Hartley

Math Concepts I & II
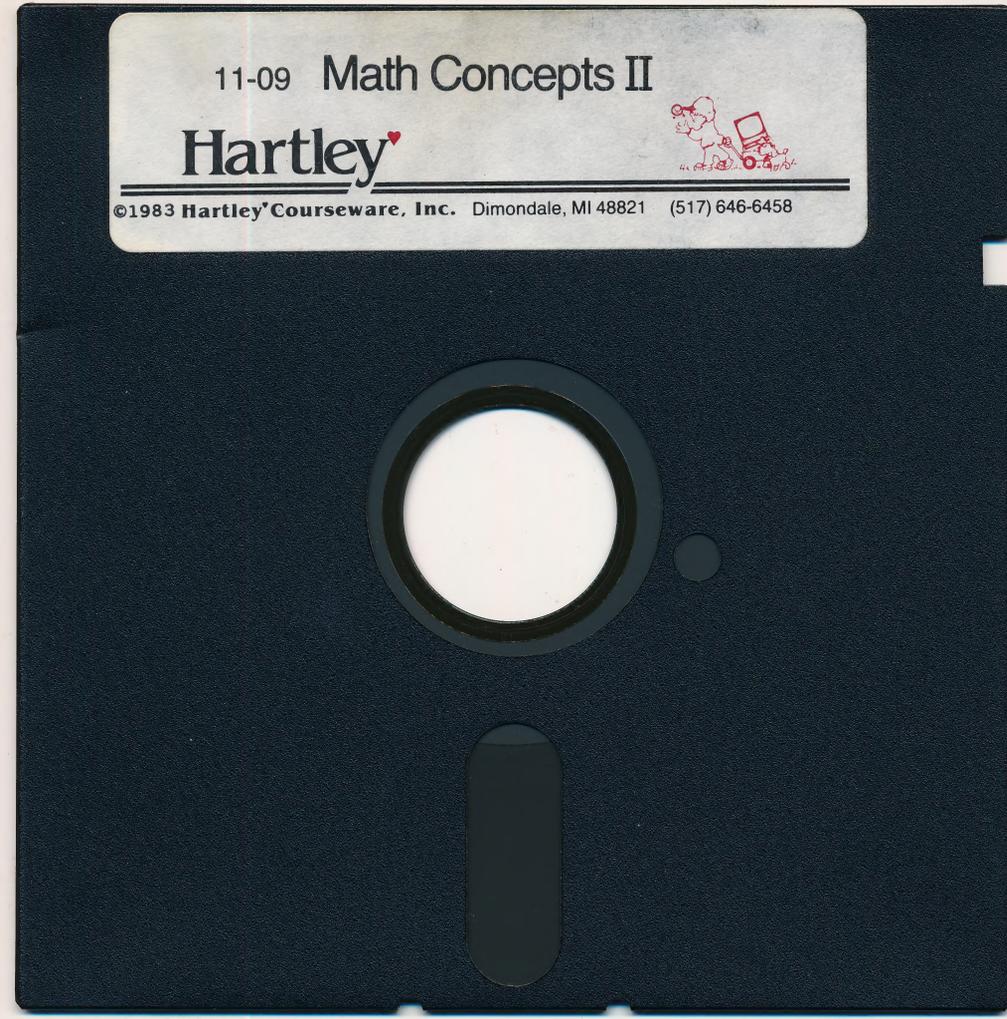
11-09 **Math Concepts II**

Hartley

©1983 Hartley Courseware, Inc. Dimondale, MI 48821 (517) 646-6458
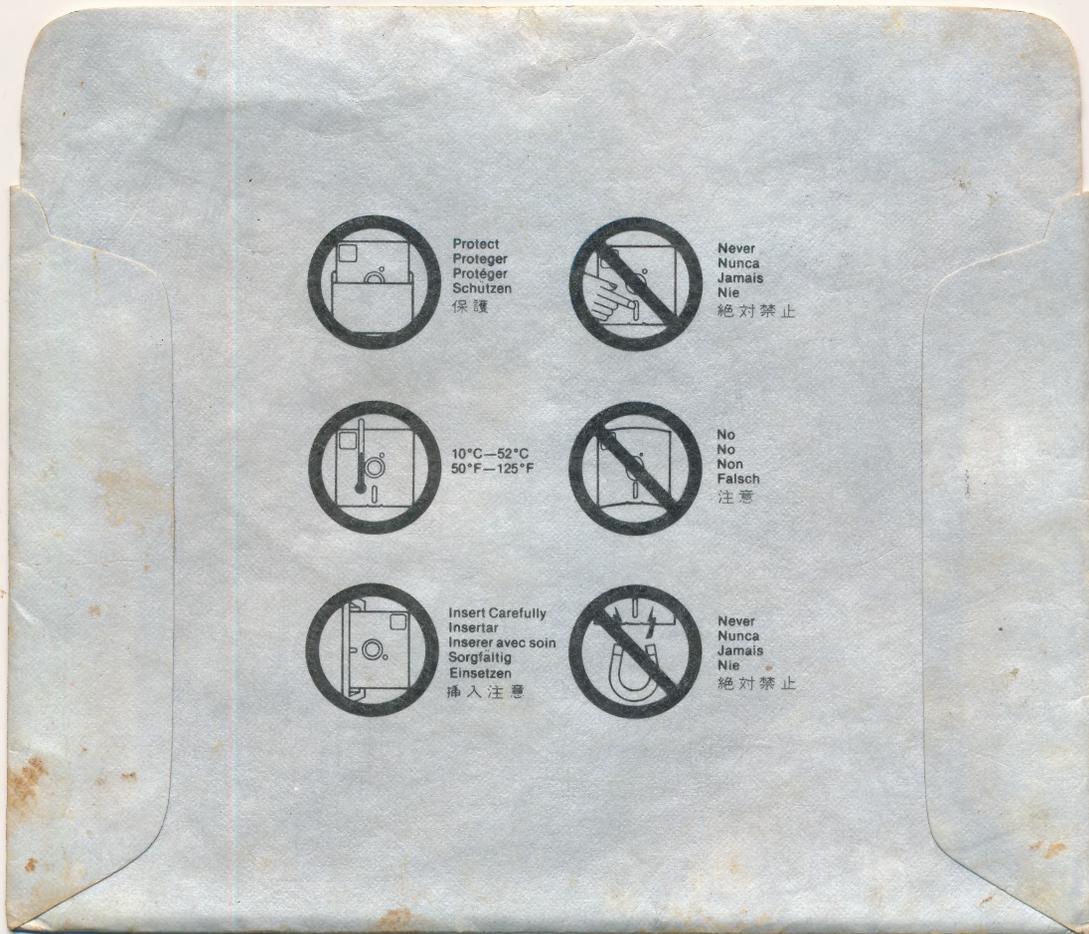
Scotch **3M**

diskettes

270,156
145,30
40,30
13,65

953
1000
140

252,64

Protect
Proteger
Protéger
Schützen
保護

Never
Nunca
Jamais
Nie
絶対禁止

10°C—52°C
50°F—125°F

No
No
Non
Falsch
注意

Insert Carefully
Insertar
Inserer avec soin
Sorgfältig
Einsetzen
挿入注意

Never
Nunca
Jamais
Nie
絶対禁止

11-09   Math Concepts I

Hartley♥

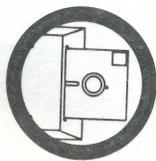©1983 Hartley Courseware, Inc.   Dimondale, MI 48821   (517) 646-6458

Hartley♥

For extended media life—
here's how to take care of your flexible disk

Precision surface. No fingers, please!

