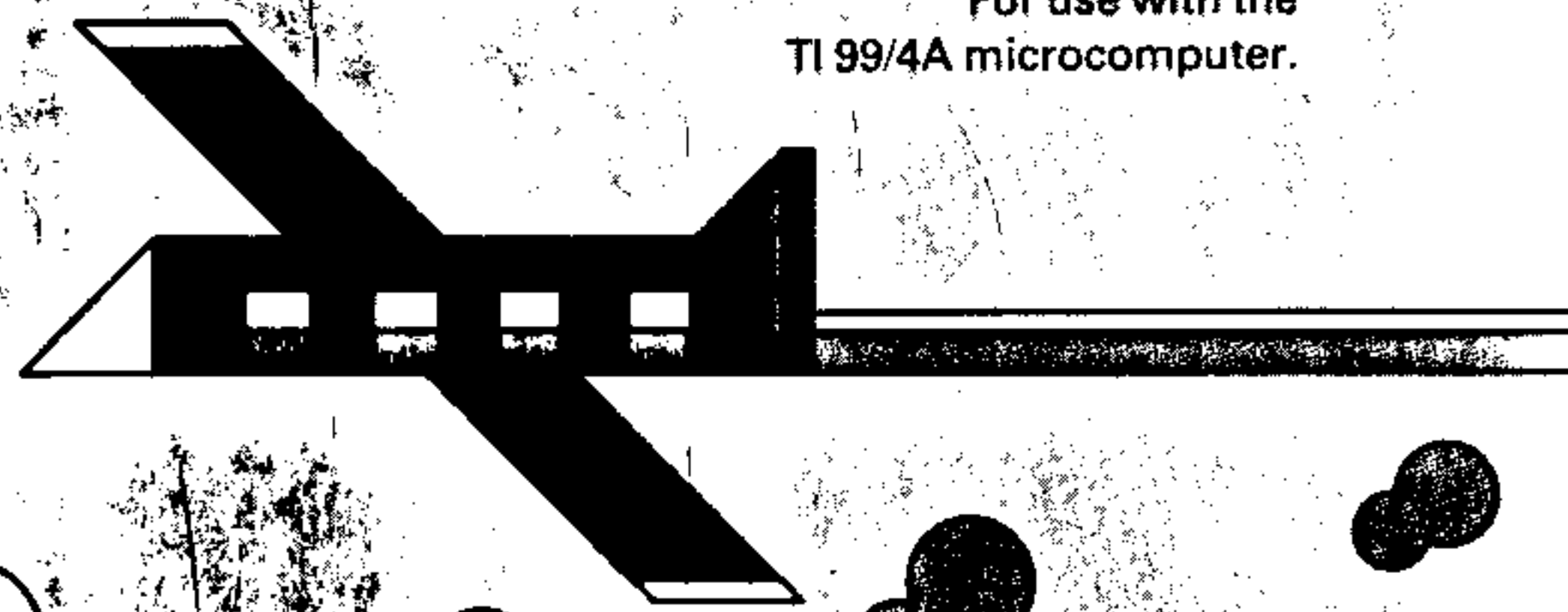
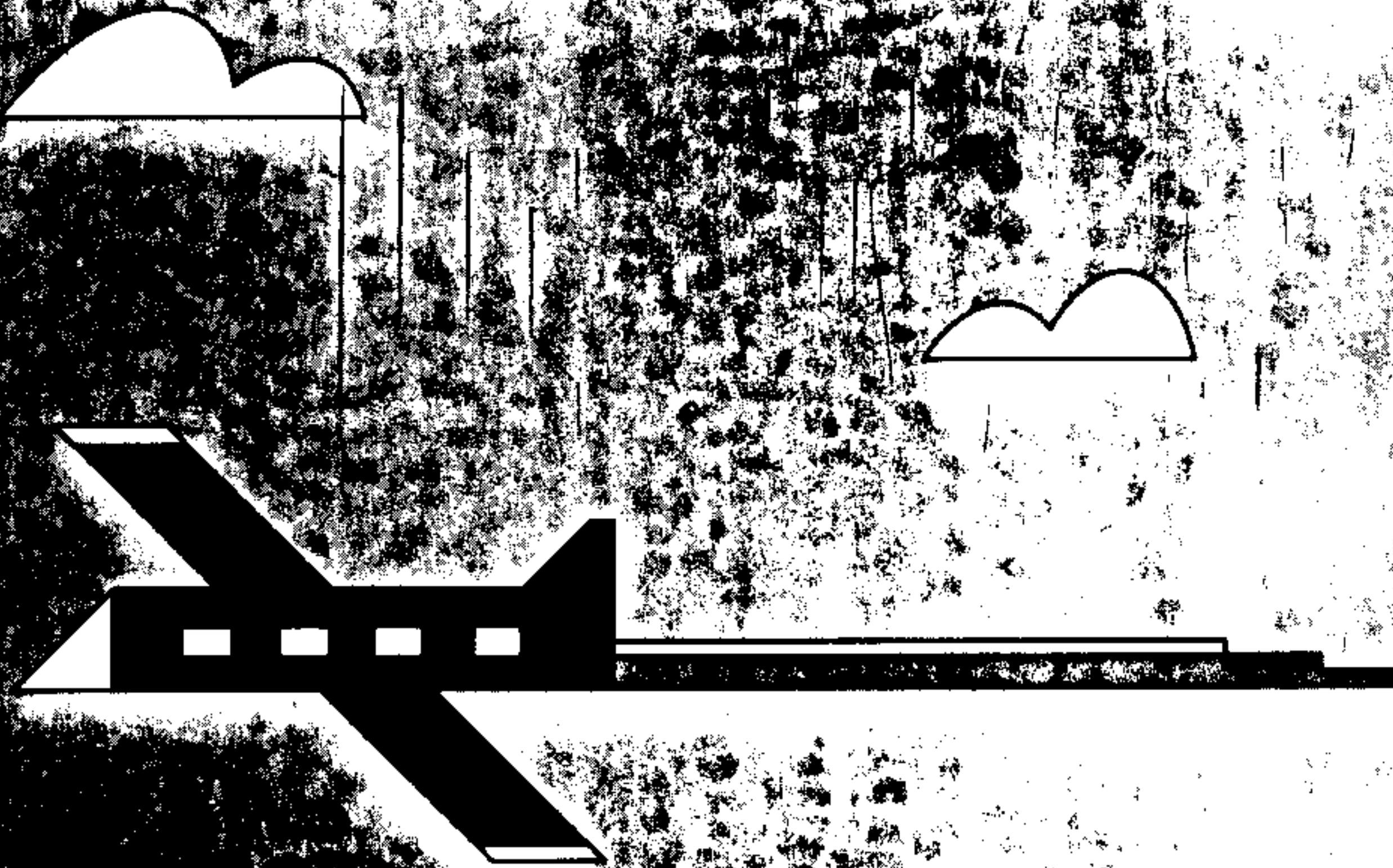


# ADDITION AND SUBTRACTION 2

For use with the  
TI 99/4A microcomputer.



Scott, Foresman  
Electronic Publishing

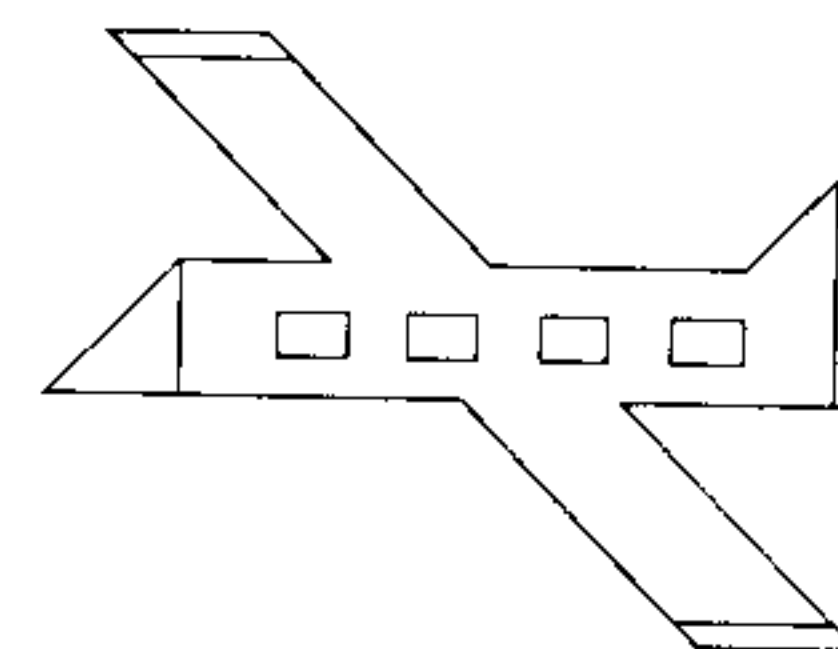
## KEYBOARD GUIDE FOR ADDITION & SUBTRACTION 2

| PRESS             | TO  |
|-------------------|---|
| ENTER             | ▪ speed the appearance of the next problem.   |
| Space Bar         | ▪ temporarily freeze a screen. The program continues when the space bar is released.  |
| Period Key<br>(.) | ▪ see the beginning of each activity in the module in consecutive order. Start at the main list of activities. Hold the (.) key down until you reach the activity you want. |
| FCTN 3<br>(ERASE) | ▪ erase the first number of a two-digit answer before the complete answer is typed.   |
| FCTN 4<br>(CLEAR) | ▪ erase the first number of a two-digit answer before the complete answer is typed.   |
| FCTN 5<br>(BEGIN) | ▪ return to the main list of activities at the beginning of the module.   |
| FCTN 7<br>(AID)   | ▪ view the teaching example appropriate to the practice exercises being done.   |
| FCTN 8<br>(REDO)  | ▪ begin an activity again with a teaching example.  |
| FCTN 9<br>(BACK)  | ▪ begin an activity again with a teaching example.  |
| FCTN =<br>(QUIT)  | ▪ end work on the module.   |

