VIC GAMES FOR KIDS

Turn your VIC into a teacher and entertainer for all ages, from preschool to high school. Includes 30 game programs you can type in and run.

Clark and Kathy H. Kidd

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Games have long been used to teach. Even the simplest children's games, like tag or hopscotch, teach cooperation, shapes, counting, or other skills. Games make learning fun.

The computer makes that learning even more enjoyable. With its graphics, colors, and sounds, the VIC-20 can become an excellent tool for learning if you have the right programs. VIC Games for Kids gives you those programs. With 30 fully developed games, including a quiz builder you can use to create your own test on any subject, this book places a powerful teaching tool in your child's hands. Game programs that teach such subjects as reading, spelling, geography, and mythology make learning pleasant, not painful.

Divided into four levels, the games are grouped according to age and skills, as well as subject areas. Each game includes detailed and clear explanations on its story, how to play the game, and how to score points. More than 20 of the games will run on the unexpanded VIC, and most can be modified to suit your child's individual needs.

Some of the games contain many questions on a topic. In order to include a wide variety of questions, these programs contain many DATA statements which means a lot of typing. Although you will have to enter these programs, you'll find the thoroughness of the question-and-answer games well worth the time. There are even four arcade-style games for your child to play when the homework's done.

Expanding your child's (and perhaps even your own) knowledge with the VIC-20 computer becomes easy with VIC Games for Kids. You'll spend many entertaining and educational hours with this book and your VIC-20 home computer.
Introduction

Guilty Conscience
If you’re like most parents, part of the reason you bought your VIC-20 was to teach your kids. “Computer literacy is the issue of the eighties,” you told yourself. “Our kids won’t be able to survive in the world if they don’t know computers.”

Well, that was enough justification to buy your VIC-20, but have you really put the computer to full use as a teaching tool? Perhaps you wrote or bought a simple math game for the kids, but chances are they’ve been playing Pac-Man ever since.

You don’t need to feel guilty any longer. VIC Games for Kids will ease your conscience and teach the kids (and you!) at the same time.

What Did You Learn in High School?
For most people, high school was a free ride. The goal in life was to have fun. If you are like most people, you would have gone to school anyway; it was a good place to meet friends. The fact that your teachers were trying to cram knowledge into your head during those years was incidental.

What do you remember from high school? You remember your friends, the games, and those painful school dances.

You also remember the teachers. You remember Billy’s imitation of the way Mr. Berryhill walked, and the way Mrs. Thompson came all unhinged when people threw things in class.

But do you remember what those teachers labored to teach you? Do you remember the capitals of more than five of the fifty states? When the new Dionysus Greek Restaurant opens downtown, do you know the significance of the name? How many names of the bones of the body or chemical elements can you recall?

If you’re like most of us, you forgot all that information because you studied one night to memorize for a test the next day. When the test was over, you let the information slip from your memory. You didn’t have any incentive to remember what you’d learned.

VIC Games for Kids can change all that, at least for children. What they learn playing these games will stay with them. Why?
Because they'll have fun learning it. They'll learn the information by playing games they'll want to play.

**The VIC-20 as a Teacher**

Computers are a mixed blessing when it comes to teaching. Some features adapt themselves well to a teaching environment, while others may make it frustrating for a beginner to use. A programmer can do things to minimize that frustration, but it will always be present to some degree.

Computers are good as a teaching tool because they offer sounds, color, and graphics — features that hold kids’ attention. Computers also have the ability to present data with a degree of randomness so that if a game is written correctly, it will never play the same way twice. This reduces boredom and makes learning the same material fun for a longer period of time.

Computers are also well accepted by most children because they represent a comfortable environment. Anything that connects to the TV set has to be fun — right? The fact that some games use joysticks promotes this environment even more. If you don’t tell the kids they’re learning while they’re having fun, they may never know.

There can be problems, though. Your main pipeline to the computer is the keyboard. Most older children will find the keyboard a challenge, enjoying imitating adults at a terminal, but younger children may be intimidated by it. This anxiety can be minimized by using a joystick on games for younger players, or by requiring the younger child to enter only a few characters on the keyboard. The games in this book are written to give young children computer exposure that will encourage, not frighten them.

Another problem in using computers as teaching tools is that the machines are very exact. You may recognize *Mississippi*, but the computer won’t. You can minimize this by using multiple choice answers such as *A*, *B* or *C* when you create your own games. If you expect an answer to be typed in, you need to provide a list of possible answers *as the computer will accept them* so the child won’t be frustrated by spelling errors. The question-and-answer games in *VIC Games for Kids* do this.

Another possible problem when using computer games is that some of the more complex programs have short delays while tables are loaded and manipulated within the program. A short song that plays while tables are being loaded can reduce any impatience. You can reduce the frustration by telling the user a
delay will occur. The programs in this book have taken this into account.

**Programmer’s Guide**

A common misconception that’s been created by zealous computer salespeople is that you can buy a home computer, unpack it, plug it in, and it will immediately solve all your problems. This is as sensible as buying a power saw and expecting it to build furniture for you. The saw is capable of doing the job, but you must *guide* it to do the work. A home computer, like the saw, is capable of doing all you want it to do — but you must guide it, through programming. And you can’t learn to program in a single day.

**Acknowledgments**

This book is dedicated to Uncle O, without whom it wouldn’t have been written, and to the word processor, without which the writing would have been torture.

We would like to thank the following people who have contributed to the completion of *VIC Games for Kids*:

Claudia Clark of the Utah Department of Agriculture, who provided the statistics for “Plan a Menu.”

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Scott Card, editor of COMPUTE! Books, who did virtually everything else.
How to Use This Book

If you check the Table of Contents, you'll notice the games are divided into four teaching levels, plus a section of games children can play solely for entertainment. Finally, there's a section featuring a program you can use to make your own computer quizzes. The appendices will give you more tips on what this book contains, how to modify the games to suit your children's individual needs and tastes, and a guide to typing in programs on the VIC. It is very important that you read the guide before typing in games.

The games in this book are divided into four levels:

**Level 1** includes games for preschoolers, or children who have not yet learned to read.

**Level 2** features games for early readers. First- through fifth-graders will feel most comfortable playing games in this level.

**Level 3** games are for kids in upper elementary or junior high school. The games are more sophisticated than those found in Level 2, and some are nearly as complex as the Level 4 games.

**Level 4** games are for high school students. Adults would also be challenged by these games.

Turn to the first game in the Level 1 section, "A-Maze-Ing." At the top of the first page is a section with data for you, the programmer. The first line, *Skill Area*, tells you what your child can learn by playing this game. All games in *VIC Games for Kids* teach children something in at least one of six areas:

- **Coordination** (includes shape recognition, color identification, motor skills, and instruction-following)
- **Language Arts**
- **Mathematics**
- **Memory and Logic**
- **Science**
- **Social Studies**

A parent whose child needs help in, say, mathematics, may wish to leaf through the book and pick out the mathematics programs to enter first.
The second line, *Level*, tells which skill or age level(s) would enjoy playing the game. Programs in this book are grouped according to the *earliest* level at which a child would enjoy playing the game. However, most of the games in this book appeal to children of more than one age group. In "A-Maze-Ing," for instance, the game appeals to a Level 1 child, but a Level 2 child could also enjoy playing the maze. For a complete grouping of games by age level, see Appendix A.

The third line, *Memory*, tells the parent how much total computer memory is required to play the game. Most of the 30 games in *VIC Games for Kids* are playable on an unexpanded 5K VIC. The amount of memory consumed by each game is mentioned here, however, to save you the frustration of getting a game half entered and then running out of memory.

If you are interested in playing a game that requires more memory than your computer has available, check Appendix B for Programmer's Notes. In some cases, games can be adapted to use less memory.

The fourth line, *Equipment required*, indicates extra equipment that may be needed for full enjoyment of the game. It's assumed that you have a VIC-20, a monitor or television, and a Commodore Dassette so that you can SAVE these games after they've been entered. In some games, this line indicates whether a joystick is required for play. If you don't have a joystick, Appendix B will tell you how to change each game to play without one. Remember that Level 1 children may not adapt well to keyboard play.

One piece of equipment that isn't mentioned in the boldface, but which you may want to consider, is a disk drive. This isn't much of an issue with the smaller programs. However, the larger programs in *VIC Games for Kids* take quite a while to load without a disk drive. Take this into consideration if you don't have a disk drive and your child's patience is short.

The final line, *Modification*, tells you whether you (or an older child) will be able to modify the program. Modification can involve just changing the program from joystick to keyboard control. More often, however, you may want to modify a program to add additional information. The list of U.S. presidents in "Mr. President" must be updated every few years, for example, and there may be new elements discovered to justify additions to "Element Man." Children's needs have been anticipated here. Programs that can be modified will be listed and instructions given in Appendix B.
Look at the rest of the documentation for the game A-Maze-Ing. It's divided into three parts — a *scenario*, *instructions for play*, and *scoring rules*. All the games except the complex question-and-answer games include a *scenario* to stimulate the child's imagination and his interest in the game. The *How to Play* and *Scoring* sections give the mechanics for game play.

Note that with the games in Levels 1 and 2, you will have to read the scenario, instructions, and scoring rules to your child. Younger children are not expected to use the games alone. Of course, this can enhance the learning experience as your child learns alongside you. The scenario would not have to be read word for word, for example, but could be described in a storytelling manner. Children in Levels 3 and 4 can probably understand the games' documentation, although some interpretation may be needed from you.

You will have to do the majority of the typing as you enter each program, especially with the games in the first two levels. Young children can get easily frustrated as their errors multiply. Children in Levels 3 and 4 could try to enter the programs if they wish, perhaps after watching you, or if they already have had some experience with personal computers.

All the documentation for *VIC Games for Kids* follows the format explained above. Even the games in the "Just for Fun When the Homework's Done" section near the book's end teach coordination and quick thinking and can be loosely construed as educational games.

The only exception is "Build a Quiz," which is a program for you, the parents. In this section, you can create your own question-and-answer games or tests with the use of a skeleton program.

The book provides you with a good set of enjoyable and educational games, without bankrupting you. And in the process of entering the games into the VIC-20, you may even learn something about how the programs work. It's just a short step from entering a program to making minor modifications of that program. Once you've made those modifications, you're on your way to a knowledge of computer programming.
Games for Preschoolers
A-Maze-Ing

Skill Area: Coordination
Level: I, II
Memory: Unexpanded 5K VIC
Equipment required: Joystick
Modification: Yes

Story of the Orchard
You are a piglet in the orchard. Piglets like food, and orchards are full of apples, so you’ve escaped from your pen and run toward the trees. Farmer Brown is two minutes behind you, although you can’t see him, so you have that much time to eat all the apples you can.

Some of the apples may be out of reach. Don’t worry about them. Just eat all the apples you can before you have to leave the orchard.