For your disk's sake (and the system's, too) insert disk carefully.

Magnetic fields erase. Keep them far away.

Keep it safe— in the envelope when not in use.
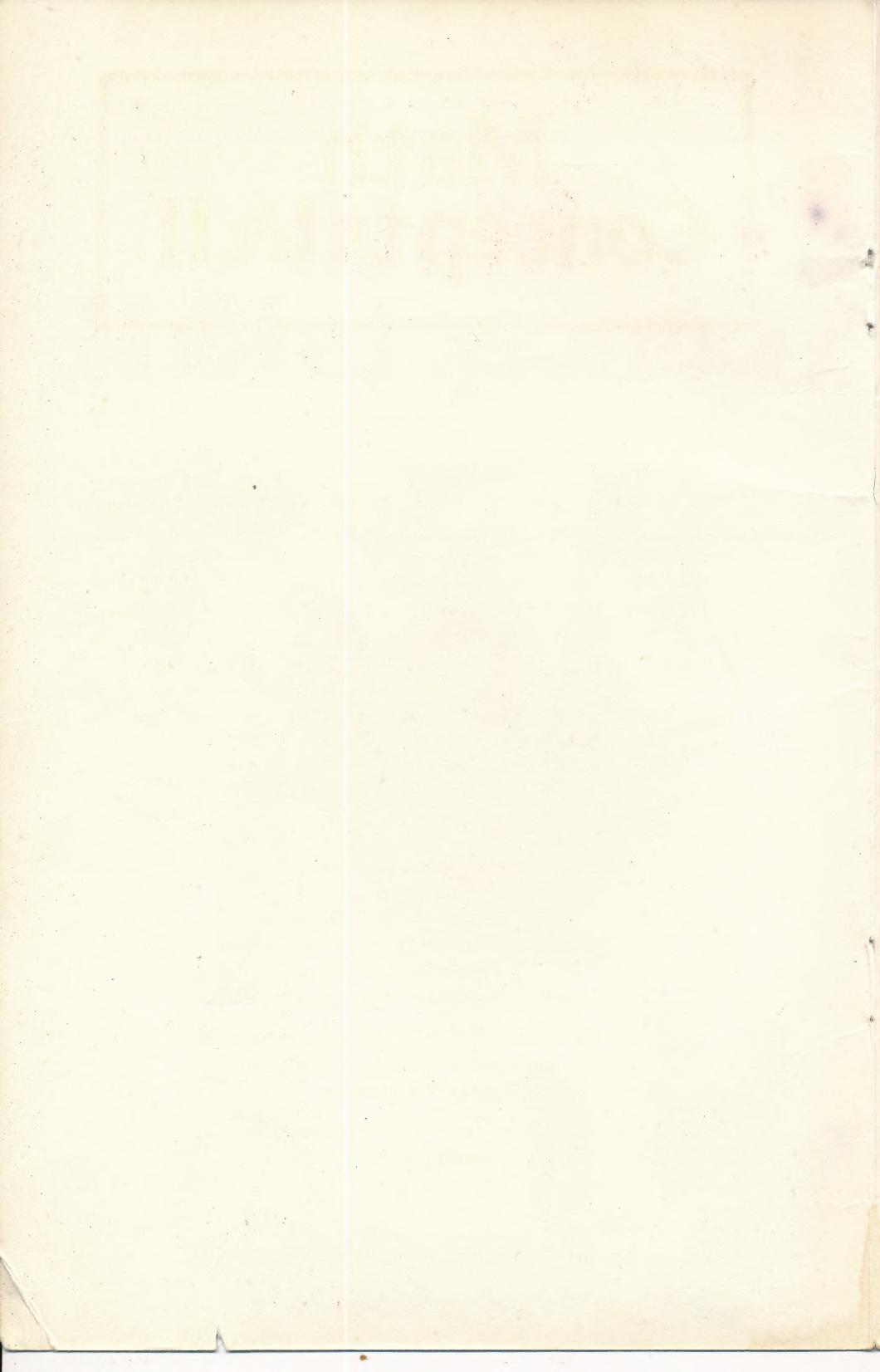
Bending and folding may damage. Handle with care.

Keep disks comfortable. Store at: 10° to 50° C. 50° to 125° F.

Hartley

Math Concepts I & II

ONLY 5¢

APPLE II & IIe ®
FRANKLIN ®

ICE COLD

LEMONADE 5¢

Math Concepts I & II

PURPOSE

This program was designed by elementary classroom teachers to be used as a supplementary activity. The program provides for the student who needs extra practice to understand and use many of the concepts commonly introduced in the elementary basal. Concepts which frequently prove difficult are included.

The skills are those commonly taught in grades 2-6. The reading level is 2-3.

**This Hartley program requires a 48K
*Apple II,IIe, or IIc, or
Franklin ACE 1000 with one disk drive.**

**When using the Apple IIe, the CAPS LOCK
key must be down; the LOCK key
on the Franklin.**

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Dimondale, MI 48821

*Apple II,IIe,IIc are trademarks of APPLE COMPUTER, INC.

TEACHER'S GUIDE

◆

This disk uses a high speed operating system, Diversi-DOS$^{T.M.}$; which is licensed for use with this program only. To legally use Diversi-DOS, send $30.00 directly to DSR, Inc., 5848 Crampton Ct., Rockford, IL 61111. You will receive a Diversi-DOS utility disk with documentation.

◆

Placement tests are included with this documentation. Answer keys are in the back of this booklet.

Field test schools are available upon request.

RUNNING THE PROGRAM

This disk will boot on a 3.3 Disk Operating System.

When running this program on the **Apple IIe**, keep the **CAPS LOCK** key down. On the **Franklin ACE 1000**, the **LOCK** key must be down.