Scott, Foresman

# ADDITION AND SUBTRACTION 2

**Thomas P. Hartsig**  
Director of Computer-Based Instruction  
Macomb Intermediate School District  
Macomb County, Michigan



This learning module is part of the Mathematics Courseware Series designed to be used with the Texas Instruments 99/4A microcomputer.

The module can be used with or without the Texas Instruments Solid State Speech™ Synthesizer.

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### School Materials

A Teacher's Guide for this module is also available. The Guide includes teaching objectives, suggestions for classroom use, and reproducible record-keeping forms and worksheets. For ordering information contact:

Scott, Foresman and Company  
Electronic Publishing Division  
1900 East Lake Avenue  
Glenview, IL 60025



## ABOUT THE MODULE

**Addition and Subtraction 2** is an innovative way to practice mathematics. The color, sound, music, and animation in the module bring math alive. The practice exercises challenge your child, and at the same time make learning fun. And you can be assured that this module was carefully designed to provide a solid foundation in essential mathematics skills.

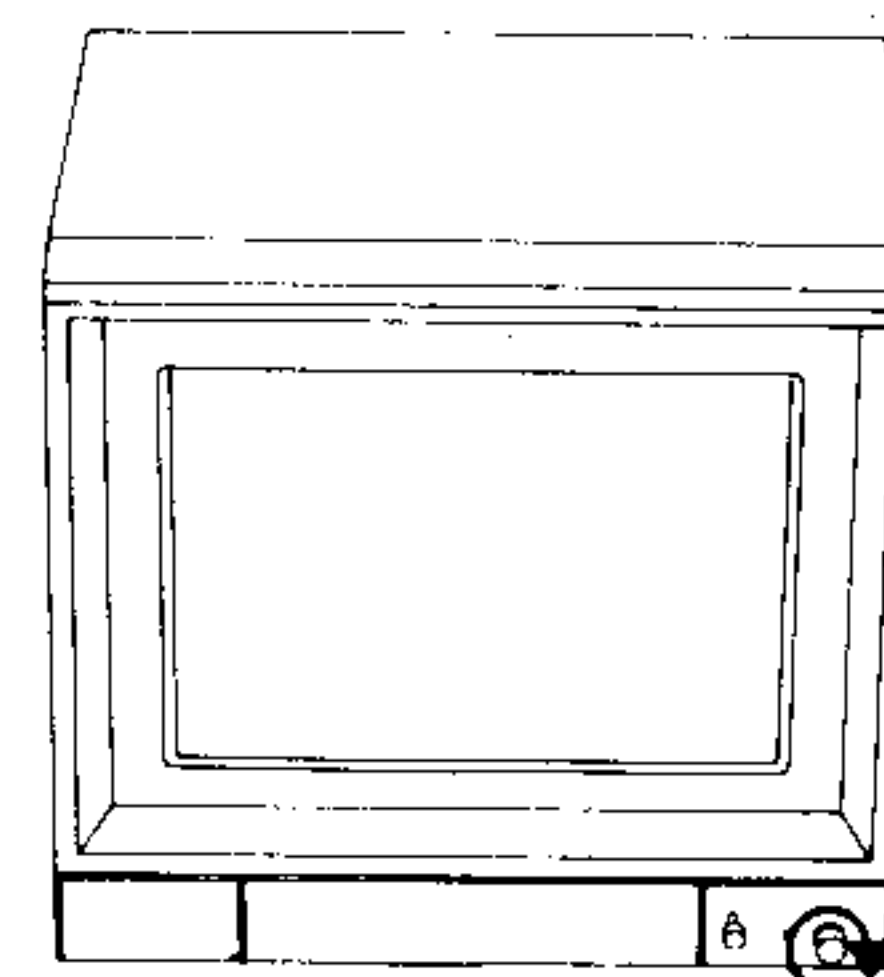
**Addition and Subtraction 2** teaches and provides practice in the first- and second-grade skills of recognizing the numbers zero through eighteen, adding numbers with sums up to eighteen, adding three numbers, and subtracting one-digit numbers from numbers through eighteen. The nine activities in **Addition and Subtraction 2** follow the same sequence of skill-building that most classroom teachers use and should be done in numerical order.

Look for these special features in the module:

- *simple instructions which allow children to use the module with little or no supervision*
- *teaching examples, practice exercises, and review activities*
- *built-in management that allows children to advance at their own pace and provides additional teaching examples when necessary*
- *musical and graphic rewards for correct answers*
- *color, sound, and animation*
- *voiced reinforcement of directions and correct answers through optional use of a speech synthesizer*
- *numbers which are randomly generated so children receive new problems each time the exercises appear*
- *two chances to answer each exercise correctly before the computer supplies the correct answer*
- *durable hardware and software components with useful keyboard functions programmed into the module*

