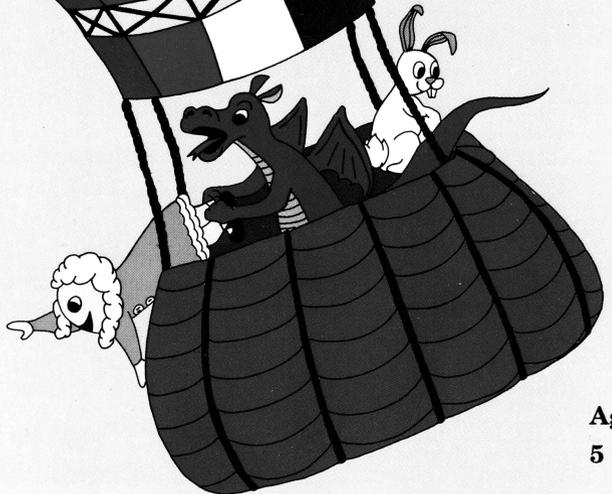


# The TALKING SCHOOLHOUSE™ SERIES

Real Human Speech  
That Teaches Basic Skills  
Without Extra Hardware!

Apple®  
II GS  
3.5" Disk

# Talking Addition & Subtraction



3.5" Disk

512K

Power of Human Speech +

Super HI-RES, 16-Color graphics

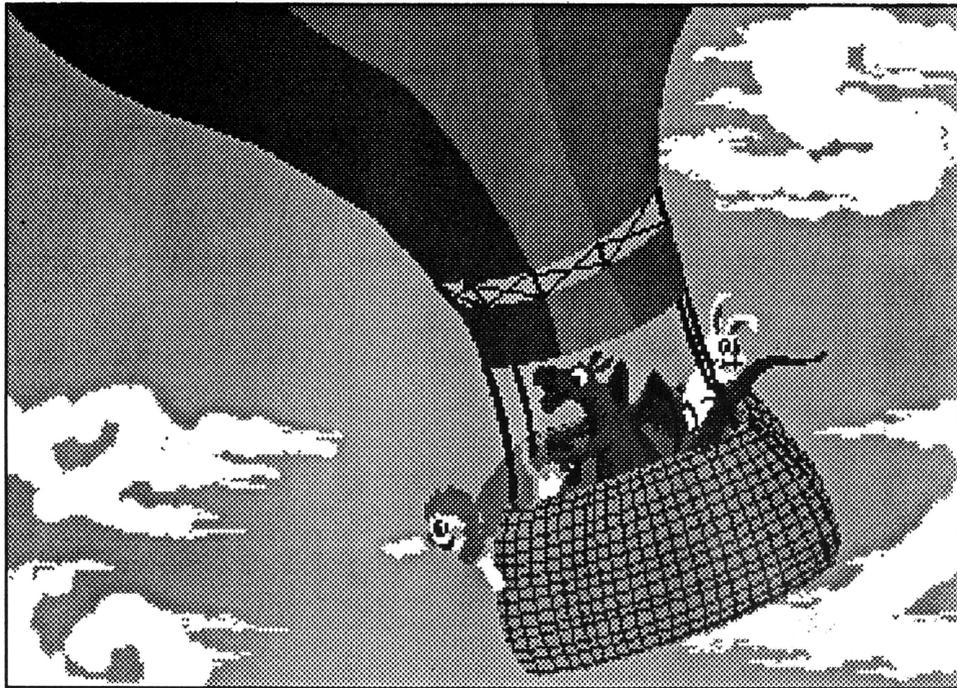
NO EXTRA HARDWARE REQUIRED!

Ages

5 - 8



# TALKING ADDITION AND SUBTRACTION



**This series consists of four parts on one 3.5" disk:**

**Sets and Numbers  
Picture Problems**

**Working with a Number Line  
Coloring through Math**



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## BOOTING THE PROGRAM

**Talking Addition and Subtraction** is designed to run on the Apple IIGS (512K minimum memory) with a 3.5" disk drive. Insert the disk into the drive, label side up, then turn on your computer and monitor. The program will boot automatically. To reboot at any point, press the control/open apple/reset keys simultaneously, then release.

## MAIN MENU

When **Talking Addition and Subtraction** has finished loading, the Main Menu will appear on the screen, offering the following choices: **Sets and Numbers, Picture Problems, Working with a Number Line, Coloring through Math, and Quit**. Click the mouse on the round button next to the section of your choice. The program will then advance to that section automatically. If you wish to return to the Main Menu at any point in the program, simply click the mouse on the *Quit* button present in every section of the program.

## ADJUSTING THE VOLUME

To set the volume for the duration of the program, simply click the mouse on the box marked *VOLUME* located at the lower right-hand corner of the Main Menu. A cassette icon will pop up. Click the mouse on the left arrow to lower the volume or the right arrow to raise the volume. You will hear a test tone.

