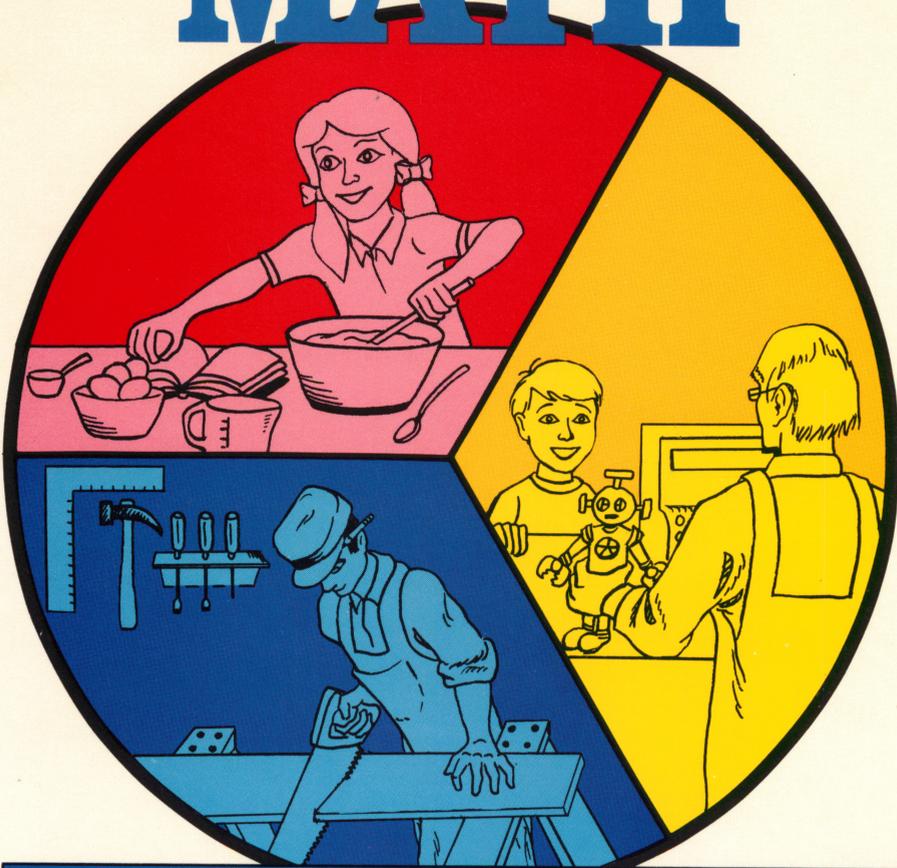




MICROGRAMS

REAL MATH



Word problems that help students build analytical problem solving skills while using their basic math skills to add, subtract, multiply, and divide

M MICROGRAMS



REAL MATH

Purpose and Scope

The **Real Math Word Problem Series** is designed to allow students practice in using their basic math skills while focusing on developing problem solving skills.

The series contains programs at three levels. Level I offers practice in problem solving at a 3rd grade level. Problem set A includes the operations of addition and subtraction only. Problem sets B and C include the operations of addition, subtraction, and multiplication. The Level II disk presents word problems at a 4th grade level. The three sets of word problems include all four basic operations. The level of difficulty increases gradually from set A to set C. The Level III disk offers problems at a 5th grade level including all four operations and combinations of operations.

Each level contains 3 sets of word problems. Each of the nine sets includes 22 problems with random variables. In all, the 3 programs present 198 word problems.

Program Description

Each of the 3 programs follows the same format but presents different problems focused at the appropriate skill level. The student is presented with a word problem along with a picture, graph, or chart. The necessary data is provided and usually some additional data is given. The student begins by reading carefully to understand the question. He or she is then asked to select the necessary data from a multiple choice listing. After identifying the needed data, the student is asked to indicate which operation should be used to find the solution. In program Level III, for fifth grade, some problems require two-step solutions. If the student has difficulty in selecting the correct operations, a help screen can be accessed by pressing **H**. Hints and sample problems are provided for each of the four basic operations. After selecting the correct operation to use, the student is asked to find the answer. A built-in calculator is available to help with calculations. If a wrong answer is given, the computer will display the proper equation to use, and the student is given another opportunity to find the solution. The correct answer is shown after a second wrong attempt. Each unit of practice includes 5 problems randomly selected from a specified set.

Monitoring Student Progress

A vertical bar along the left side of the screen provides a continuous indication of how well a student is doing with each step in solving the problems. The lowest box shows how well a student is doing in selecting the necessary data. The middle box is an indicator of how well a student is correctly identifying the necessary operation. The top box shows how accurately the student is calculating the solution. A box that is completely filled with white shows that a student has made no mistakes in that category. A box that is $\frac{1}{2}$ full when the student is on the fifth problem shows that the student has answered two problems correctly and two incorrectly in that category.

Also, students receive 4 points for each correct answer and have 4 points deducted for each wrong answer. After each set of 5 problems, the summary page shows a student's current score and total cumulative score. A chart illustrates the scores of the top six workers. The Top Worker Chart provides incentive for students to practice more problems in order to build on their score. A major strength of the chart is that it credits hard work and persistence as much as accuracy. A low math student that plays the program 5 times in a row may accumulate a better

score than a student who answers all the questions correctly but only plays through twice. Thus, hard work is rewarded and the student that needs a lot of practice may be motivated to give an extra effort to build up his or her score.

