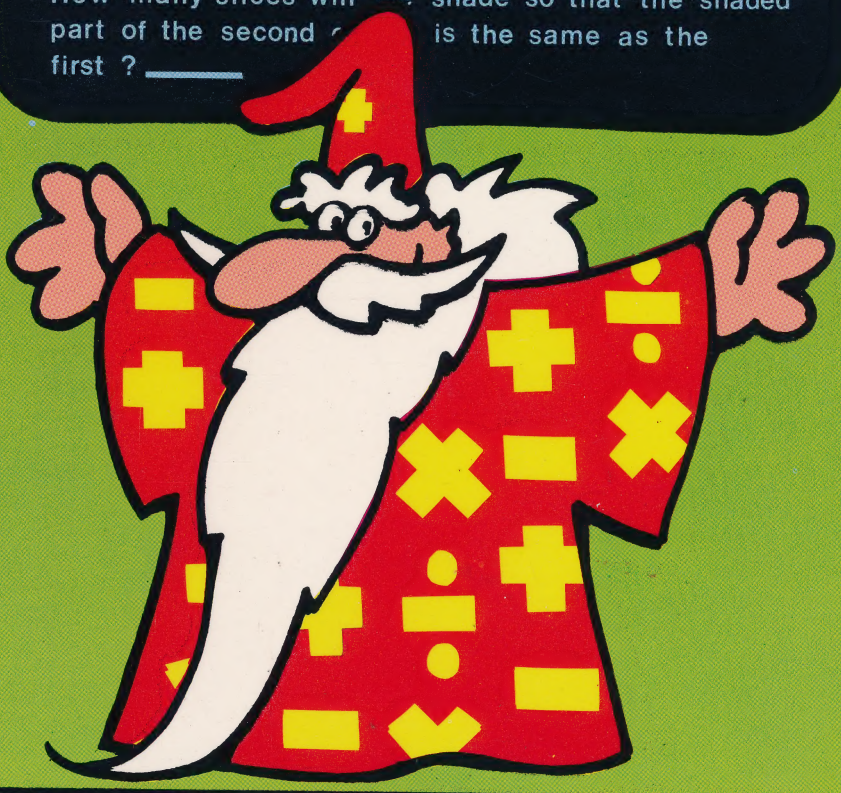
GRADES 4-9

FRACTION TUTORIAL

$\frac{3}{6}$ = $\frac{\ }{2}$

How many slices will we shade so that the shaded part of the second is the same as the first ? _____



Riverview Elem. Kehr

Grades 5-8

STARSHIP ALERT AND FRACTION TUTORIAL

Apple 2+ or 2e

or Commodore 64

by the Wizard

STARSHIP ALERT

This game disc provides practice with fraction in five operations:
1. Simplifying fractions
2. Adding fractions
3. Subtracting fractions
4. Multiplying and dividing fractions

1. Simplifying Fractions

If you select this choice, the screen shows:
Would you like improper fractions?_____ Type Y (yes) or N (no). The screen then shows: What speed would you like? (1-3) _____ Type 1, 2, or 3. The screen then shows: What difficulty level? (1-5) _____ Type a number from 1 through 5. The program then begins.
A domed spacecity is bombed by a rocketship. The user must solve a fraction problem before the bomb reaches the dome. He selects the correct answer from one of four multiple choices by typing a single letter A,B,C, or D. The user is allowed only one chance otherwise it would become "multiple guess".

2. Results:

At the end of 10 problems the screen displays the number answered correctly out of 10 and a voice (no voice synthesizer needed) says "excellent score" or whatever is appropriate.
9 out of 10 is "excellent". 8 out of 10 is "good". 7 out of 10 is "fair". Less than 7 is "needs more practice".
If the problem is answered correctly laser guns from the city shoot down the spaceship. If the problem is not answered in time, or is incorrect, the spaceship laser melts down the dome on the city. You'll like the graphics and sound effects no matter who wins.
In the simplifying fractions programs the various degrees of difficulty have maximum denominators:

Level 1 — denominators through 8
Level 2 — denominators through 16
Level 3 — denominators through 20
Level 4 — denominators through 24
Level 5 — denominators through 48