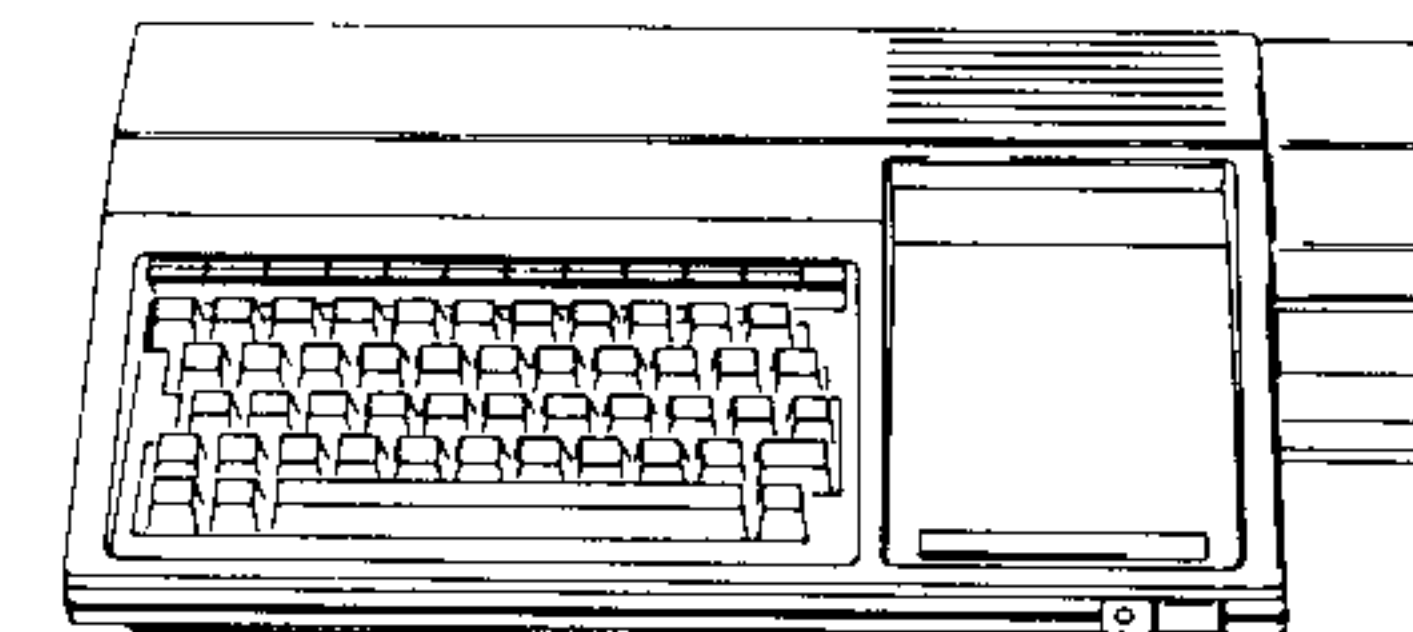
## GETTING STARTED

1. Turn switches on.



MONITOR

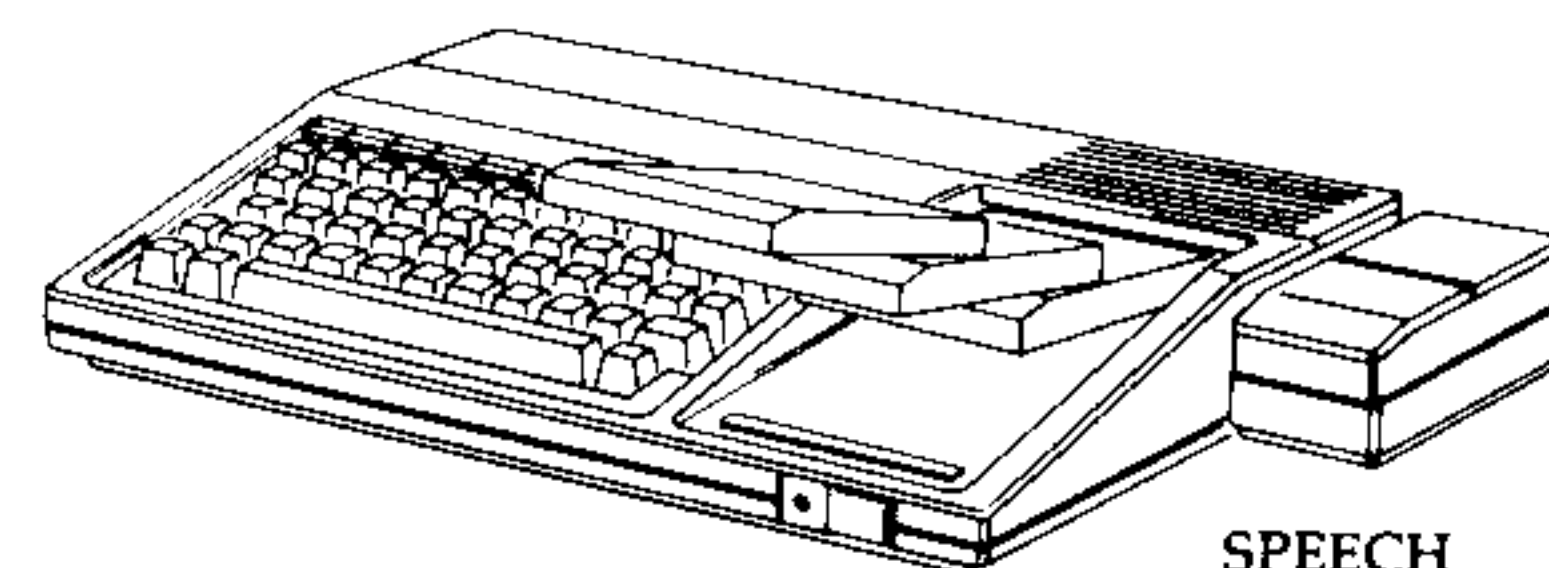
ON



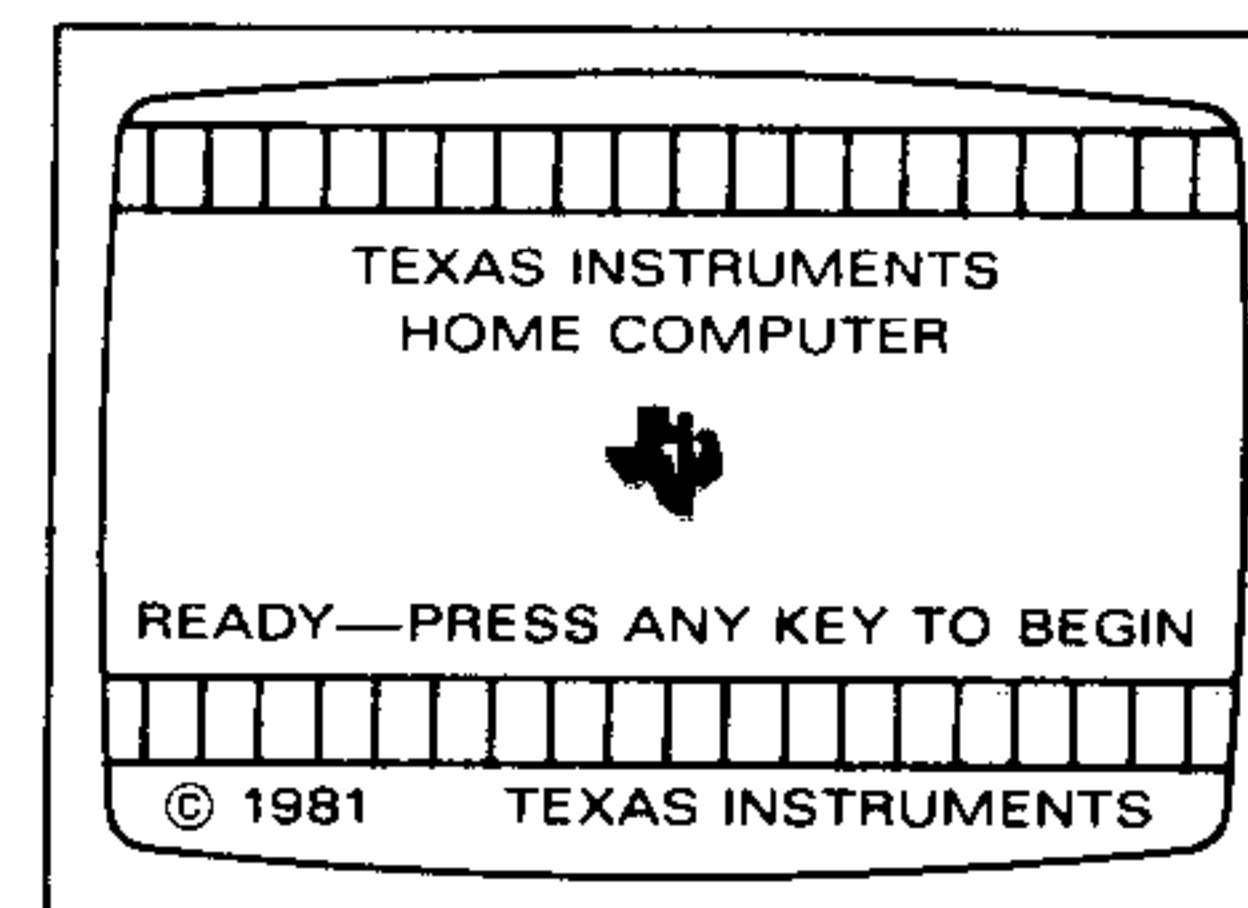
COMPUTER KEYBOARD

ON

2. Insert module.

SPEECH  
SYNTHESIZER

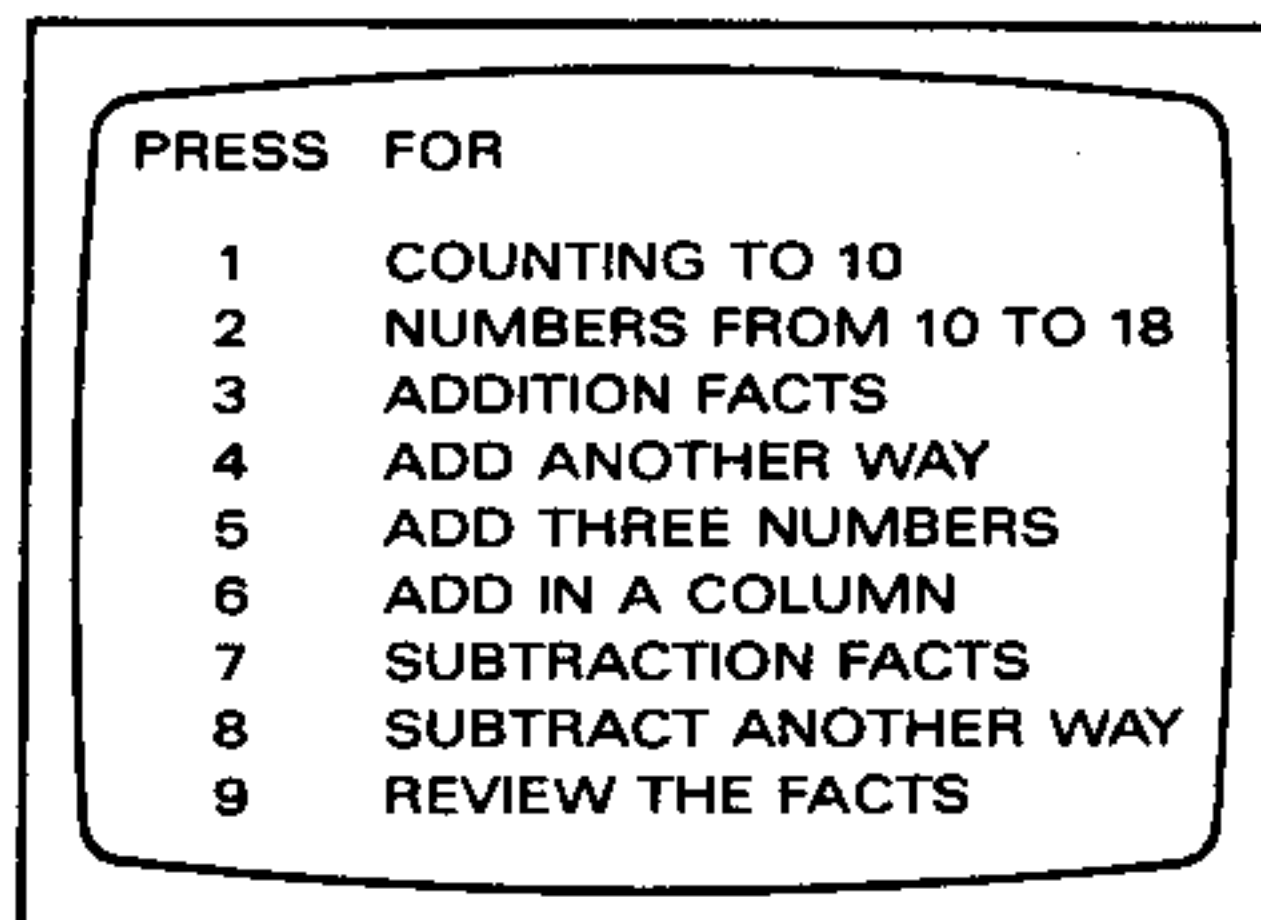
3. Wait for this screen to appear.



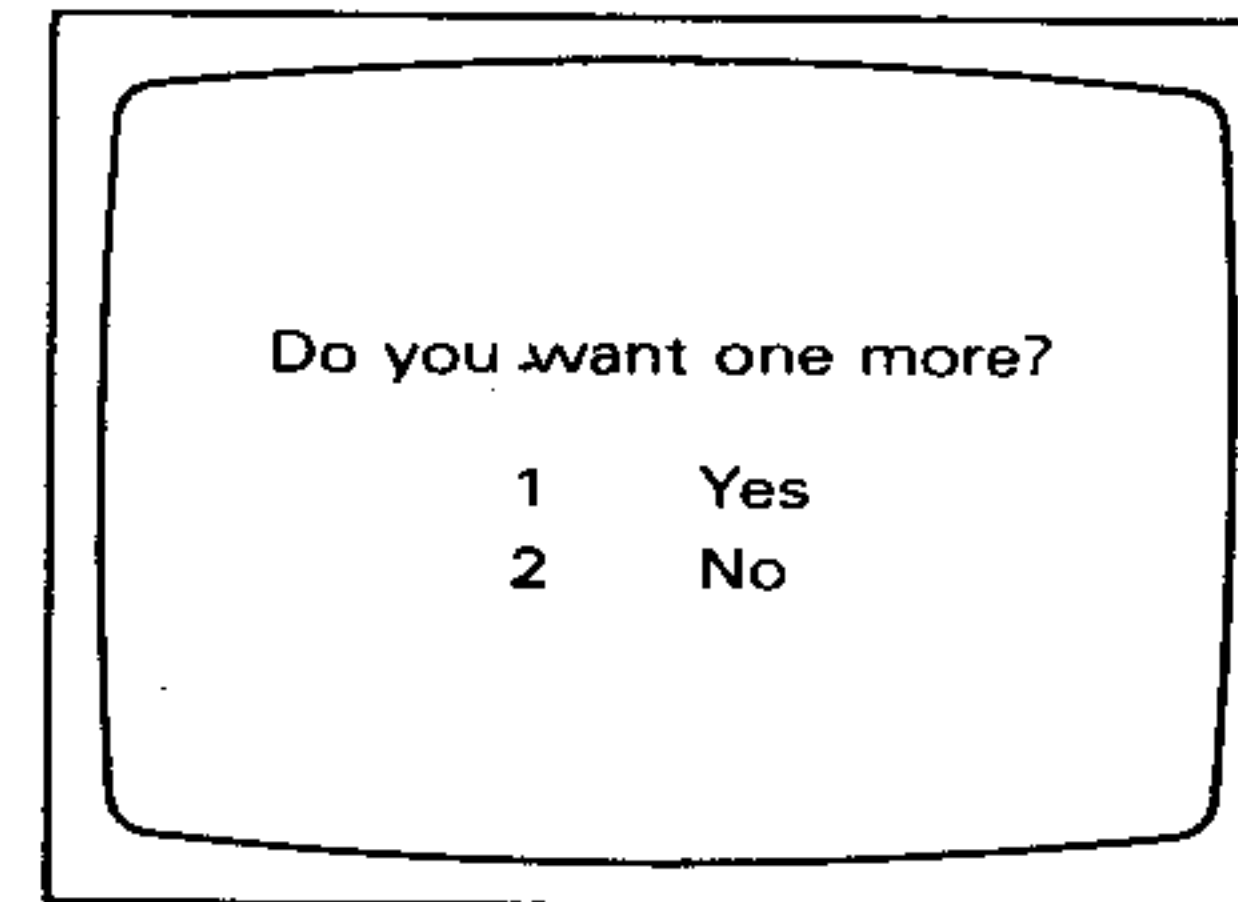
4. If you do not see the Texas Instruments title screen, check to see if:
- *the computer keyboard and monitor are plugged in.*
  - *the cable connecting the keyboard and monitor is properly connected.*
  - *both the computer and monitor are turned on.*
  - *the module is properly inserted.*

Press any key. The Scott, Foresman copyright screen and the **Addition and Subtraction 2** title screen are displayed.