How to Play
“A-Maze-Ing” is a game of coordination and speed. You must move through the maze to find the apples, using the joystick. You have two minutes to eat all the apples you can. If you’ve eaten all the apples that aren’t hidden by dead ends of the maze, you can end the game by pressing F1.

There are 25 apples. Each time you eat an apple, you’ll hear a gulping sound, and the background color of the orchard will change. When you’ve eaten all the apples, a song will play.

Scoring
At the end of the game, your score will tell you how many apples you ate, and show the percentage of the 25 apples that you ate. You’ll also see how long it took you to eat all the apples within reach.

If you’re a good piglet, you’ll soon be able to eat all the apples in the orchard, unless an apple or two is hidden by the orchard maze. When you get that good, try to see how much faster you can do it. If you’ve learned to eat all the apples in two minutes, see if you can move like a greased pig and eat all of them in one minute.
Level 1

A-Maze-Ing

100 DIM RT(3), NT%(16, 1, 1): RT(0) = 2: RT(1) = -44: RT(2) = -2: RT(3) = 44: POKE 36879, 31: PRINT "[CLR]"

110 M = 4 * (PEEK(36866) AND (128)) + 64 * (PEEK(36869) AND 128): C = 37888 + 4 * (PEEK(36866) AND 128)

120 FOR X = 0 TO 4: POKE 36874 + X, 0: NEXT X

200 FOR W = 0 TO 1: X = 0


220 NEXT W

300 PRINT "[CLR]"{RED}{DOWN}6 SPACES}A-MAZE-IN G{OFF}": PRINT "[DOWN]RUN AROUND THE APPLE [2 SPACES]ORCHARD EATING ALL YOU";

310 PRINT "CAN BEFORE YOUR TIME{2 SPACES}IS UP."

320 PRINT "{DOWN]USE THE JOYSTICK TO{3 SPACES}MOVE [SPACE]AROUND THE{7 SPACES}ORCHARD MAZE."

325 PRINT "{DOWN]YOU HAVE TWO MINUTES{2 SPACES}TO E AT ALL YOU CAN, OR USE {RVS}F1{OFF} TO EXIT EAR LY."

330 PRINT "{DOWN]YOU MAY NOT BE ABLE TOREACH ALL OF THE{6 SPACES}APPLES IN THE ORCHARD!"

340 PRINT "{DOWN](HIT ANY KEY TO START)"

350 X = 0: GOSUB 9500

360 GET X$: IF X$ = "": THEN 360

370 GOSUB 9000: FOR W = 1 TO 25: GOSUB 8500: POKE M + X, 81: POKE C + X, 2: NEXT W

380 GOSUB 8500: POKE M + X, 86: POKE C + X, 4

390 R1 = INT(X / 22): C1 = X - (R1 * 22): TI$ = "000000": AC = 0

400 C2 = C1: R2 = R1

410 GOSUB 8000: IF C1 = C2 AND R1 = R2 THEN 410

420 IF C2 < 0 THEN C2 = 0

430 IF C2 > 21 THEN C2 = 21

440 IF R2 < 0 THEN R2 = 0

450 IF R2 > 22 THEN R2 = 22

460 X = PEEK(M + (R2 * 22) + C2)

470 IF X <> 32 AND X < 81 THEN 400

480 OD = (R1 * 22) + C1: ND = (R2 * 22) + C2: IF X = 81 THEN OD = 0

490 POKE M + OD, 32: POKE C + OD, 1: POKE M + ND, 86: POKE C + ND, 4

510 C1 = C2: R1 = R2: GOTO 410

600 POKE 36876, 15: FOR Y = 200 TO 215: POKE 36876, Y: NEXT Y: P OKE 36876, 0

610 POKE 36878, 0: POKE M + ND, 86: POKE C + ND, 4

620 POKE M + OD, 32: POKE C + OD, 1

640 C1 = C2: R1 = R2: AC = AC + 1

650 IF AC = 24 THEN GOTO 800

660 Y = PEEK(36879) - 1: IF Y < 26 THEN Y = 31

670 POKE 36879, Y

680 GOTO 410
800 POKE36879, 31:PRINT"{CLR}{RED}{DOWN}{5 SPACES}
{RVS}HAPPY EATING{OFF}"
810 PRINT"{2 DOWN} YOU ATE";AC;"APPLES;"
820 PRINT"{DOWN} YOUR SCORE IS";AC*4;"{LEFT}"&":W=INT(TI/60):X=INT(W/60)
830 Y=W-(X*60):X$=STR$(X):Y$=RIGHT$(X$,1)+":{IF Y<
10THENY=Y+100
840 X$=STR$(Y):Y$=Y$+RIGHT$(X$,2):PRINT"{DOWN} YOU
R TIME IS "{Y$
850 X=1:GOSUB9500
860 PRINT"{3 DOWN}{BLK} PLAY AGAIN? {{RVS}Y{OFF}/
{RVS}N{OFF}}"
870 GETX$:IFX$=""THEN870
880 IFX$="y"THEN370
890 IFX$="n"THEN870
900 X=0:GOSUB9500:PRINT"{CLR}POKE36879,27:END
8000 IFTI$="000200"ORPEEK(197)=39THEN800
8005 POKE37154,127:IF(PEEK(37152)AND128)>0THENC2=C
2-1
8010 POKE37154,255:J1=PEEK(37137):IF(J1AND8)>0THEN
R2=R2-1
8020 IF(J1AND16)>0THENC2=C2+1
8030 IF(J1AND4)>0THENR2=R2+1
8040 RETURN
8500 X=INT(RND(1)*506):IFPEEK(M+X)<>32THEN8500
8510 RETURN
9000 POKE36878,15:PRINT"{CLR}BLK";X$="{RVS}
{21 SPACES}{OFF}";FORX=1TO22
9010 PRINTX$;"{RVS} {OFF}";NEXTX:PRINTX$;:POKEM+5
05,160:POKEC+505,0
9020 X=M+45:POKE X,4
9030 Y=INT(4*RND(1)):Z=Y:POKE36874,128+(20*Y)
9040 W=X+RT(Y):IFPEEK(W)=160THENPOKEW,Y:POKEX+RT(Y)
/2,32:X=W:GOTO9030
9050 Y=Y+1:IFY>3THENY=0
9060 IFY<ZTHEN9040
9070 Y=PEEK(X):POKE X,32
9080 IFY<4THENX=X-RT(Y):GOTO9030
9090 POKE36878,0:POKE36874,0:FORX=0TO505:IFPEEK(M+X)<160THENPOKE(M+X),32
9100 NEXTX:RETURN
9500 POKE36878,15:Y=0
9510 POKE36876,NT%(Y,X,0):IFNT%(Y,X,0)=0THENPOKE36
878,0:RETURN
9520 FORW=1TO(NT%(Y,X,1)+120):NEXTW:POKE36876,0:Y=
Y+1:GOTO9510
10000 DATA175,2,175,2,175,2,175,2,175,2,175,2,159,2,159,2,147,4,191,2
Level 1

10010 DATA191,2,183,2,183,2,175,4,0,0
10020 DATA175,2,175,2,183,2,163,2,175,1,183,2,191,2,191,2,195,2
10030 DATA191,2,183,1,175,2,195,2,175,2,163,2,175,8,0,0
Count the Spots

Skill Area: Mathematics  
Level: I  
Memory: Unexpanded 5K VIC  
Equipment required: None  
Modification: No

The Old Monopoly Dice
All the big kids play Monopoly, but you can’t get anybody to play it with you. Monopoly isn’t easy, and Dad says you have to be able to roll the dice before you can learn the rest of the game.

Rolling the dice isn’t hard, unless they roll off the table and you have to look for them in the carpet. The hardest part is deciding what the spots on the dice mean. Each spot stands for the number 1, and you add the number of spots on both dice to see how many squares you can move ahead when your turn comes. When you can count the numbers on the dice, maybe the other kids will let you play Monopoly with them.

How to Play
Each game consists of ten rolls of the dice. The computer will roll the dice for you, and you count the number of spots on both dice. When you think you have the right number, type the number and then press the key that says RETURN. Don’t spell the numbers out: if you see ten spots, for example, don’t type ten. Just type 10, and then hit the RETURN key. It’s faster, and you don’t have to worry about how to spell the words.

You’ll know when you get a right answer by the whooshing sound and colors flashing on the screen. If you make a wrong guess, the screen will go black and you’ll hear a raspberry sound.

Scoring
At the end of the game, the computer will tell you how many times you were right. The highest score you can have in one game is 10. The computer will also tell you what your highest score has been since you started playing “Count the Spots” this session. After a game, type the letter Y if you want to play again. When you want to quit, type N when the computer asks if you want to play once more.
Level 1