When the tone is at the level desired, click the mouse on *OK*. The volume will remain at that level throughout the program. If you wish to alter the volume level for a particular segment of the program, click the mouse on the *VOLUME* box at the top of the screen, and that same cassette icon will appear.

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# Introduction

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**Talking Addition and Subtraction** is a four-part program on one 3.5" disk. It is designed for children ages five to eight who are ready for simple addition and subtraction problems using only the numerals one through ten. Younger children's interest is maintained through the use of sound effects, animation, and colorful illustrations on every screen.

**Talking Addition and Subtraction** offers a fun, interactive format in which children learn basic math skills with the help of a friendly human voice. Kids practice counting, adding, subtracting, and learn how to perform these functions when working with sets and number lines. They also obtain a basic introduction to the computer keyboard and mouse, which is necessary to prepare them for more sophisticated use of these tools in more advanced programs. In order to promote development of these skills, each section of the program varies in structure and method of input. In some parts children use the mouse to advance the program; in other sections the keyboard is utilized. In all segments, however, children receive immediate positive feedback for their efforts, via voice, sound, or graphic animation.

**Talking Addition and Subtraction** displays the maximum capabilities of the Apple IIGS computer. Super high-resolution graphics and human voice will thrill youngsters and adults alike, and no additional hardware is required. All that is needed is a 3.5" disk drive and the standard 512K minimum memory. Developers have recorded actual human voice and electronically digitized the sound directly into the computer program. The result is clear, natural-sounding speech -- not a confusing, synthesized computer voice.



# Learning Objectives

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## Conceptual Objectives

Through the use of this program, children will develop a basic understanding of the concepts of order and sequence as they relate to our numerical system. Students should also perceive the connection between the two concepts of number and numeral. The presentation of a group of objects with the numeral corresponding to the number of objects further reinforces this relationship. Additionally, young students' conceptions of cause and effect will be reinforced as they type in their answer and are instantly rewarded by the friendly voice and colorfully animated illustrations.

## Skill Objectives

Students will learn to add and subtract in a variety of formats. They will first review the cardinal and ordinal numbers 1-10. They will also learn sets, number words, and numerical order. Children will learn to solve simple equations both vertically and horizontally and will be able to perform mathematical functions using numerals, pictures of objects, or number words. They will become able to perform multiple addition and subtraction operations using a number line. Eye-hand coordination and motor skills will also be enhanced as students gain practice in locating and typing numbers on the keyboard and become accustomed to manipulating the computer mouse.

## Affective Objectives

Immediate positive feedback in the form of human voice, sound effects, and animated graphics will reinforce each child's feelings of confidence and accomplishment. Students control the program as they must interact with the microcomputer for the program to advance, so they are able to progress at their own pace.



# Program Description

Instructions Volume Repeat Print Quit

3  
THREE  
{ }  
HELP  
Type any number 1-10

**Sets and Numbers** is the first part of the **Talking Addition and Subtraction** program. This section serves as a general introduction to the numerical concepts students will encounter. In this segment, students are asked to type a number between 1 and 10, then press the *Return* key. When they do so, they will hear that

number spoken aloud, see the numeral and written word, and view a set of objects corresponding to that number. They will then hear the voice count out the order of objects in the set. For example, if the 3 key is pressed, students will see the numeral 3, the word *three* and a set of three dragons. The voice says, "Three. A set of three. First, second, third." As the voice says "First," the first dragon in the set is highlighted. When students hear "second," the second dragon in the set is highlighted, and so on.

Students may then type another number between one and ten to see a different set of objects and learn the numeral, number word, and the progression of ordinal numbers associated with that group. Children may remain

in this section, repeating numbers if they so desire. When they are ready to move on, they may click the mouse on the *Quit* option, which will return them to the Main Menu.

Instructions Volume Repeat Print Quit

8  
EIGHT  
{ }  
HELP  
Type any number 1-10





# Program Description

Instructions Volume Repeat Print Quit

$$\begin{array}{r} 2 \\ + 5 \\ \hline = 7 \end{array}$$

Type the number that completes the problem.

The second section of **Talking Addition and Subtraction** is **Picture Problems**. In this part of the program, students are presented with ten problems to solve. The problems consist of fairly simple one-step addition or subtraction operations. There are ten problems altogether, and they are drawn at random, so students will

be freshly challenged each time they run this section. Students will see a problem such as the ones pictured here. They will hear the clear, digitized voice say, "Two plus five equals . . ." Children see a picture of two pencils next to the numeral 2, and a picture of five pencils next to the numeral 5. They must then type in their answer and press the *Return* key. If students have given the correct answer, the voice responds, "Correct!" If their answer is incorrect, they hear, "Try again." Students are allowed two tries per problem. If their answer on the second try is also incorrect, students see and hear the correct answer before moving on to the next problem. No numbers larger than ten are used in this section. When students are finished with this section, they may click the mouse on the *Quit* button to return to the Main Menu. From there, they may either choose another section or quit the program altogether.

