $39.95 for the other five
diskettes (48K).

▷ COMPU-MATH I: FRACTIONS
Covers fractions, pretests current skills and recommends
any or all of six specific learning units (definitions,
common and lowest denominators, and addition, subtraction,
multiplication, and division of fractions). Price $39.95
(48K).

▷ COMPU-MATH I: DECIMALS
A decimal package with a similar design to the fractions
package. A pre-test and seven learning units: conversion,
addition, subtraction, rounding off, multiplication,
division, and percentage. Price $39.95 (48K).

METRI-VERT
Menu driven routines; computer conversions for
length/distance, area, volume, weight and temerature. Price
32K ($15.95).

STATISTICS
Provides statistical calculations: mean, variance, standard deviation, Pearson correlation, normal distribution, probability and frequency, Chi-square distribution, Chi-square test, T-test. Price $15.95 (32K).

Evans Newton Incorporated

7335 East Acoma Drive, Suite 102
Scottsdale, AZ 85260
602/998-2777

► PROJECT BASIC
Basic accountability for school instructional curriculums. Designed to help schools meet recent legislation directing them to identify, diagnose, and monitor student essential basic skills. This package was written to provide administrators and teachers with a system for tracking and monitoring and evaluating student progress of locally selected basic skills and/or any other skills which comprise the instructional program.

A clerk or teacher aide, centrally located in a school, is assigned the responsibility of inserting, updating, and generating all of the instructional information for all of the teachers. This person will periodically collect and disseminate the student information in accordance with a schedule which best meets the existing time limitations of the operators and needs of the teachers. The person assigned to operate the Apple does not need to have prior experience with computers.

The package will handle any type of programs, such as bilingual education, vocational education, Title I, etc. Eighteen different reports are available, such as: Student Prescription and Progress Reports, Objective Grouping Reports, Teacher Daily Class Reports, Student Report Cards, Class and Grade Status Reports, and School and District Status Reports.

The maximum number of students this program will handle will vary according to how it is configured; however, 1000 students in at least three core subject areas at various grade levels fits easily into the program's capacity.

The system as delivered by Evans Newton includes all necessary Apple equipment, a mark sense reader, all software, and three days of in-service training. The total package cost is $7,995.

George Earl

1302 South Gen. McMullan
San Antonio, TX 78237

A variety of elementary and junior level programs are available from George Earl in language, reading, and algebra.

Programs listed below are available on cassette and diskette. Cassettes require 16K and cost $19.95. Diskettes run on 32K and cost $24.95.

MOTHER GOOSE RHYME PROGRAMS
A total of 660 screen pages with the pre-school and early elementary grade child typing an answer on each page.

FAVORITE GUESSING GAMES
Games on cities, capitals, presidents and vice presidents, president's wives, hangman, and sports hangman.

SPANISH
Word and phrase hangman in Spanish as well as Spanish-English and English-Spanish drills. Over 2000 words and phrases.

READINGS IN LITERATURE
A way of memorizing famous readings, decorated with Mondrian displays. Included are Gettysburg Address, The Tyger, Casey at the Bat, Father William, To Be or Not To Be, The Seven Ages of Man, O Captain! My Captain!, Annabel Lee, Bill of Rights, Declaration of Independence.

THE GEORGE EARL SAMPLER
Selections from each of the above packages.

LESSONS IN ALGEBRA
Includes sets and subsets, rational numbers, real numbers, sentences, signs, fractions, multiplication, equations, inequalities, polynomials. Price $9.95 (16K, Integer).

Hartley Software

3268 Coach Lane #2A
Kentwood, MI 49508

Hartley Software offers elementary and intermediate materials in
reading and mathematics. Materials are organized first by
presentation formats. For each presentation format, there are
several types of lesson materials that can go with it.
A lesson consists of a unit of twenty items, specified as to
grade level.

For the formats that use oral presentation, a "speller-box" is
required -- an interface box which uses the Apple II game paddle
socket to control a cassette tape recorder.

FORMATS

SKILLDRILL #1

Stimulus word with blanks. Aural: Type the letter you
hear at the beginning of the word "bus." Visual: us. Price
$14.95. Provided with 28 consonant lessons ($42) and/or 53
vowel lessons ($79.50).

SKILLDRILL #2

Stimulus word, response displayed beneath. Aural: Type
the plural form of the word "cherry." Price $14.95. Provided
with 16 affix lessons ($24.00), 15 homonym lessons ($22.50),
and/or 21 plural lessons ($31.50).

SPELLING TEST #3

Oral presentation of spelling tests. Keeps track of
student responses and can provide the teacher with a record
of student performance from which individualized spelling
lessons can be planned. Price $14.95. No specific spelling
lessons are provided.

VOCAB DRILL #4

Aural stimulus after visual display. Student shown a
word and asked to pronounce it. They can then hear the
correct pronunciation of the word. Price $14.95. Provided
with 63 vocabulary lessons ($50.00).

SKILLDRILL #5

2 lines of stimulus, 1 of response. Who, what, when,
where, why, and how. A phrase is presented, and the question
asked whether the phrase tells, who, when, where, why, or
how. Price $14.95. Provided with 5 rhyming word lessons

($7.50), 14 who, what, where lessons ($21.00), and/or 5 math concepts lessons ($7.50).

SKILLDRILL #6
    Same as #2 without aural stimulus. Visual stimulus only. Price $14.95. Provided with 14 addition/subtraction lessons ($21.00) and/or 26 multiplication/division lessons ($39.00).

SKILLDRILL #7
    Same as #5 without aural stimulus. Visual stimulus only in two lines. Price $14.95. Provided with 14 who, what, where lessons ($21.00), 5 math concepts lessons ($7.50), and/or 5 rhyming words lessons ($7.50).

LETTER RECOGNITION
    Kindergarten and First Grade versions. Presents characters one at a time on the screen -- student tries to match the character by pressing that key. A correct response brings up the next character; an incorrect response produces no change. Every ten correct responses there is a fireworks display. Price $19.95.

WORD FAMILIES (PHONOGRAMS)
    Presents a stimulus word together with four letters in your choice of the following formats: beginning consonant substitution, final consonant substitution, medial vowel substitution. Price $29.95 includes 3 word lists of approximately 100 words each.

"CLOCK" TIME TEACHING PROGRAM
    Two modes of presentation are offered to the student. Digital time is presented, and student moves the clock hands forward or backwards to set it to the right time. Price $29.95.

SKILLDRILL #11
    4 lines of stimulus, 1 of response. Like Skilldrill #7, with up to four lines of visual input. No aural stimulus, and can accept up to as many as four valid responses. Price $14.95. Provided with 10 calendar lessons ($15.00) and/or 9 usage lessons ($13.50).

The following management programs are included at no charge with teaching lessons:

CREATE WORD LISTS PROGRAM
    Included with formats 1, 2, 3, 4, 5, 6, 7, 9, 11. Allows you to create your own word list.

LIST CORRECTION PROGRAM

Included with the same formats as above. Allows to to change words in the purchased lessons and adapt them to your need.

STUDENT PLANNING PROGRAM

Included with all programs. Allows you to examine each student's progress.

MAKE TAPE

Included with formats 1, 2, 3, 4 and 5. Allows you to create your own cassette tapes specifically tailored to your lessons.

Hayden Book Company

50 Essex Street
Rochelle Park, NJ 07662

These programs from Hayden are constructed as the opposite of the traditional drill and practice. In "Log To Any Base" (one of the programs on the General Mathematics disk) the student can specify a number and a base and the Apple will calculate the log of that number to that base. All of the programs are set up for the computer to do whatever calculation the student requests.

This kind of program is useful for students experimenting to see if they understand concepts and as a general purpose calculation utility.

GENERAL MATHEMATICS

Thirteen programs are featured on this disk: Log to Any Base; New Coordinates; Rectangular Polar Coordinates; Permutations; Vector Cross-Products; Max/Min Locator; Number Rounder; Dimension Scaler; Histogram; Circle Finder; Nth Root of a Number; Normally Distributed Random Numbers; and Rational Fractions. Price $14.95.

ENGINEERING MATHEMATICS

Eight programs are featured on this diskette: Solving Simultaneous Equations; Evaluation of a Polynomial; Quadratic Equations; Integration by Simpson's Rule; Newton-Raphson's Roots; Derivative of a Function; Factorial of a Given Number; and Extended Factorial Calculation. Price $14.95.

COMPLEX MATHEMATICS
    A similar set of programs on topics in complex
Mathematics: absolute value, addition, nth roots, exponential,
etc. Price $14.95.

SONGS IN THE KEY OF APPLE
    Allows students to create songs. The Apple will play
them. Price $10.95.

SARGON: A COMPUTER CHESS PROGRAM
    Price $29.95.

High Technology, Inc.

P.O. Box 14665
Oklahoma City, OK 73113

Developed by a university professor, the chemistry programs from
High Technology are interactive simulations of lab experiments
for high school and college level students. Each package
includes a user manual to guide the student through the
experiments. Price for each package is $100.00.

CHEMISTRY LAB #1
    Introductory level experiments including acidbase
titration; a monomolecular film experiment used for the
determination of Avogadro's number; and finding an unknown
weak acid by determining its equilibrium constant. The
program provides randomly generated initial values, giving
unlimited test results without repetition.

CHEMISTRY LAB #2
    Illustrates the dynamic behavior of gas particles as the
user varies the gas environment. This simulation is designed
to guide the student to an understanding of the Ideal Gas
Law, the Kinetic-Molecular Theory and the principles of
Entropy.

Ideatech Company

P.O. Box 82451
Sunnyvale, CA 94086

The following titles are available:

BASIC ELECTRICITY
$12.95 (48K).

SPEED FACTS
$11.95 (16K).

MATHGRID
$11.95 (16K).

WORD FLASH
$8.95 (16K).

COLOR GUESS
$7.95 (16K, Integer).

MULTIPLICATION AND DIVISION FUN
$8.95 (16K).

QUESTIONS AND STORY
$6.95 (16K).

Instant Software

Peterborough, NH 03458
800/258-5473

MATH TUTOR I
Teaches math skills with three games -- Hanging (decimal numbers), Spellbinder (fractions), and Whole Space (whole numbers). Price $7.95 (32K, cassette). Requires Integer and Applesoft.

MATH TUTOR II
Includes these games -- Car Jump (calculation concepts), Robot Duel (voulme calculations), and Sub Attack (percentages). Price $7.95 (32K, cassette).

MATH FUN
     All above programs on disk. Price $19.95.