Built-in Calculator

Use of the built-in calculator is optional. However, our intent is that the primary focus of this program be on careful reading to understand the question, locating the needed data, and deciding on the correct operation in order to arrive at a solution. The assistance offered and extra fun in using a calculator increase motivation and allow attention to be focused on preliminary problem solving skills.

To use the calculator, press **C** when asked to find the answer. Enter a first number, the operation sign, and a second number. Press the equal sign or return key to carry out the operation. To multiply, use the **X** key. To divide, use the **/** key. When you are done with the calculator, press the **ESC** key in order to enter the answer to the problem.

Suggestions for Use

Each of the three story problem sets at each grade level becomes increasingly more challenging. A student beginning at Level I, set A, will be presented with addition and subtraction problems only. The student will still be required to identify the needed data and necessary operation. Set B of the Level I disk presents simple multiplication problems as well as problems involving addition and subtraction.

Each of the 9 word problem sets in the **REAL MATH SERIES** includes 22 different problems. As a student continues to work through one set, he or she will become familiar with those problems. However, because the problems contain randomly generated variables, the solutions will be different. A student may benefit from continuous work on the same word-problem set to gain understanding, confidence, and mastery of the problems presented. When students are ready for greater problem solving challenges, they should advance to the next word problem set within a level or to the next grade level disk.

Disk Independent Modules

The Real Math programs are designed to load in disk independent modules. *This enables you to load a program into more than one computer for use at the same time. When a*

program is loaded, you need to specify which word problem set you want included. Those twenty-two word problems will then be accessible without returning to the disk.

Control--Reset

With the disk in the disk drive, press the RESET KEY while holding down the CONTROL KEY and  KEY in order to re-load a program. This will allow selection of a new story problem set. Micrograms' fast loading routine will speed loading time to just 15 seconds.

Sound Option

Sound is used appropriately throughout the Real Math Series to help signal right and wrong responses. Because the Apple IIe does not have a volume control, we have made the sound optional. When the disk is loading, a "SOUND (Y/N)?" prompt will appear. Press Y if you would like the sound on or N if you would prefer no sound.



MICROGRAMS PUBLISHING

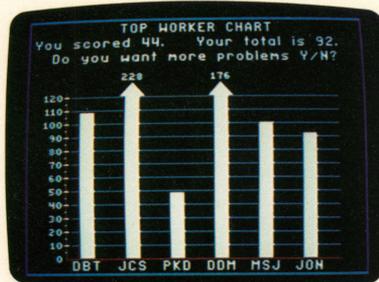
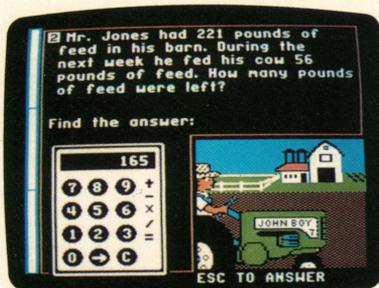
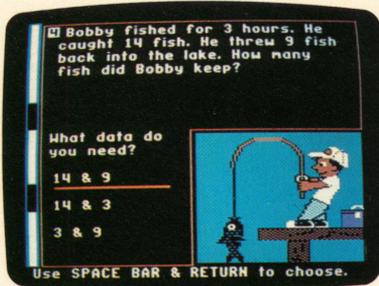
1404 N. Main St., Rockford, IL 61103

REAL MATH

Word Problem Series



MICROGRAMS



- Teaches problem solving steps
- Includes built-in calculator
- Offers HELP screens
- Contains 198 word problems with random variables
- Effective motivational graphics
- Disk-independent modules

Among the most important objectives in the elementary school math curriculum are that a student masters basic number facts, practices careful computation, and develops an approach to problem solving.

The **REAL MATH Word Problem Series** provides practice in each of these areas. Students are presented with a word problem and are guided through necessary steps in problem solving. After reading the problem carefully, the student is asked to identify the data needed to solve the problem. Frequently unnecessary data is given. The student must then determine the correct operation to use. When the child is asked to find the answer, a built-in calculator is available.

Each of the 3 disks contains 3 sets of word problems with 22 word problems in each set. The word problems contain random variables. Therefore, when appropriate, a student may work repeatedly on the same word-problem set to gain understanding, confidence, and mastery. When a student is ready for greater problem solving challenges, he should advance to the next word-problem set within a level or to the next grade level disk.

A scale on the left side of the screen provides a continuous record of the student's effectiveness in locating the needed data, determining the necessary operations, and in solving the problems. Also, points are earned for correct responses and deducted for incorrect answers. A Top Score Chart allows students to earn some recognition for their hard work.

Since 1981 MICROGRAMS has prided itself on providing true educational software authored by professional educators. MICROGRAMS programs feature accurate educational content, carefully leveled vocabularies, motivational design and graphics, and professional presentation of material to promote student achievement. The popularity and effectiveness of MICROGRAMS educational software is primarily a credit to the teachers who assist in developing, editing, and testing each program.



MICROGRAMS PUBLISHING

1404 N. Main St., Rockford, IL 61103

REAL MATH

Apple
Ile, Iic