Count the Spots

50 DIM DI$(5), DI%(5, 2), S$(11, 1)
60 A$="[RVS][22 SPACES][OFF]"; B$="[RVS][3 SPACES]
[OFF][7 SPACES][RVS][2 SPACES][OFF][7 SPACES]
[RVS][3 SPACES][OFF]"
100 POKE 36879, 24: FOR X = 0 TO 5: READ X$: DI$(X) = X$: NEXT X:
CS$="[CYN][PUR][GRN][BLU][YEL]"
110 FOR X = 0 TO 5: F0RY = 0 TO 2: READ Z: DI%(X, Y) = Z: NEXT Y, X:
S = 0
120 PRINT "{PUR}{CLR}{DOWN}{4 SPACES}{RVS}COUNT THE
SPOTS"; PRINT "{DOWN}EACH GAME CONSISTS OF TEN
SPACE ROLLS OF THE DICE.";
130 PRINT "{DOWN}THE PLAYER MUST COUNT THE NUMBER O
OF SPOTS ON [RVS] BOTH [OFF] DICE AND ENTER"
140 PRINT "THAT NUMBER. [2 SPACES] ONE [5 SPACES] POINT
IS RECEIVED FOR EACH CORRECT ANSWER."
150 PRINT "{DOWN}[6 SPACES][RVS]GOOD LUCK!{OFF]"
160 POKE 36878, 15
170 READ X, Y: IF X < 0 THEN 190
180 POKE 36876, X: FOR Z = 0 TO Y: NEXT Z: POKE 36876, 0: FOR Z = 0
TO 20: NEXT Z: GOTO 170
190 POKE 36878, 0: X = RND(-TI)
200 PRINT "{BLK}{2 DOWN}(HIT ANY KEY TO START)"
210 GET X$: IF X$ = "THEN 210
220 FOR X = 0 TO 11: READY, Z$: S$(X, 0) = Y$: S$(X, 1) = Z$: NEXT X
300 S = 0: FOR X = 0 TO 9
310 D1 = INT(RND(1)*6) + 1: D2 = INT(RND(1)*6) + 1
320 Y = INT(RND(1)*5) + 1: X$ = MID$(CS$, Y, 1)
330 PRINT "{CLR}"; X$; : FOR Y = 0 TO 3: PRINT A$; : NEXT Y:
340 Z$ = "[BLK][HOME][5 DOWN]"; FOR Y = 0 TO 3: Z$ = DI$(D1 - 1, Y)
350 PRINT Z$; "{3 RIGHT}"; X$; "{2 RIGHT}"; Y$; "{SHIFT-SPACE}"; Z$ = Z$ + "[3 DOWN]"; NEXT Y
360 INPUT "{7 DOWN} HOW MANY"; X$: Y = VAL(X$): IF Y = (D1 +
D2) THEN 400
370 POKE 36879, 8: PRINT "{CLR}"; POKE 36878, 15: POKE 3687
4, 140: FOR X = 1 TO 500: NEXT X
380 POKE 36879, 24: POKE 36878, 0: POKE 36874, 0: GOTO 500
400 S = S + 1: POKE 36878, 15: FOR Y = 25 TO 31
410 POKE 36879, Y: POKE 36877, 8*Y: FOR X = 1 TO 100: NEXT X
420 POKE 36878, 0: POKE 36879, 24: POKE 36877, 0
500 NEXT X
600 Z = 0: IF S > HS THEN HS = S: Z = 1
610 PRINT "{PUR}{CLR}{DOWN}{6 SPACES}{RVS}GAME OVER
1{OFF}{DOWN}"
620 PRINT "{2 DOWN} YOUR SCORE ="; S
630 PRINT "{2 DOWN} HIGH SCORE ="; HS
640 IFZ=1 THEN PRINT "{2 DOWN} YOU SET A NEW HIGH!"
650 POKE 36878, 15: FOR X = 0 TO 11
660 POKE 36876, S%(X, 0): FOR Y = 0 TO S%(X, 1): NEXT Y: POKE 36876 #0
670 NEXT X
680 POKE 36878, 0
690 PRINT "{BLK}{3 DOWN}{2 SPACES}PRESS {RVS}Y{OFF}" TO REPLAY"
700 PRINT "{2 DOWN}{2 SPACES}PRESS {RVS}N{OFF} TO QUIT"
710 GET X$: IF X$ = "" THEN 710
720 IFX$ = "Y" THEN 300
730 IFX$ <> "N" THEN 710
740 POKE 36879, 27: PRINT "{CLR}"
750 END
2000 DATA "{5 SPACES}" , "{2 SPACES}Q{2 SPACES}" , "Q{4 SPACES}" , "Q{3 SPACES}Q" , "QO
Q"
2010 DATA 0, 1, 0, 2, 0, 3, 2, 1, 3, 4, 0, 4, 4, 1, 4, 5, 0, 5
2020 DATA 201, 300, 207, 300, 195, 300, 135, 300, 175, 600, -1,-1
2030 DATA 147, 175, 0, 20, 147, 175, 0, 20, 147, 175, 159, 100
, 170, 200, 170, 100, 159, 100
2040 DATA 169, 100, 175, 100, 183, 200
Level 1

Counting Game

Skill Area: Mathematics
Level: 1, 11
Memory: Unexpanded 5K VIC
Equipment required: None
Modification: No

The Counting House
You are the king, and you’re in the counting house. You’re not counting your money, though. You’re counting hearts, spades, triangles, and other shapes which you’ve collected to decorate your kingdom. You need to get an accurate count, so you’ll know what you have on hand.

How to Play
This game teaches children to recognize the written and numeric characters from 1 to 99. Each number picked is shown as a word value and also as a number of objects. For example, the player may be given the word four, followed by a picture of four hearts.

The player must look at the pictures as well as the word and then enter the correct number on the keyboard (in this case, 4).

Because children are taught to count a little bit at a time, you can adjust the level of difficulty of “Counting Game” by entering a maximum value at the beginning of the game. Beginning counters, for example, could choose a maximum value of ten, and the largest number of objects presented in any question would be ten. You can also choose the number of questions that will be asked — from 1 to 500. To choose any number in these categories, type the number and then press the RETURN key.

When the word and the corresponding number of objects appear on the screen, you need to type the number, 4, for example, on the keyboard, and then press the RETURN key. Correct answers will be rewarded with songs, and incorrect answers will be noted with a buzzing noise and a black screen.

Scoring
The score at the end of the game will tell you how many questions were asked, how many answers were answered correctly, and also the percentage of correct answers.
Level 1

Counting Game

100 DIM NT$(4,10,1), W1$(18), W2$(7): PRINT "[CLR]"
110 POKE 36879, 170: FOR X = 0 TO 4: FOR Y = 0 TO 10: FOR Z = 0 TO 1
130 FOR X=0 TO 18: READ X$: W1$(X)=X$: NEXT X
140 FOR X=0 TO 7; READ X$; W2$(X)="Q*JASZ" X": C$="[BLK] [WHT] [GRN] [BLU] [YEL]"
200 PRINT "[BLK] [CLR] [DOWN] [4 SPACES] [RVS] COUNTING [2 SPACES] GAME [OFF]"
210 PRINT "[2 DOWN] THIS GAME TEACHES YOU TO RECOGNIZE THE [6 SPACES] NUMBERS FROM 1 TO 99."
230 PRINT "NUMBER OF OBJECTS. [4 SPACES] YOU MUST ENTER THE [4 SPACES] NUMBER REPRESENTED."
240 PRINT "[DOWN] A GAME CAN CONSIST OF FROM 1 TO 50 [9 SPACES] QUESTIONS."
250 X=INT(RND(1)*5): GOSUB 8000
260 PRINT "[2 DOWN] (HIT ANY KEY TO START)"
270 GET X$: IF X$="" THEN 270
300 PRINT "[CLR] [DOWN] WHAT IS THE MAXIMUM [3 SPACES] NUMBER TO BE USED? [4 SPACES] (ENTER A VALUE 10-99) [4 DOWN]"
310 X$="": INPUT X$  
320 RG=VAL(X$): IF RG<10 OR RG>99 THEN 300
400 PRINT "[CLR] [DOWN] HOW MANY QUESTIONS [4 SPACES] SHOULD BE ASKED IN [4 SPACES] THIS GAME?"
410 PRINT "(ENTER A VALUE 1-500) [4 DOWN]"
420 X$="": INPUT X$
430 NC=VAL(X$): IF NQ<1 OR NQ>500 THEN 400
500 FOR LC=1 TO NQ: PN=INT(RND(1)*RG)+1
510 IF PN<20 THEN X$=W1$(PN-1): GOTO 550
520 X=INT(PN/10): Y=PN-(X*10): X$=W2$(X-2)
530 IF Y=0 THEN 550
540 X$=X$+"-"+W1$(Y-1)
550 X=INT(RND(1)*5)+1: Y=INT(RND(1)*6)+1
560 Y$=MID$(C$,X,1)+MID$(G$,Y,1)+"{SHIFT-SPACE}"
600 PRINT "[CLR] [DOWN] QUESTION "; LC
610 PRINT "[4 DOWN] "; X$; "[2 DOWN]"
620 FOR X=1 TO NQ: PRINT T$, NEXT X: PRINT "[BLK] "
630 INPUT "[2 DOWN] HOW MANY"; X$
640 X=VAL(X$): IF X=PQ THEN 700
650 POKE 36879, 8: POKE 36878, 15: POKE 36874, 150: FOR X=1 TO 400: NEXT X: PRINT "[CLR]"
660 POKE 36874, 0: POKE 36878, 0: POKE 36879, 170
670 GOTO 8000
700 X=INT(RND(1)*5): GOSUB 8000
710 NC = NC + 1
800 NEXT LC
900 PRINT "{CLR}{DOWN}{6 SPACES}{RVS}GAME{2 SPACES}OVER{OFF}" "
910 PRINT "{3 DOWN} # QUESTIONS ="; NQ
920 PRINT "{DOWN} # CORRECT{3 SPACES}="; NC
930 X = INT((NC * 100) / NQ)
940 PRINT "{DOWN} % CORRECT{3 SPACES}="; X; "{LEFT}%"
950 PRINT "{3 DOWN} PLAY AGAIN? ({RVS}Y{OFF})/{RVS}N{OFF})"
960 GET X$: IF X$ = "" THEN 960
970 IF X$ = "Y" THEN 300
980 IF X$ <> "N" THEN 960
990 POKE 36879, 27: PRINT "{CLR}" : END
8000 POKE 36878, 15: W = INT(RND(1) * 3): FOR Y = 0 TO 10
8010 POKE 36874 + W, NT%(X, Y, 0): FOR Z = 0 TO (NT%(X, Y, 1) * 10)
8020 POKE 36874 + W, 0: NEXT Z: POKE 36878, 0: RETURN
9000 DATA 191, 2, 207, 2, 207, 2, 209, 1, 215, 2, 219, 2,
9010 , 225, 1, 223, 2, 0, 1, 0, 1
9020 DATA 147, 2, 175, 2, 183, 2, 191, 2, 175, 2, 175, 1, 191, 2,
9030 , 201, 2, 201, 2, 183, 4, 0, 1
9040 DATA 175, 2, 183, 2, 191, 2, 175, 2, 175, 2, 183, 2, 191, 2,
9050 , 175, 2, 191, 2, 195, 2, 201, 4
9060 DATA 159, 2, 163, 2, 175, 2, 159, 2, 163, 2, 175, 2, 159, 2,
9070 , 163, 2, 175, 2, 183, 2, 147, 2
9080 DATA 135, 2, 135, 2, 135, 2, 147, 1, 159, 2, 159, 2, 147, 1,
9090 , 159, 2, 163, 1, 175, 4, 0, 1
9200 DATA ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE, TEN
9210 DATA ELEVEN, TWELVE, THIRTEEN, FOURTEEN, FIFTEEN, SIXTEEN, SEVENTEEN, EIGHTEEN, NINETEEN
9220 DATA TWENTY, THIRTY, FORTY, FIFTY, SIXTY, SEVENTY, EIGHTY, NINETY
Get the Treasure

Skill Area: Coordination
Level: 1
Memory: Unexpanded 5K VIC
Equipment required: Joystick
Modification: Yes

The Treasure Chest
You have a treasure chest, but it’s empty. The genie who gave you the treasure chest told you he’d help you fill it, but you have to follow his instructions. In fact, he’s promised to lead you to a whole field full of treasures. You can have all of them, under one condition: you have to collect them in the right order.

How to Play
The computer will scatter ten treasures — geometric shapes of various colors — around the screen. Using the joystick, you move your cursor to the treasure indicated at the top of the screen. When you touch a treasure with the cursor, the treasure will be moved to the treasure chest at the foot of the screen. In addition to teaching coordination by the use of the joystick, and shape recognition, “Get the Treasure” also teaches you to match colors. If the item you must find is a blue heart, for example, the heart you get must be a blue one. A red one or a purple one won’t do.

