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ABSTRACT

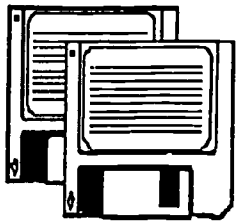
Two issues of this list (February and March 1990) contain reviews of courseware for kindergarten through grade 12. Entries are classified by subject or application, i.e., communication skills, math, science, social studies, health, and utility software. Information on each software package includes the title, publisher, copyright data, price, package contents, equipment required, suggested grade level, and program goals. This is followed by a detailed summary, a discussion of major strengths and weaknesses, and a statement of recommended uses. An annotated table of contents, arranged alphabetically by subject area, provides a quick reference to the contents of each list. (GL)

# ADVISORY LIST OF COMPUTER COURSEWARE

North Carolina State Department of
Public Instruction

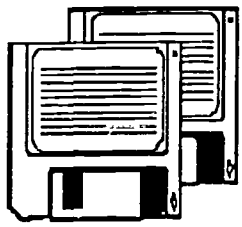
Media Evaluation Services

Feb.-Mar. 1990



# Advisory List of

# Computer Courseware



Media Evaluation Services
Department of Public Instruction

February 1990
Raleigh, North Carolina

## COMMUNICATION SKILLS

Title: ACE INQUIRER
Publisher: Mindplay
3130 North Dodge Boulevard
Tucson, AZ 85716
Copyright: 1989
Price: $49.00
Contents of package: 1 program disk, teacher's supplement 11 p., guide 12 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor (color preferred), printer (optional)
Grade level: 4-8
Goals: Communication Skills Grades 4-8 Reading/Literature CG 8

Working within a television interview show format and racing against the clock, students using ACE INQUIRER gather statements from a variety of sources and determine whether those statements are facts or opinions. The program begins on the set of a television interview program. The show's director asks users to research a statement made by one of the guests to decide whether it is fact or opinion. Users have three options for researching the statement. They can interview guests appearing on the television show. These guests will give information directly, refer students to another source of information accessible by telephone, or deny any knowledge of the subject. In a second option students can use the program's reference library to locate information. The library consists of a series of file drawers with subject labels. When students open a drawer with an appropriate label, they either find a statement about the information they are researching or are referred to a person or organization. A third source of information is an on-screen telephone directory listing names of people and organizations that may have information. Students place telephone calls to people, organizations, and businesses listed. Parties reached by telephone provide statements on the topic or refer users to other people in the directory.

Once students gather statements from guests, from the library, or over the telephone, they enter the statements into four vacant slots on the "Big Board." Each statement gathered, relevant or not, is displayed, and students decide if it will help determine whether the original statement given by the show's director is fact or opinion. After then selecting four relevant statements, students decide whether each one is fact or opinion. The program reviews the statements and the fact or opinion label. Incorrect labels prompt the program to inform users that they made an error on one of the statements. If students answer correctly, they can make a final decision about whether the statement assigned by the director is based on fact or opinion. A congratulatory message with a graphic, which can be printed, rewards a correct answer. Incorrect answers prompt the program to deliver several screens of advice about how to tell fact from opinion; then the program asks students to reconsider the final question. The program has three levels of difficulty, each with twenty stories to investigate. At the easiest level, "Cub," statements are either all facts or all opinions. The answer to the program's final question, "Is the guest's statement based on fact or opinion?", always corresponds to the four statements. For example, when the statements are all opinions, the final question is always answered "opinion." At the second level, "Inquirer," statements are a mixture of facts and opinions. The most difficult level, "Ace Inquirer," challenges students to sort through a more complex set of facts and opinions to determine which support or refute the director's original statement.

The "Challenge Upgrade" segment of the program allows users to change the difficulty level or the amount of time given to gather information (sixty minutes to ten minutes) and view student records. Another option allows teachers to enter their own stories. The recordkeeping segment retains the number of stories each student attempted and the number of times the final question was answered correctly. The guide is a booklet that describes the various segments of the program, gives operating instructions, and lists the stories for each level. A teacher's supplement gives educational objectives, describes the first story of level one, and provides an answer key to the stories at each level.

WEAKNESSES: The program's recordkeeping system provides only the number of stories attempted versus the number of stories "won." This information does little to help teachers determine the nature of students' problems.

STRENGTHS: The game format, amusing and interesting topics, and the challenge of ferreting out information in order to answer questions and beat the clock will appeal to students. The "Custom" option allows instructors to enter their own stories, making the program flexible and easy to integrate into other content areas.

USES: ACE INQUIRER is useful in allowing students to practice recognizing statements of fact versus statements of opinion. At the "Ace Inquirer" level, students have the opportunity to examine contradictory statements to determine whether they support or refute other statements.

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Series Title: CREATIVE WRITER
Title: TRANSPORTATION TALES
Publisher: Silver Burdett & Ginn
4343 Equity Drive
P.O. Box 2649
Columbus, OH 43216
Copyright: 1989
Price: $49.95
Contents of package: 1 double-sided program/art disk, 1 back-up disk, guide 28 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor (color optional), printer (preferred), blank disk
Grade level: 1-5
Goals: Communication Skills Grades 1-3 Writing CG 1-9
Viewing CG 1, 4, and 8
Grades 4-5 Writing CG 1-6
Viewing CG 2-5

With CREATIVE WRITER: TRANSPORTATION TALES students use their imaginations, boost their expressive skills, and try their hand at simple desktop publishing by designing vehicles and writing about them. The program has two modes: "Create a Contraption" for graphics and "Write a Transportation Tale" for word processing. Students save pictures and stories in the "Vehicle Vault" on a formatted data disk. In the graphics mode users choose one of eight backgrounds, such as a spacescape, an underwater scene, a "crazy contraption" frame, or a blank screen. Then they use the "Body Shop" menu to access the

graphics bank of more than 150 parts for constructing vehicles. Students choose from ten categories (bodies, wheels, shapes, windows, decals, drivers, motors, wings, propellers, and miscellany) and view, move, select, and erase or repeat an individual graphic. Body shapes may be realistic (a car, train, or canoe), futuristic (a spaceship), or fanciful (a hollowed-out carrot, a bed, or a bathtub). Drivers can be humans, dogs, or aliens; wheels may be high-tech or clodhoppers that turn gears. Other mix-and-match parts satisfy zany or technical proclivities. The word processing mode allows users to write approximately twenty lines of text per page in lowercase or uppercase or in outline typeface and to perform basic insertion or deletion functions. Users save each page or picture with a different file name. The program prints a picture and text on standard size paper in one of five print sizes (standard, large, small, short, or tall).

The guide contains an overview, general teaching strategies, a diagram of program structure, facsimiles of the graphics data bank, and program description. It also provides examples of more than twenty-five writing activities at the primary and intermediate levels. Typical activities include creating entries for a silly-picture dictionary, picture stories, greeting cards, letters, science fiction newspaper articles, or advertisements.

WEAKNESSES: Unless they print the picture first, students cannot view designs while writing text. Disks are not clearly labeled. Some budding engineers may be frustrated with the program's lack of rotation or grouping capacity, an especially useful feature even for novices in technical design.