Instructional Development Systems

2927 Virginia Beach Boulevard
Virginia Beach, VA 23452
802/340-1977

▷ AIDS (Assisted Instructional Development Systems)
     Comprehensive software package that allows a classroom
teacher having no data processing background or experience to
create a CAI tutorial or drill and practice lesson, series of
lessons, or an entire curriculum. Also included is a system
to record usage and student progress and a CMI system for
assignments off the Apple.
     The type of CAI available with this, as with all
packages of this type, is the tutorial format, with drill and
practice quizzes to test the material taught. Questions can
be written in the following formats: fill-in-the-blanks,
multiple choice, matching, true/false, or even open ended.
     AIDS is designed to allow the teacher to preset lesson
branching patterns for students based on their performance on
quizzes, or to assign a specific sequence of lessons for a
particular student.
     AIDS provides the teacher with three reports on student
progress: Usage Report (documents the CAI instructional time
by each student); Cumulative Report (documents all work
completed by a student); Daily Report (documents a summary of
work performed by students for a given day).
     Another feature of AIDS is its Computer Managed
Instruction (CMI) aspect. Upon completion of the lesson the
Apple can give the student assignments in other traditional
educational media -- textbooks, filmstrips, ditto sheets,
etc.
     The AIDS package runs on a 48K Apple II PLUS with a
single disk drive. A second disk drive is need for student
record keeping.

J & S Software

140 Reid Avenue
Port Washington, NY 11050

CHEMISTRY

15 chemistry lessons for high school and junior college. Each program reviews and teaches main concepts of the topics. Randomized quizzes. Average completion time for a program is 20 to 30 minutes. Names and grades can be stored. Price $150 for all 15 lessons; $75 for six lessons; $19.50 per lesson (32K).

GAS RELATIONSHIPS

MOLE AND FORMULAS

CHEMICAL EQUATIONS

SOLUTIONS

PERIODIC TABLE

ELECTRON STRUCTURE

BONDING IN MOLECULES

BONDING BETWEEN MOLECULES

KINETICS

EQUILIBRIUM

ELECTROMECHANICAL CELLS

OXIDATION-REDUCTION

ACID-BASE THEORIES

ACID-BASE PROBLEMS

ORGANIC CHEMISTRY

GRADE BOOK
Generates complete grade and attendance record for entire class, with types of activities, individual and collective average. Price $29.50 (48K).

Krell Software

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21 Millbrook Drive
Stonybrook, NY  11790
516/751-5139
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Four College Board practice programs are offered, with material based on past SAT exams and scoring in accordance with the formula used by College Boards. Each one is $19.95.

COLLEGE BOARD — VOCABULARY

COLLEGE BOARD — WORD RELATIONSHIPS

COLLEGE BOARD — MATH PART A

COLLEGE BOARD — MATH PART B

Math Software

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1233 Blackthorn Place
Deerfield, IL 60015
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The following titles are available. Price is $15 per disk for a 32K version, $25 per disk for a 48K version. There is an $8 per disk handling fee for orders under $50.

TAYLOR SERIES

FUNCTION GRAPHER

ARITHMETIC OF FUNCTIONS

BINOMIAL MULTIPLICATION

SOLVING LINEAR SYSTEMS

GRAPHIC INTERGRATION THEORY

MIDPOINT AND TRAPEZOIDAL RULES

RATIONAL FUNCTION GRAPHER

SINE AND COSINE GRAPHER

SOLIDS OF REVOLUTION

LIMITS OF SEQUENCES

POLAR GRAPHING

Mentor Software

515 Park Street
Anoka, MN 55303

BASIC MATH SKILLS GAMES
Twelve different games for the teaching of elementary mathematics. Price $84.95

TITRATION SIMULATION
A simulation used for secondary and post-secondary chemistry. Price $14.95

SPELLING I
Six programs for drill and practice of elementary level words. Six programs included. Price $54.95.

SPELLING II
Continuation of Spelling I, six further programs. Price $54.95.

Micro Power and Light Co.

1108 Keystone Park
13774 N. Central Expwy
Dallas, TX 75243
214/234-8233

Micro Power and Light has designed a number of programs for home and school use. Most programs include instruction and examples, as well as practice opportunities and mastery quizzes or challenging games. Most programs contain one or more hours of lesson material, and are divided into multiple parts, each requiring 10 to 20 minutes on the computer.

MAP READING
(4th grade and up), teaching concepts of direction and distance. Price $19.95 (32K).

SCIENTIFIC METHOD
(5th grade and up), covering observation, generalization, measurement, and verification. Price $19.95 (48K).

SPELLING RULES
(Elementary/secondary levels), presenting guidelines for using the six most common spelling rules. Price $29.95 (32K).

SENTENCES
(Elementary/secondary levels), including the identification of subjects, predicates, and sentence fragments. Price $24.95 (32K).

A MEMORY MYTH
(All grade levels), for testing and developing memory skill. Price $19.95 (32K).

ADVERTISING TECHNIQUES
(5th grade and up), showing four methods of persuasion and giving exercises in critical analysis. Price $24.95 (32K).

CIRCULATION ORGANS
(4th grade through junior high), describing functions of the principal circulatory system organs. Price $29.95 (32K).

CIRCULATION SYSTEM
(8th grade and up), reviews circulatory system organs and then describes their interrelationships. Price $29.95 (32K).

WHAT'S THE SCORE
(Advanced elementary through high school), introduces statistical measures, distributions, histograms, and curves. Price $29.95 (32K).

ON THE AVERAGE
(High school or beyond), teaches how to recognize and calculate mean, mode, and median. Price $29.95 (32K).

PYTHAGOREAN PROOFS
(High school and up), an enrichment program describing six proofs of the Pythagorean Theorem. Price $29.95 (32K).

LIBRARY SKILLS

(4th grade and up), describes what is in the library, and how to find it. Price $24.95 (32K).

SIMPLE MACHINES

(5th grade and up), describes the six simple machines and provides exercises on how each machine can be used. Price $29.95 (32K).

THE RIEMANN INTEGRAL

History, theory, and development of the integral and numerical techniques of approximation (32K).

OFF CENTER

Definitions of scatter, deviation score formula, raw score formula, comparisons of standard deviations (32K).

Micro Users Software Exchange

330 North Charles Street
Baltimore, MD   21201
301/659-7212

▶ THREE MILE ISLAND

Full simulation of a pressurized nuclear reactor. Four displays monitor the containment building, the turbines, the filters, condensors, reactor core, and pump house. The valves and pumps of the reactor, as well as the turbines, filters, and control rods are all capable of being controlled by the keyboard. Documentation is included which describes the operating mechanisms and component interactions of the reactor in detail. Price $39.95 (48K).

MUSIC BOX

Game that turns the Apple into a three octave musical instrument which can be "played" from the keyboard. Or you can type in a song and the music box will play it back. A full color light show appears on the screen while the music is playing. Documentation is included. Cassette Only. Price $12.95 (16K).

UNCLE SAM'S JIGSAW

Educational geography game featuring a detailed drawing of the United States. Students attempt to recognize each of

the 48 continental United States by its shape and location in a high resolution map of the United States. Cassette only. Price $12.95 (32K).

APPILOT

A version of PILOT which allows the integration of text, graphics, and sound. An on-line help lesson is included. Price $49.95 (Integer, 32K).

THE ELEMENTARY MATH EDU-DISK

Contains an arithmetic readiness test and four interactive lessons designed to teach elementary addition, subtraction, multiplication, and division on nine different skill levels. Extensive color graphics and computer simulated voice. Student's scores are maintained on disk and accessible to the teacher only. Price $39.95 (48K, Integer).

Microsoft Consumer Products

10800 Northeast Eighth, Suite 819
Bellevue, WA   98004
206/454-1315

TYPING TUTOR

Teach yourself typing. Special software monitors the keyboard 20 times per second to keep up with even the fastest typist. Keeps track of the keys you know and those you don't, and can create completely individualized drills for increasing your skills and accuracy. Drills can include number keys and special keys used in programming. Price $14.95.

MUMATH

A symbolic math system, allowing your Apple to handle fractions, algebraic unknowns, symbolic integration and much more. 48K.

Milliken Publishing ✶

1100 Research Blvd
St. Louis, MO 63132
314/991-4220

▷ MILLIKEN MATH SEQUENCES
   Provides drill and practice for students in grades 1 through 8 in the following mathematical operations:

Number Readiness	Integers
Addition	Fractions
Subtraction	Decimals
Multiplication	Percents
Division	Equations
Laws of Arithmetic	Measurement Formulas

   This material correlates with concepts presented in most basic mathematics texts. The Math Sequences provide individual drill and practice for students in math operations that have already been introduced by the teacher.
Each of the sequences contains many different levels of problems, progressing from simpler to more difficult. The addition sequence, for example, contains 60 problem levels.
   Each subject area can be managed by the teacher, or the teacher may choose to allow the student to choose their own levels of difficulty. A program called a classroom manager gives teachers complete control to make assignments for review and drill at specific problem levels for all their students.
   The package contains twelve diskettes, a Teacher's Guide, four duplicating masters, and a card with step-by-step instructions for operating the Apple. Price $450 (48K).
   Note: This is a revised version of the earlier Milliken Math package, which was for Grades 1-6 and operated on a 32K Apple. The new package has many improvements, including more control for the teacher, better use of graphics, and alternative sets of feedback for correct answers.

▷ MILLIKEN LANGUAGE ARTS
   Contains structured drill and practice for students in Letter Recognition and Alphabetization skills. The curriculum is appropriate for grades 1-8. A Manager Program is included that allows teachers to make assignments and review student progress. In addition, the Manager will keep a record of incorrect answers during the Letter Recognition drill. The Sequences are designed to provide individualization of both skill and performance objectives.

The entire package, including two diskettes, duplicating masters, and a Teacher's Guide with a card containing step-by-step instructions for operating the Apple, is priced at $75. It requires an Apple II Plus (48K).

Note: Other language arts programs are scheduled for release this year -- Grammar, Usage, and Reading.

The Morgan Fairchild Group

2022 26th Avenue East
Seattle, WA 98112
206/323-9317

► COMPUTER ASSISTED CARTOGRAPHY
Mapmaking system for the Apple II, including all necessary files and utilities as well as some sample data files and a demonstration file that shows some of the capacities of the system. Teaching modules can be authored based on the capabilities of the system. Price $300.00.

Msss D, Inc.

3412 Binkley
Dallas, TX 75205
800/527-5419
214/522-8051

CREATE A PRESENTATION
An authoring system for teachers which allows them to create tutorial and drill lessons.