3. Addition, Subtraction, Multiplication, or Division

You have several options:
a. Mixed or simple fractions
b. Like or unlike fractions
c. Speed from 1 to 3
d. Difficulty level from 1 to 5

4. Levels of difficulty

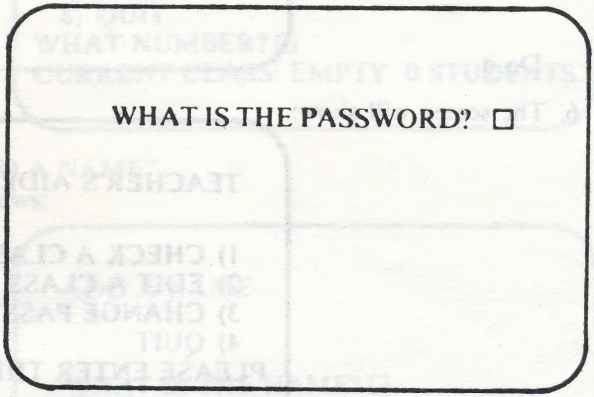
Difficulty is controlled by the maximum size of the denominators.
Level 1 — denominators through 4
Level 2 — denominators through 6
Level 3 — denominators through 9
Level 4 — denominators through 12
Level 5 — denominators through 16

TUTORIAL & RECORD—KEEPING PROGRAM
(Available only for the Apple as of Jan. 84)

If you bought the tutorial and record-keeping system also the following applies:

BEFORE STARTING WITH YOUR CLASS:

1. You should allow each student to select a code name and tell you privately. This helps eliminate mischief. Be sure to record each code name next to the real name.
2. Insert disk B (or the side labeled side B) so that the side B label is up.
3. Boot the disk.
4. The screen will show:



You will type in WIZARD and then press the RETURN key. (This password may be changed).

5. The screen will say:

```
PLEASE TURN THE DISK TO SIDE 'A'
AND PRESS RETURN □.
```

Do it.

6. The screen will show:

```
TEACHER'S AIDE PROGRAM

1) CHECK A CLASS'S PROGRESS
2) EDIT A CLASS FILE
3) CHANGE PASSWORD
4) QUIT
PLEASE ENTER THE NUMBER OF YOUR
COMMAND: □
```

7. To begin with, you probably wish to enter all your students' names so press choice 2. (Get your list of sutdent code names ready.

8. EDIT A CLASS FILE

a. The screen will show:

```
HERE ARE THE CLASSES:
1) EMPTY
2) EMPTY
3) EMPTY
4) EMPTY
5) EMPTY
6) EMPTY
7) WHICH CLASS TO EDIT?
```

So you press 1 to start with the first class.

b. Now the screen shows:

```
HERE IS A LIST OF COMMANDS:
   1) ADD A NAME
   2) DELETE A NAME
   3) EDIT A NAME
   4) DISPLAY A LISTING
   5) DISPLAY THE ENTIRE CLASS
   6) EDIT ANOTHER CLASS
   7) CHANGE CLASS NAME
   8) QUIT
WHAT NUMBER? □
CURRENT CLASS: EMPTY  0 STUDENTS
```

So you press 1 to "ADD A NAME"

c. Now the screen shows:

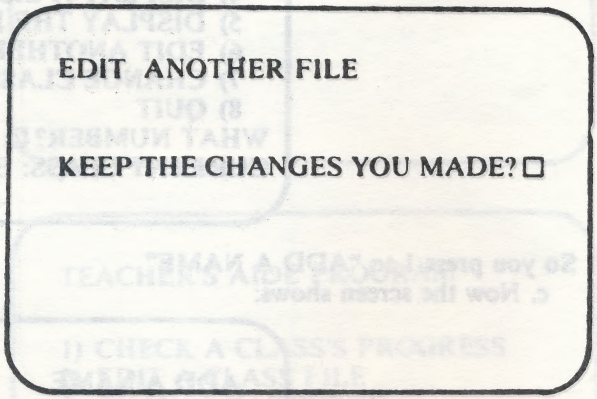
```
ADD A NAME


WHAT IS THE NAME? □
```

You then type in the first name and press RETURN. The screen will take you back to the list of commands (as above).