STRENGTHS: Building a wacky vehicle offers a refreshing change from the draw-a-dinosaur syndrome. Although its graphics are versatile enough to appeal to most users, this program will really captivate some students who then can be encouraged to describe and write about their inventions.

USES: CREATIVE WRITER: TRANSPORTATION TALES promotes creative expression in the language arts and provides opportunities for students to use the computer as a multipurpose tool. Students will enjoy printing and posting their work. Younger children may need help in switching from the graphics to the text modes or with saving and retrieving files. Students with keyboarding experience will obviously write more.

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Series Title: READING FOR COMPREHENSION
Title: READING FOR COMPREHENSION: LEVEL D
Publisher: The Continental Press, Inc.
520 East Bainbridge Street
Elizabethtown, PA 17022
Copyright: 1989
Price: $49.95
Contents of package: 1 program disk, 1 back-up disk, guide 23 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor (color optional), printer (optional)
Grade level: 5
Goals: Communication Skills Grade 5 Reading/Literature CG 5, 6, and 8

READING FOR COMPREHENSION: LEVEL D helps students boost skills with practice passages, questions, and interactive lessons in six critical reading areas: main idea, detail, inference, sequence, cause/effect, and fact/opinion. In the "Articles" section the program provides nine short passages (about 150 words) at each of three levels within the fifth grade readability range. (Other programs in the series are for different grades.) The articles cover nonfiction topics such as tornadoes, baseball cards, saguaros, the GNP, and the inventor of ketchup. Students read a passage and answer one multiple-choice question in each of the six critical areas. The program presents each type of question in the same order for all passages. Correct answers produce a reward display with words, graphics, and sound. For an incorrect response the program usually highlights a section of the text that contains the answer and allows students to try again. For a second incorrect response the user has the option of branching to a skills lesson for the current type of question (such as main idea or fact/opinion). If performance on all six questions is good, students receive game time if the teacher has activated this option. The game has a race car theme and requires students to complete analogies within a time limit. If performance on the questions is marginal, the program refers users to an easier level or to the skills lessons. The "Lessons" section of the program presents an interactive session for each critical task. These sessions include definitions, examples of inappropriate and correct responses to questions, and signal words or clues. Students also answer a question to check their application of the skill.

The management system retains records for up to 200 students by class and individual. It also identifies students with poor performance and lists them in "help groups" by skill area. Teachers can print any of the records. Other teacher options include setting scrolling speed, mastery percent, and screen background color and activating the reread and game access features. The guide contains objectives, information on teacher options, a program overview, and program description with screen facsimiles.

WEAKNESSES: Some of the skills lessons describe and build on partial hypothetical examples that extend for several screens. This incompletely defined context may be too abstract for weak readers to follow. The game has a cluttered screen design that makes concentrating on completion of an analogy difficult, and students receive no feedback on performance.

STRENGTHS: The program covers the major skills areas while allowing for differences in achievement. The "help groups" management function facilitates individualized instruction. Skills lessons model effective strategies for comprehension.

USES: READING FOR COMPREHENSION: LEVEL D supports the communication skills curriculum and reading programs. It can be used with accelerated students and for reinforcement or remediation.

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MATH

Series Title: CONQUERING MATH
Title: CONQUERING MATH WORKSHEET GENERATOR
Publisher: MECC
3490 Lexington Avenue North
St. Paul, MN 55126
Copyright: 1989
Price: $59.00
Contents of package: 1 program disk, 1 back-up disk, guide 38 p.
Systems (* indicates version previewed: Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor, printer
Grade level: Teacher tool for grades 3-8
Goal: Teacher utility

Teachers use CONQUERING MATH WORKSHEET GENERATOR to create a master worksheet containing up to fifty problems to duplicate for student use. Teachers have two choices for initiating the design of a worksheet. With "Design a Worksheet by Topic," users work through a series of menus to specify one of five general topics (whole numbers, decimals, fractions, ratios and proportions, or percents), skills related to the topic (options for decimals are read/round/order, visual decimals, addition, subtraction, multiplication, and division), and type of problem (two of the six decimal addition choices are two decimals, tenths only, and two decimals in a money format). Once they enter these decisions, users indicate how many problems of this description to include on the worksheet. If any additional topics are to be included on this worksheet, users move through the menus again. The alternate method for worksheet creation, "Design a Worksheet by Product Name," facilitates generating sheets that correlate with the ten skill-building packages in the CONQUERING MATH series. Menu choices begin with selection of one of the series' ten program titles. The second menu lists the activities found on the program (for FRACTION CONCEPTS, INC., the options are "Crusher" and "Guesser"). The next menu offers problem types that are exactly like those that appear if the topics and skills menus are used. Teachers may include problems from as many programs and/or activities as they like. With either set of design menus, users create worksheets that include spaces for pupil name and the date; teachers determine whether to add a title and a single line of instructions. Once all worksheet criteria choices have been made, an original can be printed with or without an answer key. Up to twenty worksheet templates can be saved on the program disk. The specified criteria are retained, but individual problems are not. No provisions exist for creating data disks to store additional templates. The guide explains how to operate the program, outlines the menu choices users will encounter using either of the creation paths, and shows a sample for each problem type.

WEAKNESSES: Teachers are not given the opportunity to view sheets before printing in order to delete particular problems or to have any input regarding organization of problems on the paper. No notification is made prior to printing as to the number of sheets of paper the requested problems will occupy.

STRENGTHS: Worksheets are quickly and easily generated. Letters and numbers on the printed worksheets are well formed and spaced, making the sheets clear for students to read.

USES: Teachers already using other programs in this series will find CONQUERING MATH WORKSHEET GENERATOR useful for creating worksheets for students to use before or after computer sessions. Other teachers might employ this program to develop extra assignments to complement classroom study for those on grade level as well as for those needing remedial or accelerated work.

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Title: DATA INSIGHTS
Publisher: Sunburst Communications, Inc.
39 Washington Avenue
Pleasantville, NY 10570-2898
Copyright: 1989
Price: $99.00
Contents of package: 1 start-up disk, 1 program disk, 2 back-up disks, guide 126 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor, printer (preferred), blank disk (preferred)
Grade level: 6-12; teacher use
Goals: Mathematics Grades 7-8 CG 8
General Math Grades 9-12 CG 9
Technical Math Grades 10-12 CG 10
Social Studies/Skills Grades 6-12 CG 4

With DATA INSIGHTS students explore and analyze numerical information using the computer as a tool to calculate statistics and plot data in a variety of formats. For one-variable data the program can display histograms, stem and leaf diagrams (with options to show outliers), line plots (with median designated), or box plots for one or more data sets. For paired data the program can display scatter plots or line graphs (when the independent variable has a unique value in each of the data pairs). With the "Quick Plot" option the program determines the appropriate units and labels for axes. With "Custom Plot" users set their own scales and labels. The program contains six data files on topics such as miles-per-gallon ratings for cars, graduation rates, presidents' ages, SAT scores, and movie box office receipts. Several activities in the guide are based on these files. Users can also create and edit their own data files, save them to disk, or print them. The program can calculate and print statistics for any file, including number of items, lower and upper extremes, lower and upper quartiles, median, range, interquartile range, sum, mean, and standard deviation.