INTERFACE PROGRAM
Allows the Apple to interactively drive a filmstrip projector, starting and stopping the projector to insert questions to the student. Software is available with this interface for the following filmstrip titles ($75.00 each, filmstrips are additional):

SENTENCE PATTERNS

WRITING SENSE

DEVELOPING STUDY SKILLS

INVESTIGATING ELECTRICITY

ENERGY AND OUR ENVIRONMENT

METRIC WORLD

CONSUMER AT LARGE

ENGINE LATHE

SHOP MEASURING INSTRUMENTS

SHOP SAFETY

JOBS IN DATA PROCESSING

STORIES ABOUT SHAPES

STRUCTURAL ANALYSIS

PHONIC SERIES 2

READING COMPREHENSION

GETTING A JOB

FUNCTIONAL READING

LOOK, LISTEN, AND DISCOVER

OMNICO

Computer Associates, Inc.
3300 Buckeye Rd.
Atlanta, GA 30341

► REGISTRAR
Registration system to automate the conventional registration process for high schools. Designed to closely emulate ordinary registration procedures. Class rolls and student schedules are automatically generated. Price $650.00 (48K, 2 disk drives).

READER
     Computerized reading program enables the Apple computer
to be used as a reader with the teacher prescribing the story
and reading speed for each student in advance. The student
then has an individualized reading prescription. READER
automatically tests comprehension and stores the results for
later retrieval by the teacher. Price $150.00.

STORIES
     Ten to twenty stories per diskette depending on grade
level (to go with READER program). Comprehension tests for
each reading. Please specify reading level (K-12). Each
diskette $55.00.

COMPETENCY MANAGER
     Keep records of student progress. A fairly common set of
competencies is included; also, each school can define its
own set. Provision is made for automatically generating
letters to students or parents containing the student's
status. Price $550.00.

APPLE FLASH
     Perceptual accuracy can be tested with an infinite
variety of speeds, letters, numbers, shapes, and symbols.
Records students progress on disk and allows teachers to set
prescriptions prior to class. Price $110.

FLASH DISC
     K-2, 3-6, Middle School, High School, or College. Each
diskette $35.00.

Personal Software, Inc.

592 Wedell Dr.
Sunnyvale, CA 94086
408/745-7841

▷ VISICALC
     An Electronic Sheet, used for planning and forecasting.
Business education departments will find this a useful tool
for teaching students to calculate sales projections, income
taxes, financial ratios, engineering changes and cost
changes. Automatic recalculation of relevant formulas is
provided, making it easy to ask the question "What if . .
.?". One of the most popular programs for the Apple. Price
$150.00 (32K).

► DESKTOP PLAN
Development and analysis of business plans such as budgets, cost and price analysis, sales forecasts, cash flow planning, capital budgeting, profit and loss projections, and a myriad of similar types of analysis. No computer experience is required -- menu driven (32K).

VITA-FACTS
Personal health programs that present medical information about physical and mental health, presented in a straightforward way. Each program is approved and endorsed by The College of Family Physicians in Canada, and contains a manual with diagrams and glossary, a computer cassette, and an audio cassette. The audio tape uses short drama and straight talk to tell the story. The computer portion consists of exercises testing the material. Price $19.95 each.

GROWING UP
Helps families cope with the teenage years. Teenagers learn more about their physical and emotional changes, and parents learn more about helping their children through it all.

HEART ATTACKS
Describes what one is, how to recognize it, what to do when someone is experiencing one, and -- most important --- how to prevent one.

TALKING ABOUT SEX
Presented by two of Canada's foremost sex counselors, offers to adults the proper information and appropriate attitude for a satisfying sex life.

DRINKING AND DRUGS
No lecturing or talking down. Just straight talk about the very real dangers of alcohol and drugs. Prepared for teenagers.

BIRTH CONTROL
Explains clearly and completely conception, birth control and prevention of unwanted pregnancies. Important information for teenagers.

YOUR BLOOD PRESSURE
No one is immune to the risks of high blood pressure. Knowledge is your best defense, and this program has the information.

Powersoft

P.O. Box 157
Pitman, NJ 08071
609/589-5500

FUNCTION GRAPHS AND TRANSFORMATIONS

A visual, intuitive, and experimental approach to certain topics in algebra, trigonometry, and analytic geometry that can be difficult when presented in a purely symbolic fashion. The program uses the Apple's graphics capabilities to draw detailed graphs of functions which the user defines. Price $14.95.

APPLE AUTOMOTIVE DIAGNOSIS

Simulation of most automobile problems. From generalized questions that the user responds to, the program will narrow down the possible causes to the most likely few. Price $19.95 (Integer).

APPLE BASIC STATISTICS

Computing the mean, standard deviation, probable error of the mean and probable error. Price $9.95 (cassette).

APPLE ELECTRICAL ENGINEERING I

Contains typically used calculations in electric circuits and in electrical design, such as: figuring voltage, amperage, resistance, power, capacitance, and power factor. Price $9.95.

APPLE ELECTRICAL ENGINEERING II

Contains 14 general purpose sub-programs. Price $14.95.

APPLE VECTOR ANALYSIS

Handles electrical phase and force vectors, and will convert Polar coordinates to Cartesian coordinates which can then be plotted. Price $9.95.

STATISTICS I

A set of programs that compute power curve fitting, Linear Regression Analysis (Least Squares), Logarithmic Curve Fitting, and Exponential Curve Fitting. Price $14.95 (cassette).

Program Design, Inc.

11 Idar Court
Greenwich, CT 96830

A range of instructional programs for all ages; reading, writing, and spelling are highlighted. Most programs are available on both cassette and disk; cassettes fit in a 16K Apple; disk programs fit into a 32K Apple. All programs are in Integer Basic.

SPELLING BUILDER
Junior High and up. Eight programs plus an audio cassette teach important spelling rules and skills. Helps students and adults overcome spelling difficulties. Drill plus a method for approaching difficult words. Price $23.95.

PRESCHOOL IQ BUILDER
Ages 3-6. Teaches cognitive skills that children need to learn. Included are discrimination between two forms and letter matching. A parent's guide is included. Price $23.95.

STEP BY STEP
Junior High to Adult. 32 programs and a workbook teach programming in BASIC for the beginner. Introduces important commands and programming logic, including simple string logic and one-dimensional arrays. Lessons are interactive, presented in a question-and-answer format on the screen. The workbook adds information. Price $59.95 on 2 diskettes.

THE TEACHING MACHINE
A series of programs showing the uses and values of educational software and containing actual samples of PDI's educational programs. Price $5.00.

CODE BREAKER
Ages 10 to adult. Scrambled message games of increasing difficulty that build basic word handling skills needed for good writing. Games increase in difficulty. Price $19.95.

MINICROSSWORD
Four programs that consists of 2 minicrosswords and 2 codeword games. Invent your own crossword puzzles. Codeword programs are word-guessing games. Price $19.95.

IQ BUILDER SERIES

Junior High and up. A group of four courses that prepare a High School student for the College Boards or adult for aptitude test. Price $19.95 each.

VOCABULARY BUILDER I

Graded vocabulary questions on synonyms and antonyms, and a test on vocabulary. There are 400 questions in the test and 2000 words in the course.

VOCABULARY BUILDER II

A more advanced word list.

ANALOGIES

Tutorial on what an analogy is, what common types are, a method for analyzing analogies, and practice in handling all types.

NUMBER SERIES

How to analyze number series patterns. Practice and tests.

STORY BUILDER/WORD MASTER

Series of partially completed verses that the child completes. Teaches grammar skills. Word Master is a logic game where the child tries to guess a 3 letter word generated by the Apple. Teaches reasoning and vocabulary. Price $19.95 (16K).

MEMORY BUILDER

Ages 6 and up. A series of educational games to improve memory, attention span, and concentration. Letters and 3 letter words are used. Player can play against himself, another player, or the Apple. Price $19.95.

READING COMPREHENSION: WHAT'S DIFFERENT

Ages 8 and up. Students pick the one word in four that doesn't belong with the rest. Price $19.95.

WORD SKILLS 1: PREFIXES

Age 10 and up. Learn the meaning of a group of prefixes, practice choosing the correct prefix, and analyzing the meaning of new words by examining the meaning of the root and prefix. Price $19.95 (16K).

WORD SKILLS 2: PREFIXES

Ages 10 and up. A different series of prefixes. Price $19.95.

WORD SKILLS 3: SUFFIXES
Ages 10 and up. Common suffixes. Price $19.95.

WORD MEANINGS
Ages 10 and up. Synonyms, homonyms, and antonyms. Price $19.95.

NOUNS
Age 10 and up. Proper and common nouns; capitalization of nouns and titles. Price $19.95.

ASTRO WORD SEARCH: SPANISH
High school to adult. The Apple generates hundreds of different puzzles, but this time the hidden words are common Spanish words. Price $19.95.

ASTRO WORD SEARCH: FRENCH
Same as the Spanish version but for French. Price $19.95.

Programma International, Inc.

3400 Wilshire Boulevard
Los Angeles, CA 90010
213/384-0579

ALGEBRA 1
Used to solve first degree algebraic equations. Shows each iteration of work. Price $15.95 (32K).

AUDIO ENGINEER
Draws audio circuits and solves for unknowns. Price $29.95 (48K).

STATE CAPITALS
Map of the U.S. is presented with the capitals plotted on the map. Try to guess the name of the capitals. Price $9.95 (16K, Integer).

STATISTICS
Standard statistical calculations such as found in SPSS programs. Price $19.95 (24K, cassette).

Programmer's Software Exchange

22110 N. Second St.
PO Box 199
Cabot, AR 72033

MATH PRACTICE
Choose your range and practice multiplication tables. Wrong answers are given negative feedback. Price $5.00 (cassette).

MORSE CODE
You type in letters and the Apple generates Morse Code. Price $2.00.

NUMBER GUESS
Guess a random number with the Apple giving back clues. Price $5.00.

NUMBER GUESS WITH MUSIC
Variation on the above. Price $5.00.

NUMBER JUMPER
Try to arrange a set of numbers in sequence in a limited number of moves. Price $5.00.

NUMBER REVERSE
Variation on the above. Price $6.00.

Programs For Learning, Inc.

P.O. Box 954
New Milford, CT 06776

PROGRAMS FOR LEARNING is a network of chemical educators dedicated to the development of computer-based instruction. Programs are grouped into concept-related packages and include an instructor's guide. Programs fall into two general categories, drill and practice exercises, and simulations.

PRICE: All packages, including software and the instructor's guide, are $100.00.

Individual programs may be ordered separately for $20 per
program for 1 to 5; $15 each for 6 or more.   Documentation is
included.

New customers may order a Sample Introductory Package comprised
of any three programs listed, for a cost of $25 for all three.
Included are complimentary copies of four instructor's guides.

The book CHEMISTRY WITH A COMPUTER -- a collection of tutorial,
simulation and problem-generating programs for general chemistry
-- is available for $14.95.