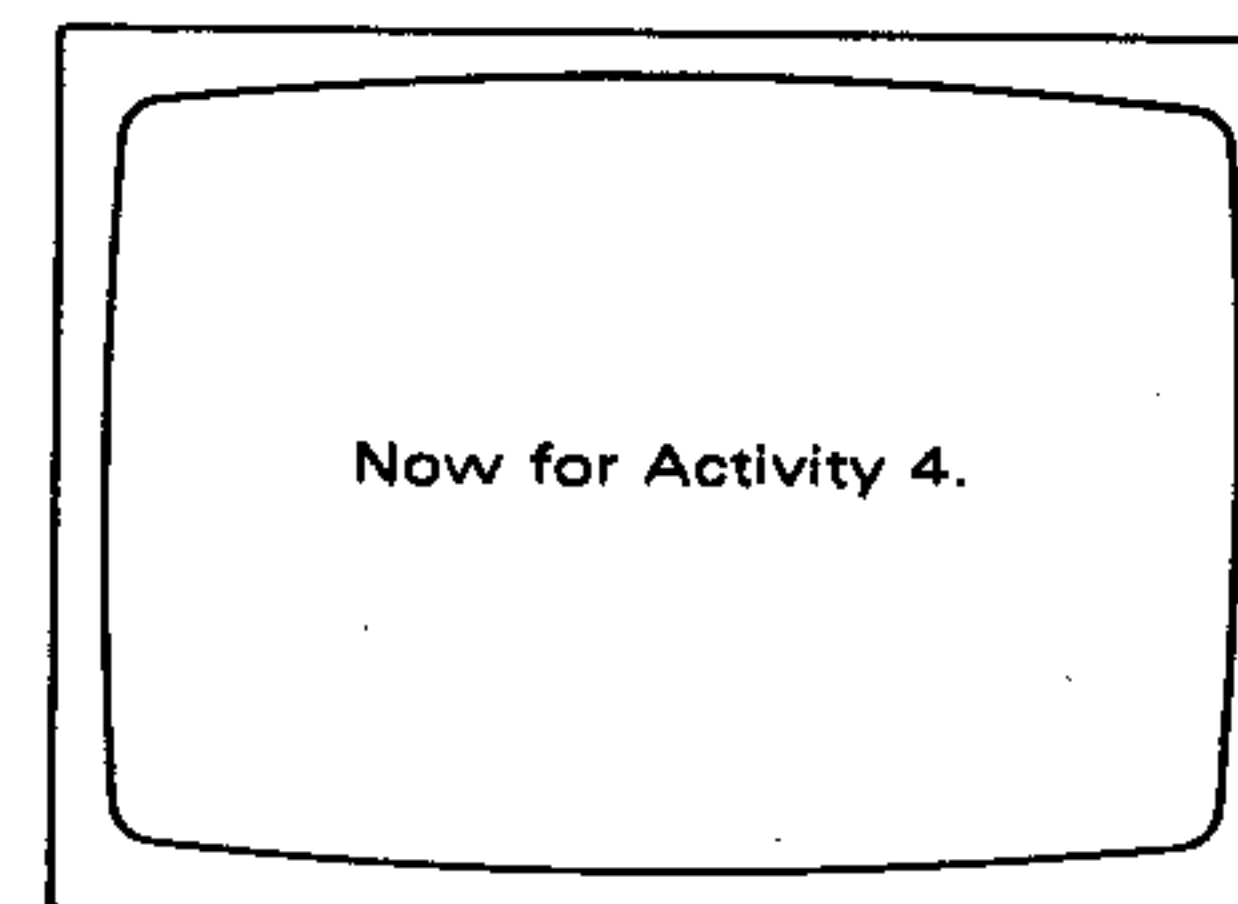
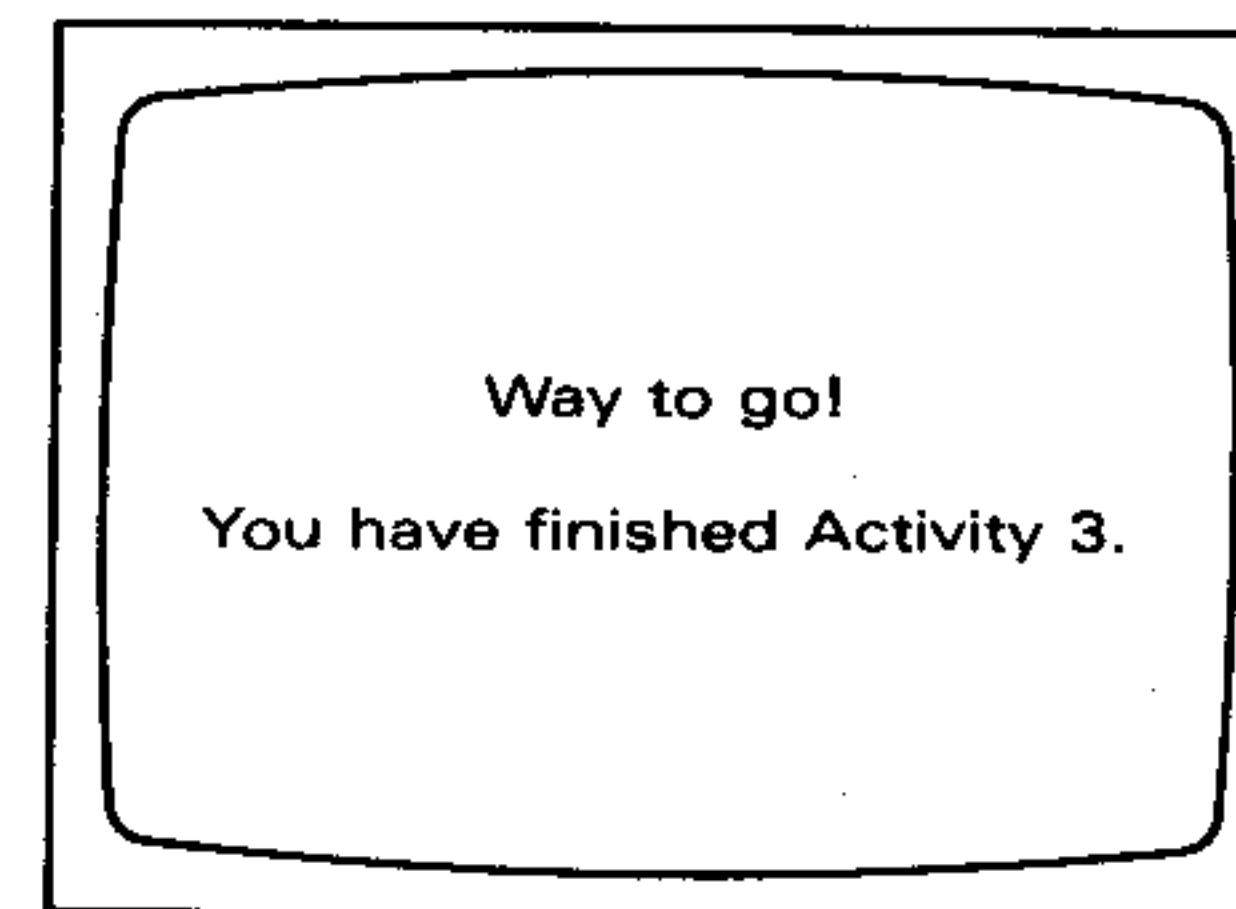
Next you will see the main selection list of activities:



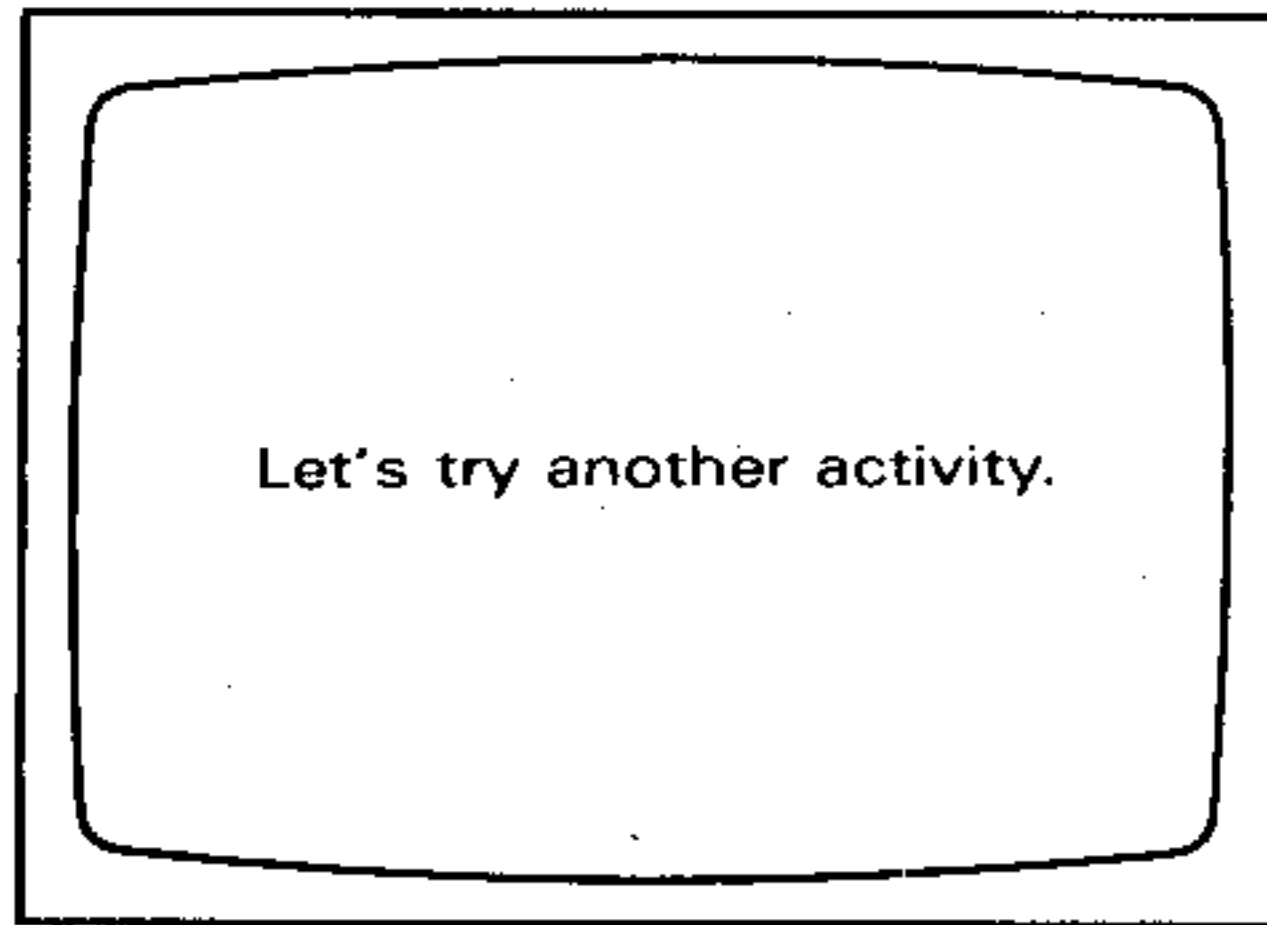
The activities should be done in order since each activity is more advanced than the one before it. If you are working on the module for the first time, press 1 to go to the first activity. If you have worked with the module before, press the number of the next activity you want to do. When you press a number the activity title screen will appear. You will be shown a teaching example for that activity. In most activities, after the teaching example is complete, the computer will ask if you want another example.