The "Getting Started" section of the guide provides a brief tutorial, an introduction to the components of data analysis (central tendency and dispersion, clusters, gaps, and outliers), and a description of each type of plot in terms of its construction, conditions for use, special features, and screen facsimiles. This section also includes an overview of data analysis, its role in the curriculum, and thinking skills involved. The "Teaching Ideas" section of the guide provides general tips on using the program (for demonstration, in labs, or in computer stations) and teaching about plots and data analysis; explanation of how data analysis topics correspond to math areas

such as arithmetic, fractions, percents, and coordinate planes; suggestions for "real and relevant" data collection; and suggested activities for content area classes (science, social studies, health, and physical education). Reproducible activity sheets that correspond to the various type of plots are also provided. The guide also contains a "Reference Guide" that includes screen facsimiles, complete program description, and technical information. The Appendix provides an overview, reproductions of the sample data files, a resource list, and an index.

WEAKNESSES: Reviewers found no significant weaknesses.

STRENGTHS: This program is stimulating and easy to use with the data sets provided. The capacity to create files adds flexibility. Students can build understanding of statistical relationships by viewing the same data represented in a number of ways.

USES: DATA INSIGHTS is effective for the introduction and demonstration of statistical concepts and methods. It can also be used in exploratory sessions by students or for a variety of activities in specific content areas. The program also helps teachers track and analyze student progress.

* * *

## SCIENCE

Title: LEARN ABOUT ANIMALS
Publisher: Sunburst Communications, Inc.
39 Washington Avenue
Pleasantville, NY 10570-2898
Copyright: 1989
Price: $65.00
Contents of package: 1 program disk, 1 double-sided data disk, 1 back-up program
disk, 1 back-up data disk, guide 65 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer (128K), 1 disk drive, monitor (color preferred), printer (preferred), joystick (optional), Koala Pad (optional), Muppet Learning Keys (optional)
Grade level: K-2
Goals: Science Grades K-2 CG 1

LEARN ABOUT ANIMALS presents six group-oriented activities that introduce the homes, food, babies, movement, size, and worlds (habitats) of animals. Two supplementary activities, "Create" and "Masks," allow students to indulge their imaginations and creativity. Each section of the program consists of a scene showing either a group of animals or an outdoor setting featuring trees, plants, and a pond. Students manipulate the elements of these scenes by selecting or "picking up" objects and moving them around the screen and adding text. For example, in "Homes" students view three separate outdoor scenes. Within each scene are animal homes such as a pond, a tree, or a den. Below each scene are pictures of three different animals. Students must match the animal with its home by picking up the animal and moving it to the correct home. If students choose correctly, the animal will "settle in"; for example, a skunk climbs into its den, and a bird sits in its nest. If an animal is incorrectly placed, it

will move about the screen restlessly until correctly placed by the user. "Food" displays three animals and three separate pictures of food. Students pick up an animal and move it to the appropriate food. Correct matches are rewarded with the animal eating the food. "Babies" displays three adult animals in a vertical column and three baby animals in a vertical column on opposite sides of the computer screen. The object of the activity is to match the adults to the babies. The program will display a hint such as "the five baby squirrels want to be with their father." Students can pick up the babies or adults and move them together. If properly matched, the adults and babies will begin to interact. In "Motion" users match a word (e.g., jump, fly, or crawl) to an animal (e.g., frog, bird, or snake). On a screen containing three motion words, three animals appear crawling, running, or hopping around the screen until picked up and placed directly on top of one of the words. If the word matches the animal's motion, the animal momentarily disappears, then reappears moving in place slightly above the word. In "Size" students are asked to compare the size of different animals using a common measure. The question "How many frogs long is a robin?" is answered by moving frogs displayed on the screen on top of the other animals for comparison. "World" provides students with the opportunity to discover hidden animals and their young. Several groups of animals are concealed under bushes, in rock piles, and in hollow trees. Users pick up and move tree branches, rocks, and other hiding places to reveal the animals. Students can make up their own fantastic creatures in the "Create" section of the program. Using tails, bodies, arms, and other body parts, students piece together exotic fantasy animals and watch them perform a modest amount of movement. By adding text to the screen displaying their creation, students can write the creature's name or even a short story about the creature. The final option, "Masks," permits students to print patterns for face masks of a snake, mouse, or fox.

An extensive teacher's guide offers excellent lesson plans that integrate LEARN ABOUT ANIMALS into classroom activities and provides step-by-step instruction for teachers on how to use the computer program. The guide describes each segment of the program and lists skills covered, vocabulary words to introduce, and objectives. Precomputer, computer, and postcomputer activities are explained in detail. The guide also provides teachers with one-page background reports on nine animals featured in the program.

WEAKNESSES: When the program's first disk is loaded, the program prompts users to insert the "Student Disk." Unfortunately, the only other disk in the package is labeled "Data Disk." Though hardly a monumental problem, this mistake will lead to a moment of confusion. The program does suffer a minor stereotyping flaw in the "Food" segment when students must match a mouse to cheese.

STRENGTHS: Colorful, animated graphics and the ability of students to manipulate the various scenes and add text make this program interesting and motivating. The program's guide provides excellent teacher support.

USES: Used with groups of students, LEARN ABOUT ANIMALS offers opportunities for introducing content area information about animals and for supporting a variety of creative activities such as writing stories, labeling pictures, creating fanciful creatures, and creating and using masks in skits. However, teachers must realize that if the program is not properly presented to students (as outlined in the guide for example), it will frustrate students. This is not a weakness of the program but reflects the fact that the program is fundamentally a group activity demanding teacher guidance. While the operation and use of most courseware packages are obvious once the program is loaded on a

computer, the operation and use of LEARN ABOUT ANIMALS are not. The teacher's guide is the key to the proper use of this program. Given sufficient time and opportunity, teachers could develop lesson plans similar to those found in the guide; however, the producer provides that information, helping teachers conserve their planning time.

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Series Title: SCIENCE INQUIRY COLLECTION
Title: BACKYARD BIRDS
Publisher: MECC
3490 Lexington Avenue North
St. Paul, MN 55126
Copyright: 1989
Price: $59.00
Contents of package: 1 program disk, 1 back-up disk, guide 40 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor, printer (optional)
Grade level: 3-8
Goals: Science Grade 3 CG 1
Grade 4 CG 1 and 2
Grade 6 CG 5
Grade 7 CG 1
Grade 8 CG 2

Students identify BACKYARD BIRDS using a database as a reference tool for the analysis and comparison of observations in this program that includes both an exploratory activity and simulated expeditions to diverse habitats. In "Field Guide" students explore the database, learning about birds as they browse through alphabetical listings of bird names or families with the option to view complete records for more than 120 birds. Individual records have fields for bird name; family; genus and species; size; food; and bill, wing, tail, and foot features. Some categories have two subfields. Each record also contains information on field markings and habitat. This section of the program also offers a glossary of more than thirty words such as deciduous and wattles.