Four Instructor Guides may be ordered for examination purposes
for $5.00 (prepaid).

Packages available:

       ACID-BASE CHEMISTRY
       ATOMIC STRUCTURE
       FUNDAMENTAL SKILLS FOR GENERAL CHEMISTRY
       CHEMISTRY WITH A COMPUTER
       CHEMICAL EQUILIBRIUM

ACID/BASE CHEMISTRY (No. AB-1)

ABEQ
Demonstrates acid-base equilibria; students vary initial
concentrations and dissociation constants to observe effects
on equilibrium concentrations, pH and percent dissociation.

BUFFER
Demonstrates pH changes in buffer solution; students
establish initial conditions and observe pH values as a
strong acid or base is added to both the buffer and a
comparison sample of pure water.

BRNSTP
Drill on recognition on Bronsted acids and bases in a
randomly selected sequence of reactions.

DRILL 1
Drill on a variety of fundamental concepts in
multiple-choice format, such as identifying conjugate
acids/bases and interpreting relative strengths of acids from
a table of equilibrium constants.

DRILL 2
      Practice problems concerning pH, pOH for solutions of acids, bases and buffers of varying strengths.

ENDPT
      Titration simulation in which student tries to analyze an unknown acid sample in the most efficient manner.

KHP
      Practice with problems concerning standardization with potassium acid phthalate and determination of equivalent weight of unknown acid.

MOLAR
      Practice problems concerning moles, grams and molarity of solutions.

PH
      Problem exercise presented in stages arranged in order of increasing complexity.

TCPLOT
      Plots a titration curve demonstrating PH changes as strong base or acid is added to any weak acid or base with up to eight dissociation constants.

TCPROB
      Practice problems of the type encountered in plotting a titration curve.

ATOMIC STRUCTURE (NO. AS-1)

ATOMIC
      Drill on the number of protons, neutrons and electrons in atoms with atomic numbers through 22.

IP
      Drill on predicting relative ionization energies for different atoms and ions, based on their positions in the Periodic Table.

LEWIS
      Drill to develop mastery of the actet rule.

MILKAN
   Simulation of the oil drop experiment; by varying
voltage across plates, students find conditions which keep
drops stationary.

BUCLER
   Practice interpreting equations for nuclear reactions in
which one of the sub-atomic particles has been omitted.

SPDF
   Drill on determing the number of electrons with given
principal and azimuthal quantum numbers in a particular atom
selected at random from a range determined by student.

RYDBRG
   Questions concerning the relationship between the energy
levels and spectral lines in a hydrogen atom.

TRENDS
   Questions concerning various trends and relationships
between atoms based on their relative positions in the
Periodic Table.

VSRPR
   Practice using the V S R P R method to predict
hybridization and geometry of simple molecules and ions.

FUNDAMENTAL SKILLS FOR GENERAL CHEMISTRY

BALEQ
   Drill on balancing equations.

CONVERT
   Drill on Metric/English conversions.

DENSITY
   Practice with problems concerning density, mass and
volume.

ELEMENT
   Drill on symbols, atomic number, electron configuration
of first 20 elements.

EXPO
   Tutorial exercise explaining exponential notation.

IONS
   Drill concerning symbols and charges for common ions.

METRIC
     Drill on SI units of mass, length and volume.

MOLWT
     Practice in computing formula weights.

NOMEN
     Drill on names and formulas for common compounds.

SIGHELP
     Drill on significant figures.

SYMBOL
     Drill on names and symbols of elements.

TEMP
     Practice with temperature conversions.

CHEMISTRY WITH A COMPUTER (No. CC-1)

EQPROB
     Practice problems concerning equilibrium constants;
given reaction type and concentrations, determine constant,
or, given constant, determine concentrations.

GASES
     Conventional assortment of pressure-volume-temperature
problems for practice with Boyle's, Charles' and the combined
gas laws.

KSP
     Problems concerning solubility product calculations.

MOLES
     Drill on problems concerning percent composition and
gram-mole relationships in common compounds.

EXP19
     Simulation of ChemStudy experiment concerning the
development of a scheme of analysis based on three solutions
and four test reagents.

EXP20
     Simulation of ChemStudy experiment concerning an
introduction to qualitative analysis with metals of the
second group.

REDOX
      Practice on various topics concerning
oxidation-reduction systems such as identifying electrodes
losing or gaining electrons, direction of electron flow, and
potential difference in a given cell.

SOLUBLE
      Drill on moles, molarity, molecules, and dilution.

STATE
      Simulation of a system in which a substance is to be
identified by observing changes of state when it is heated or
cooled.

SYSTEM
      Drill on metric units of length, mass and volume.

CHEMICAL EQUILIBRIUM (No. EQ-1)

ACIDEQ
      Practice problems on pH, pOH with strong and weak
acid/base/buffer solutions (same as DRILL2 in AB-1)

EQCALC
      Practice estimating equilibrium concentrations for any
reaction with known equilibrium constant.

EQUIL
      Investigation of two systems, one with a large Keq, the
other with a small constant (PCL5, phosgene) to develop
understanding of relation between constant and
concentrations.

EQPROB
      Drill and practice computing concentrations from initial
date and equilibirum constant, or constant from
concentrations (same as EQPROB in CC-1).

HABER
      Simulation of ammonia syntheses allowing variations in
temperature, pressure and catalyst to show effects on speed
of reaction and equilibrium concentrations.

HIEQ
      Simulation hydrogen-iodine-HI equilibrium system to
introduce the concept of equilibrum constant.

H2S
      Practice problems with concentrations of various species present in hydrogen sulfide solutions at varying pH values.

KSP
      Practice problems with solubility product calculations (same as KSP in CC-1).

KSP2
      Practice problems using solubility product to predict precipitation when mixing dilute solutions containing ions of slightly soluble compounds.

LECHAT
      Drill on applications of Le Chatelier's principle.

Progressive Software

P.O. Box 273
Plymouth Meeting, PA 19462

CATCH THE PIG
      Upper grade school game which teaches, up to four students at one time, the cartesian coordinate system. The students chase a graphics pig through the four quadrants. Price $16.95 (16K).

WATER THE FLOWERS
      Math programs covering basic operations for grades 1 through 6. Price $19.95 (16K).

MORSE CODE
      Learn Morse code by typing in words and sentences. The Apple generates Morse code (sound and graphics) in return. Price $9.95 (cassette).

POLAR COORDINATE PLOT
      Five classic polar coordinate plots are provided and the user can insert his own. Shows the user the data needed to generate a plot like the one he specified. Price $9.95 (cassette).

TOUCH TYPING TUTOR
      Indicates speed and errors made. Price $19.95 (16K).

CURVE FIT
    Takes any number of data points, and returns any one (or best) of log curve fit, exponential curve fit, least squares, and power curve fit. The results are then graphed. Price $9.95 (16K).

Richard W. King

3 Nappa Lane
Westport, CT 06880

Written by professional educators, the programs from Richard W. King all run on 32K APPLES.

BASIC TUTOR I
    Studies on programming for the APPLE, in BASIC. Assuming the user's background to be nil, programming commands and skills are introduced at the novice level. Price $15.00.

BASIC TUTOR II
    More studies in BASIC. Introduction to graphics. Most of the BASIC programming commands have been included by this time. Price $15.00

ASTRONOMY I
    Studies of more that 20 constellations and stars seen in the northern hemisphere. It introduces the twelve Zodiac constellations, and shows the sun's apparent motion through the stars. Price $20.00.

MUSIC COMPOSITION
    Includes four main programs that allow the student to generate his own music, see the notes on the music scroll, hear the notes 'typed' in, and save his composition for later playback. Instructions are included on the length of notes and rests, and the student can set the pitch, tone and rests duration and tempo for each composition. He can then play back the music program. Price $20.00.

PHYSICS I
    Provides an introduction to physics, motion, free-fall, restitution, trajectory of arrows, and relativity ideas. Price $15.00.

POPULATION

Three studies of population, world and United States, showing the results of various annual population growth rates. Intended to generate classroom discussion. Price $15.00.

TESTFORM

Allows teachers to generate tests. Price $20.00.

MISCEL

A miscellaneous collecton.

LOGS 10 computes logs base 10.
STOPWATCH is a real time stopwatch.
Y = MX plots graphs for input equations.
GRAPHS is five programs using graphics.
MOMENTUM involves the physics of linear momentum law.
CONSTELLATIONS shows twelve constellations of stars.
PRIMES generates prime numbers.
CALCULATOR turns your APPLE into a better calculator.

Science Research Associates ⋆

155 North Wacker Drive
Chicago, IL 60606
800/621-0664
312/984-2000 (Illinois)

▷ COMPUTER DISCOVERY

A program to introduce students in junior and senior high school to basic computer concepts. No prior knowledge of computers is required. Student workbook contains introductory text in the areas of computer history, computer hardware and software concepts, analysis and programming, and the social and economic impacts of computers. The package contains an instructors guide, two diskettes, and a student workbook. The diskettes and instructor's guide is priced at $125.00, and the student workbooks are $3.25 each (32K).

▷ CLASSROOM MANAGMENT SYSTEM: MATHEMATICS

A system for diagnosing, prescribing, and recordkeeping in mathematics. The CMS program administers broad survey tests covering major curriculum objectives. Student errors on survey tests lead to more detailed diagnostic tests to pinpoint areas of weakness. The Apple then prints out a

prescription with specific page references to the texts, kits, and other learning materials in the classroom that will help teach or reinforce the skills needed. Students work with these materials, then return to the system. The Apple rechecks to see if the skills have been mastered and records each student's progress.

The computer generates the following reports for the teacher: Class Record, showing every student's current position -- work completed, work remaining; Grouping Report, listing every student working on the same skill at the same time; Short Student Report, giving more detailed information on each student than Class Record provides; Full Student Report, identifying each student's progress in a given skill area; Class Lists.

The package comes in two levels. Level A covers basic concepts of whole numbers; addition and subtraction of whole numbers; problem solving; measurement; time; money; and geometry. Level B covers basic concepts of and operations with whole numbers, fractions, decimals and percents; problem solving; measurement; geometry; applications; probability; and statistics. The Level B package is priced at $595.00. Pricing on the level A has not been announced.

SRA COMPUTER DRILL AND INSTRUCTION: MATHEMATICS

Basic mathematics drill. "Managed version" of the system measures student's current performance and automatically moves the student ahead or back as appropriate. A "Help" feature permits the student to call up a step-by-step explanation of any problem by striking the ? key.

Management diskette stores data on completed lessons for a classroom of students and can generate a variety of class and individual reports. Permanent records can be printed out, or exercise sheets for homework can be generated. An unmanaged version is also available, offering the "Help" feature but without recordkeeping or the ability to move students from lesson to lesson automatically.