If you pick the right treasure, a musical tone will sound. If the wrong treasure is picked, a buzzing sound will be heard.

Scoring
At the end of the game, you’ll be told how many errors were made in reaching the ten treasures. More importantly, however, you’ll be told how many seconds it took to get all ten treasures into the treasure chest. You always win Get the Treasure — that is, you always get all ten treasures unless you quit in midgame. However, the score and your coordination can be improved by trying to reach all ten treasures in a shorter time period. This is the true object of the game.
Get the Treasure

100 POKE36879,30:PRINT"{CLR}{BLK}"
110 S1=(4*(PEEK(36866)AND128)+64*(PEEK(36869)AND12
0))+88
120 C1=(37888+4*(PEEK(36866)AND128))+88:S2=S1+374:    
C2=C1+374
130 DIMT(9),CL(5),FT(9,1),NT%(11,1)
140 FORX=0TO9:READY:T(X)=Y:NEXTX
150 FORX=0TO5:READY:CL(X)=Y:NEXTX
160 FORX=0TO11:READY,Z:NT%(X,0)=Y:NT%(X,1)=Z:NEXTX
170 GOSUB1000
200 FORX=0TO9
210 Y=INT(RND(1)*10):FT(X,0)=T(Y)
220 Y=INT(RND(1)*6):FT(X,1)=CL(Y):NEXTX
240 PRINT"{CLRHrVSHbLU}**GETTHETREASURE**
250 PRINT"{16DOWN}CCCCCCCCCCCCCCCCCm;
300 FORY=0TO9:GOSUB2000:POKES1+X,FT(Y,0):POKEC1+X,
310 GOSUB2000:POKES1+X,42:POKEC1+X,0:J1=INT(X/22):
320 TI$="000000"
400 FORX=0TO9
410 PRINT"{HOME}{2DOWN}FIND --> ":POKES1-35,FT(X,
420 J2=J1;K2=K1;POKE37154,127:IF((PEEK(37152)AND12
430 POKE37154,255:Y=PEEK(37137):IF((YAND4)=0)<>
440 IF-((YAND8)=0)<>
450 IF((YAND16)=0)<>
460 IFJ2<0THENJ2=0
470 IFJ2>15THENJ2=15
480 IFK2<0THENK2=0
490 IFK2>21THENK2=21
500 IFJ1=J2ANDK1=K2THEN420
510 Y=PEEK(S1+(J2*22)+K2):IFY<>32THEN600
520 POKE1+(J1*22)+K1,32:POKE1+(J1*22)+K1,1:POKE1+
530 J1=J2;K1=K2;GOTO420
600 Z=PEEK(C1+(J2*22)+K2):IFZ>7THEN600
605 IFZ=FT(X,1)ANDY=FT(X,0)THEN700
610 ER=ER+1:POKE36878,15:POKE36874,200:FORZ=1TO200
620 POKE36878,0:POKE36874,0:GOTO420
700 POKE1+(J2*22)+K1,42:POKE1+(J2*22)+K1,0:POKE1+

Level 1

710 POKE S2+(X*2), Y: POKE C2+(X*2), Z: POKE 36878, 15: FOR
Y=175 TO 225: POKE 36875, Y: FOR Z=1 TO 10
720 NEXT Z, Y: POKE 36878, 0: POKE 36875, 0: J1=J2: K1=K2: NEXT
XTX

800 PRINT "[CLR][DOWN][RVS][2 SPACES]GAME";
810 PRINT "[2 DOWN] TOTAL ERRORS[2 SPACES]=", ER
820 PRINT "[2 DOWN] TOTAL SECONDS ="; INT(T1/60)
830 PRINT"[2 DOWN]WANT TO PLAY AGAIN?"; PRINT
"[DOWN]ENTER [RVS]Y[OFF] FOR YES.": PRINT"[DOWN]
ENTER [RVS]N[OFF] FOR NO."

835 GOSUB 3000
840 GETX$: IF X$="" THEN 840
850 IF X$="Y" THEN 200
860 IF X$<>"N" THEN 840
870 PRINT "[CLR]": POKE 36879, 27: END

1000 PRINT "[CLR][DOWN][RVS]** GET THE TREASURE **
"; PRINT"TEN TREASURES WILL BE"
1010 PRINT"PLACED ON THE BOARD.[DOWN][2 SPACES]THE
TOP OF THE BOARD[2 SPACES]WILL SHOW YOU THE"
1020 PRINT"TREASURE YOU MUST[5 SPACES]FIND.[DOWN]"
1025 PRINT"USE THE JOYSTICK TO[3 SPACES]MOVE YOURS
ELF(*) TO"
1030 PRINT"THE CORRECT TREASURE.": PRINT"[DOWN]AS Y
OU GET EACH ONE,[2 SPACES]IT WILL BE MOVED TO"
1040 PRINT"YOUR TREASURE CHEST.[DOWN][2 SPACES]GET
ALL TEN ITEMS IN[2 SPACES]THE CHEST AND YOU
{SPACE}WIN1";
1050 GOSUB 3000: PRINT"[DOWN][3 SPACES]PRESS ANY KE
Y"
1060 GETX$: IF X$="" THEN 1060
1070 RETURN
2000 X=INT(RND(1)*352): Z=PEEK(S1+X)
2010 IF Z<>32 THEN 2000
2020 RETURN
3000 POKE 36878, 15: FOR X=0 TO 11: POKE 36876, NT%(X, 0)
3010 FOR Y=1 TO NT%(X, 1)*100: NEXT Y
3020 POKE 36876, 0: NEXT X: POKE 36878, 0: RETURN
10000 DATA 81, 83, 160, 90, 65, 88, 81, 95, 105, 102
10010 DATA 2, 6, 5, 6, 7
10020 DATA 175, 2, 175, 2, 175, 2, 175, 2, 175, 2, 159, 2, 159, 2
10030 DATA 147, 4, 191, 2, 191, 2, 183, 2, 183, 2, 175, 4
Level
1

Hidden Picture

Skill Area: Coordination
Level: 1
Memory: Unexpanded 5K VIC
Equipment required: Joystick
Modification: Yes (modification may require additional memory)

The Magic Show
You're a famous magician, and you've learned how to take an empty canvas and turn it into a picture without doing any work at all. Artists would like to know your secret, so they could paint pictures without messing up their living rooms with sticky paint. They ask you to tell them how to uncover hidden pictures, but your secret is not for sale. You do your magic for free and just for your friends.

How to Play
This game of coordination requires only a joystick and a little patience. The computer will print a picture on the screen, camouflaged in the same color as the background of the screen. You use the joystick to move the cursor back and forth, uncovering the picture by erasing the background. You must uncover every square in the picture field before you're rewarded with a song to indicate the game is over.

There are five pictures entered into the basic program. If you uncover part of a picture and realize you've seen it before, you can press the fire button on the joystick to get a new picture. A song will end the game if you press the fire button, but you will only see the completed picture if you uncover it yourself.

Scoring
This is a game of exploration and there are no points awarded. "Hidden Picture" is an example of an entertaining game that is not competitive, something rarely seen in games.

Hidden Picture

100 DIM CC%(9,2), NT%(13,1)
110 POKE 36879, 27: CT$ = "{BLK}{WHT}{RED}{CYN}{PUR}{GRN}{BLU}{YEL}"
120 FORX=0TO9:FORY=0TO2:READZ:CC%(X,Y)=Z:NEXTY,X
125 FORX=0TO13:FORY=0TO1:READZ:NT%(X,Y)=Z:NEXTY,X
130 PRINT"[CLR][PUR][DOWN][4 SPACES][RVS]HIDDEN PI
135 CURET[OFF]"
140 PRINT"[DOWN]USE THE JOYSTICK TO{3 SPACES}ERASE
145 THE SCREEN AND{2 SPACES}UNCOVER THE HIDDEN"
150 PRINT"PICTURE."
160 PRINT"[DOWN]STOP DOING THE CURRENTPICTURE BY P
165 RESSING{3 SPACES}THE FIRE BUTTON ON THE";
165 PRINT"JOYSTICK, OR BY{7 SPACES}UNCOVERING THE
170 {SPACE}WHOLE{2 SPACES}PICTURE."
170 PRINT"{2 DOWN}(HIT ANY KEY TO START)";
180 GETX$:IFX$=""THEN180
190 M=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120)
195 :C=37888+4*(PEEK(36866)AND128)
200 SC=INT(RND(1)*10):DC=0:JF=0
210 POKE36879,CC%(SC,0)
220 X$=MID$(CT$,CC%(SC,1)+1,1):PRINTX$;:PC=CC%(SC,
225 2)
230 GOTO4000
250 C1=INT(RND(1)*23):R1=INT(RND(1)*22)
260 CV=PEEK(M+(C1*22)+R1):POKEM+(C1*22)+R1,160:POK
265 EC+(C1*22)+R1,1
270 IFCV<128THENCV=CV+128
300 C2=C1:R2=R1:GOSUB8000
350 IFJFTHEN1000
360 IFC2<0THENC2=0
370 IFC2>22THENC2=22
380 IFR2<0THENR2=0
390 IFR2>21THENR2=21
400 IFC1=C2:R1=R2:GOSUB300
405 POKEM+(C1*22)+R1,CV:POKEEC+(C1*22)+R1,PC
410 C1=C2:R1=R2:CV=PEEK(M+(C1*22)+R1):IFCV<128THEN
420 CV=CV+128:DC=DC+1
420 POKEM+(C1*22)+R1,160:POKEC+(C1*22)+R1,1
430 IFDC>504THEN1000
440 GOTO300
1000 POKE36878,15:FORX=0TO13:POKE36876,NT%(X,0):FO
1050 RY=0TONT%(X,1)*100
1005 NexTX:POKE36876,0:NexTX:POKE36878,0:POKE36879
,27
1010 PRINT"[CLR][BLU][3 DOWN]ANOTHER PICTURE?"
1020 PRINT"[2 DOWN] PRESS {RVS}Y{OFF} FOR YES";PRI
1030 NT"[2 DOWN] PRESS {RVS}N{OFF} FOR NO"
1030 GETX$:IFX$=""THEN1030
1040 IFX$="Y"THEN200
1050 IFX$<>"N"THEN1030
1060 END
4000 K=INT(RND(1)*4)+1
4010 ONKgoto4100,4300,4500,4700
4100 PRINT"{CLR}{DOWN} TULIPS AND WINDMILLS  
{2 DOWN}"
4110 PRINTspc(10);"g+3"
4120 PRINTspc(10);"g+3"
4130 PRINTspc(10);"g+3"
4140 PRINTspc(9);"§+31"
4150 PRINTspc(6);"[4 +3][4 +3]"
4160 PRINTspc(9);"§+3H 
4170 PRINTspc(9);"§+3H 
4180 PRINTspc(9);"§+3H 
4190 PRINTspc(9);"§+3H 
4200 PRINTspc(9);"§+3H 
4210 PRINT" X{3 SPACES}X{3 SPACES}G H{2 SPACES}X  
{3 SPACES}X"{3 SPACES}" 
4220 PRINT"M-N M-N{2 SHIFT-SPACE}G H{SHIFT-SPACE}M  
-M{SHIFT-SPACE}M-N" 
4230 PRINT"{22 U3}";
4240 PRINT"{2 DOWN}{3 SPACES}DECORATE HOLLAND"
4250 GOTO250 
4300 PRINT"{CLR}{DOWN}{2 SPACES}*";spc(10);"*" 
4310 PRINTspc(8);"*" 
4320 PRINTspc(20);"*" 
4330 PRINT"{2 SPACES}*{6 SPACES}*{8 SPACES}*" 
4340 PRINTspc(12);"ui{3 SPACES}*" 
4350 PRINTspc(12);"JK"
4360 PRINTspc(18);"x{4 SPACES}*
4370 PRINT"{4 SPACES}V" 
4380 PRINT"{4 SPACES}F+3"
4390 PRINT"{4 SPACES}F+3{2 SPACES}+[6 SPACES]++" 
4400 PRINT"{4 SPACES}F+3{2 SPACES}F+3  
{2 SPACES}X{3 SPACES}F+3"
4410 PRINT"{4 SPACES}F+3{2 SPACES}F+3  
{2 SPACES}F+3{3 SPACES}F+3{4 SPACES}V " 
4420 PRINT" A{2 SPACES}F+3{2 SPACES}F+3  
{2 SPACES}F+3{3 SPACES}F+3{4 SPACES}F+3  
"
4430 PRINT" F+3[2 +3][2 SPACES]F+3[2 SPACES]  
[2 +3][2 SHIFT-SPACE][2 +3][2 SPACES]  
[2 +3]
4440 PRINT" F+3[5 +3][2 +3][6 +3][4 +3]"
4450 PRINT"{20 +3}" 
4460 PRINT"{22 U3}";
4470 PRINT"{2 DOWN} MOON OVER MANHATTAN"
4480 GOTO250 
4500 PRINT"{CLR}{DOWN} .{2 SPACES}.{3 SPACES}  
{2 SPACES}.{4 SPACES}.. ."
4510 PRINT"{2 SPACES}.{5 SPACES} .{3 SPACES} .  
{2 SPACES} .{2 SPACES}."
19