"Field Trip" is a birdwatching simulation in which students journey to a particular "backyard" displayed on the screen as a combination of several habitats (such as city, water, and deciduous forest) suitable for the unknown bird chosen by the computer. Students dispatch an observer to report on any of the characteristics of the mystery bird that match database fields and then register these traits on a database record for comparison with other birds. Each addition to the record narrows the number of birds with the same combination of attributes. Students can examine the records for similar birds, review the clues to the mystery bird, or send the observers out for more data until they are ready to name the bird. Students identify as many birds as possible within a time limit. Sometimes birds fly away, leaving watchers with minimal clues. There are three levels of difficulty that vary in the size of the subgroup of possible birds, the similarity of the mystery bird to distracter birds, and how soon the bird flies away. The program displays a performance summary based on the number of correct identifications on the first attempt at each level. Students can also print the names of birds "sighted" in the session. The program stores records of levels and results for up to seventy-five sessions.

The manual contains a series overview; program description with screen facsimiles and teacher hints; suggestions for classroom use (with introductory, interdisciplinary, discussion, and lab activities); student handouts; supplementary lists of database birds and cross references to three common field guides; and textbook correlations for some major text series.

WEAKNESSES: Users cannot search the database by field. The list of "sightings" includes only the bird's name rather than the full record. The glossary is inaccessible from field trips.

STRENGTHS: The program is a rich source of information on the physical characteristics of birds and their adaptation to a variety of environments. Appealing to the personal experience of many students, this courseware combines subject matter, active involvement with science process skills, exposure to a database, and user initiative.

USES: BACKYARD BIRDS supports the elementary science curriculum and is appropriate in some junior high settings. It is most effective in centers or small groups. Teachers can also enhance the impact of the program with the use of color pictures and discussion of processes and strategies.

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## SOCIAL STUDIES

Title: TIME PATTERNS TOOL KIT: U.S. HISTORY
Publisher: Tom Snyder Productions, Inc.
90 Sherman Street
Cambridge, MA 02140-9923
Copyright: 1989
Price: $99.95
Contents of package: 1 program disk (3.5"), 1 data disk (3.5"; also available in
5.25"), 2 back-up disks, "Yellow Index" 4 p., summary index 2 p., guide approximately 60 p.
Systems (* indicates version previewed): Apple IIGS*
Equipment required: microcomputer, 1 disk drive (2 preferred), monitor, printer (optional)
Grade level: 5-12; teacher use
Goals: Social Studies Grade 5 Knowledge CG 20, 21, and 22
Skills CG 2, 4, and 6
Grade 11 Knowledge CG 6, 10, 12, 14, and 17
Skills CG 2, 4, and 6

TIME PATTERNS TOOL KIT: U.S. HISTORY enables teachers and students to examine events, cycles, and relationships in the nation's history with time lines, statistical data, and graphs. Users work with pull-down menus and access the "Warehouse" data disk that provides eighty-three chronological files in areas such as demographics, transportation, communication, education, business and labor, crime, agriculture, health, and sports. Typical files include the Consumer Price Index, the homicide rate per hundred thousand population, Farm Costs and Receipts Index, percent of households with television, and baseball attendance in thousands. Major sources of file data are Historical Statistics of the United States and the Statistical Abstract of the United States. Some

statistics are not available for every time period. The "Dates" option allows users to cover the entire range of years from 1790 to the present, isolate one of six time periods, or set a specific range of years. The "Events" option displays a time line in one of the eleven categories of presidents, government, business and industry, science and technology, transportation and communication, world affairs, education and learning, social justice, fine and performing arts, everyday life, and sports. The time line lists major events to the left of the column of dates in the specified range. One or two data files can be displayed on the right side of the screen. Options for such display include a line graph (framed vertically by the dates on the time line and horizontally by a numerical scale reflecting low and high values in the specified time period), raw data, percent change for each year, and correlation between two files including population size and significance at the .95 level. The "Cycles" feature provides abbreviated codes that denote shifts in or phases of liberalism and conservatism, religious "awakenings," the party in power, domestic or international emphases, business, peace or war, and sunspot activity. Users can print time lines and data displays in two sizes. There is no provision for editing or creating files or time lines.

The guide contains an introduction; a summary of menu options with screen facsimiles; a section on interpretation of statistical elements in the program with examples of data displays; background information on the program's historical cycles; lesson plans and reproducible activity sheets with answer keys; and suggested classroom applications such as unit previews or reviews, new approaches to familiar topics, and project assignments. The package also includes a "yellow pages" listing of the "Warehouse" data files that provides the title, inclusive years, appropriate clarification, and the source for each file.

WEAKNESSES: The program does not print titles for time lines. If two files are active, users must erase both if they want to look at one new file.

STRENGTHS: The juxtaposition of an electronic time line with graphs presents an attractive and structured visual context for the study of historical events and trends. The courseware summarizes and broadens the social studies content base while students sharpen critical thinking skills and explore relationships. The eleven time lines reflect a variety of approaches to history.

USES: TIME PATTERNS TOOL KIT: U.S. HISTORY supports the social studies curriculum where the emphasis is on our nation's growth and development from a variety of perspectives. Teachers can use the program for demonstration with a projection panel. Students familiar with the program can use it for individual or small group projects.

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## UTILITY

Title: BANNERMANIA
Publisher: Broderbund
Software-Direct
P.O. Box 12947
San Rafael, CA 94913-2947
Copyright: 1989
Price: $34.95
Contents of package: 2 program disks (5.25" and 3.5"), guide 40 p.
Systems (* indicates version previewed): IBM-PC, IBM-PS/2*, Tandy 1000
Equipment required: microcomputer, 1 disk drive, monitor (CGA, Hercules, EGA, ETGA, or VGA adapter card), printer, mouse (optional), blank disk
Grade level: 4-12; teacher utility
Goals: Utility

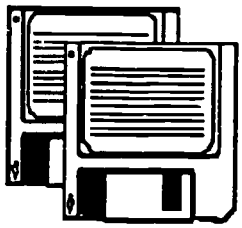
A utility tool, BANNERMANIA facilitates making banners with a more sophisticated appearance than those produced by other popular printing programs. Users work through a series of menus to indicate whether the banner should include one line of text or two, the message (up to sixty-three spaces per line), type style font (from nineteen choices such as "elegant," "frontier," and "playtime"), special effect (from thirty-four options including italics, outlined letters, three-dimensional letters, and letters inside birthday balloons), color (black, white, and shades of gray for those without color printer ribbons), and shape of banner (from twenty-seven variations including "arch up," "taper right," and "ribbon"). In addition, users can fine-tune their creations by adjusting placement of printing on the paper, length of the product from ten percent to four hundred percent of its normal size, and size of the letters from ten percent to one hundred percent of their original size. Throughout the creation process, users can request to see on the monitor the appearance of their banner thus far or can move backwards through the menus to redo an item. Another option available once the number of lines of text and the message have been entered is transmogrification. While users view the screen, the program can present (according to the producer) over one million versions of a banner by mixing all of the possible options. At any time users can stop the presentation to select a banner or move one by one forward or backward through the seemingly endless display. Banners created step by step, those selected from the transmogrification process, or any of over fifty predone banners that come on the program disk can be altered and/or saved before printing. The banner displayed on the screen shows the design of the final product, the position it will have on paper, and the number of sheets of paper it will require. In addition to the letters of the alphabet and numerals, the program includes a variety of symbols such as arrows, hearts, triangles, and diamonds for use in banner production. The guide explains the program's options and offers a tutorial to lead novices through the creation of a banner.