Put the disk in Drive #1; close the door. Turn on your computer. If you are using an Apple II+, IIe, or IIc, the disk will boot automatically when you turn on the computer.

If you have an Apple II - type **PR#6** and press **RETURN.** The program will load into your computer and run auto- matically - don't type catalog!

There is an **ESC**ape option on this program. If for some reason you wish to terminate the lesson, press **ESC** at any time a response is called for. What had been attempted to that point will be recorded.

The credits will vanish and this frame appears:

```
        Type your name



     then press ⟨RETURN⟩.
```
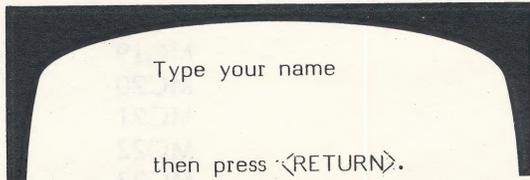
Type in your name and press **RETURN.** The next frame to appear is:

```
        Type the name of the
        lesson you will be
        working on, Tim.




        then press ⟨RETURN⟩.
```
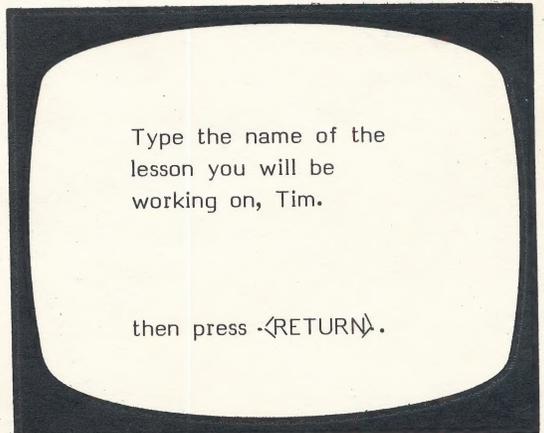
If your teacher has not assigned a lesson, you may wish to check with him/her before going further. If you are using the disk independently, and you don't know which lessons are available on the disk, simply type

<div align="center">? (and press RETURN)</div>

This will take you to the 'catalog' which will show you the list of lessons available on the disk. After all lessons on the catalog have been shown, the computer will return you to the "Type the name of the lesson....." frame. At that time, you would type in the lesson you have selected. If you are just starting to work with the disk and there is no lesson assignment, start with the first lesson on the first disk, **MC1.**

The lessons on these two disks are:
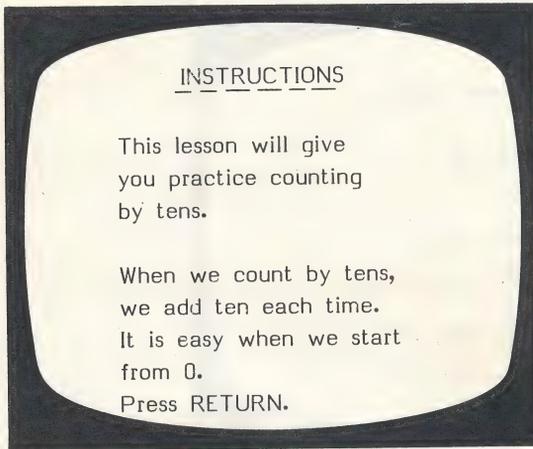
<u>Disk 1</u>	<u>Disk 2</u>
MC1	MC14
MC2	MC15
MC3	MC16
MC4	MC17
MC5	MC18
MC6	MC19
MC7	MC20
MC8	MC21
MC9	MC22
MC10	MC23
MC11	MC24
MC12	
MC13	

Now, type in the name of the lesson; MC4, MC12, MC22, or whatever.

The first screen to appear will be the Instructions.

```
        INSTRUCTIONS

   This lesson will give
   you practice counting
   by tens.

   When we count by tens,
   we add ten each time.
   It is easy when we start
   from 0.
   Press RETURN.
```

The instruction frame may be accessed at any time by pressing 'H' when a response is called for.

The frames in the lesson will be presented. A typical question frame looks like this.

```
   Count by tens starting
   from zero.
    0  10  20  30  40  50
   60  70  80  __

   What answer goes in the blank?
   answer: _____
```
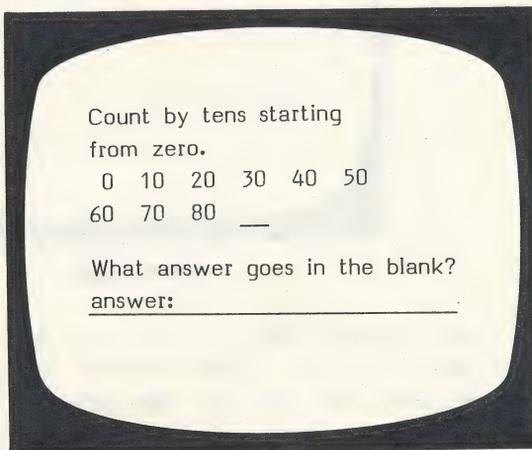
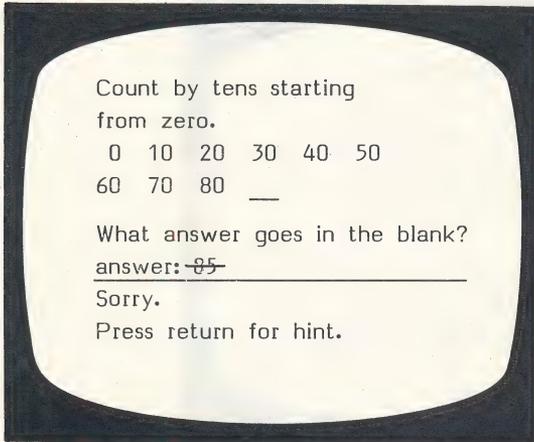If you answer correctly, the computer will present the next question frame. If you answer incorrectly, either a hint frame or an explanation frame may be shown. A hint frame is used to guide the student toward the correct answer.

```
Count by tens starting
from zero.
 0  10  20  30  40  50
60  70  80  __

What answer goes in the blank?
answer: 85

Sorry.
Press return for hint.
```

Question Frame

```
To find the next number,
add 10 to 80.




Press RETURN.
```
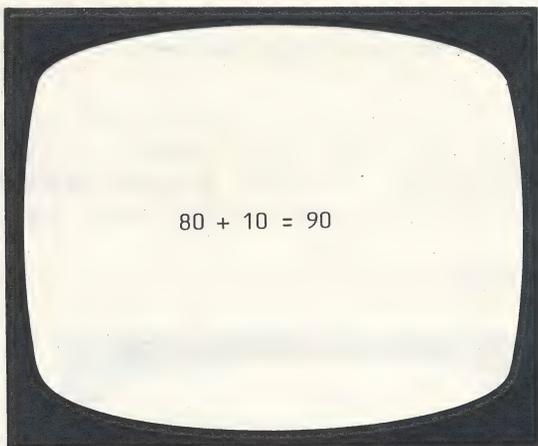
Hint Frame

The computer then returns the student to the frame just missed, for another try. The number of chances a student is given may be set by the teacher in the Design Options. This is accessed via the Teacher's MENU - page 8.