4520 PRINT"[2 SPACES].{2 SPACES}. .[2 SPACES].
{2 SPACES}. [2 SPACES]. .";
4530 PRINT" .{2 SPACES}. [2 SPACES]. [3 SPACES].[+][3 SPACES]
{2 SPACES}. ".
4540 PRINT".[3 SPACES]. [3 SPACES]. [5 SPACES].
{2 SPACES}. [2 SPACES]."
4550 PRINT"[2 SPACES]. [2 SPACES]. [7 +][3 SPACES]
{2 SPACES}. ".
4560 PRINT" .[3 SPACES]. [2 SPACES] - [5 SPACES].
{2 SPACES}. [2 SPACES].";
{2 SPACES}. .";
4600 PRINT"[2 SPACES]. [2 SPACES]. [7 SPACES]. J*****K.
{2 SPACES}. ."
{SPACE}. [2 SPACES]."
4620 PRINT" .[2 SPACES]. [2 SPACES]. U*K J*I. ."
{2 SPACES}. .";
4640 PRINT"[22 U];
4650 PRINT"[DOWN] SOME PEOPLE CAN MAKE"
4660 PRINT"[DOWN] SNOWMEN IN THE WINTER.";
4670 GOTO250
4700 PRINT"[CLR][3 DOWN][5 SPACES][11 @];"
4710 PRINT"[4 SPACES]. NNNNNNNNNNNNNNN"
4720 PRINT"[3 SPACES]. NNNNNNNNNNN[2 SHIFT-SPACE] M"
4730 PRINT"[3 SPACES]. [J][10 SPACES]. [J]
{2 SPACES}. [L]"
4740 PRINT"[3 SPACES]. [J][10 SPACES]. [J]
{2 SPACES}. [L]"
4750 PRINT"[3 SPACES]. [J][10 SPACES]. [J]
{2 SPACES}. [L]"
4760 PRINT"[3 SPACES]. [J][2 SPACES][2 +]
{3 SPACES]. [+] [2 SPACES]. [J][2 SPACES]. [L]
"
4770 PRINT"[3 SPACES]. [J][2 SPACES][2 +]
{3 SPACES].[+] [2 SPACES]. [J][2 SPACES]. [L]
"
4780 PRINT"[3 SPACES]. [J][7 SPACES]. [+] [2 SPACES]. [J][2 SPACES]. [L]"
4790 PRINT"[3 SPACES]. [J][7 SPACES]. [+] [2 SPACES]. [J][2 SPACES]. [L]"
4800 PRINT"[3 SPACES]. [J][7 SPACES]. [+] [2 SPACES]. [J][2 SPACES]. [L]"
4810 PRINT"[3 SPACES]. [15 Y];"
4820 PRINT "{2 DOWN}DO YOU LIVE IN A HOUSE{DOWN} 
{6 SPACES}LIKE THIS?"
4830 GOTO 250
8000 POKE 37154, 127: IF (PEEK(37152) AND 128) > 0 THEN R2 = R2 - 1
8010 POKE 37154, 255
8020 J1 = PEEK(37137): IF (J1 AND 8) > 0 THEN C2 = C2 - 1
8030 IF (J1 AND 16) > 0 THEN R2 = R2 + 1
8040 IF (J1 AND 4) > 0 THEN C2 = C2 + 1
8050 IF (J1 AND 32) < 1 THEN JF = 1
8060 RETURN
9000 DATA 41, 2, 3, 41, 2, 5, 41, 2, 7
9010 DATA 73, 4, 3, 73, 4, 7
9020 DATA 105, 6, 3, 105, 6, 5, 105, 6, 7, 121, 7, 2, 121, 7, 4
9100 DATA 147, 1, 147, 1, 183, 1, 183, 1, 191, 1, 191, 1, 183, 2, 175, 1
9110 DATA 183, 1, 167, 1, 147, 1, 159, 1, 143, 1, 147, 4
Matchmaker

Skill Area: Memory and Logic
Level: II, III, IV
Memory: Unexpanded 5K VIC
Equipment required: Joystick
Modification: No

The Matchmaker
You are the kingdom’s foremost matchmaker. You’ve been hired by the king to keep him distracted from the problems he faces from day to day. The king’s favorite pastime is to throw things on the floor. Then he calls you, the matchmaker, to pick everything up.

Being an eccentric king, he doesn’t want to make things easy for you. He has a rule: whatever he throws on the floor must be picked up with an object that matches. Today he’s scattered a bunch of flat objects on the floor and covered them with paper to hide their shapes. You have to remove all the objects, pair by pair. If you want, you can use others to help you. As many as eight players can play “Matchmaker” at once.

How to Play
Matchmaker is a Concentration-style game for one to eight players, with four skill levels. You uncover two squares and try to match the shapes underneath them. When playing in skill levels 2, 3, or 4, you must also match the color of the objects.

To begin the game, press number 1, 2, 3, or 4 to indicate the skill level. The higher the number, the more objects will have to be matched. Next, press a number between 1 and 8 to indicate how many people are playing. The computer will take a few seconds to build the Matchmaker screen.

Notice that the top of the screen will indicate two things. First, it will tell whose turn it is. Second, it will indicate whether this is your first or second choice of a turn. When the game begins, the top of the screen will tell you that Player #1 is about to ask Question #1.

To uncover a square, use the joystick to move the arrow directly underneath it. When you are in the right position, press the fire button. (Important: Hold down the fire button as long as you need to remember what’s underneath the square, but don’t press
Level 2

it a second time in the same location or it’ll count as your second
guess. This is particularly crucial when you’re playing with more
than one person. If you press the fire button a second time on
your second turn, it’ll count as the next player’s first guess, which
they’re sure not to like.)

Remembering where the shapes are is the object of the game.
If another player uncovers a shape, but can’t recall where its dou-
ble is, then you can wait until your turn to make the match.

When you make a match, a whooping noise will sound and
the matched squares will disappear.

Scoring
Matchmaker is not a game of high points. The total number of
points is the number of pairs of objects in the game. If only one
person is playing and there are 20 pairs of objects on the board,
the score at the end will always be 20 unless you quit in the mid-
dle of a game. If more than one person is playing Matchmaker,
the final score will tell how many matches were made by each
player.