WEAKNESSES: Planning a banner would be simplified by the availability, either in the guide or on a reference card, of a printed list that shows examples of options such as the different type styles and banner shapes.

STRENGTHS: Ease of use as well as variety and quality of the banners makes this program worth consideration even if users already have a banner making function on another program.

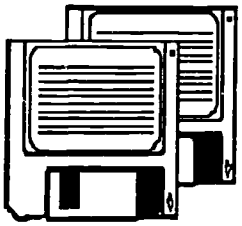
USES: BANNERMANIA will be a popular tool for teachers and students lacking artistic skill and time to devote to sign making. If a computer is available to be dedicated to this use for the amount of time needed, users can also create a message on the computer and leave it in the transmogrification mode so that guests can view the message's constantly changing form on the screen.

* * *



# Advisory List of

# Computer Courseware



Media Evaluation Services
Department of Public Instruction

March 1990
Raleigh, North Carolina

## COMMUNICATION SKILLS

Series Title: CLOZE CLUES
Title: CLOZE CLUES LEVEL A
Publisher: The Continental Press, Inc.
520 East Bainbridge Street
Elizabethtown, PA 17022
Copyright: 1990
Price: $49.95
Contents of package: 1 program disk, 1 back-up disk, guide 39 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monito (color optional), printer (preferred)
Grade level: 3
Goals: Communication Skills Grade 3 Reading/Literature CG 5, 7, and 11

CLOZE CLUES LEVEL A provides practice in choosing appropriate words to fill in a blank by using six types of context clues: synonyms, antonyms and other contrasting words (e.g., but or however), pronoun referents, sequence, cause and effect, and inferential information. The main menu offers students the choice of directions explaining key functions, lessons for the six types of clues, or practice sessions. Each lesson defines a type of clue and presents a demonstration passage showing how that clue might work. Using that same passage as a cloze exercise, the program takes students step by step through the thought processes that enable them to choose the correct word to fill in the blank. Students may then work up to three sample paragraphs before moving on to the practice segment of the program. The ten practice sessions begin with instructions for completing a cloze exercise. Each session contains seven paragraphs, presented on the screen one at a time, and incorporates all types of clues. Students choose from five words to fill the empty slot in the paragraph. A positive verbal message rewards a correct answer. After a first wrong answer, the program highlights context clues in the paragraph and asks users to try again. After a second incorrect answer, students can review the lesson for the type of clue used in the paragraph. If they choose not to do so, the correct answer is simply inserted into the paragraph. A statement at the end of a session tells students how many correct answers they had. If they have a sufficient number correct, a monkey dances on the screen and announces the amount of playing time they have earned for the classification game, which they can choose to use then or after another paragraph. The game asks students to put six words under one of two appropriate headings and continues this process until the allotted time is used up. When they stop or complete a session, students see a performance report on that session. Students who do not achieve mastery are encouraged to seek help from the teacher.

Detailed records can be kept for up to 200 students and printed if desired. The management system allows teachers to divide the records into classes and alphabetize names. They can also use the system to identify and group students who are having difficulty with a particular concept. Teachers can create up to four cloze exercises of their own to add to the ones already on the program. All cloze exercises can be printed as worksheets. The thorough guide introduces the program's content and objectives, explains teacher options, lists readability ranges and subject matter, provides extensive description of and directions for using the program (including numerous sample screens), explains the management system, and gives instructions for creating original cloze exercises.

WEAKNESSES: The classification game is of minimal interest and offers no motivating reinforcement.

STRENGTHS: Highlighting of context clues after a wrong answer and the option to review a lesson provide good help to students having trouble with a particular type of clue. The guide offers teachers thorough preparation for using the program, and the detailed student records allow teachers to identify problem areas. Passages are arranged in ascending order of difficulty so that students continue to be challenged throughout the program.

USES: Appropriate for individual use, CLOZE CLUES LEVEL A encourages close reading of a text for meaning. The program could be used not only in the target grade but also in a lower or higher grade for enrichment or remediation.

* * *

## HEALTH

Series Title: BODY SYSTEMS SERIES, PART II
Title: THE REPRODUCTIVE SYSTEM: A BABY IS BORN
Publisher: Marshware
P.O. Box 8082
Shawnee Mission, KS 66208
Copyright: 1989
Price: $45.00
Contents of package: 1 double-sided program disk, guide 16 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor (color preferred)
Grade level: 5-7
Goals: Health Education Grade 5 Family Life CG 2
Science Grade 6 CG 2
Grade 7 CG 3

THE REPRODUCTIVE SYSTEM: A BABY IS BORN gives a general overview of human reproduction. From a menu, users select one of three lessons ("Fertilization," "Development and Birth," and "Genetics") or one of three quizzes that correlate with the lessons. "Fertilization" mentions the uniqueness of each person due to genetics and environment, explains the fertilization of the female egg by the male sperm, and ends with the attaching of the fertilized egg to the uterus. "Development and Birth" discusses the embryo, the fetus, the start of the heartbeat, changes in the mother's body, contractions, and the birth of the baby. "Genetics" explains the number of chromosomes in eggs, sperm, and other human cells; genes and traits; identical and fraternal twins; and determination of a baby's sex. The final thought of this section is that although gender, heredity, and childhood environment are not factors students can select, the students can have more influence on the type of people they become as they grow older. During the program, users have access to a twenty-one word dictionary. The ten-question quizzes consist of multiple-choice and true-false problems. After two multiple- choice errors or one true-false error, the program presents lines of text from the lesson that explains the topic the student is confused about. At the end of each quiz, the program gives users a tally of their number correct. Teachers have access to a management system that holds quiz records

for up to ten students at a time. Charts indicate the number of each type of problem answered correctly and incorrectly for each quiz. The program identifies the questions students do not understand after viewing the remedial information frames. The teacher's guide includes directions for operation, words and definitions found in the program's dictionary, and quiz questions with answers.

WEAKNESSES: During a lesson and in the dictionary, the program defines a fetus as "an embryo that is four months old or older" while other reference sources consistently explain the fetus stage as starting after the completion of the second month. Use of the program is limited because the lessons and quizzes include no randomization.

STRENGTHS: At intervals throughout the lessons, students are asked to respond to questions about material recently presented and are offered opportunites to review information.

USES: THE REPRODUCTIVE SYSTEM: A BABY IS BORN could serve as an introduction or follow-up session to classroom discussion of human reproduction and genetics. This program is appropriate for upper elementary grades, but the focus is too narrow for high school classes.