Three levels of skill coverage are available. Level A includes numeration, addition, and subtraction; Level B includes Level A skills and includes multiplication; Level C extends Level B skills and includes decimals. Each level consists of a binder containing diskettes and a Teachers Guide.

Managed Version: Level A	$325.00
Managed Version: Level B	$425.00
Managed Version: Level C	$475.00
Unmanaged Version: Level A	$250.00
Unmanaged Version: Level B	$350.00
Unmanaged Version: Level C	$400.00

SRA COMPUTER DRILL AND INSTRUCTION: FACT TRACK

A program of timed drill on Addition, Subtraction, Multiplication, and Division facts, designed to build speed and accuracy. Student or teacher selects skill area, difficulty level, and type of timed drill. Drills may be in a race format in which student competes agains time or another student, or in a non-competitive format. The Apple reports student speed and performance, showing which facts merit further practice. A teachers guide is included. Price $75.00.

SRA COMPUTER DRILL AND INSTRUCTION: ARITHMETIC GAMES

A set of six games for one or two players. Players can use basic computational skills in a competitive setting and can choose easy or harder versions of each game. Three sets of two games each are available for $50.00 per set. The entire set is available for $120.00. Teacher's guides are included.

Serendipity Systems, Inc.

609 West Clinton street
Ithaca, NY 14850
607/277-4889

All packages require 48K. An 80-column printer is useful but not required. Each of the packages includes software and documentation, and is priced at $149.00. The manual separately is $15.00.

INSTRUCTOR GRADEBOOK

Designed to simplify the evaluation process for teachers. The package provides maximum flexibility in grading options and is entirely self-prompting. Class and individual student statistics are calculated quickly, and various reports are available as screen displays or printed copy.

INTERACTIVE STATISTICS

Analysis package designed for teachers and businessmen who do not have access to large computers. The entire system is interactive and its features include menu-prompting and data stored in user-named variables. Available statistical routines range from the simple -- e.g., sum, average, and

median -- to the complex -- e.g., binomial and poisson
distributions, correlation coefficients, and analysis of
variance (both one and two-way). Results can be displayed or
printed in either columnar format, or plotted as histograms
or simple X-Y graphs.

ADVANCED MATHEMATICAL ROUTINES

For professionals in the areas of research, business,
and operations management. It consists of a set of
mathematical tools which provide answers to a variety of
common complex numerical problems in relatively short periods
of time. The package includes routines for linear regression,
matrix operations, numerical calculus, differential
equations, and optimization. In addition, a routine is
provided for the plotting of equations. Data sets, which are
automatically stored on the diskette, can be recalled on
demand. Thus, repeated calculations with slightly varied
input parameters are possible.

Sliwa Enterprises

P.O. Box 7266
Hampton, VA 23666

Programs and data bases used to improve verbal skills
interactively. Intended as study aids for college board type
exams (e.g. SAT, GRE, etc.). Programs include an editor for
expanding and modifying data lists. Realistic multiple choice
questions are generated with several options.

VOCABULARY BUILDER

Over 1600 entries with option of matching synonyms or
antonyms. Price $19.95.

ANALOGY

Over 1200 word relationships. Price $19.95.

SENTENCE COMPLETION

Equivalent to 6 SAT tests. Price $19.95.

VERBAL SKILLS PAK

All three of the above diskettes. Price $44.95.

Softagon

P.O. Box 744 M
Morristown, NJ 07960
201/539-3770

Softagon's programs require 48K. Available on both cassette
($14.95) and disk ($19.95).

MY ABC'S
    Uses graphic letters and pictures for drill and practice
on identification of capital and small letters. Scoring
capability allows monitoring.

NOW I CAN RHYME
    A companion to "My ABC's", the student selects pictures
that rhyme. Progressive levels of difficulty.

Softape

10756 Vanowen
North Hollywood, CA 91605

THE TALKING CALCULATOR
    Turns the Apple into a talking 10 digit calculator --
the program will say the answer. Price $12.95.

FORTE
    Interpretive language that allows the student to write
music for the Apple without having to do any coding in BASIC.
Price $19.95 (Integer).

Special Delivery Software

10260 Bandley Drive
Cupertino, CA 95014
800/538-3088
800/662-9256 (In California)

Special Delivery Software is a division of Apple Computer which
distributes software for Apple that is not supported by normal
Apple support methods, such as the dealer network and the Hot
Line. Unlike standard Apple software, it is sold direct to
consumers via an 800 number ordering system or by orders through
the mail.

GEOMETRY AND MEASUREMENT

Recommended for students in junior high school and
above, the program provides drill and practice for students
on areas, perimeters, lengths, angles, polygons, volumes,
circles -- even on clock time intervals. Students can control
the number of problems drilled and get summaries of correct
answers so that they can gauge progress. Package contains two
diskettes (elementary and advanced), and user instructions.
Price $50.00 (32K, Dos 3.3).

MUSICOMP

Provides an electronic music sheet on which you can
compose, arrange, store and play your own music. Comes with
pre-programmed tunes and all software necessary to allow you
to enter your own. Musical output can occur through the
normal Apple speaker, or it can be connected through the
cassette output jack to a stereo system, letting you use your
Apple to "play" music, without adding any equipment. Three
"voice" and four "timbre" settings are available to alter the
tone or the composition. Instructions included. Price $45.00
(32K, Integer, Dos 3.3).

VT100 EMULATOR

Turn your Apple into a VT 100 terminal (terminal for
RSTS-E based PDP-11 systems). Price $75.00 (48K, Dos 3.3,
Communications Interface Card, Modem).

► HAND HOLDING BASIC

New implementation of the ANSI 78 minimal BASIC
interpreter for the Apple II. Provides character by character
input checking, so you avoid making costly syntax errors.

Also, provides a complete easy to use debugging environment by providing special displays to monitor the path of the execution, control the speed of execution, and watch the "return" stack.

Hand Holding Basic has four distinct learning levels that let you learn BASIC in stages, and at your own speed. Level 1 encompases arithmetic expressions only; Level 2 adds simple variables, along with corresponding syntax checking capabilities; Level 3 introduces powers and functions; while Level 4 introduces the ANSI Minimal Basic. Instructions are included. Price $100.00 (48K, Integer or Applesoft).

Spectrum Software

P.O. Box 2084
142 Carlow
Sunnyvale, CA 94087
408/738-4387

NUMERICAL ANALYSIS

Two dimensional plot of any function with automatic scaling. Additionally, the program can plot the integral, the derivative, determine the roots, find the maxima and minima and list the integral value. Price $19.95 (16K).

MATRIX

General purpose, menu driven program for determining the inverse and determinant of any matrix, as well as the solution to any set of simultaneous linear equations. There is a 55 equation set which runs in 48K and a 35 equation set that runs in 32K. Price $19.95.

3-D SURFACE PLOTTER

Any three dimensional surface can be plotted from any three variable equation. Price $19.95 (32K).

Steketee Educational Software

4639 Spruce St.
Philadelphia, PA 19139

PLOT
Aid for classroom mathematics lessons. The program will graph most any function including those with trigonometric functions. The user can control the bounds of the axes, and several graphs can be plotted on the same screen in different colors. Comes on a disk with SPEED DRILL and NUMBER LINE. Price $15.95.

GUESS THE RULE
Apple selects an equation, ranging from simple linear ones to quadratics. The player is then shown two pairs of x,y values and must try to "guess the rules."

SIMULATED COMPUTER
Shows a simulated microprocessor. Memory locations are shown as well as an accumulator, program counter and instruction register. A group of three digit commands for such functions as add, subtract and skip are used to program the simulation.

ALPHABET
Helps teach alphabet with alphabet song.

OTHER TITLES AVAILABLE
Addition Drill, Arithmetic, Estimation Drill, Integers, Multiplication Drill, Number Line, Simulated Computer, Speed Drill.

Sterling Swift Publishing Co. ★

1600 Fortview Road
Austin, TX   78704
512/444-7570

▷ APPLESOFT BASIC TUTORIALS
A series of twelve tutorials on using and programming the Apple. The tutorials assume no knowledge of computer usage or programming skills. The tutorials progress from keyboard operation to such topics as for-next loops, arrays,

and graphics. The CAI tutorials are designed to go with a Microcomputer Workbook for the Apple II by the same authors. There is a text and teacher's guide that can also be used with the package. Price $74.95.

▶ TEACHER LITERACY KIT
       No software included, but still something of great interest to the school with Apples. The Teacher Literacy Kit has three elements: A Computer Literacy Show and Tell Kit, which includes actual computer parts so students and teachers can relate the words they have heard (such as integrated circuit, transistor, etc.) to the reality; Computers And Education, a book explaining the role of computers in education to the teacher who is new to the area; and Microcomputers and Apple BASIC, a book which leads you on a step by step exploration of microcomputers and how to formulate a problem for computers first in the general terms of flowcharting and then with Apple BASIC. Price $99.95. Write to publisher for reduced school prices.

Stoneware

1930 Fourth Street
San Rafael, CA 94901
415/454-6500

ARISTOTLE'S APPLE
       Courseware development lesson that lets the teacher or parent fill in and specify their lesson content into a form. The prepared lesson can later be used by students. Price $34.95.

System Design Lab

121 8th Street Altizer
Huntington, WV 25705
304/525-5916

THE FORECASTER
       Performs a linear regression analysis on entered data and returns a regression equation. The data and the equation

are graphed, as well as the trend line specified by the
equation. Price $20.95.

MULTIPLE REGRESSION ANALYSIS
    Includes a correlation matrix, inverted matrix, sum,
mean, and standard deviation. Price $29.95.

Teach Yourself By Computer Software

40 Stuyvesant Manor
Geneseo, NY 14554
716/243-3005

TYC Software is offering a Mind-Memory Improvement Course for
the Apple II. It combines the Apple with a teaching manual and
audio cassettes. The course teaches a system for memorizing
lists of items easily. Additionally, the course develops skills
for memorizing more difficult material as well as listening and
remembering skills. The emphasis in the course is placed on
remembering people's names and faces. The two courses combined
cost $49.90 and an instruction booklet is included.

MIND-MEMORY IMPROVEMENT — LEVEL I
    Price $26.95 (16K, Integer).

MIND-MEMORY IMPROVEMENT — LEVEL II
    Price $31.95 (16K, Integer).

INDIVIDUAL STUDY CENTER
    Each subject can be studied in any of the six forms of
study offered in the study center. Five of these are game
formats, and one is a drill and practice format. Each subject
comes on cassette, includes at least 80 questions (and the
answers) and is $4.95. The study center itself includes two
cassettes for the programs, sample subject data tape, blank
cassette, user's manual and teaching guide, and a binder.
Price $39.95 (16K).