4

```
80 + 10 = 90
```

Explanation Frame

Each question may be followed by either a 'Hint' or an 'Explanation' frame. Which is used depends on the content and preference of the author. These feedback frames may be changed if desired.

A hint frame is generally used in tutorials to guide the student to the correct answer.

An explanation frame is generally used in a testing sequence or when more than just the answer is needed.

Unless the lesson is stopped by pressing the **ESC** key when a response is called for, all items in the lesson will be presented. All items missed are stored in Student Planning for later review by the teacher.

At the end of the lesson, the student will be shown the following screen indicating the number correct out of the number attempted. A little graphic, **"GORB"**, 'tells' the student how well he/she did on the lesson just completed.
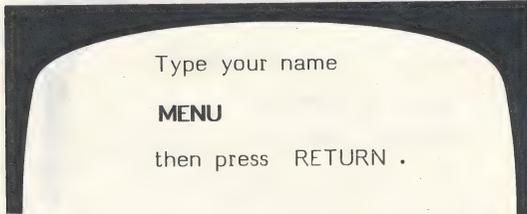
Introducing....**GORB!**
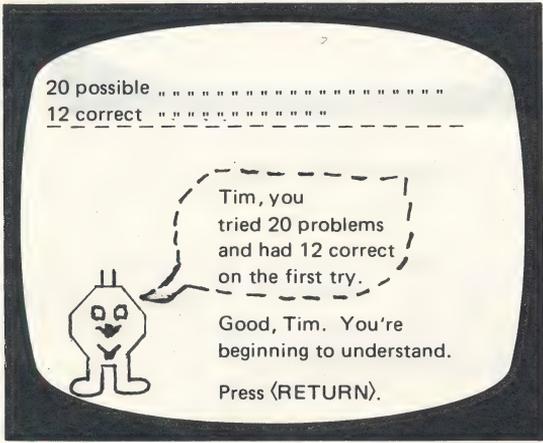
The computer will then return you to the "Type your name." frame ready for another student or another lesson.

Teacher's MENU

The lessons on this disk are for the student. There are also programs for the teacher. These programs allow the teacher to "do things" to the student lessons on the disk.

The teacher's programs are accessed by using the name MENU when the following screen is shown:

```
Type your name

MENU

then press   RETURN .
```

The following MENU will be shown:

```
        ⟨26 FREE SECTORS⟩

DO YOU WANT TO:

  1 - CHANGE A LESSON
  2 - CHECK STUDENT PLANNING
  3 - RUN LESSONS
  4 - CATALOG DISK

WHICH?
```
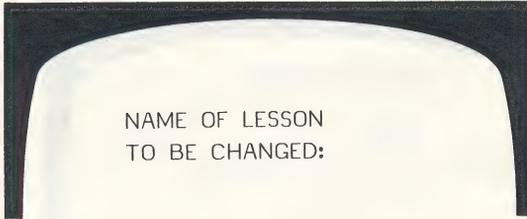
This will tell you how much space is available. One lesson will take 10-20 sectors.

The following pages will describe exactly how to use each of these programs on the Teacher's MENU.

1 - CHANGE A LESSON

If you wish to change a lesson already on the disk, select
1 - Change a Lesson.

First, you will need to identify the lesson you wish to
change or add to.

```
    NAME OF LESSON
    TO BE CHANGED:
```

The lesson will be loaded into the computer and the
following frame will appear:
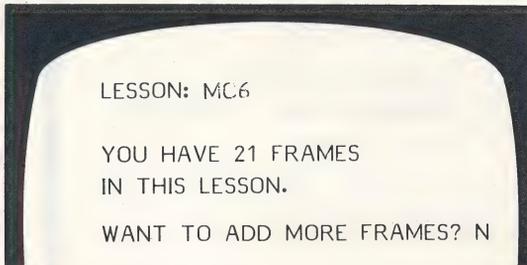
```
    LESSON: MC6

    YOU HAVE 21 FRAMES
    IN THIS LESSON.

    WANT TO ADD MORE FRAMES? N
```

If you want to increase the number of items, type **Y.**
Remember, you are limited to **30 items per lesson.**
You will then be asked:

```
    ADD HOW MANY FRAMES?
```

After indicating the number of frames you wish to add to the lesson, the 'Instructions' frame will be shown with the option of changing it by indicating **Y** or **N**. If you answer **Y**, the cursor will move to the first line of the instructions. An instruction frame may look like this:

INSTRUCTIONS

This lesson will give
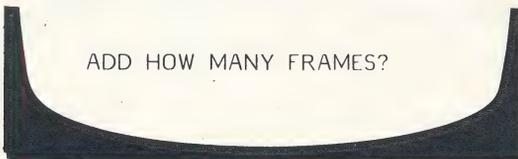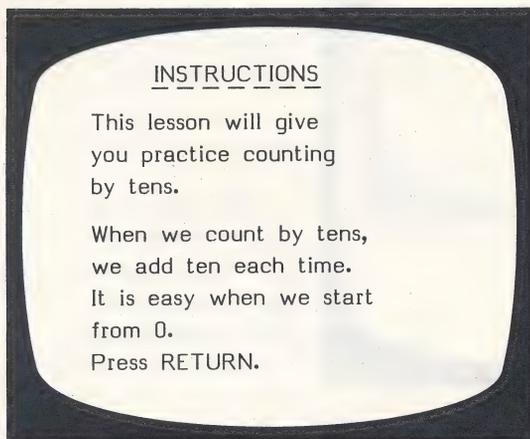you practice counting
by tens.

When we count by tens,
we add ten each time.
It is easy when we start
from 0.
Press RETURN.

This frame may be accessed at anytime by pressing '**H**' when a response is called for.

You may then type new instructions. If you don't wish to change a line, just press **RETURN** to move the cursor to the next line.

Next, you will be shown the frame you wish to add. (If the lesson already had 19 items, Frame #20 will appear blank, the cursor on the first line, ready for you to type in the item.)

To **capitalize a letter**, press the '$\wedge$' just <u>before</u> the letter to be capitalized. To make a '___' in a question, use the **@** sign.