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## MATH

Title: TEASERS BY TOBBS WITH INTEGERS
Publisher: Sunburst Communications, Inc.
39 Washington Avenue
Pleasantville, NY 10570-2898
Copyright: 1989
Price: $65.00
Contents of package: 1 program disk, 1 back-up disk, guide 58 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor (color optional)
Grade level: 4-8
Goals: Mathematics Grades 5-6 CG 2
Grades 7-8 CG 9

TEASERS BY TOBBS WITH INTEGERS is a problem-solving program in which students complete mathematical puzzles by adding or multiplying integers with sums or products that range from -99 to 99. The puzzle display consists of a grid with a row of two numbers and a column of two numbers on the outside and with four numbers on the inside. The inside numbers of a completed grid are the sums or products of the outside numbers, depending on whether students are working in the addition or the multiplication mode. At the start of each puzzle, one grid space contains the animated figure of Tobbs instead of a number. Students direct Tobbs to solve the problem by typing in the answer, entering the series of numbers and operations (such as -10 + 4) that produces the solution, or using the "Scratch Pad" if teachers have activated it. This feature allows students to type in a set of instructions and have the computer calculate and display the result before they decide whether to submit the number as an answer. The program provides four levels of difficulty in each mode (addition and multiplication). Level One presents only one blank space inside the grid.

Higher levels have more than one blank space and require several steps for completion of the grid. Level Three contains blank spaces outside as well as inside of the grid, requiring students to reverse their problem-solving method. Level Four may contain blank spaces for which a range of answers could be correct. Students see a cumulative score summary after completing a grid. Teacher options include activating sound and access to the scratch pad, designating whether students can choose the mode, and setting upper and lower ranges for addends and factors.

The guide contains an overview and objectives, description of the program and options (including screen facsimiles), and a section on classroom use. This part includes general suggestions with an introductory lesson; teaching notes and strategies with visual examples for addition, subtraction, and multiplication of integers; eight reproducible activity sheets to familiarize students with the use of grids; and two transparency masters that introduce Tobbs and the program environment.

WEAKNESSES: The program provides no permanent recordkeeping to assist teachers in tracking student choices and progress.

STRENGTHS: These teasers have a simple yet motivating design. The program encourages flexible thinking in mathematics. Students apply basic math facts and operations while increasing their understanding of integer relationships, practice estimation and mental arithmetic, and see how one problem can have multiple solutions.

USES: TEASERS BY TOBBS WITH INTEGERS supports the mathematics curriculum with a special emphasis on problem solving and concept building. It can be used by individuals, small groups, or a whole class.

* * *

Title: WELLTRIS
Publisher: Spectrum HoloByte
Division of SPHERE, INC.
2061 Challenger Drive
Alameda, CA 94501
Copyright: 1989
Price: $34.95
Contents of package: 1 program disk (3.5"), 2 program disks (5.25"), guide 15 p.
Systems (* indicates version previewed): IBM-PC, Tandy 1000*
Equipment required: microcomputer (256K), 1 disk drive, monitor (color required)
Grade level: 7-12
Goals: Grades 7-12 Thinking Skills

In WELLTRIS, students test their ability to recognize geometric patterns as they rotate, position, and connect geometrically shaped game pieces. The program, originally written by a Soviet, begins by showing the flag of a Soviet republic and requiring users to enter information about the republic (this information is prominently featured in the guide). Users who successfully supply the required information are shown a setup screen which allows users to choose level of difficulty, game options, and game speed. Options include methods of moving game pieces around the screen, turning sound on and off, and turning the game

piece preview on or off. After making selections, students see a game screen composed of three sections: the "well," a status box, and a graphics area showing a scene from Soviet life. The well is a grid drawn to simulate a three-dimensional hole. It has four sides (twelve rectangles high by eight rectangles wide) and a flat bottom (eight rectangles long and eight rectangles wide). Colorful geometrically shaped game pieces appear one at a time at the top of one of the four walls and begin to move toward the bottom of the well. Game pieces are made of various numbers of rectangles that are the same size as the rectangles making up the sides and bottom of the well. Depending on the level of difficulty selected, game pieces can be made up of two, three, four, or five rectangles and are irregularly shaped (some are boxes, crosses, L-shaped, or T-shaped). Students can rotate the game pieces as they fall and can move them around the sides of the well. Once a piece reaches the bottom of the well, it slides across until it hits one of the other walls or another game piece. Game pieces can be rotated while on the bottom of the well but cannot be positioned. The object of the game is to connect the irregularly shaped game pieces in a straight line across the bottom of the well without leaving any empty spaces. When a complete line is formed, the line disappears, and the other game pieces on the floor of the well move toward the center. Failure to create solid lines results in a crowd of game pieces sitting on the floor of the well. These pieces eventually take up so much space that new pieces cannot fall to the floor and are stacked up on the walls. When a game piece cannot reach the bottom, the program blocks that wall for the time that it takes three other pieces to reach the floor on the remaining walls. If all four walls become blocked, the game ends. The status box displays the level of difficulty, speed, score, and number of lines created. An option also allows a preview of the shape of the next game piece. The graphic area of the screen shows one of five scenes: a town square, an ice cream truck in a park, a couple embracing, a rock star in concert, and finally the author of the program sitting at his computer. A new scene appears at each new game speed as students work through five progressively faster speeds at each level of difficulty. Students score points for the number of lines that disappear, and the program begins to increase the speed of the falling game pieces. A short manual describes the game, suggests strategies, and gives information about the Soviet republics.

WEAKNESSES: The program's copy protection scheme, requiring students to refer to the guide and enter information, is a bother.

STRENGTHS: Students are required to view a game piece then look at the floor of the well to determine how its shape can best fit into the game pieces already there. To successfully play the game, users must develop the ability to visualize how the various game pieces will appear when rotated on axis. Users must also formulate strategies to arrange game pieces on the floor of the well in an efficient manner.

USES: WELLTRIS is an excellent, and potentially addictive, supplementary activity for students who can benefit from developing and practicing the skills of visual discrimination, understanding spatial relationships, and problem solving.

* * *

Title: WINKER'S WORLD OF NUMBERS
Publisher: Sunburst Communications, Inc.
39 Washington Avenue
Pleasantville, NY 10570-2898
Copyright: 1989
Price: $65.00
Contents of package: 1 program disk, 1 back-up disk, guide 54 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor (color optional)
Grade level: 1-8
Goals: Thinking Skills Grades 1-8

WINKER'S WORLD OF NUMBERS challenges users to discover the mathematical reasoning behind a sequence of numbers found in grids up to five by five blocks in size. Users choose from three "arenas." "Counting" patterns begin with a number from one to seventy, and numbers follow consecutively to fill the grid. "Addition" grids begin with a number from one to twenty-seven and count by twos or threes to complete the pattern. "Multiplication" grids develop from one of two methods. One method presents a section of a ten by ten grid in which the top horizontal row of numbers and the vertical row of numbers on the left side have been multiplied in order to fill in the rest of the number slots. Other times the grid is filled with numbers that are all multiples of a single number. For example, if the grid consists of multiples of seven, the top row of horizontal blocks could be "7, 14, 21, 28, 35" and the second row "14, 21, 28, 35, 42" with the remaining rows following the same pattern. Next, users select from three levels of activities. In all levels "Winker," a worm several grid blocks long, crawls over the grid. In "Play" the entire pattern is visible except for the part under Winker. When players stop the worm's motion, the program will select a covered block whose number must be identified. Three right or wrong answers in a row end the session. "Challenge" begins with a blank grid. As Winker travels over portions of the grid, he reveals their numbers. Users must stop him and correctly identify three blocks before the entire grid is visible. At the "Champion" level Winker's travels reveal portions of the grid, but they will soon disappear again. When users stop Winker, the entire grid becomes empty. The program selects three blocks, one at a time, to be identified. A single error ends the session, but users may select from the menu to replay the same grid. Options allow teachers to determine Winker's speed, Winker's length, the range of numbers used in a grid (up to forty or up to ninety-nine), whether users have the opportunity to preview a completed grid before a Play or Challenge session, whether they may view the pattern at any time during a session, and whether students should have control over some options. A major variable teachers control is the level of difficulty of the grid. "Beginner" grid numbers start in the upper left corner and follow in order from left to right, row by row. "Expert" grids contain rows of numbers that have been rotated, flipped, and/or reversed. The guide explains all of the program's choices and includes ten lessons for sessions without computers that introduce the concepts used in the computer activities. The lessons, including three for grades one and two, four for grades three and four, and three for grades five and up, are accompanied by reproducible worksheets or transparency masters.