The following tapes are available:

SPELLING -- Grades 1 - 8 (One Tape per Grade Level).

Improve Your Vocabulary I, II

English Grammar -- Grades 3-12 (one tape per grade level).

ENGLISH -- Working with Synonyms and Antonyms
ENGLISH -- Working with Adjectives
ENGLISH -- Working with Adverbs
ENGLISH -- Working with Contractions and Homonyms
ENGLISH -- Working with Subjects and Nouns
ENGLISH -- Working with Pronouns and Prepositions
ENGLISH -- Working with Verbs

FRENCH I
FRENCH II
SPANISH I
SPANISH II
GERMAN I
GERMAN II

Colonial Period, Constitutional Period

Civil War Period, Industrial Revolution

World War I

World War II

Geography Terms, Capitals of the U.S.

Ham Radio License Review

Mathematics -- Grades 1-8 (one tape per grade level)

Addition Facts

Subtraction Facts

Multiplication Facts

Division Facts

Cell Division and Genetics

Plants and Ecology

Digestion and Circulation

Respiration & Excretion, Nervous & Endocrine Systems

Reproduction & Muscles and Bones

TMC

T&M Computing
4814 Rainford Court
St. Louis, MO 63128
314/892-5306

PHYSICS LESSONS
$29.95 (48K).

MATH LESSONS
$29.95 (48K).

Trans Data Corp.

161 Almeria Ave.
Coral Gables, FL 33134
800/327-8455

NUMBER SERIES
Shows a method of solving number series problems and provides practice. A guide is included. Price $9.50.

Non-Commercial Publishers of Education Software

Non-commercial sources of software for the Apple are often not as well known since they are not usually advertised or sold through computer stores. However, this is currently an important source of software for the Apple.

The Minnesota Educational Computing Consortium (MECC) was formed in 1973 by the public educational systems in Minnesota to coordinate and provide computer services to students, teachers and educational administrators throughout Minnesota. In addition to operating a 420 port general purpose timesharing system, MECC supports the use of over 1800 Apples which are used either as a stand alone computer or as a terminal to accept downloaded programs from the timesharing system. Part of the MECC staff and resources is devoted to the production of courseware material, and as a result some 16 separate diskettes are available outside of Minnesota in areas ranging from elementary math to computerized accounting.

Total Information Educational Systems (TIES) is a data processing service organization for some of the Minnesota school districts. They have a large amount of instructional material for the Apple, converted from timesharing, as well as some original instructional material created for the Apple.

Both MECC and TIES are groups who have primarily produced software for their own members, and are now making the results of their work available to the rest of the world. As more and more states and institutions adopt the Apple, we will see more internally developed software being released for sale. Many of those groups are in the formative stages now.

A third group whose primary charter is that of producing high quality instructional software is CONDUIT, based at the University of IOWA. A typical CONDUIT reviewed and tested package consists of a computer program written in BASIC, a student manual telling of objectives and methods of use, and an instructor's guide indicating course use. CONDUIT has college-level materials available in biology, chemistry, physics, and psychology.

A last category of products listed here are those that were done under public monies and which are being distributed free or for a nominal cost by the professor or school involved. Although this is not currently a major source of software, it will not be long before this is one of the largest categories as the number of funded Apple projects continues to increase.

Non-Commercial Publishers of Education Software

Table of Contents

CONDUIT *

University of Iowa
P. O. Box 388
Iowa City, IA 52244
319/353-5789

CONDUIT provides college level, field tested packages in biology, chemistry, physics, and psychology for the Apple.

Except where noted otherwise, prices for CONDUIT program packages include software, Instructor's Notes, and some sets of student notes. Additional copies of software, student's notes and Instructor's notes are also available.

ECOLOGICAL MODELING
Techniques for modeling ecological systems and processes on the computer. By controlling certain parameters, such as intitial population size, growth rate, time length of simulation, and others, the student tests hypotheses and predicts results from ecosystems. The package is designed for use in an introductory ecology course. Price $60.00.

LINKOVER
Genetic Mapping. Plan and execute a program of experiments so that an accurate genetic map of a single chromosome can be drawn. The material is designed for use by students who have a knowledge of the principles of Mendelian inheritance and the theory of linkage and genetic mapping. Price $30.00.

COEXIST
Population Dynamics. The student conrols such variables as the number of offspring, generation times, initial and saturation problems, and inhibiting factors. Price $30.00.

COMPETE
Plant Competition. Six investigations for the study of interactions between flowering plants. Price $30.00.

SIMULATED GROWTH-MIXTURE
Simulates different planting densities, allowing study of the interaction of any two of four kinds of plants.
INTERACTION BELOW THE GROUND
Shows how conditions in the soil can affect the balance between two species.
DIRECT PLANT INTERACTION
Investigates the chemical substances produced by plants which affect other species growing nearby.

EFFECTS OF CROWDING ON PLANT GROWTH
     An experiment designed to show the effects of crowding.
MEASUREMENT OF GROWTH
     Introduces the quantitative measurements of plant growth which are used in most of the investigations.
SIMULATED GROWTH (MONOCULTURE)
     Experiments show the use of a computer to simulate plant growth.
INTERACTION BETWEEN CLOVER VARIETIES
     Includes an experiment modeled after one by the Nuffield Advanced Biological Science Project.

ENZKIN
     Enzyme Kinetics. Practice in planning and interpreting experiments by simulating enzyme-catalyzed reactions. It also can introduce students to more complex situations in enzyme kinetics, such as substrate inhibition, cooperativity, and the influence of a cofactor, by using a modified version of the program. Price $30.00.

EVOLUT
     Evolution and Natural Selection. Simulates the growth of a wild population for the teaching of natural selection. An elementary knowledge of genetics is assumed, particularly an understanding of a) alleles, dominance and recessiveness, and homozygotes and heterozygotes; b) ecological habitats; and c) percentages. Price $30.00.

INTERP
     Wave Superposition. Focuses on the wave theory of light and how effective the theory is in explaining observed phenomena. It is also designed to improve students' understanding of the use of models in physics. It uses three models of varying complexity for the investigation of interference and diffraction phenomena. Price $30.00.

SCATTER
     Nuclear Scattering. Included is practice in deducing the size, shape and force law of a single scattering center from the scattering pattern it produces. Also simulated is the scattering of alpha particles by a metal foil. Price $30.00.

NEWTON
     Satellite Orbits. Allows students to find initial velocity needed for minimum orbit, and to compare the period and shape of orbits of different sizes with data for earth satellites. Price $30.00.

RKINET

Simulation of Reactor Kinetics. Mathematical model which represents the ways in which various factors influence the rate of a chemical reaction. The model is intended to broaden the students' knowledge of first- and second-order reactions, rate constants, concentrations, and the effect of variation of temperature on reaction rate. The student may also design experiments by choosing values for parameters. Price $30.00.

HABER

Ammonia Synthesis. Simulates the production of ammonia by the Haber process. Various conditions -- temperature, pressure, catalyst and reactant concentration ratios -- influence the course of the reaction. Price $30.00.

LABORATORY IN COGNITION AND PERCEPTION

Experiments designed to expose students to a variety of phenomena, theoretical points of view, techniques, and experimental designs. Experiments include Signal Detection, Ionic Memory, Feature Detection, Short Term Forgetting, Comparing Visual and Semantic Information, Concept Learning, and Reasoning from Prose. Although classical problems in experimental psychology are presented, the major focus is on contemporary research. Price $100.00.

EDUNET ★

P.O.Box 364
Princeton, NJ   08540
609/734-1915

EDUNET, the international computer network for higher education and research, has chosen the Apple computer as their network access machine. Using a specially configured Apple with network access software, members can more easily access large computers, transfer files, edit statistical data sets, send electronic messages, and reduce costs for on-line time.

►EASY

EDUNET network access software (EASy) is a general purpose system that allows the Apple to act as an interactive terminal, to upload files from the Apple to other systems, and to download files from other systems to Apple's diskette. Special capabilities of EASy provide automatic access to

EDUNET computers and file transfer between the Apple diskette and specific EDUNET services.

Version I of the EASy software provides automatic access to five EDUNET suppliers: North Carolina Educational Computing Service (NCECS/TUCC), the University of Wisconsin, Stanford University, Cornell University, and the University of Minnesota. It also provides specific uploading and downloading protocols for the NCECS/TUCC TSO system, as well as file transfer for messages into the University of Wisconsin's EDUMAIL system.

Additional plans for the network access software include the development of fully error-controlled file transfer, a synchronous interface to simulate a remote job entry station, and other software specialized for various computers on the EDUNET network.

The EASy software is designed to operate on an Apple II Plus with Apple Pascal and a communications card.

Kyd Tyme Project

2331 St. Marks Way
Sacramento, CA 95825

The Kyd Tyme project was a Title IV-C project to develop Computer Assisted Instruction for the Apple. What came out of the project was a CAI authoring system for teachers. It is being distributed on a limited "pilot" basis. Contact the project for further details.

TEACHER AUTHORING SYSTEM

A system to allow teachers to develop lessons with graphics and data management. No programming is required. The system consists of five parts:

TEACHER AUTHORING PROGRAM Allows the teacher to make use of the graphics library and combine graphics images with text for presentation to the student. The teacher also inputs the correct and incorrect answers and feedback appropriate to each response. This program is utilized only when writing a lesson.
STUDENT PRESENTATION LESSON Delivers the previously authored program to the student.
GRAPHICS DEVELOPMENT PROGRAM Develops graphics images for the graphics library. It enables the author to quickly

create new images, utilize portions of old images or combine images.

GRAPHICS LIBRARY PROGRAM Used when authoring a program. The teacher requests images from the graphics library and incorporates them into the program.

DATA MANAGEMENT PROGRAM Keeps track of student progress, does an analysis of student errors, and enables the teacher to set up a sequence of lessons to match the individual needs of each student.

Minnesota Educational Computing Consortium ⋆

2520 Broadway Drive
Lauderdale, MN 55113
612/376-1118

All MECC software is distributed on diskettes designed to operate on a 32K Apple II with Applesoft in ROM. Software requiring a printer can use Apple's parallel, serial, or communications card. Documentation for diskettes is also available and priced separately. Contact MECC Publications for a complete and up to date catalog before ordering.
Diskettes sold outside of the state of Minnesota contain DOS 3.2 and are copy protected. Pricing outside the state of Minnesota is $30.00 per diskette.

MECC has a Non-Minnesota Educational Institutional Agreement Policy for the purchase of microcomputer courseware (diskettes and support booklets) which may be of interest to state agencies or school districts that have large numbers of Apples. If you would like more information on the institutional agreement contact the Director of Instructional Services Office at 612/376-1105.