Question Frame

This may take any format you would like.
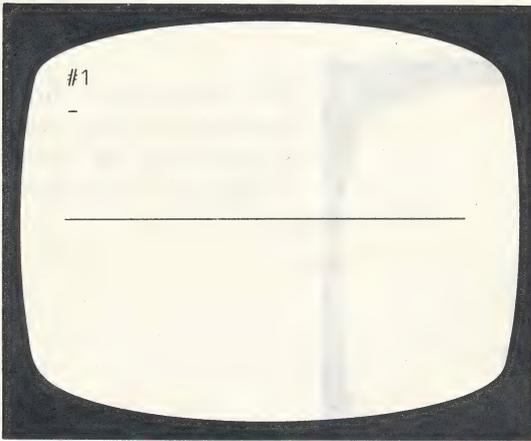
You may enter 6 lines here.

You may enter 4 responses here; any one of these will be considered correct.

Many commonly requested shapes have been stored in the computer. You may use these in your lessons just as if they were letters. The keys to use to create these shapes are listed on page 25.

Instead of a Question Frame you can enter an 'Information' Frame. This frame can contain just text, or text combined with graphics. When an information frame precedes a question, the student can (by use of the ← key), go back to the Information frame for help in answering the question.

Information Frame
This frame requires
no response.

The **%** in the
answer's place will
indicate to the
computer that there
will be no answer.

```
□□□    □□   □□□□

             □□

  3    +  2  =  5
%_____
```

After entering a new frame, or changing an existing
frame, you will then branch to the 'Secondary' MENU.

```
DO YOU WANT TO:

1 - ENTER HINT FRAME
2 - ENTER EXPLANATION FRAME
3 - GO ON TO NEXT FRAME
4 - RE-ENTER PREVIOUS FRAME
5 - END THIS LESSON
WHICH?
```

This allows you to enter a 'Hint' frame or an 'Explanation' Frame. The hint frame will be shown to the student after he misses the question. If you wish to enter a Hint frame for the first question, select **1 – Enter hint frame** and this will appear:

You may enter 6 lines. Either text or graphics may be displayed.

-

_____
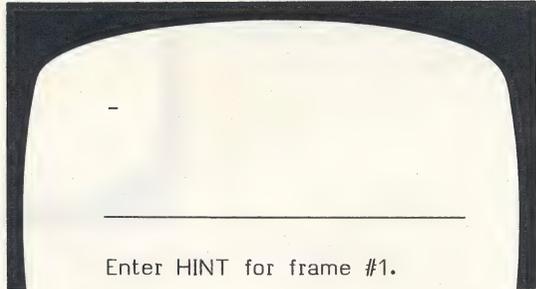
Enter HINT for frame #1.

After entering the hint frame, and pressing **RETURN,** the computer will automatically place you at the next frame (assuming you were entering more than one additional frame), ready for the next question or more information.

Select **2 – Enter explanation frame.** This would be used when a hint might not be appropriate, but you want to give the student feedback other than just the answer. The Explanation frame will be shown to the student after he has missed the question on his last try. (The number of tries is set by the teacher at the end of the lesson by using the Design Options).

Answer shown is the first answer entered.

You may enter 6 lines.

You may enter graphics or text.

```
Sorry, the answer is:

-




_____
Enter EXPLANATION for
frame #1.
```

3 – Go on to next frame. This simply allows you to go to the next consecutive frame without entering a hint or explanation frame for the previous frame.

You may **4 – Re-enter previous frame** if you have given a hint frame and want to look at the question frame you just entered.
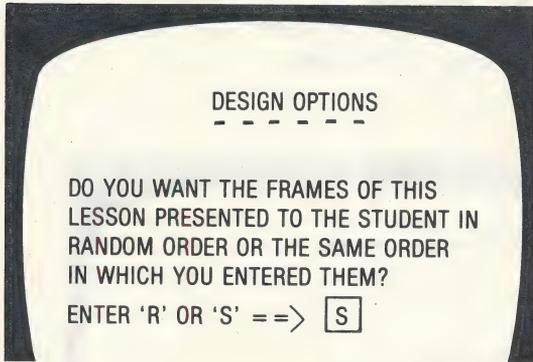
Selecting **5 – End this lesson** will take you to the **DESIGN OPTIONS** for the lesson you have just entered. The first frame will ask you to enter the concept being taught, i.e.,

CONCEPT: MULTIPLYING INTEGERS

This will be used in the Student Planning section.

Design Options

The first of the Design Options will be given:

DESIGN OPTIONS
- - - - - -

DO YOU WANT THE FRAMES OF THIS
LESSON PRESENTED TO THE STUDENT IN
RANDOM ORDER OR THE SAME ORDER
IN WHICH YOU ENTERED THEM?

ENTER 'R' OR 'S' = => [S]

For instructional lessons that are carefully sequenced, you would want them presented in the same order. For drill or tests, you may want random order.

If you are using the hint option, you will need at least 2 tries.

DESIGN OPTIONS

HOW MANY TRIES WOULD YOU LIKE
TO GIVE THE STUDENT BEFORE THE
CORRECT ANSWER IS DISPLAYED?

ENTER A NUMBER FROM 1 TO 9 = => [1]
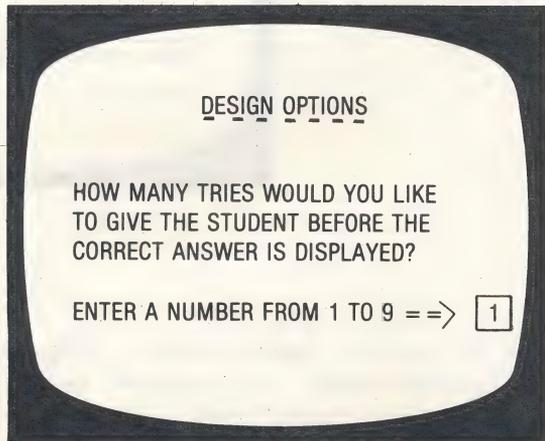
The following 'Student Safeguards' allow you to set the criteria upon which the computer will branch to the end of the lesson. It is the philosophy of the teachers who designed this disk that if a lesson is too easy or too difficult, the computer should terminate the lesson. The TEACHER should make the new prescription.

STUDENT SAFEGUARDS

IF THE STUDENT IS DOING POORLY,
THE LESSON WILL TERMINATE IF HE/SHE
HAS LESS THAN 4️⃣0% CORRECT ON THE
FIRST TRY.

(ENTER A NUMBER FROM 1 TO 49)

The next question relates to the above decision.