WEAKNESSES: No significant weaknesses were observed.

STRENGTHS: The noncomputer lessons will ease students into the concepts they will encounter with the program, allowing them to maximize their computer time. The variety of program options makes this program appropriate for users with a wide range of abilities.

USES: WINKER'S WORLD OF NUMBERS reinforces the mathematical concepts of counting, adding or skip counting with twos or threes, and multiplication tables for students already confident with these topics while it enhances problem-solving skills.

* * *

SOCIAL STUDIES

Title: INTERNATIONAL INSPIRER
Publisher: Tom Snyder Productions
90 Sherman Street
Department C509
Cambridge, MA 02140-9923
Copyright: 1989
Price: $119.95
Contents of package: 1 program disk, 1 back-up disk, 6 Country Close-up Map Reference Books 15 p., 6 Political and Historical Map Reference Books 14 p., 6 Demographic Map Reference Books 14 p., 6 Economic Map Reference Books 14 p., teacher's guide 79 p.
Systems (* indicates version previewed): Apple II family*, MS-DOS
Equipment required: microcomputer (Apple 64K, MS-DOS 256K minimum), 1 disk drive, monitor
Grade level: 5-12
Goals: Social Studies Grade 5 Knowledge CG 1 and 10
Grade 6 Knowledge CG 1, 11, and 12
Grade 7 Knowledge CG 1, 10, and 11
Grades 5-7 Skills CG 1, 2, 3, 4, 5, and 8

In INTERNATIONAL INSPIRER students use maps and graphs to gather information needed to plan trips through different countries of the world. Students score points by traveling from one country to an adjacent country. They acquire extra points by traveling through countries that meet specific criteria provided by the program at the beginning of each round of play. For example, students earn extra points if they travel through countries producing oil or through densely populated countries. Students traveling through an oil producing country gain twenty bonus points. If students enter a densely populated country that also produces oil, they receive forty bonus points. Students score sixty bonus points if their travels end in a country meeting the program's special end-of-round criteria (e.g., a country with a highly urbanized population). Therefore, students who carefully plan their trips can amass significantly higher point totals than students who simply move from country to country. Using four reference books of world/regional maps and graphs provided with the program, students plan their journeys to travel through as many bonus-point countries as possible. The maps include world and regional maps that show information covering three broad topics: economics, demographics, and politics and history.

One of the reference books features a collection of graphs that compare nations of the world in land area, urban population, population density, literacy, gross national product, and life expectancy. This book also includes detailed regional maps and a listing of nations' latitudes and longitudes to help students locate unfamiliar nations on the world map. Using note-taking forms provided by the producer, students record where their journeys begin and note criteria for bonus points and end-of-turn bonus points. Once a trip is planned, students begin to use the computer. The program shows a map of the world, and an on-screen window displays the names of all the countries adjacent to it. Students choose the nation they wish to visit next; then the program displays a line on the world map tracing their route. The program reports any bonus points gained upon arrival in a country. After students visit the tenth country, the program provides a new set of criteria around which students plan their next trip.

The program allows students to save up to nine trips in progress for future completion. The teacher's guide provides information on the operation of the program and classroom uses, lesson plans, background information on the graphs and maps found in the reference materials, and reproducible note-taking sheets.

WEAKNESSES: Students' potential scores are at the mercy of the program's criteria and the location of students' beginning points. Some students will be able to move through ten countries that meet both bonus point and end-of-turn criteria while others will be unable to reach a single country that will earn bonus points for them. Therefore, the score in the game does not reflect students' ability to use reference materials or solve problems as much as it reflects their "luck of the draw." The program provides no recordkeeping other than a display of the highest score attained by any user. Some method of reporting students' possible scores versus performance would help teachers better determine student mastery of skills.

STRENGTHS: Students will enjoy this challenging geography/problem-solving approach to using maps and graphs. The program is easily adapted to large group use with students working cooperatively in teams to plot out the most effective routes for their trips.

USES: Students using INTERNATIONAL INSPIRER practice a variety of social studies and reference skills. The content of the program focuses on geography, but users also benefit from the practice in reading maps and interpreting graphs. The program promotes working cooperatively within a group to organize information and solve problems. INTERNATIONAL INSPIRER can easily be used by individual students, but its main strength is the ease with which it can be used by a whole class with access to only one computer.

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Series Title: MECC DATAQUEST
Title: THE MIDDLE EAST AND NORTH AFRICA
Publisher: MECC
3490 Lexington Avenue North
St. Paul, MN 55126
Copyright: 1989
Price: $59.00
Contents of package: 1 program disk, 1 back-up disk, guide 73 p.
Systems (* indicates version previewed): Apple II family*
Equipment required: microcomputer, 1 disk drive, monitor, printer (optional)
Grade level: 7-12
Goals: Library/Media & Computer Skills Grade 8 CG 6
Social Studies Grade 7 Knowledge CG 6, 11, 13, and 19
Skills CG 2, 3, and 4
Grade 10 Knowledge 3 and 4
Skills CG 2, 3, and 4

MECC DATAQUEST: THE MIDDLE EAST AND NORTH AFRICA encourages exploration of the twenty-five countries in this region with a database that contains seventy-two categories of information and statistics that cover geography, demography, economics, politics, and social issues. Students select database records by category with subdivisions in some categories such as "Climate Zones" or "Forms of Government." If categories contain numerical data, users select parameters such as "equal to" or "greater than" a particular number. Students choose more than one item in a single category to make a typical "or" search. For instance, they could select all nations that "Export" bananas or sugar. A more restricted "and" search is set up by choosing two or more items in different categories. In this case, a student might select all nations that "Export" bananas and have a "Population" greater than ten million. Records are sorted alphabetically or numerically with multiple sorts accomplished by ordering one category at the time beginning with the least important one. To print reports users choose a display format, designate categories for inclusion, establish the order for listing categories, and direct output to the screen or to a printer. If users select the record display format, complete category names and information are printed line by line down the page. If they select the table format, the program prints information in rows with columns of adjustable width.

The guide includes background information on databases; program overview and description; suggestions for introducing databases and using a research model; and seven reproducible handouts that provide instructions for use of the program, description of categories, suggested research topics, worksheets to track search strategies and progress, and a map of the region. Appendices include a bibliography and United States data for addition to the program using the MECC DATAQUEST COMPOSER.