Press 1 to see another teaching example. You may see as many examples as you want before doing the practice exercises. Press 2 to go on to the practice exercises. Follow the directions on the screen for each activity. As you do the set of practice exercises, the computer keeps track of how you are doing. If your score is 80% or higher you will automatically go on to the next activity.



If, however, your score is less than 60%, the computer will take you to another activity that you should practice more before you continue.



If your score is between 60% and 80% the computer will continue giving problems until your score falls below 60% or goes above 80%.

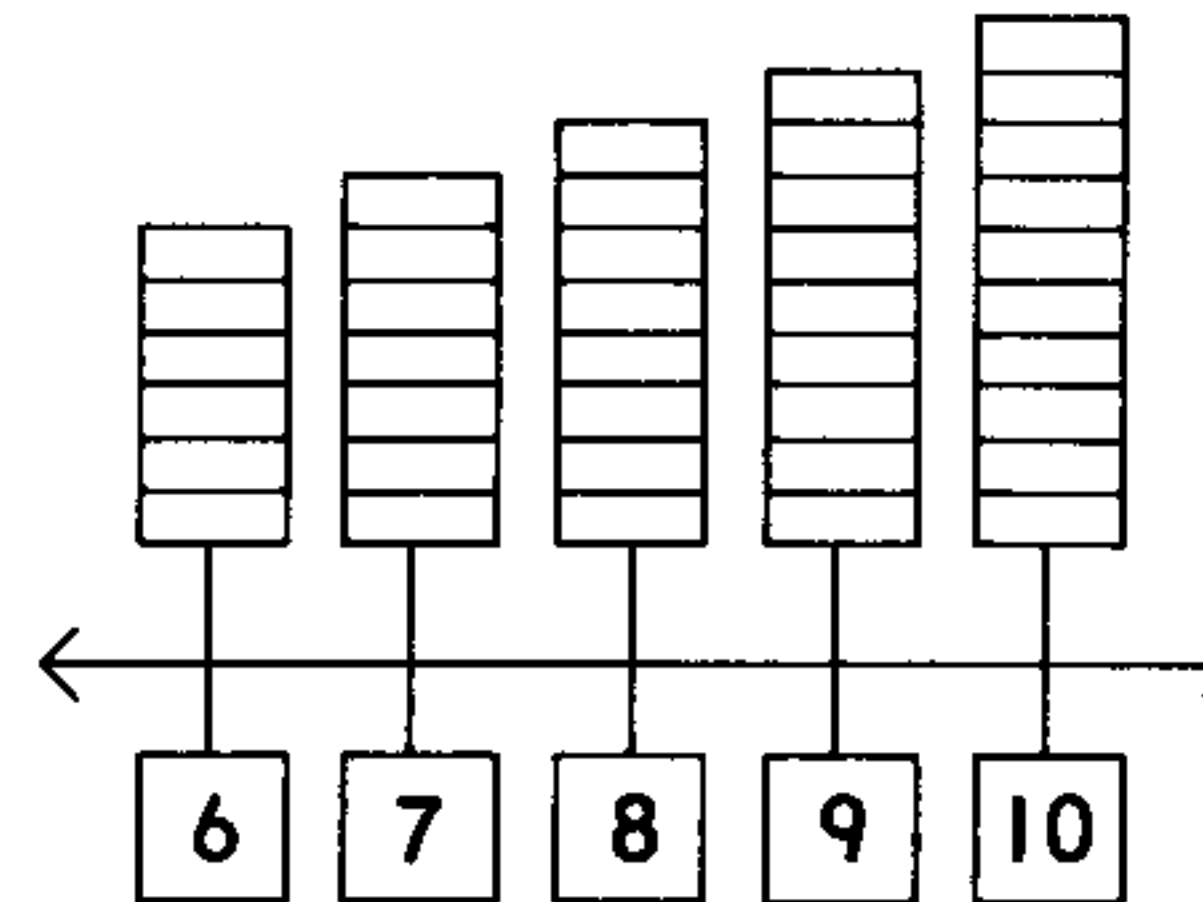
You can use the special function keys to return to the list of activities at the beginning of the module, to start an activity over again, or to get help with the activity you are working on. See the inside front cover of this book for an explanation of these and other special functions built into **Addition and Subtraction 2**.

When you are finished working on the module, press FCTN = (QUIT). The Texas Instruments title screen will reappear and you may safely remove the module.

## ABOUT THE ACTIVITIES

### 1. Counting Bars

A number line and counting bars are used to introduce the numbers zero to five and then the numbers six through ten. The red cursor flashes under a stack of counting bars and the number of boxes in that stack must be entered.



### 2. Numbers from 10 to 18

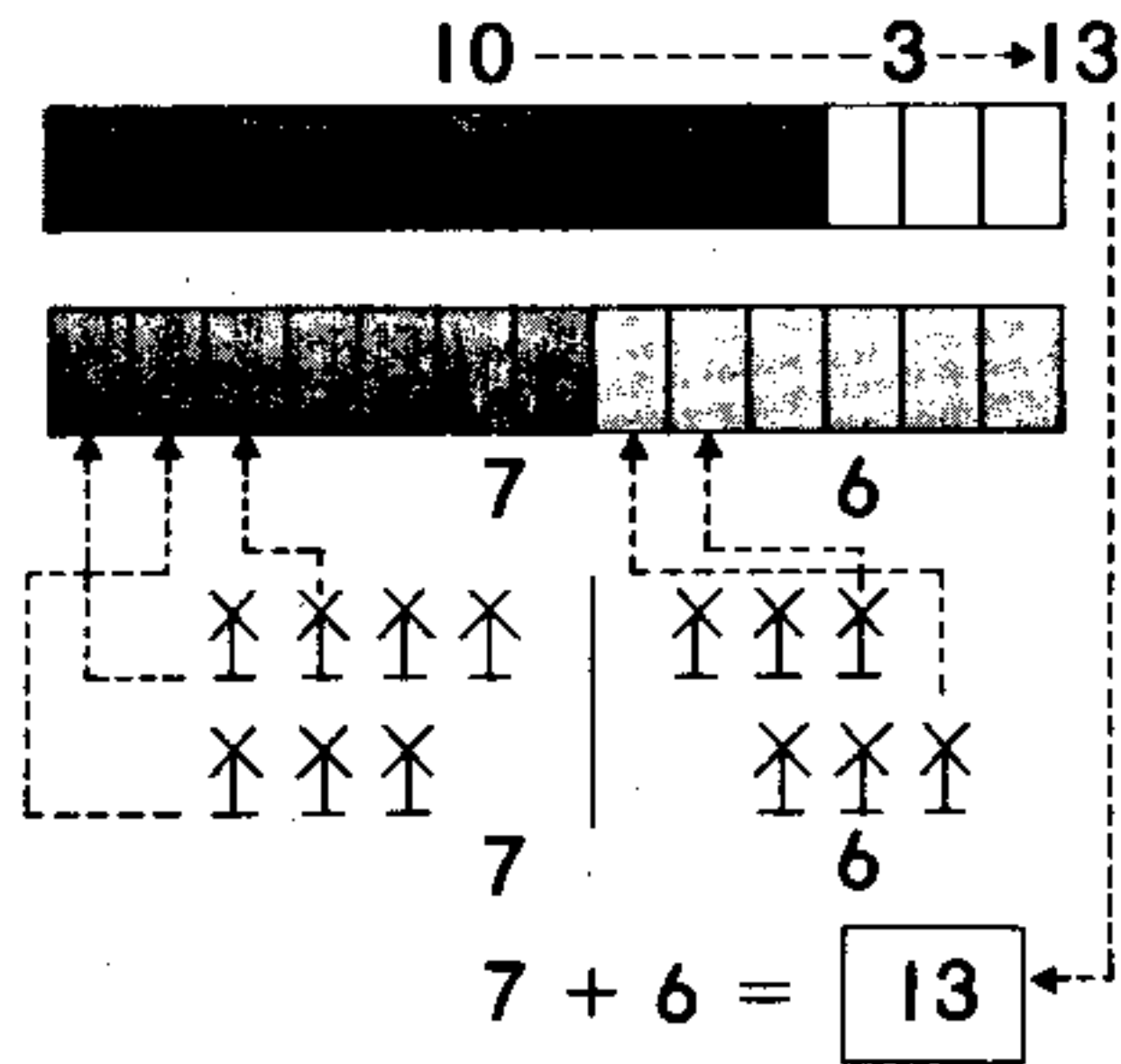
The numbers ten through eighteen are introduced through the use of counting bars and groups of objects which join together to show the tens and ones digits of the number. The child must enter the number shown either by a counting bar or by a group of objects on the screen.