STUDENT SAFEGUARDS

EVEN IF THE STUDENT IS DOING
POORLY, AT LEAST☐ 4 FRAMES
WILL BE PRESENTED BEFORE THE
LESSON IS TERMINATED.

(ENTER A NUMBER FROM 1 TO 25)

You will need to skip at least some frames. If you don't, the lesson will terminate on the first frame if there is an error (0% will be below any % that you set in the previous step).

```
          STUDENT SAFEGUARDS


IF A STUDENT IS DOING WELL, THE
LESSON WILL TERMINATE AFTER☐10
CONSECUTIVE CORRECT ANSWERS
ON THE FIRST TRY.

(ENTER A NUMBER FROM 1 TO 25)
```

If there is a variety of skills taught or reviewed in one lesson, you may want the student to complete all the work no matter how well he/she does on the first 10. If so, change to 25 or the total number of items.

Note: By using the random order option and the Design Options, this disk was designed to allow you to create a modifiable item pool. Rather than drawing a specific number of items, the items will be used until the student meets the criteria you specified (in terms of the number of items in a row correct).

This type of criteria was considered preferable to a % because it takes into account the fact that the child may do poorly in the beginning but learn the concept during the lesson and begin to answer all items correctly.

The student safeguards
do not apply to these
questions. The authors
assumed the teacher
would want all missed
items reviewed.

DESIGN_OPTIONS

AFTER THE STUDENT HAS GONE THROUGH
ALL THE FRAMES IN A LESSON, DO YOU
WANT THE QUESTIONS HE/SHE MISSED TO
BE PRESENTED AGAIN?

ENTER ''Y' OR 'N' ==> [Y]

DESIGN_OPTIONS

WHEN THE QUESTIONS ARE PRESENTED
AGAIN, HOW MANY TRIES WOULD YOU
LIKE TO GIVE THE STUDENT BEFORE
THE CORRECT ANSWER IS DISPLAYED?

ENTER A NUMBER FROM 1 TO 9 ==> [1]

After all the Design Options have been set, you will
be asked if you want to:

SAVE THIS LESSON? (Y/N)

You will then be given the chance to change the Lesson
Name, if desired. Two or three letters is sufficient
to identify the lesson. You <u>cannot</u> start a lesson name
with a number. It must start with a letter.

You will then be returned to the Main MENU.

Change some of the lessons

If you had just wished to change some of the lessons
and not add new items, you would have answered **N** to
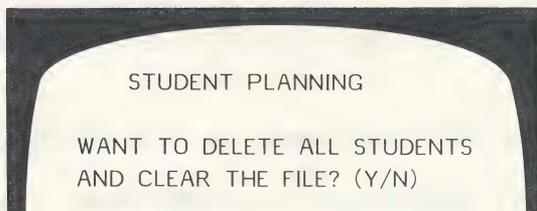the question:

ADD MORE FRAMES? (Y/N)

You will be shown all the frames as they exist. If you
wish to change a line, type in the new line. If no change
is desired, press **RETURN** to go on to the next line.
Use the ⟵ key to back up to the preceding line or frame.
Use the ⟶ key as a short cut to go from frame to frame.

2 - CHECK STUDENT PLANNING

As a student works through a lesson, the errors that he/she makes are recorded into the Student Planning file. To see this file, bring up the Main MENU:

```
       ⟨26 FREE SECTORS⟩

DO YOU WANT TO:

   1 - CHANGE A LESSON
   2 - CHECK STUDENT PLANNING
   3 - RUN LESSONS
   4 - CATALOG DISK

   WHICH
```

and select **3 - Check Student Planning.** The first frame to appear is:

```
        STUDENT PLANNING

  WANT TO DELETE ALL STUDENTS
  AND CLEAR THE FILE? (Y/N)
```

Type **N** if you want to see the file; **Y** if you want to completely erase all student results. Press **RETURN.**

If you typed **N,** indicating you would like to see the file and not erase it, this frame will appear:
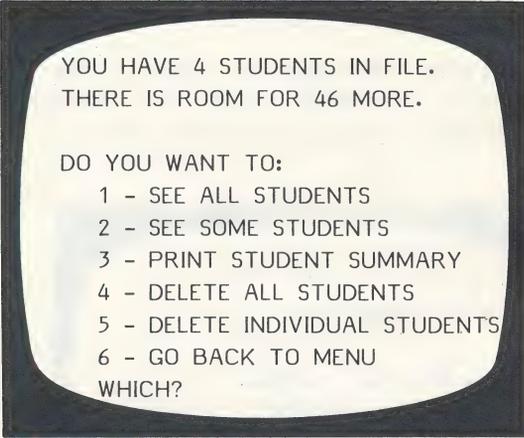
```
YOU HAVE 4 STUDENTS IN FILE.
THERE IS ROOM FOR 46 MORE.

DO YOU WANT TO:
    1 - SEE ALL STUDENTS
    2 - SEE SOME STUDENTS
    3 - PRINT STUDENT SUMMARY
    4 - DELETE ALL STUDENTS
    5 - DELETE INDIVIDUAL STUDENTS
    6 - GO BACK TO MENU
    WHICH?
```

If you choose **1 – SEE ALL STUDENTS,** the computer asks:

ARE YOU USING A PRINTER? (Y/N)

If **Y,** it will ask for the slot. Then all records will be printed.

If you are not using a printer, results will be displayed on the screen. Scrolling of results is under control of the teacher.

If you want to see only some of the students, select

2 – SEE SOME STUDENTS and press **RETURN.**

This frame appears:

```
              STUDENT PLANNING

    NOTE THE NUMBER TO THE LEFT OF
    THE STUDENT(S) YOU WISH TO PRINT
    OR DISPLAY.

    PRESS RETURN
```
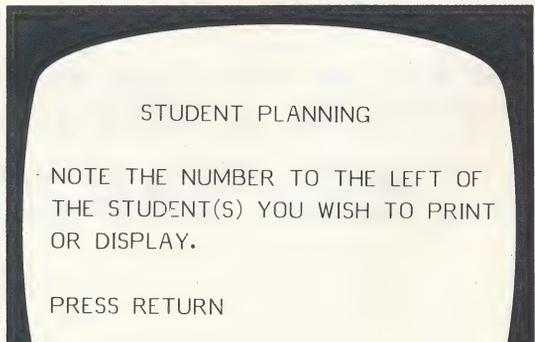
As you select the students whose records you want to view, you will be typing just the <u>number</u>.

```
ENTER STUDENT NUMBERS

  1 - <MC6>·   TIM
  2 - <M4>     JANE




  : □                        Ø TO PRINT
 TYPE 'END' TO QUIT ENTERING STUDENTS
```
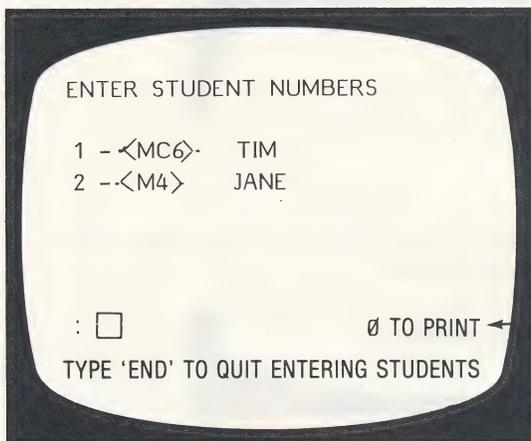
The computer keeps a running tally on the number of students you have selected.