WEAKNESSES: The table format could display more columns if category names were abbreviated or printed on more than one line. The program truncates important information in category names when users opt to reduce column widths.

STRENGTHS: This content-based program promotes critical thinking activities such as comparing, contrasting, identifying patterns or trends, and drawing conclusions. Students also boost their information gathering skills. The research model presented in the guide offers a manageable sequential framework.

USES: MECC DATAQUEST: THE MIDDLE EAST AND NORTH AFRICA supports the social studies curriculum as a tool for study of the region or individual countries. The program is appropriate for whole class, small group, or individual use.

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Title: SIMCITY
Publisher: Broderbund Software
17 Paul Drive
San Rafael, CA 94903-2101
Copyright: 1989
Price: $49.95
Contents of package: 1 program disk (3.5"), user documentation 43 p., addendum to user documentation (leaflet), system card, user reference card, teacher's guide 23 p.
Systems (* indicates version previewed): Macintosh*, IBM-PC, Commodore 64/128, Commodore Amiga
Equipment required: microcomputer, 1 disk drive, monitor (color optional), printer (optional)
Grade level: 9-12
Goals: Social Studies Grade 9 Knowledge CG 3 and 15
Skills CG 1, 4, and 5
Grades 10-11 Skills CG 1, 4, and 5

In SIMCITY students plan, construct, and manage their own cities or experiment with urban scenarios such as the San Francisco earthquake of 1906, firebombing in Hamburg during World War II, crime in Detroit, or future crises such as nuclear meltdown in Boston or a flood in Brazil. Students control tools for planning, zoning, and management but must also respond to the simulation as it relates their decisions to the program's agenda. In this interaction players discover the rules and relationships that govern urban development. Students develop cities through a series of windows accessed from the menu bar. To create a new city, users select a terrain that includes cleared land, forest, and water areas and shift from this comprehensive map to an edit window that magnifies a portion of the total area. Users move around the multiscreen map using options to zone residential, commercial, and industrial areas; bulldoze; build power stations and lines, roads, or railways; establish fire and police stations; or create parks, stadiums, seaports, or airports. The program moves citizens into residential areas and develops commercial and industrial zones of varying densities and land values. On-screen information includes a chart indicating the need for each type of zone, a running fiscal balance, and the cost for each action. Users receive special needs bulletins and annual budget reports. The budget window allows tax or funding adjustments. Specialized map windows display highlighted patterns or simplified maps that reveal the status of crime, traffic, pollution, land value, population density, and other city concerns as well as the extent of road, power, or railway service. The graph window shows growth in various categories over time, and the evaluation window gives city planners feedback in terms of public opinion, serious problems, demographic statistics, and quality of life. Users can activate disasters such as fires, earthquakes, or tornadoes, or they may encounter them randomly as the simulation unfolds. Other options include simulation speed (with a useful pause feature), difficulty level (based on an initial amount of funds), shortcut keyboard commands, and the "Shift-Funds" command for extra money. Instead of

making a city, users can develop one of the prebuilt scenarios. The program saves cities and prints a one-page comprehensive map or a six-page detailed one.

The user documentation and its addendum explain menu options and provide summaries, tips, and a reading list. The reference card presents a graphic key to zone evolution and a matrix of factors that affect growth levels positively or negatively. The teacher guide contains objectives and provides activities that cover aspects of the simulation such as traffic and transportation, land value, budgeting and taxes, pollution, and crime.

WEAKNESSES: The lack of an "Undo" option means that novice players bulldoze often. An on-screen demonstration or introductory interactive segment would enhance classroom use.

STRENGTHS: This program combines several knowledge or skills areas: city systems and simulation concepts, critical thinking, problem solving, and computer literacy. The program's content and environment reflect the real-world complexity of city planning. Beginners can experiment freely, and experienced players can face strategic challenges.

USES: Not for the drop-in user, SIMCITY presents exciting potential for interdisciplinary learning and enjoyment for teachers and students who have interest, concentration, and tolerance for the numerous variables involved in strategic planning. The program lends itself to projects and special interest use but can be worked in more generally with careful teacher planning.

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## UTILITY

Title: DESIGNER PRINTS
Publisher: MECC
3490 Lexington Avenue North
St. Paul, MN 55126
Copyright: 1989
Price: $89.00
Contents of package: 1 system disk (3.5"), 1 program disk (3.5"), 2 back-up disks, guide 115 p.
Systems (* indicates version previewed): Apple IIGS*
Equipment required: microcomputer (minimum 1Meg), 1 disk drive (2 preferred), monitor (color optional), printer (preferred), blank disk (preferred)
Grade level: Teacher utility
Goals: Utility

DESIGNER PRINTS is a drawing and graphics utility that enables users to create posters of various sizes, certificates, flyers, worksheets, or other documents with a ready-to-use collection of borders and clip art. The program has a MACDRAW-style menu and toolbox with an assortment of line and text options as well as color and pattern palettes. Users can invent their own designs, edit borders or patterns, and import graphics. The menu bar contains file, edit, design, object, picture, and text options. Edit features include cut, copy, paste, clear, select, and clipboard functions. The design menu provides access to border and background patterns and the grid. Borders and patterns can be

edited pixel by pixel in gray scale or with a sixteen-color palette. The object menu enables users to move objects to front or back, align them, center or flip them, designate a shadow effect, or place items in particular screen areas. The picture menu allows designers to choose clip art from a variety of seasonal, subject, or miscellaneous categories. Clip art can be inverted, displayed in mirror image form, and doubled or halved in size. The program also imports graphics from other sources such as PRINTSHOP IIGS or WORLD GEOGRAPH. Text options include eight fonts in several point sizes and style features such as boldface, underline, italic, outline, and shadow types. Users can justify text; align it to the left, center, or right; and import text files. The toolbox permits scrolling through color and pattern palettes, displays the current color and line width, and provides access to the drawing tools that include horizontal or vertical lines, diagonal lines, and outline or solid circles, squares, and arcs. The program prints documents in a range of sizes from one-quarter page to ten- by ten-page squares. Other choices include previewing, printing in color on an ImageWriter II, using a LaserWriter, printing one section at a time, and using the guidelines option to print assembly marks for large posters.

The guide contains an overview, a reference section, lists of borders and clip art, copies of ready-made self-esteem posters on the program disk, a summary of menu options, and detailed comment on program features. This explanatory section offers a step-by-step tutorial, special tips and techniques, and examples with instructions for a simple poster, a math worksheet with graphs, a worksheet with text columns, and a certificate.

WEAKNESSES: Because the program lacks group and fill functions, selecting and moving multi-object designs can require several tedious tries, and producing a shape that is both patterned or colored and outlined is cumbersome.

STRENGTHS: This program has flexibility and is relatively easy to use. Finished products, especially those printed in color or with a laser printer, are smooth and appealing. The manual provides excellent support with a combination of quick introductory activities, refinements for the more experienced user, and ideas for application.

USES: Teachers, media coordinators, and other school personnel can use DESIGNER PRINTS to create materials for reinforcement or enrichment in any content area, posters or certificates for enhancing the classroom environment, or announcements to publicize upcoming events. Some students will also enjoy designing and printing attractive documents.

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