twelve

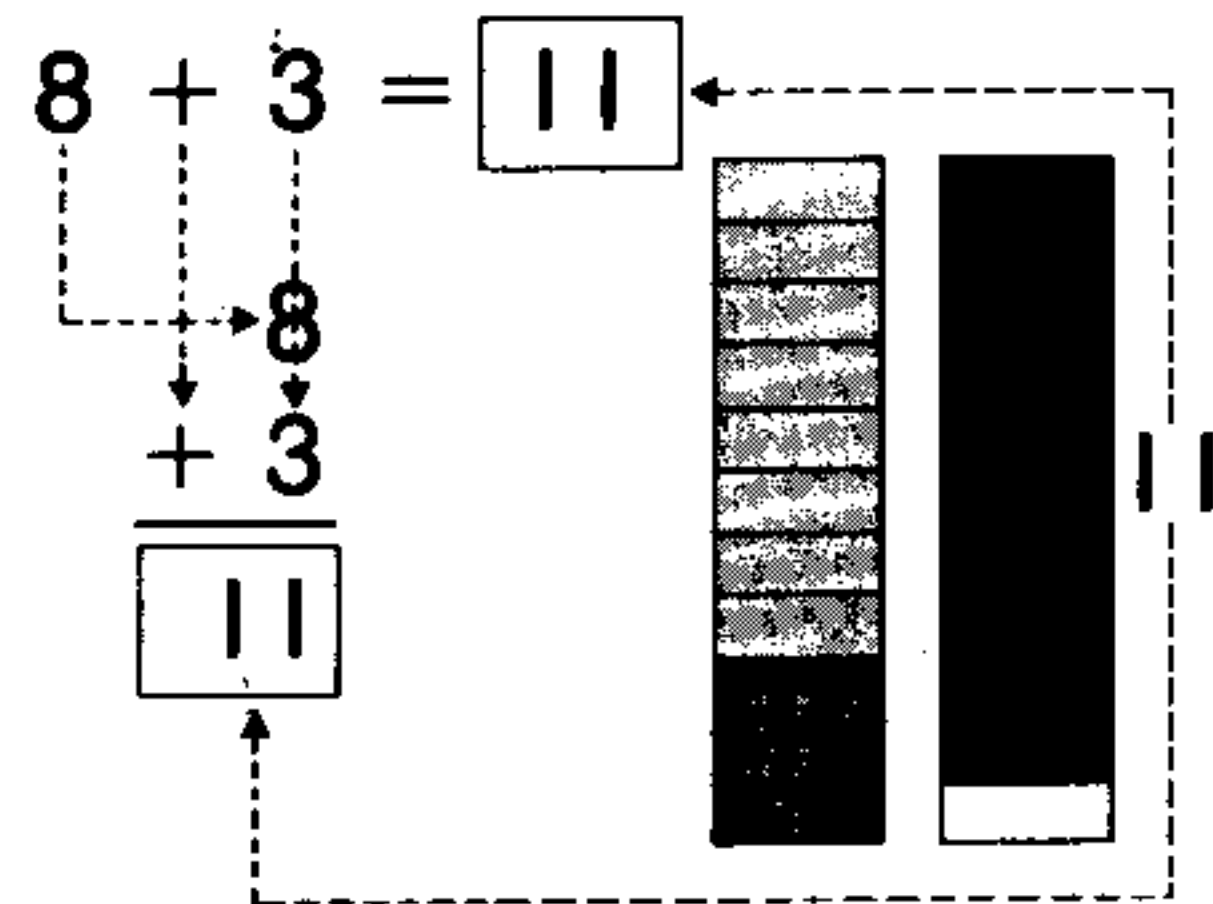
### 3. Addition Facts

Two sets of objects are shown to represent the two numbers in an addition problem. To illustrate the addition process, the objects move to form a counting bar for the sum of the numbers. In the practice exercises children complete addition problems using pictures on the screen when necessary.



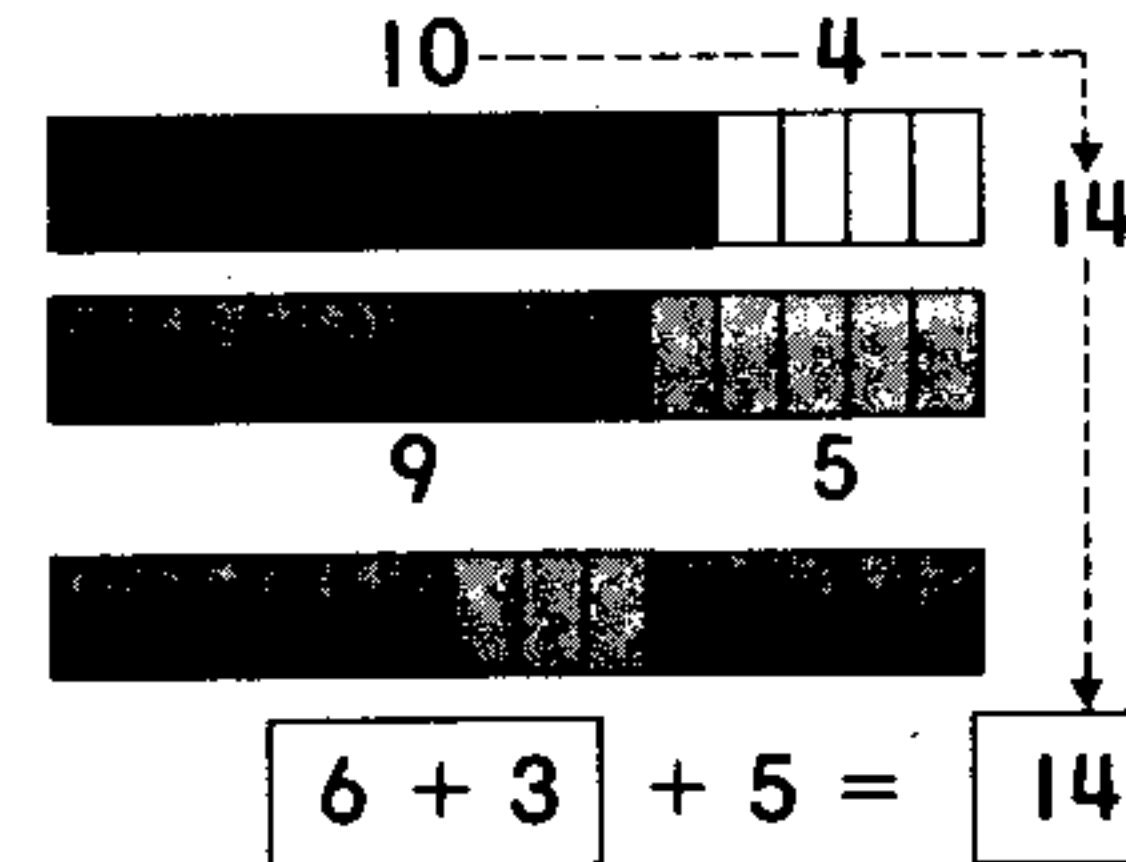
### 4. Add Another Way

In the teaching example a horizontal addition problem moves into a vertical format. Counting bars are used to show the addition process. Practice exercises give addition problems in vertical form.