Matchmaker

100 DIM HT(1,3), ST(9), CT(3), S%(7), NT%(20):POKE36879
, 30:CB=828
110 SM=(4*(PEEK(36866)AND128)+64*(PEEK(36869)AND12
0))
120 CO=(37888+4*(PEEK(36866)AND128))-SM
130 FOR X=0 TO 3:READ Z:CT(X)=Z:NEXT X:FOR X=0 TO 9:READ Z:
ST(X)=Z:NEXT X
140 FOR X=0 TO 20:READY:NT%(X)=Y:NEXT X:GOSUB8000
200 PRINT"{CLR}{DOWN}ENTERSKILLLEVEL:{DOWN}{2SPACES}{RVS}1{OFF}-BEGINNING{DOWN}":
PRINT"{DOWN}{2 SPACES}{RVS}2{OFF}-BEGINNING{DOWN}":
PRINT"{DOWN}{2 SPACES}{RVS}3{OFF}-BEGINNING{DOWN}":
PRINT"{DOWN}{2 SPACES}{RVS}4{OFF}-ADVANCED"
210 PRINT"{DOWN}{2 SPACES}{RVS}4{OFF}-ADVANCED"
220 GETX$:IFX$=""THEN220
230 IFX$<"1"ORX$>"4"THEN220
240 SL=VAL(X$)
250 PRINT"{2 DOWN}# OF PLAYERS (1-8)
252 GETX$:IFX$=""THEN252
253 IFX$<"1"ORX$>"8"THEN252
254 NP=VAL(X$)
255 PRINT"{2 DOWN} (SCREEN BEING BUILT)"
260 FOR X=1 TO NP:ST(X-1)=0:NEXT X:FORX=1 TO(SL*20):POKE
ECB+X-1,0:NEXT X
270 FORX=1 TO SL:FOR Y=0 TO 9:FORZ=1 TO 2
280 GOSUB1000:POKE ECB+R1,ST(Y):POKE ECB+R1+(SL*20),CT
(X-1):NEX TX,Y,X
24
300 PRINT"{CLR}{4 DOWN}{BLK}":FORX=1TOSL*2
310 PRINT"{SHIFT-SPACE}":;FORY=0TO9:PRINT"{PUR}{RVS}{OFF}";:NEXTY:IFX=(SL*2)THEN330
320 PRINT"";
330 NEXTX:M%=0:AP=132:POKESM+AP,30:POKESM+CO+AP,0
340 FORW=1TONP:FORX=1TO2:PRINT"{HOME}{DOWN} PLAYER #"{3 SPACES}{3 LEFT}";W:PRINT"{DOWN} SQUARE #";X:
341 GOSUB2000:Y=(((R-l)*10)+(C-1)):Z=PEEK(CB+Y)
342 HT(X-1,0)=Z:HT(X-1,1)=PEEK(CB+Y+(SL*20)):HT(X-1,2)=Y
343 Y=(((R-1)*44)+((C-1)*2))+112:HT(X-1,3)=Y
344 POKESM+HT(X-1,3),HT(X-1,0):POKESM+CO+HT(X-1,3),4
345 NEXTX
346 IFF(HT(0,0)=HT(1,0)ANDHT(0,1)=HT(1,1)ANDHT(0,3)<HT(1,3)THEN475
347 GOTO600
348 FORX=0TO1
349 POKESM+HT(X,3),32:POKESM+CO+HT(X,3),1:NEXTX
350 POKECB+HT(0,2),0:POKECB+HT(1,2),0
351 POKE36878,15:FORY=175TO225:POKE36875,Y:NEXTY:POKE36878,0:POKE36875,0
352 S%(W-1)=(S%(W-1))+1
353 M%=M%+1:IFM%=(SL*10)THEN700
354 NEXTW
355 GOTO400
356 PRINT"{CLR}7SPACES{RVS}SCORES{OFF}{3 DOWN}"
357 FORX=1TONP:PRINT"{DOWN}";X;"=";S%(X-1):PRINT"{DOWN}";:NEXTX
358 GOSUB4000
359 PRINT"{CLR}2 DOWN}PLAY AGAIN?";PRINT"{3 DOWN}{2 SPACES}{RVS}Y{OFF}ES";PRINT"{2 DOWN}{2 SPACES}OR{2 DOWN}";PRINT"{2 SPACES}{RVS}N{OFF}";
360 GETX$:IFX$=""THEN750
361 IFX$="Y"THEN200
362 IFX$<>"N"THEN750
363 END
364 POKE36878,15:FORX=0TO20:POKE36875,NT%(X):FORY=1TO100:NEXTY
365 POKE36875,0:NEXTX:POKE36878,0:RETURN
366 W=0
367 R1=INT(RND(1)*(SL*20)):IFPEEK(CB+R1)=0THENRETURN
368 W=W+1:IFW<5THEN1010
369 R1=0

Level 2

25
Level

2

1040 IF PEek(CB+R1)=0 THEN RETURN
1050 R1=R1+1:GOTO1040
2000 IF (PEEK(37137) AND 32)=0 THEN 2200
2010 Z=AP: POKE37154,127: IF (PEEK(37152) AND 128)=0 THEN NZ=Z+1
2020 POKE37154,255: Y=PEEK(37137): IF (Y AND 8)=0 THEN Z=NZ+1
2030 IF (Y AND 16)=0 THEN NZ=Z-1
2040 IF (Y AND 4)=0 THEN NZ=Z-22
2050 IF AP=Z OR Z<132 OR Z>505 THEN 2000
2060 IF PEek(SM+Z)=160 THEN 2000
2070 POKE SM+AP,32: POKE SM+CO+AP,1: POKE SM+Z,30: POKE M+CO+Z,0
2080 AP=Z: GOTO 2000
2200 IF PEek(SM+AP-22)<=160 THEN 2000
2210 Z=AP-132: R=INT(Z/44)+1: Z=Z-((R-1)*44)
2220 C=INT(Z/2): RETURN
4000 PRINT"[3 SPACES](PRESS ANY KEY)"
4010 GOSUB 800
4020 GET X$: IF X$="" THEN 4020
4030 RETURN
8000 PRINT"[CLR][BLK][DOWN][RVS][3 SPACES]** MATCH MAKER **[3 SPACES][OFF]"
8100 PRINT"[DOWN]A MEMORY GAME FOR 1 TO 8 PLAYERS,
{SPACE}WITH FOUR{2 SPACES}SKILL LEVELS." 
8110 PRINT"[DOWN]EACH PLAYER MUST{6 SPACES}UNCOVER
TWO SQUARES{3 SPACES}AND TRY TO MATCH THE"
8120 PRINT"SHAPES UNDER THEM."; PRINT"SKILL LEVELS
{SPACE}2-4 MUST ALSO MATCH THE"
8130 PRINT"OBJECTS' COLOR."
8140 PRINT"[DOWN]GET UNDER A SQUARE{4 SPACES}WITH
{SPACE}THE JOYSTICK, AND EXPOSE IT WITH THE"
8150 PRINT"FIRE BUTTON.{2 DOWN}"; GOSUB 4000: RETURN
9000 DATA 0, 7, 6, 5, 65, 42, 81, 83, 86, 87, 78, 90, 95, 105
9010 DATA 175, 191, 191, 195, 175, 183, 191, 183, 175, 163, 1
35, 135
9020 DATA 159, 163, 175, 183, 175, 163, 175, 135, 135

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Notecrafter

Skill Area: Memory and Logic
Level: II, III, IV
Memory: Unexpanded 5K VIC
Equipment required: None
Modification: No

The Notecrafter's Craft

You are a notecrafter. It's your job to make the orchestra sound good. If the orchestra gives a bad concert, the newspaper critic will blame the conductor and the conductor will blame you. It's your job to get the instruments to sound just right.

In order to tune the instruments, the computer will tell you just how a note should sound. Then it's your job to get the note made by your musical instrument to sound just like the computer's note. It takes a lot of talent — a good memory and a good musical ear — to get a note exactly right.

How to Play

The computer will sound a note. Then it will play the note made by your musical instrument. You must raise or lower your note until it sounds exactly the same as the note you remember from the computer.

Raise or lower a note by pressing numbers on the computer keyboard.

To make a note sound lower, press 1, 2 or 3:
1 = lower the note just a little bit.
2 = lower the note an average amount.
3 = lower the note a lot.

To make a note sound higher, press 7, 8 or 9:
7 = raise the note a little bit.
8 = raise the note an average amount.
9 = raise the note a lot.

You can change the sound of your note as many times as you want. When you think your note sounds the same as the computer note, press 5 to indicate the note matches.

Scoring

When you press 5, the computer will play its note and then play
the note you picked. If the notes are exactly the same, you will be rewarded with music and flashing lights.

Don’t be surprised if your note doesn’t exactly match the computer’s note. Very few people have what is known as perfect pitch. If your note doesn’t exactly match the computer’s note, the computer will tell you how close you came to matching it. If you get a perfect match, you’re 100 percent correct. The closer your note matches, the better a musician you are.

The computer will look at your score and tell you whether your ear for music is not bad, normal, above average, good, very good, or excellent. If your guess is really off, the computer may not tell you anything. If this happens, try again. You’re sure to improve.

If you don’t get the exact note, or even close, don’t give up. Music is like everything else. You certainly need talent, but practice is just as important.

**Notecrafter**

```
100 POKE36879,27:POKE36874,0:POKE36875,0:POKE36876,0:POKE36878,15
110 PRINT"{BLU}{CLR}{DOWN}{5 SPACES}{RVS}NOTECRAFTER}{OFF}";
120 PRINT"{2 DOWN}THIS GAME TESTS BOTH{2 SPACES}YOUR MEMORY AND YOUR{2 SPACES}EAR FOR MUSIC."
130 PRINT"{DOWN}THE COMPUTER WILL PICK A NOTE AND PLAY IT.{3 SPACES}THE COMPUTER WILL";
140 PRINT"THEN PICK A NOTE FOR YOU{3 SPACES}AND PLAY IT.";
150 PRINT"{DOWN}YOU MUST RAISE OR{5 SPACES}LOWER THE PITCH OF{4 SPACES}YOUR NOTE UNTIL IT"
160 PRINT"MATCHES THE NOTE THE{2 SPACES}COMPUTER PICKED.";
165 GOSUB950
170 PRINT"{2 DOWN}HIT ANY KEY TO START)";
180 GETX$:IFX$=""THEN180
190 DIMRT$(5):FORX=0TO5:READX$:RT$(X)=X$:NEXTX
200 VN=INT(RND(1)*3)+36874
210 CN=INT(RND(1)*123)+128
220 PN=INT(RND(1)*123)+128:IFCN=PNTHEN220
230 POKE36879,28:PRINT"{CLR}{DOWN}COMPUTER'S NOTE---";
240 POKEVN,CN:FORX=1TO3000:NEXTX
250 POKEVN,0:FORX=1TO100:NEXTX:PRINT"{3 DOWN}NOW YOUR NOTE---"
260 POKEVN,PN:FORX=1TO3000:NEXTX
```
270 POKEVN,0
300 POKE36879,30:PRINT"[CLR]"{2 DOWN} ENTER OPTION
{SPACE}---{2 DOWN}" 
310 PRINT"[DOWN] [RVS]1{OFF} LOWER (SMALL)"
320 PRINT"[DOWN] [RVS]2{OFF} LOWER (MEDIUM)"
330 PRINT"[DOWN] [RVS]3{OFF} LOWER (LARGE)"
340 PRINT"[2 DOWN] [RVS]5{OFF} NOTE MATCHES"
350 PRINT"[2 DOWN] [RVS]7{OFF} RAISE (SMALL)"
360 PRINT"[DOWN] [RVS]8{OFF} RAISE (MEDIUM)"
370 PRINT"[DOWN] [RVS]9{OFF} RAISE (LARGE)"
400 X=PEEK(197):IF X=64 THEN 400
410 IF X=0 THEN PN=PN-1:GOTO 500
420 IF X=56 THEN PN=PN-5:GOTO 500
430 IF X=1 THEN PN=PN-15:GOTO 500
440 IF X=2 THEN 700
450 IF X=3 THEN PN=PN+1:GOTO 500
460 IF X=59 THEN PN=PN+5:GOTO 500
470 IF X=4 THEN PN=PN+15:GOTO 500
480 GOTO 400
500 IF PN<128 THEN PN=128
610 IF PN>250 THEN PN=250
620 POKEVN,PN:FOR X=1 TO 300:NEXT X:POKEVN,0:GOTO 400
700 POKE36879,27:IF PN<>CN THEN 800
710 PRINT"[CLR]"{2 DOWN} CONGRATULATIONS!!"
720 PRINT"[DOWN] YOU PICKED THE VERY {3 SPACES} SAME
{SPACE} NOTE AS THE {6 SPACES} COMPUTER DID!!"
730 PRINT"[DOWN] YOU MUST BE A VERY {4 SPACES} GOOD MUSICIAN!!"
740 FOR X=251 TO 27 STEP -16:POKE36879,X:POKE36876,180:
FORZ=1 TO 100:NEXT Z
750 POKE36876,0:NEXTX:GOTO 900
800 PRINT"[CLR]"{DOWN} COMPUTER'S NOTE ---" :POKEVN,CN
FORX=1 TO 300:NEXT X:POKEVN,0:FORX=1 TO 100:NEXT X
810 PRINT"[2 DOWN] NOW YOUR NOTE ---" :POKEVN,PN:FORX
=1 TO 300:NEXT X:POKEVN,0
820 IF PN=CN THEN X=CN
830 X=PN-CN
840 Y=100-INT(X*3):IFY<1 THEN Y=1
850 PRINT"[2 DOWN] YOUR SCORE IS" ;Y; "{LEFT}"$ 
860 X=INT((100-Y)/10):IFY<0 THEN X=0
870 IFX=5 THEN 900
880 PRINT"[2 DOWN] YOUR EAR FOR MUSIC IS " ;RT$(X); " 
900 PRINT"[2 DOWN] PLAY AGAIN [{RVS}Y{OFF} OR {RVS}
N{OFF}]"
910 GETX$:IFX$=""THEN 910
920 IFX$="Y"THEN 200
930 IFX$<"N"THEN 910
940 END
Level 2