Type the <u>number</u> of a student you want to see and press **RETURN.** For example: If you type **2**, the lesson name and student name will appear at the bottom of the frame with a default value **Y** to indicate that is the student you wish to see. This gives you a chance to change your mind and enter **N** if you don't want to see that particular student

```
   1 - <MC6>·   TIM   [Y]   TO PRINT
```
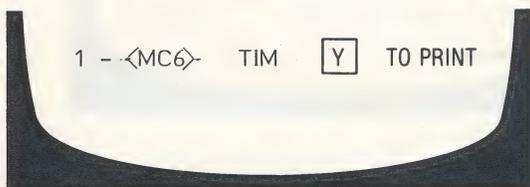
Continue selecting students whose records you want to see. When you have entered all of the students you wish to see, type **END** (in place of another number).

The following frame will appear:

ARE YOU USING A PRINTER? (Y/N)
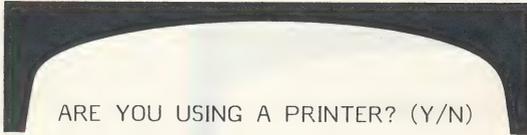
If you type **N,** the records will come up on your monitor. If you type **Y,** you will be asked:

WHICH SLOT?

It will usually be **1** or **2.** If you are not sure, take off the cover and check. The printout will be in the following format:

```
STUDENT: TIM HARTLEY
LESSON: MC6
CONCEPT: DISC. ODD OR EVEN BY LAST DIGIT
THERE ARE 20 FRAMES IN THE LESSON
INCLUDING 18 QUESTIONS.

THE STUDENT HAD 18 CORRECT ON 1ST TRY.

MISSED FRAMES:
8,9,11,16,17,18,20

6 RIGHT ON SUBSEQUENT TRIES.

CONSISTENTLY INCORRECT FRAMES:
8 _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

PRESS RETURN
```
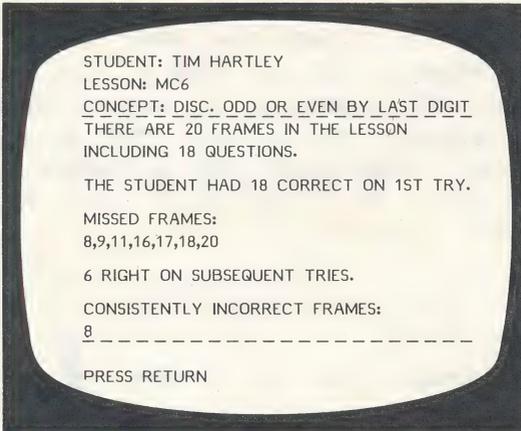
After all information is displayed, you will be asked:

```
WANT TO DELETE ALL STUDENTS
AND CLEAR THE FILE? (Y/N)
```
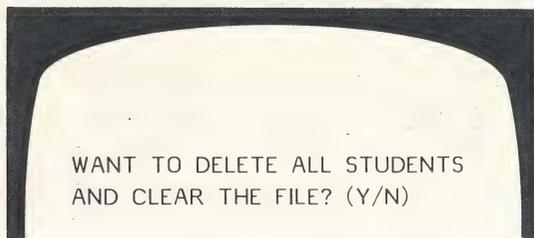
Respond as desired.

The **ESC** key may be pressed at any time to terminate display or printout of student results. A maximum of **50 records** can be stored in this Student Planning file before it must be emptied. To empty the file, answer **Y** to the question at the end of the display/printout, or use option **4** from the Student Planning Menu - **Delete all students.**

3 - PRINT STUDENT SUMMARY from the Student Planning MENU allows you to see or printout a summary of records for the entire class. The summary is in the following format:
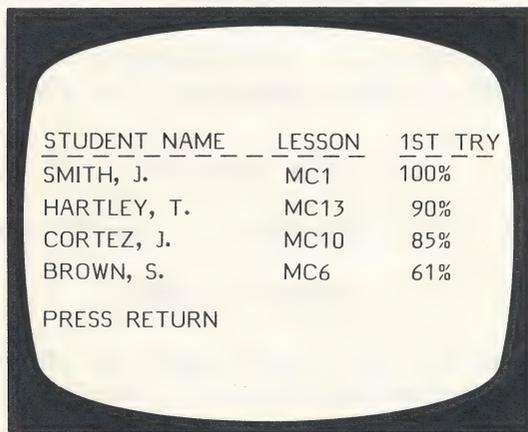
```
STUDENT NAME     LESSON    1ST TRY
SMITH, J.        MC1       100%
HARTLEY, T.      MC13      90%
CORTEZ, J.       MC10      85%
BROWN, S.        MC6       61%

PRESS RETURN
```

The printout of the Student Summary will include <u>more</u> information than you can see on the screen. The printout includes: the skill statement and the number correct/number of questions.

			NUMBER	
STUDENT NAME	LESSON	1ST TRY	CORRECT	SKILL
SMITH, J.	MC5	100%	20/20	ODD OR EVEN

4 - DELETE ALL STUDENTS

If you want to clear all of your records, use this option.

5 - DELETE INDIVIDUAL STUDENTS

A number of teachers have asked for this option. This is most valuable when several teachers are using the same disk. This allows you to print the records of just a few of your students and then erase only those selected records from the file.

You enter the number(s) of the student(s) you wish to delete from the file in the same manner used in **2 - See some students** from the Student Planning Menu. (See page 21.) You will be asked to type the number of the student records you wish to delete. Once you reply **Y,** the student is automatically deleted, so be sure of the ones you want erased from the file.

3 - RUN LESSONS

See pages 3-7 for an explanation of how to Run Lessons.

4 - CATALOG DISK

This file holds the list of all lessons on the disk. This can also be accessed by typing a **?** when the "Type the name of the lesson..." frame appears.

CREATING SHAPES

To type the shapes on the screen, you need to use two keys. The combination of these two keys 'tells' the computer that you want a special shape.