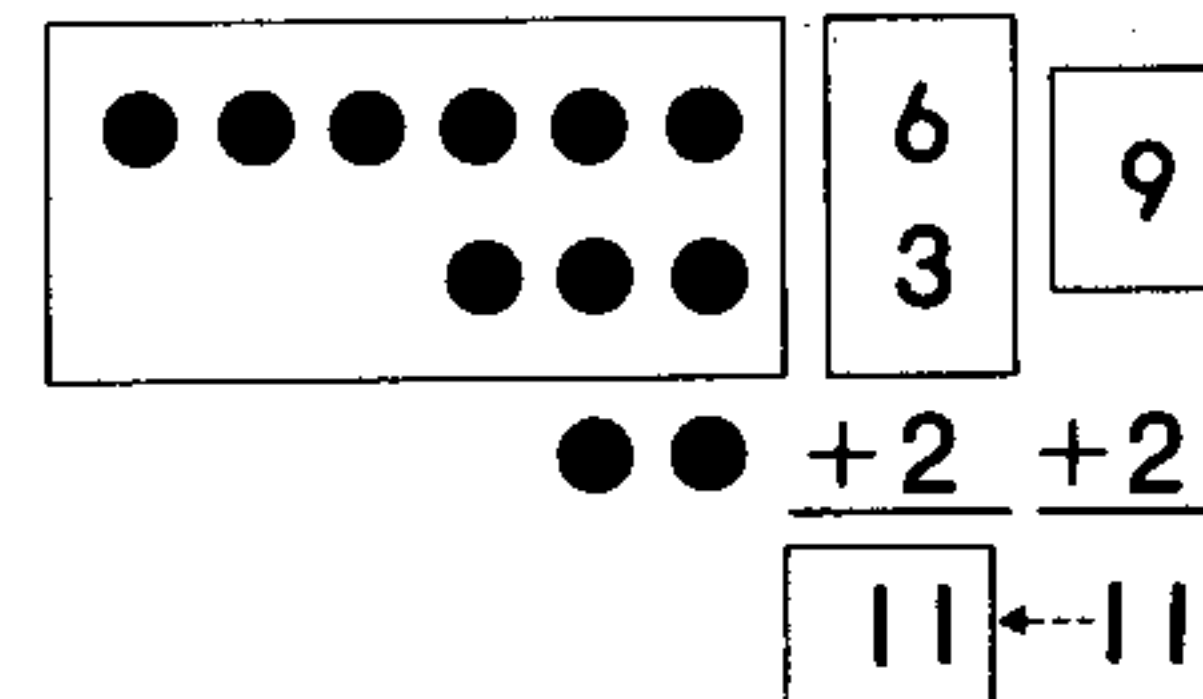
### 5. Add Three Numbers

A horizontal addition problem containing three numbers is shown. Counting bars are used to show the addition process. Two methods of grouping the numbers are shown. Practice exercises give addition problems with three numbers.



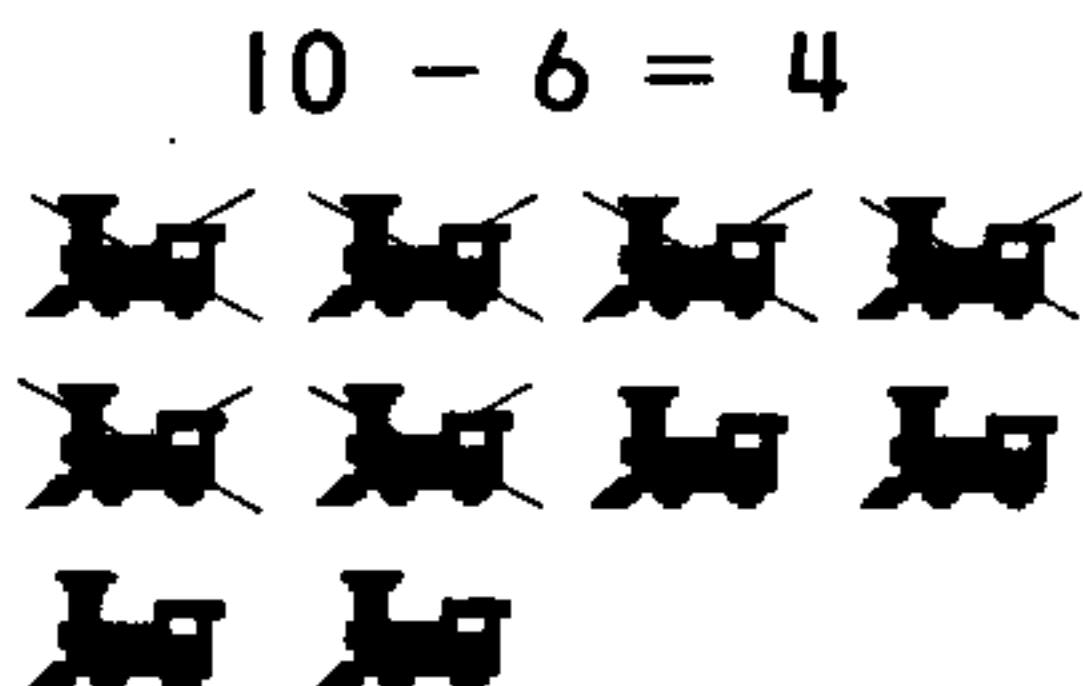
### 6. Add in a Column

Three rows of objects appear to represent three numbers in a vertical addition problem. Two of the numbers are grouped and added. Their sum is added to the third number. Two methods of grouping are shown. Practice problems are given in vertical form.



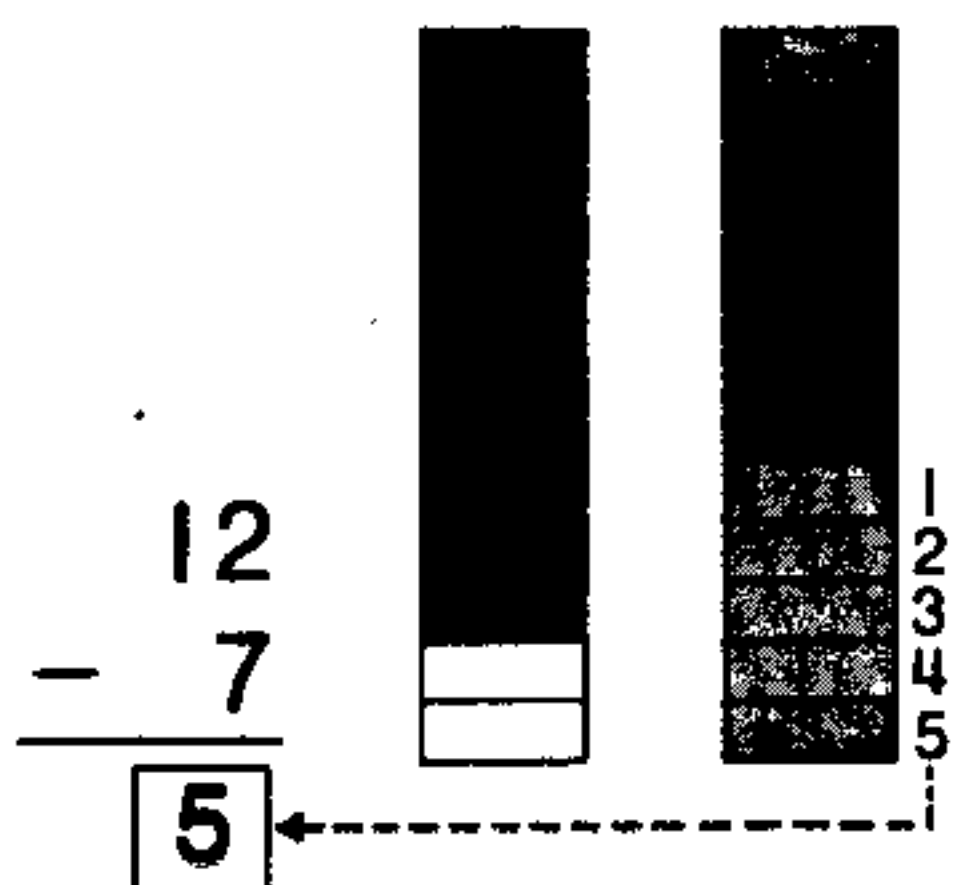
**7. Subtraction Facts**

A group of objects which represents the first number of a subtraction problem is shown. Some of the objects are then crossed out to illustrate the number being subtracted. The remaining objects represent the difference in the subtraction problem. Subtraction facts are given in the practice exercises.



**8. Subtract Another Way**

A subtraction problem appears in vertical form. Counting bars are used to show the subtraction process. The boxes representing the difference are counted and the answer moves into place in the problem. Practice problems are given in vertical form.



**9. Review the Facts**

To determine if the addition and subtraction basic facts have been mastered your child must answer addition and subtraction problems which are shown in horizontal or vertical form. A score is given to show how many problems have been answered correctly.

**Extra for Experts**

If your child does well on the Review, an "EXTRA FOR EXPERTS" section automatically appears. Addition problems are given in which one number and the answer are given; one number is missing. The missing number must be entered.



**PROGRESS CHART**

Put an X in a box each time you start an activity.  
Put an X in the circle when the computer shows that you have finished the activity.

- 1 COUNTING TO 10  

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|
- 2 NUMBERS FROM 10 TO 18  

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|
- 3 ADDITION FACTS  

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|
- 4 ADD ANOTHER WAY  

|  |  |  |  |  |
|--|--|--|--|--|
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|--|--|--|--|--|
- 5 ADD THREE NUMBERS  

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|
- 6 ADD IN A COLUMN  

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
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- 7 SUBTRACTION FACTS  

|  |  |  |  |  |
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- 8 SUBTRACT ANOTHER WAY  

|  |  |  |  |  |
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|--|--|--|--|--|
- 9 REVIEW THE FACTS  

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- EXTRA FOR EXPERTS  

|  |  |  |  |  |
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|  |  |  |  |  |
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