950 READ X,Y; IF X<0 THEN RETURN
960 POKE 36876, X; FOR Z = 1 TO Y*110: NEXT Z: POKE 36876, 0: GO TO 950
1000 DATA 201, 2, 191, 2, 183, 2, 175, 2, 191, 2, 0, .3, 183, 1, 195, 2, 0, .3
1010 DATA 191, 2, 183, 2, 191, 2, 159, 2, 183, 2, 0, .3, 191, 1, 159, 2, 0, .3, 183, 2, 167, 2, 159, 2
1020 DATA 147, 2, 183, 2, 0, .5, 191, 1, 201, 2, 0, .3, 183, 2, 183, 2, 183, 2, 201, 2
1030 DATA 0, .3, 191, 2, 207, 2, 201, 2, 183, 4, -1, -1
1500 DATA "EXCELLENT", "VERY GOOD", "GOOD", "ABOVE AVERAGE"
1510 DATA "NORMAL", "NOT BAD"
A Personal Story

People like to hear about themselves, and children are no exception. In fact, children are especially impressed to see their names and their life stories in print. Children's book companies have made thousands of dollars on the premise that children will learn to read faster if they read stories about themselves. Since children are very interested in the subject of self, a book about their own lives will hold their interest longer than a book which has no personal connection to them.

"Personal Story" is programmed with this in mind. There really isn't a game here for a child to play. Other than pressing a key on the computer keyboard to continue the story, the child has no input except to read along with the words, delight in the story, and perhaps increase his or her reading skill.

How to Play

The person who plays this game is actually the person who programs it.

Before your child sits down with this game, you need to enter the data for nine variables. Only then will it tell a personalized story.

As you type in the program, you can enter your child's personal data in lines 10000-10100, or if you entered the program as it's listed here, you can change it by LISTing these lines, then insert your own information.

The lines and information needed are:

10000 The child's first name.
10010 The child's last name.
10020 The child's sex. Enter BOY, or GIRL.
10030 A personal pronoun. Enter HE, or SHE.
10040 The child's age. Enter a number, for example, 6.
The child's birthday. Enter a month and date, for example, MAY 3RD.

The child's street address.

The child's city of residence.

The first name of a good friend of the child.

The child's phone number.

The name of the child's favorite toy.

Avoid long entries, so that there won't be a problem printing it on the small screen of the VIC.

You may want to enlist the child's help, or perhaps you want to program the game as a surprise for the child.

**Personal Story**

```
100 DIM NT%(14,1,3):PRINT"{CLR}"
110 FOR X=0 TO 3:Y=0
120 READ W,Z:NT%(Y,0,X)=W:NT%(Y,1,X)=Z:Y=Y+1:IF W<>0 THEN 120
130 NEXT X:C$="[BLK]{RED}{CYN}{PUR}{GRN}{BLU}{YEL}"
140 POKE 36879, 250:READ N1$, N2$, SX$, PR$, AG$, BD$, AD$, CT$, F1$, PO$, FT$
150 X$=N1$+"{SHIFT-SPACE}"+N2$
160 IF LEN(X$)>20 THEN 180
170 Y$=M{SHIFT-SPACE}M+X$:X$=Y$+"{SHIFT-SPACE}".GO TO 160
180 PRINT"{BLK}{CLR}{3 DOWN}{2 SPACES}THIS IS YOUR LIFE!":PRINT SPC(7);"{3 DOWN}STARRING{3 DOWN}"
   :PRINT X$:X=0:GOSUB 8000
190 PRINT"{HOME}";:FOR Y=0 TO 504:X=INT(RND(1)*7)+1:X$=MID$(C$,X,1)
200 PRINT X$;"S";NEXT Y
210 POKE 36879, 206:PRINT"{CLR}{BLK}{DOWN}THIS IS A {SPACE}STORY ABOUT {DOWN}A VERY NICE ";SX$
220 PRINT"{DOWN}NAMED ";N1$;".".
230 PRINT"{2 DOWN}";PR$;" HAD A BIRTHDAY ON":PRINT"{DOWN}";BD$;" AND"
240 PRINT"{DOWN}IS ";AG$;" YEARS OLD."
250 PRINT"{3 DOWN}{2 SPACES}{YEL}Q{SHIFT-SPACE}Q{SHIFT-SPACE}Q{BLK}{3 SPACES}HAPPY"
260 PRINT"{2 SPACES}={SHIFT-SPACE}={SHIFT-SPACE}={3 SPACES}BIRTHDAY"
270 PRINT" {RVS}{RED}{7 SPACES}{OFF}{2 SPACES}";N1$
280 PRINT" {RVS}{RED}{7 SPACES}{OFF}{2 SPACES}";N2$
290 GOSUB 7900:GOSUB 7800
```
300 POKE36879,253:PRINT"{CLR}{BLK}{DOWN}";N1$;" LIVES IN";PRINT"{DOWN}A NICE HOUSE AT";PRINT"{DOWN}";AD$
310 PRINT"{DOWN}IN "{CT$}".";
315 PRINT"{BLU}{2 DOWN}{5 SPACES}RRRRRRRRR"
320 PRINT"{4 SPACES}NMMMMMMMMMM"
330 PRINT"{3 SPACES}N{2 SPACES}MMMMMMMMMM"
340 PRINT"{2 SPACES}Y{***+*********T";
345 PRINT"{DOWN}IN";CT$;"."
350 PRINT"{2 SPACES}Y{3 SPACES}={BLK}{2 +}"
{2 SPACES}Y{3 SPACES}IN";CT$;"."
360 PRINT"{2 SPACES}Y{3 SPACES}={BLK}{2 +}"
{2 SPACES}Y{3 SPACES}={BLK}{2 +}"
370 PRINT"{2 SPACES}Y{3 SPACES}={BLK}{2 +}"
{2 SPACES}Y{3 SPACES}={BLK}{2 +}"
380 PRINT"{2 SPACES}Y{3 SPACES}={BLK}{2 +}"
{2 SPACES}Y{3 SPACES}={BLK}{2 +}"
390 GOSUB7900:GOSUB7800
400 POKE36879,254:PRINT"{CLR}{BLK}{DOWN}";N1$;" HAS A";PRINT"{DOWN}GOOD FRIEND NAMED";PRINT"{DOWN}";F1$;".";
410 PRINT"{2 DOWN}THINKING ABOUT GOOD";PRINT"
{DOWN}FRIENDS MAKES";PRINT"{DOWN}";N1$;" SMILE
{RED}"
420 PRINT"{RED}"
430 PRINT"{3 SPACES}Q{DOWN}Q{DOWN}";
440 PRINT"{3 SPACES}Q{SHIFT-SPACE}Q{2 SPACES}";F1$
450 PRINT"{4 SPACES}Q";
460 PRINT"{4 SPACES}Q+{3 SPACES}";N1$
480 PRINT"{2 SPACES}Q{S*}*{2 SPACES}SMILE1"
490 GOSUB7900:GOSUB7800
500 PRINT"{CLR}{BLK}{DOWN}";F1$;" WILL";PRINT"SOME TIMES CALL";PRINTN1$;" ON"
510 PRINT"THE TELEPHONE.{DOWN}"
520 FORX=1TO14:PRINT"{4 SPACES}{RVS}{YEL}
{15 SPACES}";NEXTX
530 PRINT"{HOME}{BLK}{9 DOWN}{6 RIGHT}PHONE BOOK";PRINT"{2 DOWN}{6 RIGHT}";N1$;PRINT"{6 RIGHT}";
N2$
540 PRINT"{2 DOWN}{6 RIGHT}";PO$
550 GOSUB7900:GOSUB7800
700 POKE36879,188:PRINT"{CLR}{BLK}{DOWN}IF ";F1$:PRINT"{DOWN}IS BUSY, ";N1$:PRINT"{DOWN}WILL PLAY
WITH A";
720 PRINT"{DOWN}FAVORITE TOY LIKE A";PRINT"{DOWN}";
730 PRINT"{DOWN}";FORX=1TO9:PRINT"{RED}{5 SPACES}
{RV}$";NEXTX
740 PRINT"{BLK}{HOME}{14 DOWN}{6 RIGHT}TOY CHEST
{BLK}"
2750 GOSUB 7900: GOSUB 7800
800 POKE36879, 26: PRINT "[CLR][BLK][DOWN]GOOD FRIENDS AND FUN": PRINT "TOYS MAKE EVERY DAY"
810 PRINT "SEEM LIKE CHRISTMAS": PRINT "AT THE "; N2$: PRINT "HOUSE. [2 DOWN][GRN]"
820 PRINT SPC(10); "[YEL]Z"
830 PRINT SPC(9); "[GRN][RVS]£ [®]"
840 PRINT SPC(8); "[RVS]£{3 SPACES}[*]"
850 PRINT SPC(8); "[RVS]£{5 SPACES}"
860 PRINT SPC(7); "[RVS]£{5 SPACES}[*]"
870 PRINT SPC(7); "[RVS]£{7 SPACES}"
875 PRINT SPC(7); "[RVS]£{7 SPACES}[*][BLK]"
880 PRINT SPC(10); "-"
890 PRINT SPC(10); "-"
900 PRINT SPC(10); "-"
910 X = 3: GOSUB 8000: GOSUB 7800
920 POKE36879, 24: PRINT "[CLR]": FORX = 1 TO 62: Y = INT(RND (1) * 7) + 1
930 X$ = MID$(C$, Y, 1): PRINT X$: "THE END " :)NEXTX
940 POKE36878, 15: FORX = 251 TO 27 STEP -16
950 POKE36879, X: Y = X: IF Y < 128 THEN Y = 128 + (128 - X)
960 POKE36876, Y: FORZ = 1 TO 100: NEXTZ, X
970 POKE36876, 0: POKE36876, 0: PRINT "[CLR][BLU]": END
7800 PRINT "[HOME] [22 DOWN][3 SPACES]{PRESS ANY KEY}"
7810 GETX$: IF X$ = "THEN7810"
7820 PRINT "[HOME]": FORY = 1 TO 22: X = INT(RND(1) * 7) + 1: X$ = MID$(C$, X, 1)
7830 PRINTX$: "[RVS]£{22 SPACES}OFF": FORZ = 1 TO 40: NEXTZ, Y: RETURN
7900 X = INT(RND(1) * 3)
8000 POKE36878, 15: Y = 0
8010 POKE36875, NT$(Y, 0, X): FORZ = 1 TO (NT$(Y, 0, X) * 110)
8020 IF Z > THEN Y = 1: GOTO 8010
8030 RETURN
9000 DATA 135, 2, 135, 2, 175, 2, 175, 2, 183, 2, 183, 2, 175, 4
9010 , 163, 2
9020 DATA 163, 2, 159, 2, 159, 2, 147, 2, 147, 2, 135, 4, 0, 0
9030 DATA 183, 2, 195, 4, 183, 2, 163, 2, 159, 2, 163, 2, 175, 2
9040 , 175, 2, 159, 2, 135, 4, 0, 0
9050 DATA 201, 2, 207, 2, 215, 2, 215, 2, 215, 2, 207, 2
9060 , 201, 2, 191, 2, 201, 2, 215, 8, 0, 0
9070 DATA 195, 2, 195, 2, 209, 2, 209, 2, 209, 2, 207, 2
9080 , 209, 2, 215, 2, 219, 2, 221, 2
9090 DATA 215, 2, 219, 2, 0, 0
10000 DATA "JIMMY"
10010 DATA "SMITH"
10020 DATA "BOY"
10030 DATA "HE"
10040 DATA "8"
10050 DATA "NOVEMBER 31ST"
10060 DATA "1351 MAPLE STREET"
10070 DATA "NEW YORK CITY"
10080 DATA "KRISTINE"
10090 DATA "531-1234"
10100 DATA "WORLD MAP"
The Mighty Bee