The following diskettes are available outside the state of Minnesota:

    MECC Apple Demonstration Diskette
    Elementary - Volume 1 (Mathematics)
    Elementary - Volume 2 (Language Arts)
    Elementary - Volume 3 (Social Studies)
    Elementary - Volume 4 (Mathematics and Science)
    Mathematics - Volume 1 (Senior High)
    Science - Volume 3 (Middle School)
    Science - Volume 2 (Senior High)

Social Studies – Volume 2 (Senior High)
Teacher Utilities – Volume 1
Aestheometry – Volume 1
Elementary – Volume 5 (Language Arts)
MICAS – Volume I
CAM
Elementary – Volume 6
Special Needs – Volume 1 (Spelling)

MECC APPLE DEMONSTRATION DISKETTE

A sampling of the different kinds of applications available on the MECC diskettes; drill and practice, tutorial, simulation, problem solving, and worksheet generation. Samples from music, science, social studies, industrial arts, reading and mathematics are included.

ELEMENTARY — VOL. 1 (MATHEMATICS)

BAGELS
A game of logic. Guess the number with clues.

CHANGE
Provides drill in making change. Given a purchase price and amount paid, the student must make correct change.

HURKLE
Teaches the coordinate system. Students have to find the hidden Hurkel.

METRIC ESTIMATE
Timed drill on estimating the lengths of line segments in centimeters and millimeters.

METRIC LENGTH
Drill and practice on converting from one unit to another in the metric system.

METRIC 21
Metric blackjack. The user becomes skilled in approximating metric lengths.

NUMBER
A game of logic in which the user tries to guess the computer's number. The computer gives clues.

ROUND
Drill and practice on rounding numbers to the nearest ten, hundred, thousand, etc.

SPEED DRILL

A timed drill exercise covering addition, subtraction, multiplication and division.

TAXMAN

A game which reinforces concepts related to skills in the factoring of numbers.

TENS

Drill in multiplying numbers which are multiples of ten.

ELEMENTARY — VOL. 2 (LANGUAGE ARTS)

AMAZING

Constructs mazes for the user. A printer is assumed.

CROSSWORD

Constructs a cross word puzzle from teacher-determined words and clues. A printer is needed.

CROSSWORD CREATE AND WORD GAME CREATE

Used to create files for CROSSWORD and WORD GAME. A file can be created by a teacher through the program and used by either of the programs.

MIXUP

A game in which the student must unscramble the letters in a word. The teacher defines the word lists.

MIXUP CREATE AND SPELL CREATE

Programs that are used to create lists for SPELL, MIXUP, or WORD FIND. A list created by the teacher for any of these three programs can be used by any of the other programs.

SPELL

Drill and practice on a list of teacher determined spelling words.

TALK

Enables a new user to have a conversation with the Apple.

WORD FIND

Makes word puzzles from a list of teacher-determined words. A printer is needed for this program.

WORD GAME

Students try to guess teacher determined words based on clues.

ELEMENTARY — VOL. 3 (SOC. STUDIES)

CIVIL
Simulation of the Civil War. It can be run with one general (South) or two generals (North and South).

SELL APPLES
Simulation of running an apple stand.

SELL BICYCLES
Simulation of managing a bicycle company.

SELL LEMONADE
Simulation of running a lemonade stand.

SELL PLANTS
Simulation of managing a plant stand.

STATES
Drill on the capitals of the states.

STATES2
Drill on the geographic location of the states.

ELEMENTARY — VOL. 4 (MATHEMATICS AND SCIENCE)

ESTIMATE
Drill and practice on estimation in addition, subtraction, multiplication, division, and percents.

MAT GAME
Drill in the four basic operations.

ODELL LAKE
Simulates a food web in Odell Lake. The user takes the role of a fish and tries to survive.

ODELL WOODS
Food web simulation involving animals found in northern Minnesota.

SOLAR DISTANCE
Teaches concepts of distance in astronomy by having students make 'trips' to planets in various vehicles.

URSA
Tutorial on constellations and telling time by the stars.

MATHEMATICS — VOL. 1 (SENIOR HIGH)

ALGEBRA
Drill and practice on one variable equations.

BAGELS
A game of logic. Guess the number with clues.

ICBM
Teaches the coordinate system and the concept of slope by having students try to intercept a missile.

POLAR
Graphs functions using polar coordinates.

POLYGRAPH
Graphs virtually any function or conic.

SNARK
Students learn coordinate geometry through trying to find a 'snark'.

SLOPE
Graphs up to five linear equations on one axis.

SCIENCE — VOL. 3 (MIDDLE SCHOOL)

FISH
Tutorial on the circulatory system of animals like fish which have two-chambered hearts.

MINERALS
Identify 29 minerals by performing simple tests.

ODELL LAKE
Simulates a food web in Odell Lake. The user takes the role of a fish and tries to survive.

URSA
Teaches about the constellations. Learn to tell time by the stars.

QUAKES
Tutorial and problem solving simulation dealing with the topic of 'How to locate earthquakes.'

SCIENCE — VOL. 2 (SENIOR HIGH)

BUFFALO
Simulation of the manager of a buffalo herd.

COLLIDE
Simulates a collision between two bodies.

DECAY 1
Casino game to aid in understanding of exponential decay.

NUCLEAR SIMULATION
Simulates the counting of radioisotopes.

SLITS
A study of Young's double slits experiment.

SNELL
Plots light refraction demonstrating Snell's law.

WHALES
Simulation of a whale making its annual migration.

SOCIAL STUDIES — VOL. 2 (SENIOR HIGH)

CONTINENT
Tests user on matching countries with their continents.

CRIMEX
Simulates using strategies to control crime in a large city.

ELECT1
Simulates presidential elections of the 19th century.

ELECT2
Simulates presidential elections of the 20th century.

ELECT3
Simulates presidential elections based on factors entered by the user.

MINING
Lets the user explore factors related to Minnesota agriculture.

POLICY
Simulates the impact of special interest groups on policy formation.

SAFE
     Simulation based on the book, 'Fail Safe'.

USPOP
     Projects U.S. population based on user-determined
parameters.

TEACHER UTILITIES — VOL. 1

BLOCK LETTER
     Constructs banners on a printer.

CROSSWORD
     Constructs a cross word puzzle from teacher-determined
words and clues. A printer is needed.

FREQUENCY
     Performs basic statistical computations on user supplied
data.

PERCENT
     Assists teachers in the calculation of grades.

POSTERS
     Makes a sign in large letters on a printer.

REVIEW
     Provides drill on teacher determined material.

REVIEW LOAD
     Create the files used with the REVIEW and TEST GENERATOR
programs.

TEST GENERATOR
     Provides tests for teachers based on questions created
in REVIEW LOAD.

WORD FIND
     Makes word puzzles on a printer from a list of
teacher-determined words.

AESTHEOMETRY — VOL. 1

CURVES
     Tutorial and demonstration of curve sketching.

CURVE DEMO
     Demonstration of curve sketching.

ELEMENTARY — VOL. 5 (PREFIXES)

LESSON 1
> Tutorial and drill on the prefix UN.

LESSON 2
> Tutorial and drill on the prefix RE.

DRAGON FIRE
> Review drill with words containing UN and RE.

LESSON 4
> Tutorial and drill on the prefex DIS.

LESSON 5
> Tutorial and drill on the prefix PRE.

LESSON 6
> Tutorial and drill on the prefix IN.

LESSON 7
> Review drill with words containing all prefixes: UN, RE, DIS, PRE, and IN.

MICAS — VOL. 1

(Microcomputer Intergrated Computerized Accounting System). The MICAS computerized accounting system provides a realistic experience with automated accounting systems.

The package consists of four integrated systems: 1) General Ledger 2) Accounts Payable 3) Accounts Receivable, and 4) Inventory Control.

The package requires dual disks and a 132 character printer.

CAM — VOL. 1

The Comprehensive Acheivment Monitoring (CAM) system operating on the APPLE provides computer processing support for monitoring students' progress on instructional objectives. The CAM system's function is to provide decision-making information to students, teachers, administrators, and parents. This function includes storing objectives and test forms, scoring student test responses, and generating reports indicating individual student and/or group performance on course objectives. Available out of Minnesota from: Hopkins Evaluation Center, Hopkins School District, Hopkins, Minnesota 55343. Requires 48K, Integer, and the Apple Communications Card.

Population Dynamics Group *

University of Illinois
Urbana, Illinois 61801

POPULATION DYNAMICS SYSTEM

Provides the user with a means of making population projections under different assumptions about total fertility rate, life expectancy, and birth and death rate. The diskette includes a data base containing population data from 50 countries representing 22 different regions of the world. The user can take any country's data and project that population into the future under different assumptions.

The introduction to the program contains a short lesson on factors affecting population projections, and on the type of projections that can be done with the program. Age pyramids, which are one type of graph offered, show the population in 5 year age groups and are useful to see how historical trends like the depression and the post World War II baby boom are reflected in the age structure of the population. The linear graphs, which are the other type of graph offered, are useful for showing population projections over a long period of time under different conditions.

Program Effectiveness Through Science

Marysville High School
Marysville, CA

This Title IV-C project has developed two packages for the Apple which are being distributed to interested schools for a nominal fee.

COMPUTERS, CALCULATORS AND SCIENCE

Designed to teach students how to use the Apple as a tool to solve problems in science. Computer programming is emphasized. Objectives of instruction include improving students' awareness of computers in society, and their mathematics and science skills. The package includes 10 learning activities which gradually bring the student to an appreciation of the place of computers and programming in science. A Teacher's Manual and an Answer Key are included. The package was designed for 9th grade.

MATH SCIENCE COMPUTER PROGRAMS

Included are interactive programs using simulation, tutorial and game situations to augment science instruction in junior high school. The programs were designed for 8th grade science classes as an introduction to computers prior to 9th grade physical science classes where computer programming is taught.

Total Information Education Systems. ★

1925 W. County Road B2
St. Paul, MN 55113
612/633-9110

All TIES software is distributed on diskettes for a 32K Apple with Applesoft in ROM. All of the programs operate under DOS 3.2 or DOS 3.2.1. The cost per subject area diskette is $30.00.

The subject areas currently available are:

> Agriculture
> Business Education
> Consumer Education
> Elementary
> Math/Statistics
> Miscellaneous
> Science: Biology/Miscellaneous
> Science: Physics/Chemistry
> Social Studies
> Question/Answer and Vocabulary Facilities

All of the subject areas except for the Question/Answer package were adapted from timesharing materials and depend on documentation or accompanying text. Many programs depend on documentation from sources other than TIES to be fully useful. Send for the complete TIES catalog for full details.