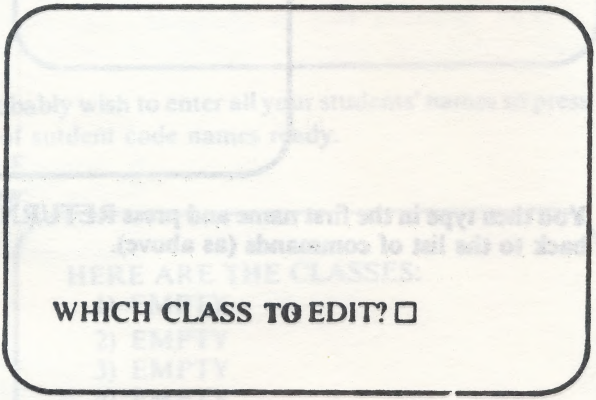
You procede to add as many names as there are in your first class. If you're an elementary teacher your first class may be your only class.
When you are done with the first class you will get back to the list of commands again after you enter the last student's name and press RETURN.

d. Now when the screen shows the list of commands and requests "WHAT NUMBER? □ You should type in 6. The screen will now show:



Now, type Y (for yes). Otherwise type N.

e. If you type Y the screen will show the list of 6 classes again. (See section 8). The screen asks:



Now, type 2 for your second class or whatever other class you wish to edit and repeat the process you used for the first class.

f. When you are finally done entering the names of all your students in all of your class (35 students in each of 6 classes is the maximum) you should get back to the list of commands (shown in section 8b). Then press 5 if you wish to look at all the students names to double check them. When your're satisfied that all student names are correct get back to the command list. When the screen shows WHAT NUMBER? □ Press 8 for "QUIT". This allows you to quit the editing process. The screen will show 4 choices. You should still wish

to quit so press 4. The screen will then show:

PRESS RETURN.

So you do.

From now on just follow directions.

9. The TUTORIAL.

When the title scene comes on the user is instructed to press any key. Then the screen will show 6 classes. They'll all be empty unless the teacher has entered a student's name.

1) EMPTY
2) EMPTY
3) EMPTY
4) EMPTY
5) EMPTY
6) EMPTY

If the teacher hasn't entered student names that should be done first. (Start at the beginning of the TUTORIAL section if you still need help. If you do get the class list type the number of your class. Then when it says "What is your name?" Type it in and press RETURN.

Checking student progress

If you wish to check student progress use side B of the disk. The password again is WIZARD. Press ENTER. You will then be directed to use side A. You will be given 4 choices. Press 1 to CHECK A CLASS'S PROGRESS". Here you will be given the option of using a printer. When you do select a class list it will look something like:

CLASS A

	RECENT		LAST	
NAME	%	TRIES	%	TRIES
1) Jane Jones	90	1.4	85	1.6
2) Sally Smith	72	1.6	48	1.7

The "RECENT" score is the most recent turn. The "LAST" score is the turn before the "RECENT" one. With the 2 most recent scores, the teacher can see student progress.

If you have the Apple version turn the disk to side A and begin the game.

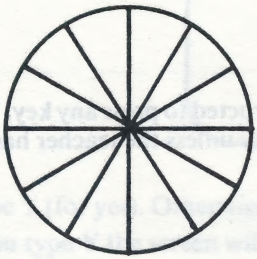
FRACTION TUTORIAL

You may have also purchased this program. This program allows you to work on:

1) Simplifying fractions
2) Adding fractions
3) Subtracting fractions
4) Multiplying fractions
5) Dividing fractions

You have the option of an explanation with pictures

1. Simplifying Fractions
(putting fractions into lowest terms)
The screen will show something like:

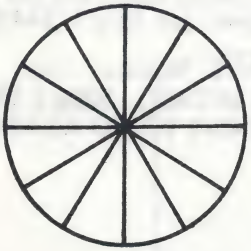


$\frac{8}{12}$ =

PROBLEM #1

Above is a fraction. We are going to try to put it on simplest terms. HIT ANY KEY TO CONTINUE

Press any key. The next screen will show:



$\frac{8}{12}$ =

Look at the first circle. How many slices is it divided into?