You must always push the '&' sign before the next character to produce a symbol. i.e. (SHIFT) **&** then 1 = x

&1   =   x

&2   =   ÷

&3   =   ≠

&4   = ℓ

&5   =   o   degree

&6   =   2   ⎫
&7   =   3   ⎭   exponents

&8   =   □   ⎫   These may be combined to develop
&9   =   ▓   ⎭   simple decimal and fraction lessons.

&T   =   △

&Q   =   ⟵   These four may be combined to make
                           a number line.

&W   =   ⎯

&E   =   +

&R   =   ⟶

(SHIFT) **M** will give you a   ♥ !

SUGGESTIONS FOR USE

Placement Tests

Placements tests have been developed at the request of many of our teachers. If you are not sure which skills your students need extra help with, use the Placement Test to identify weak areas. When using the test, note that four items have been selected from each lesson. If a student misses items from any lesson, you may want him/her to review that concept (if it is relevant to your curriculum).

Student Problems

After a student has begun work on a lesson, use the Student Planning to help you diagnose problem areas. The Student Planning keeps track of specific frames a student misses. If a student consistently misses certain items, you may want to add Hint frames or more practice frames. Use the **Change a Lesson** file to modify any of the frames, add Hint or Explanation frames, or simply add more practice frames.

Branching

This program has not been designed to automatically branch to an easier or more difficult lesson. It is the philosophy of the teachers who designed it that the teacher is better qualified to prescribe the next lesson based on his/her knowledge of the student's needs and the planned classroom activity.

By using the Design Options, the teacher can define the criteria under which the program will branch and alert the teacher that a new prescription is needed.

MATH CONCEPTS I — DISK 1

MC1	identifying numbers that are BEFORE other numbers
MC2	identifying numbers that are AFTER other numbers
MC3	identifying numbers that are BEFORE and AFTER (multiples of 10 and 100)
MC4	identifying numbers that are BETWEEN two numbers
MC5	identifying numbers as ODD or EVEN (using rule that they are divisible into 2 equal groups)
MC6	identifying numbers as ODD or EVEN by looking at the last digit.
MC7	identifying large numbers as ODD or EVEN
MC8	counting by 5's and 10's
MC9	counting by 2's, 3's, and 4's
MC10	identifying and using the symbols for greater than, less than
MC11	identifying the ORDINAL position of letters in a word
MC12	writing numerals as tens and ones

MATH CONCEPTS II — DISK 2

MC13	regrouping ONES to tens and ones
MC14	identifying a number as MORE or LESS than another number
MC15	selecting sequences of numbers that are in order (smallest to largest)
MC16	rounding numbers to nearest 10
MC17	rounding numbers to the nearest 100 & 1000

SKILL STATEMENTS

MC18   identifying PRIME numbers

MC19   rewriting multiplication facts as repeated addition

MC20   determining the value of a digit by its place

MC21   finding the Greatest Common Factor of 2 numbers

MC22   finding the Least Common Multiple of 2 numbers

MC23   writing tenths and hundredths as decimals

MC24   rounding decimals to the nearest tenth and hundredth

Note to Teachers: Answer blanks have been left on the side of the tests. The tests are easier to grade if the student uses the answer blanks. Some of the younger children will have trouble making this transfer. You will have more accurate test results if you have them use it consumable.

<u>Be</u> <u>sure</u> <u>to</u> <u>tell</u> <u>your</u> <u>students</u> whether to use the blank or use the test consumable.

PLACEMENT TESTS
ANSWER KEYS

Math Concepts I

1.	Y		29.	75
2.	N		30.	73
3.	36		31.	17
4.	70		32.	34
5.	Y		33.	9
6.	N		34.	107
7.	Y		35.	32
8.	27		36.	73
9.	50		37.	a
10.	400		38.	N
11.	200		39.	N
12.	170		40.	Y
13.	40		41.	U
14.	c		42.	A
15.	b		43.	O
16.	Y		44.	b
17.	b		45.	b
18.	9		46.	4
19.	4		47.	a
20.	8		48.	2
21.	Y		49.	1
22.	N		50.	6
23.	N		51.	Y
24.	a		52.	b
25.	O			
26.	E			
27.	E			
28.	O			

Math Concepts II

1. 512
2. 707
3. c
4. a
5. Y
6. N
7. N
8. N
9. 60
10. 70
11. 100
12. 570
13. 800
14. 6000
15. 3000
16. 9000
17. Y
18. N
19. b
20. c
21. N
22. Y
23. c
24. a
25. 3
26. 90
27. 800
28. 0
29. 12
30. 4
31. 25
32. 4
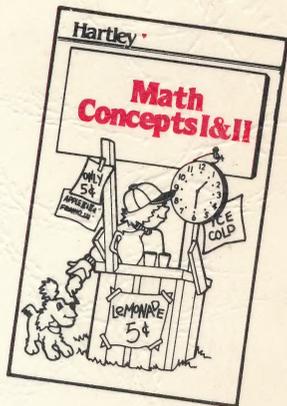33. 60
34. 30
35. 12
36. 45
37. b
38. c
39. b
40. c

41. .6
42. 7.6
43. 7.68
44. .67

Math Concepts I & II

Skill Level 1-5

Reading Level 1-3
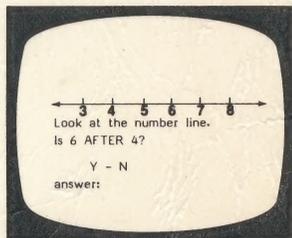
Practice on the most difficult concepts!

This two-disk program was developed for elementary students to provide practice on concepts with which they frequently have difficulty. The lessons are carefully sequenced with many examples and HINT frames to help the student work independently, and guide him/her toward the correct response.

Math Concepts I includes simple concepts such as: before/after; odd/even; counting by 5's, 10's, 2's, 3's, 4's; less than/greater than; ordinal numbers; ten's and one's; more/less; smallest to largest; and introduction to regrouping.

Math Concepts II includes more difficult concepts such as rounding; prime numbers; place value; GCF; LCM; and rounding decimals.

All lessons are easy to **MODIFY** by the teacher. Complete individual and class records are kept by the computer.

Placement Tests are included on separate sheets for use in determining student needs.

```
 ┌─┬─┬─┬─┬─┬─┐
 3 4 5 6 7 8
Look at the number line.
Is 6 AFTER 4?

   Y - N
answer:
```

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11-09

Math Concepts I & II

Skill Level 1-5

Reading Level 1-3

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```
  3  4  5  6  7  8
Look at the number line.
Is 6 AFTER 4?

     Y - N
answer:
```

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11-09