Instructions Volume Repeat Print Quit

$$\begin{array}{r} 7 \\ + 3 \\ \hline = 10 \end{array}$$

Type the number that completes the problem.



# Program Description

Instructions Volume Repeat Print Quit

$3 + 1 + 4 = 8$

Click the mouse on the number answer to move the frog ahead.

HELP

Children will be both challenged and amused when they experience **Working with a Number Line**, the third part of **Talking Addition and Subtraction**. In this section, students are introduced to two-step math problems they must solve with the help of a number line and an animated jumping frog. Students hear the

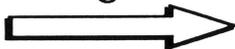
digitized voice say, "Three . . ." The frog jumps to the number 3. The voice says, "Plus one . . ." and students see the equation on the screen. They must add  $3 + 1$  and click the mouse on the numeral 4 on the number line. When they do so, the frog jumps to that number, then the voice says, "Plus four equals . . ." Students must then click the mouse on the numeral 8 on the number line. If they do so, the voice says, "Eight. You are correct." If students click on the wrong number at any point, the voice responds, "Try again." Students get two tries to solve each part of the problem. If they are unable to ascertain the correct answer after two tries, the computer will say and display the correct answer before moving on to the next problem. If students need to hear the problem read aloud again, they may click the mouse on *Repeat*. When finished with the ten problems presented, they may click on *Quit* to return to the Main Menu.

Instructions Volume Repeat Print Quit

$4 + 2 + 3 = 9$

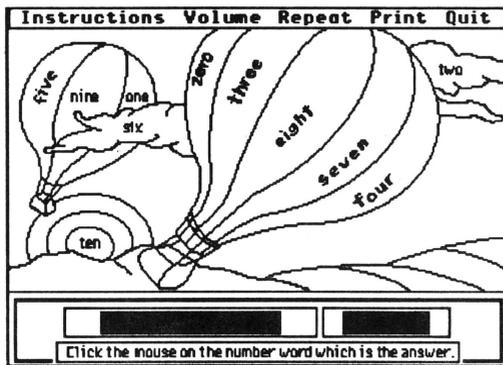
Click the mouse on the number answer to move the frog ahead.

HELP



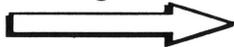


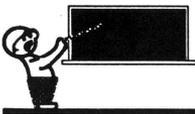
# Program Description



The final segment of the **Talking Addition and Subtraction** program is called **Coloring through Math**, and that is exactly what children do. They are presented with the outline of a picture. There are two hot-air balloons taking off with the characters in the program, and a beautiful landscape in the background. The picture is

sectioned off into ten segments. Inside each section there is the word for a particular numerical value. At the bottom of the screen ten equations appear one at a time and are read aloud by the digitized voice. Students must solve each problem and click on the word in the picture that represents their answer. For example, if the problem  $7-4$  came up, children would have to click the mouse on the word *three* that appears on the large hot-air balloon as seen in the picture above. That part of the picture would then be filled in with color. If students click on the wrong answer, they are asked to try again. If they get the correct answer on the second try, that portion of the picture would be colored in as if they were right the first time. If they are wrong on the second try, however, that section of the scene will remain blank. Students will then hear the entire equation read aloud with its correct answer before moving on to the next problem. The problems in this section are randomly drawn, so the picture unfolds in different portions each time this section is run. Students may click on *Repeat* to hear the problem read aloud again and should click on *Quit* if they wish to leave the section before it has been completed. **\*Students must click the mouse directly on the number word in the picture, not just in that word's region, or the computer will not register any input.**

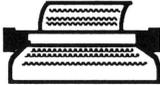




# Teaching Strategies

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- Discuss the difference between the terms *number* and *numeral*. A number is a concept of quantity or amount; a numeral is a symbol representing a number. Give children numerous examples of how each term is used, then test their knowledge.
  
- Divide the class into two or more teams, depending on the number of children. Have each team member write down an equation on a piece of paper. Tell them to fold the paper when they are finished, and keep the answer to themselves. Ask the children to line up on either side of the room. Have the first member of Team A read his or her equation aloud to the first student on Team B. If the first member of Team B can solve the equation, they receive one point. If that student gives the wrong answer, Team A gets a point, then the same equation is asked to the second player on Team B. The team with the most points at the end of the class period wins the math game for that day.
  
- Take up the lesson where **Talking Addition and Subtraction** leaves off. Do this by introducing more difficult problems, using numerals higher than ten, or solving an equation with a series of numerals to add and subtract. Write some of these problems on the board, challenging students to see who is able to come up with the correct answer in the shortest amount of time.
  
- Give students practice exercises in addition and subtraction that vary in format. Have some problems set up vertically and some horizontally. When students become proficient solving problems in these formats, try giving some problems orally. Ask students to try to solve the problems in their head, without using pencil and paper. Show them how important this skill can be in real-life situations.



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Box 390 Westchester Ave.  
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# Teacher's notes

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