The Question/Answer package was developed especially for the Apple.

AGRICULTURE

AGRICULTURE HIGH SCHOOL GEOGRAPHY PROJECT
Simulates the management of a a farm in any of three historical periods. Teacher may set up conditions for student.

BUSINESS EDUCATION

ATG
Designed to introduce high school accounting students to the problem-solving capacity of the computer.

BANK
Solves financial problems concerning installment buying, long-term loans, and savings accounts.

FARME
Provides depreciation tables for Straight Line, Declining Balance, or Sum of the Year's Digits.

KEYBRD
Timed drill on the characters of a keyboard. The program has a four second drill followed by a two second drill for those who pass the first round.

MARKET
Simulation in which two firms compete for the sales of the same product in a single market area.

MORGAG
Calculates the missing parameter when three of the four mortgage terms have been entered (interest rate, life of the mortgage, total amount borrowed, or monthly payment).

PAY
Computes the Net Pay. Examine changes in net pay brought about by modifications of exemptions and tax sheltered plans.

STOCK
Simulates the daily operation of the stock market. The user has $10,000 to invest and may make daily transactions on any of five stocks.

TYPING
A timed drill requiring the user to type a previously entered set of characters rapidly and correctly.

CONSUMER EDUCATION AMIDON PROGRAMS

CREDIT
    Simulates the process of using charge accounts.

SHELTR
    Simulation of renting, or buying and maintaining a home successfully for one year.

WHEELS
    Simulation of purchasing and maintaining an automobile over a one-year time period.

ELEMENTARY

BATNUM
    Simulation of the game, Battle of Numbers, in which objects are alternately removed from an initial pile.

DECIML
    Converts a rational fraction to its equivalent decimal representation.

FACPAC
    Investigate the factoring characteristics of numbers. Options available are listing factors, finding the Greatest Common Factor, finding the Least Common Multiple, listing the prime factorization, counting the number of prime numbers or listing the prime numbers between two numbers.

HORT
    Coin tossing simulation.

KEYBRD
    Timed drill on the characters of a keyboard. The program has a four second drill followed by a two second drill for those who pass the first round.

MYFRND
    Central program for the package containing vocabulary quizzes and sample programs for the book MY FRIEND THE COMPUTER.

SUMER
    Simulation of the Sumerian Game, in which the user plays the role of a ruler of the ancient city of Sumer. Given a number of bushels of grain, decisions are made on how much: 1) to use for food; 2) to plant for crops; and 3) to trade for more land.

MATH/STATISTICS

CHISQS
Computes chi-square statistics for any number of M by N contingency tables.

CORMAT
Computes the correlation matrix for N variables per individual.

CURFIT
Performs a least squares curve fit to seven functions.

DECIMAL
Converts a rational fraction to its equivalent decimal representation.

ESTMAT
Drill and practice program for estimating the length of random line segments in centimeters.

FACPAC
Investigate the factoring characteristics of numbers. Options available are listing factors, finding the Greatest Common Factor, finding the Least Common Multiple, listing the prime factorization, counting the number of prime numbers, or listing the prime numbers between two numbers.

FUNVTN
Calculating program which finds the real zeroes of a user entered function.

HORT
Coin tossing simulation.

PROMAC
Simulation of a probability machine in which balls are dropped through a series of pegs, eventually landing in a chute.

RANK
Computes the Spearman rank correlation coefficient.

SAP
Calculating the mean and standard deviation, constructing tables of observed and expected frequencies, and computing the chi square and degrees of freedom.

SIMEON
      Computes the solution vector for an input set of
simultaneous linear equations.

STAT
      Statistical analysis on class sets of data.

STAT1
      Computes the mean, variance, and standard deviation for
each of two unpaired groups. It also prints out the mean
difference and T-ratio between the two sets of data.

STDEV
      Computes the mean, variance, and standard deviation for
a series of data.

TTEST
      Calculates the T-value for two samples in the testing of
means or proportions in each.

MISCELLANEOUS

HAIKU
      Allows the user to write a 'haiku' - a Japanese form of
poetry.

IPS
      Programs following the text, INTRODUCTORY PHYSICAL
SCIENCE. Published by Prentice-Hall, Inc. They perform data
analysis for the experiments in the IPS curriculum.

MYFRND
      Central program for the package containing vocabulary
quizzes and sample programs from the book, MY FRIEND THE
COMPUTER.

QUBIC
      Simulation of the three-dimensional TIC-TAC-TOE game
using a 4x4x4 cube in which the user plays against the Apple.

SCHDL1
      Computes round robin schedules for up to fifty teams. A
printout of the schedules is available.

SCHDL2
      Constructs a data file for participants in an activity,
sorts the numeric data in either ascending or descending
order, and outputs a schedule.

SCIENCE: BIOLOGY/MISCELLANEOUS

AFLIFE
Generates population patterns for the successive generations based on the model used in John Conway's Game of Life. Rules for birth, death, and survival are employed to simulate the effects of overpopulation, mobility, and periodicity.

GENE1
Determines the inheritance of genetic traits for a varying number of offspring.

GENE2
Similar to GENE1, except that it allows students to investigate teacher-designed genetic models.

GENE3
Create genetic models which will be used by students in GENE2.

GRAZE
Simulates the ecology of a three square mile grassland region containing cattle, songbirds, hawks, rodents, and grasshoppers. Attempt to attain an ecological balance by regulating the animal population.

HARDY
Simulation using the Hardy-Weinberg Principle.

LOCKEY
Simulates the bio-chemical action of the enzyme acetylcholinesterase in the presence of a user chosen inhibitor.

MALAR
Simulates the attack phase of a malarial eradication plan. Try to eradicate malaria from a given area within five years.

PH
Simulates laboratory investigations dealing with the pH specificity of enzymes.

PHOSYN
Allows the user to investigate changes in the rate of photosynthesis due to a variance in the carbon dioxide concentration and light intensity.

RATS
     Simulates the growth pattern of a rat population in
either an apartment house or an entire city. The user
attemps to control the situation by specifying the conditions
and treatment.

STERL
     Simulates the effects of pesticide and sterilization
applications on the screw-worm fly population. The user
attempts to eliminate the entire population within 75 days
through daily or periodic control measures.

TAG
     Allows the user to investigate the size of a wildlife
population through the technique of tagging and recovery.

SCIENCE: PHYSICS/CHEMISTRY

CHARGE
     Simulation of the Millikan Oil Drop Experiment designed
to demonstrate the existence of a discrete unit of electrical
charge.

DECAY 1
     Radioactive decay simulation that illustrates the
concepts of half-life and exponentiation via a casino game
using radioactive playing chips.

DRIP
     Simulation of an acid-base titation in which the user
attempts to find the concentration of an acid.

KINET
     Calculates equilibrium concentrations and graphs the
progress from initiation to equilibrium for the general
reaction A not equal P.

LECHAT
     Simulation which checks the understanding of
LeChatelier's Principle as applied to a randomly generated
chemical reaction.

SCATR1
     Simulates Rutherford's experiment in which the user
gathers information on the scattering of alpha particles
striking a 1 micrometer thick gold foil.

SCATR2

Produces theoretical angular distribution graphs for any of three atomic models. The user can select either the hard sphere model of kinetic theory, the plum-pudding design of J.J. Thomson, or Rutherford's nuclear model.

SCATR3

Calculates and graphically plots trajectories for alpha particles scattered from individual-heavy atoms. A copper, silver, or gold foil is selected by the user for this simulation.

SLITS

Simulation of Young's double-slit experiment on light. The user can explore the relationships among the parameters of wave length, distance between slits, and distance to screen, in the investigation of interference.

WAVES

Plots sine waves; wavelength, amplitude, and phase can be specified.

SOCIAL STUDIES

AGHSGP

(Agriculture High School Geography Project). Simulates the management of a farm in any of three historical periods.

CRIMEX

Simulates the occurence of urban violent and non-violent crime in a typical city based on the assumption that crime depends on economic, social, physical, and law enforcement conditions in the immediate environment.

MASPAR

Simulates the relationship between the pattern of mass political participation in a democratic society and the social class structure and level of organizational membership within that society.

POLSYS

Simulates the political process involved in bringing an issue before an elective governing board. User take sides on an issue and expend resources for publicity, support, and knowledge attempting to influence the board's vote.

POP

Simulates any of three population growth models: 1) Simple exponential growth, 2) Logistic model with environmental limitations, and 3) Logistic model with low density modifications.

STABIL

Simulates the mangement of the national economy during any inflationary or recessionary period. Based on Keynesian economic theory.

SUMER

Simulation of the Sumerian Game, in whch the user plays the role of a ruler of the ancient city of Sumer. Given a number of bushels of grain, decisions are made on how much: 1) to use for food; 2) to plant for crops; and 3) to trade for more land.

USECON

Simulates the management of the U.S. economy using Keynesian economic theory as its model. The user makes decisions on fiscal and monetary policy and the effects of these changes are displayed on an annual basis.

USPOP

Highly flexible human population model which allows the user to investigate the effects of fertility, age of mother at birth of child, sex ratio of the offspring, and age dependent mortality on population size and structure.

QUESTION/ANSWER AND VOCABULARY FACILITIES

MICRO QUEST GRAPHICS and MICRO QUEST TEXT

Two teacher utilities which allow a teacher to create question and answer lessons on the Apple. Changing or adding to an existing lesson is also possible. The teacher specifies instructions, questions, possible answers, and correct answers.

VOCAB TEACHER

Create word lists for use with the VOCAB Student Presentation diskette. The program also allows the teacher to modify and/or display files of words.

MICRO QUEST STUDENT PRESENTATION

Presents lessons prepared by teachers using MICRO QUEST. These lessons may be in any subject area and may be used either as drill or review exercises. A maximum of ninety-nine questions are allowed for use in the lessons. Questions appear to the student in random order.

PHONET

A set of pre-determined phonetic exercises in sound associations, affixes, syllables, contractions and homonyms. An example of what can be done with the MICRO QUEST package.

VOCAB STUDENT PRESENTATION

Presentation lesson for teacher prepared material in the following formats:

HANGMAN - allowed a number of chances for guessing a word.

SCRAMBLE - time drill in unscrambling a word.

SPELL 1 - spelling memory drill.

SPELL 2 - spelling recognition drill.

WORDER - generates a word puzzle.

SIMS

A collection of words set up for any of the VOCAB lessons. The collection of words is based on the Systematic Instructional Management Strategies reading curriculum.

Index of
Software Titles

Elementary School Software

Middle School (Junior High) Software

Secondary (High School) Software

Community College, College/University, Continuing Education Software

Administrative Software
Courseware Development
Utility Software