You type in the answer. If wrong it will say "NOPE, TRY AGAIN." Then the left circle will be shaded in.

Next it will ask how many slices is the 2nd circle divided into. If wrong you will get another chance. If right it will tell you and shade in the correct amount. Then you will be shown how to simplify the fractions, without circles, by finding the greatest common factor.

To escape back to menu press CTRL-C.

After 5 problems you will be given a short quiz to see how you're doing. The quiz is multiple choice. (4 problems) A typical problem is:

$\frac{2}{16}$ =

1. $\frac{1}{8}$ 2. $\frac{3}{9}$ 3. $\frac{10}{12}$ 4. $\frac{3}{16}$

Which number?

After the quiz the screen shows:

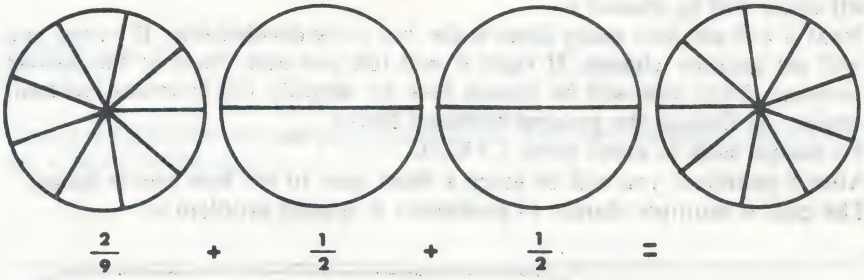
Progress report for SUZY SMITH

PERCENTAGE SCORE 100%
PREVIOUS SCORES: 100% 1 TRY
DO YOU WANT TO GO AGAIN?

The percentage is for the quiz. The average number of tries is for the tutorial. The problems are counted correct if you get them right on either of your first two tries. The "average number of tries" are how many tries it takes you to get the correct answer (rounded to the nearest tenth) Your score is the quiz combined with your tutorial scores.

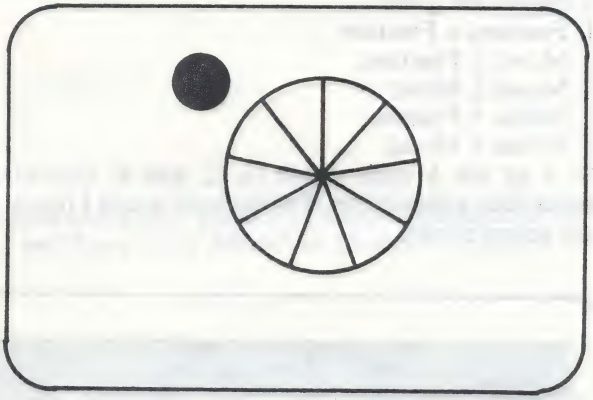
Adding Fractions

1. You may use like or unlike fractions. Type L for like. Type U for unlike.
2. Then you're asked if you'd like to add 3 fractions? (Wait 10 seconds)
3. If yes you're shown a screen with 3 fractions like:

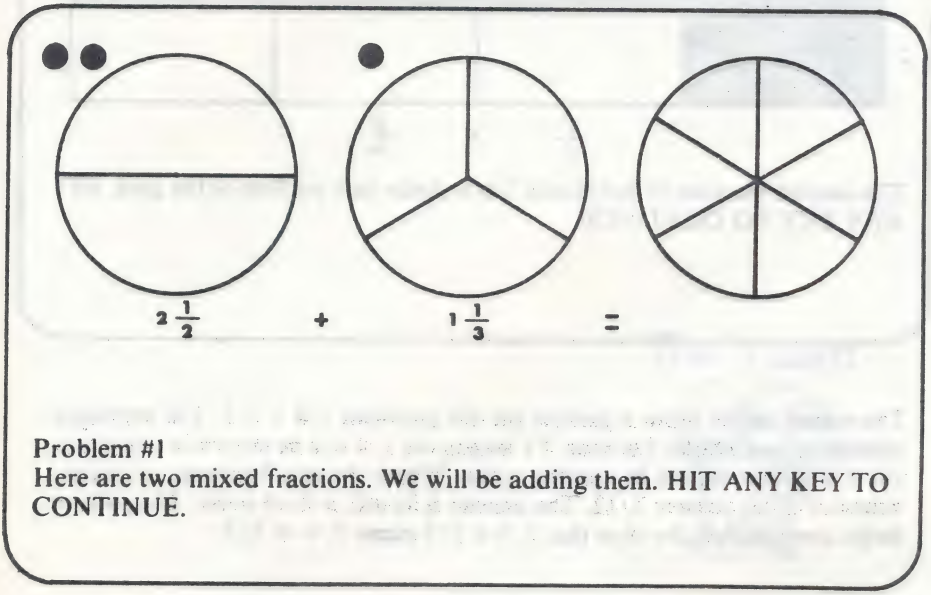


Look at the first circle. How many slices is it divided into?

After the L.C.D. (lowest common denominator) is found the student is shown how to change the fractions into equivalent terms.
Next the student is shown how to simplify any "improper" fractions.
A smaller circle is used to show whole numbers in the answer —e.g. if the answer is 1 2/9 the screen shows:



Mixed Fractions
If you work with mixed fractions you may see a screen like:



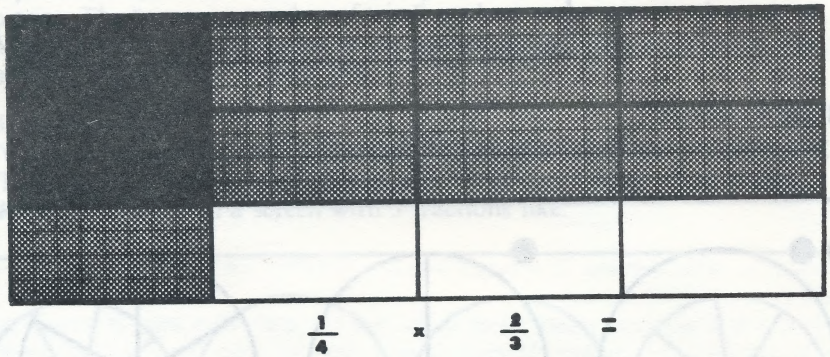
Problem #1
Here are two mixed fractions. We will be adding them. HIT ANY KEY TO CONTINUE.

The smaller circles represent whole numbers (so the screen won't be cluttered)

Subtracting Fractions
Problems are presented both with and without regrouping. Again pictures are used to teach.

Multiplying Fractions
5 choices are given:
1. Fraction x Fraction
2. Mixed x Fraction
3. Mixed x Mixed
4. Whole x Fraction
5. Whole x Mixed

In 3 of the 5 cases above (1, 2, and 4) multiplycation is demontrated beautifully with pictures. For example in case 1 (mult. a fraction by a fraction) the screen shows:



The second fraction is two thirds. Let's shade that portion of the grid. HIT ANY KEY TO CONTINUE

The screen might show a picture for the problem 1/4 x 2/3. The rectangle represents one whole. On your TV screen the 1/4 will be shown in one color, the 2/3 will be shown in another color. Where the two fractions, or colors, intersect is the answer 2/12. The answer is in still a third color. The picture helps demonstrate the idea that 1/4 x 2/3 mean 1/4 of 2/3.

After a pictorial approach is presented a traditional approach is given. In cases 3 and 5 above only the traditional approaches are given since a pictorial approach is not that clear.

Dividing Fractions

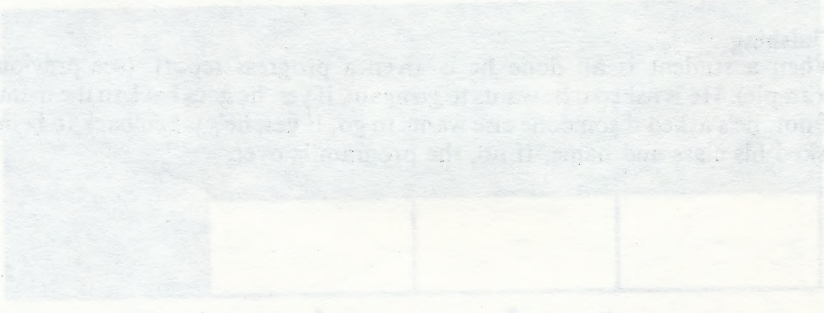
5 choices are given:

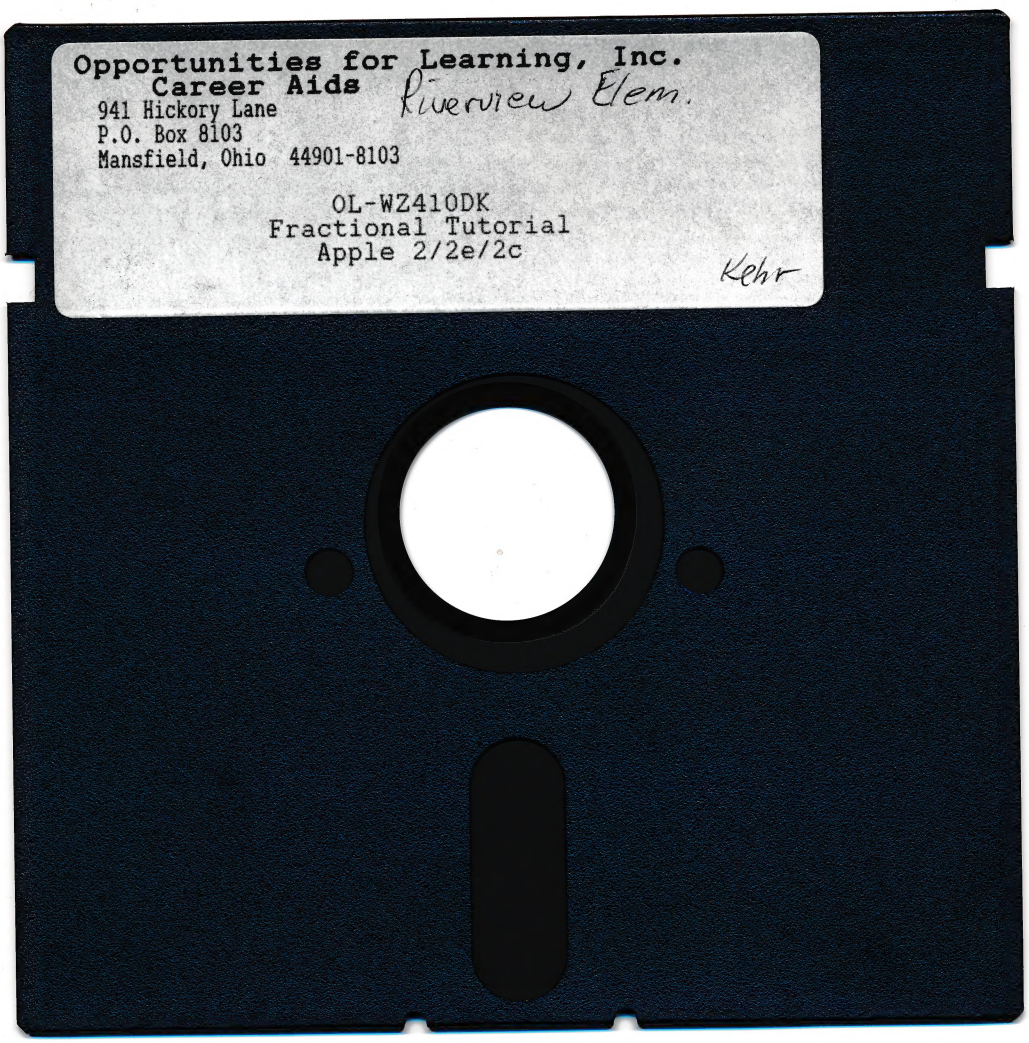
1. Fraction — fraction
2. Mixed — fraction
3. Mixed — mixed
4. Whole — fraction
5. Whole — mixed

The student makes a selection and is then asked if he wants to see pictures for cases 1, 2, and 4 (cases 3 and 5 are more difficult to illustrate clearly)

Finishing

When a student is all done he is given a progress report. (see previous example). He is asked if he wants to go again. If yes, he goes back to the menu. If not, he's asked if someone else wants to go. If yes, he's taken back to being asked his class and name. If no, the program is over.

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