If there's such a thing as a guardian angel of spelling, the spelling bee is it. As long as you're doing a good job at your spelling, she'll stay around and watch you. If you don't do well, though, she'll lose strength and slowly disappear. The object of "Spelling Bee" is to guess the letters of words the spelling bee gives you before she disappears. If you guess a word correctly, she'll return in all her glory for the next one.

How to Play

The computer will pick a word and tell you how many letters it contains. You must guess the word by selecting a letter at a time. If you pick more than 11 incorrect letters, the spelling bee will disappear.

To begin play, choose a skill level as listed below:

1 — Beginner
2 — Intermediate
3 — Advanced

Press the appropriate number, and the game begins. A line of blank spaces will appear near the bottom of the screen. Each blank indicates a letter in the word. The computer will print ENTER A LETTER, and you should type one you think may be in the word.

When you type a letter, one of two things will happen. If the letter belongs in the word, it will appear in the right space. If it does not belong in the word, however, the spelling bee will buzz, the screen will temporarily go black, and the letter will appear on the bottom of the screen to remind you that you've already tried it. Use this display. If you use the same letter more than once, the second guess will be counted as a wrong letter, so be sure to try any particular letter only once per game. Every time you make an incorrect guess, a small bit of the spelling bee will disappear.
you don’t discover the word in 11 tries, the correct word will appear. But the spelling bee will be gone — at least until the next round.

**Scoring**

No point score is given in Spelling Bee. Either the correct word is revealed by the player, or it isn’t. At the end of a round, the computer will ask the player to play again. The player will type Y for yes or N for no. If N is pressed, the computer will record and show how many words were correctly spelled since the current session of Spelling Bee began. The computer will also tell the player how many words were missed.

**Spelling Bee**

100 NW%=40:POKE36879,30
110 DIM NT%(11),WT$(NW%-1),WI$(19)
120 S1=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120)
130 FORX=0TO11:READZ:NT%(X)=Z:NEXTX
140 PRINT"{CLR}{BLK}{DOWN}{RVS}{5 SPACES}SPELLING
150 PRINT"{2 DOWN}THE COMPUTER WILL PICK A WORD AND
160 PRINT"THE NUMBER OF LETTERS IT CONTAINS."
170 PRINT"{2 DOWN}YOU MUST GUESS THE{4 SPACES}WORD
180 PRINT"{2 DOWN}IF YOU PICK MORE THAN 11 INCORRECT LETTERS, THE SPELLING BEE WILL"
190 PRINT"DISAPPEAR."
200 PRINT"{2 DOWN}(HIT ANY KEY TO START)":GOSUB25
210 GETX$:IFX$=""THEN210
220 PRINT"{CLR}{2 DOWN}ENTER SKILL LEVEL:"
230 PRINT"{2 DOWN}{2 SPACES}{RVS}1{OFF}BEGINNER":
240 PRINT"{2 DOWN}{2 SPACES}{RVS}3{OFF}INTERMEDIA TE"
250 GETP$:IFP$=""THEN250
260 IFP$<"1"ORP$>"3"THEN250
270 X=(VAL(P$)-1)*NW%:IFX=0THEN290
280 FORY=1TOX:READX$:WT$(X)=X$:NEXTY
290 FORX=1TONW%:READX$:WT$(X-1)=X$:NEXTX:WU=0
300 WU=WU+1
310 X=INT(RND(1)*NW%):WO$=WT$(X):IFWO$=""THEN310
320 WT$(X)="$":LW%=LEN(WO$)
330 FORX=0TOLW%-1
340 WI$(X)=MID$(WO$,X+1,1):NEXTX
350 LC%=0:OF%=462:BC%=0:GOSUB1000:LW%=LW%-1
400 GET X$:IFX$="THEN400
410 X=ASC(X$):IFX<65ORX>90THEN400
500 HI=0:FORY=0TOLW%:IFWI$(Y)<X$THEN530
510 HI=1:WI$(Y)="":POKES1+375+(Y*2),X-64
520 LC%=LC%+1
530 NEXTY:IFHI=1THEN560
540 GOSUB3000:BC%=BC%+1
550 IFBC%>10THENGOSUB2000:LO%=LO%+1:FORX=1TO2000:NEXTX:GOTO700
560 IFLC%<=LW%THEN400
570 GOSUB4000:W%=W%+1:GOTO700
700 IFWU=NW$THENPRINT"[CLR][RED][2 DOWN]":GOTO750
710 PRINT"{CLR}[RED][DOWN][4 SPACES][RVS]ANOTHER WORD ?{OFF}";PRINT"[2 DOWN][5 SPACES]ENTER
{RVS}Y{OFF} OR {RVS}N{OFF}"
720 GETX$:IFX$="THEN720
730 IFX$="Y"THEN300
740 IFX$<"N"THEN720
750 PRINT"{Y}THEN300
760 IFX$="N"THEN760
770 GOSUB2500:POKE36879,27
1000 PRINT"{CLR}[BLK][DOWN][5 SPACES]SPELLING BEE
{2 DOWN}"
1010 PRINTSPC(11);"£\[\textcolor{red}{\textbf{2}}\text{ Down}]"
1020 PRINTSPC(11);"£\[\textcolor{red}{\textbf{2}}\text{ +3}]"
1030 PRINTSPC(7);"{BLK}[M\[\textcolor{red}{\textbf{2}}\text{ +3}]{2 SPACES}[BLK}\{2}\text{ +3]"
1040 PRINTSPC(9);"{BLK}[M\[\textcolor{red}{\textbf{2}}\text{ +3}]{2 SPACES}[M\[\textcolor{red}{\textbf{2}}\text{ +3]"
1050 PRINTSPC(9);"{RVS}\[\textcolor{red}{\textbf{2}}\text{ +3}]{BLK}\{YEL}\{YEL}\{\*}\text{[BLK]}NN"
1060 PRINTSPC(7);"{RVS}\{YEL}\{BLK}\{YEL}\{BLK}\{YEL}\{BLK}\{OFF}\Q"
1070 PRINTSPC(9);"{\*}\textcolor{red}{\textbf{2}}\text{+3}{RVS}\{YEL}\{BLK}\{YEL}\{OFF}\textcolor{red}{\textbf{2}}\text{+3]"
1080 PRINTSPC(9);"N\[\textcolor{red}{\textbf{2}}\text{+3}]{BLK}\{M\[\textcolor{red}{\textbf{2}}\text{+3]"
1090 PRINTSPC(7);"{\*}\textcolor{red}{\textbf{2}}\text{+3}]{2 SPACES}[2 \textcolor{red}{\textbf{2}}\text{+3]"
1100 PRINTSPC(11);"£\[\textcolor{red}{\textbf{2}}\text{+3]"
1110 PRINTSPC(11);"£\[\textcolor{red}{\textbf{2}}\text{+3]"
1500 PRINT"{3 DOWN}[BLK]**********";
1510 PRINT"ENTER A LETTER;";
1520 X=(LW%-1)*2
1530 FORX=0TOXSTEP2
1540 POKES1+375+Y,121:POKES2+375+Y,6:NEXTY
1550 RETURN
2000 FORX=0TOLW%:IFWI$(X)="$"THEN2020
2010 X=ASC(WI$(X)):POKES1+375+(X*2),Y-64

38
2020 NEXTX
2030 POKE36878, 15: FORX = 200 TO 150 STEP -5: POKE36874, X
2040 FORY = 1 TO 50: NEXTY, X: POKE36878, 0: POKE36874, 0: RETURN
2500 POKE36878, 15: FORX = 0 TO 11: POKE36876, NT% (X): FORY = 1 TO 150: NEXTY: POKE36876, 0
2510 NEXTX: POKE36878, 0: RETURN
3000 PRINT "[HOME][2 DOWN]": FORY = 0 TO BC%: PRINT "": NEXTY: PRINT "[17 SPACES]"
3010 POKE36878, 15: POKE36874, 130: POKE36879, 14: FORY = 1 TO 200: NEXTY
3020 POKE36879, 30: POKE36878, 0: POKE36874, 0
3030 POKE1 + OF%, X - 64: POKE2 + OF%, 0: OF% = OF% + 1
3040 RETURN
4000 POKE36878, 15: Y = 130: FORX = 254 TO 30 STEP -16: POKE36879, X: POKE36876, Y
4010 FORZ = 1 TO 70: NEXTZ: Y = Y + 7: NEXTX
4020 POKE36876, 0: POKE36878, 0: RETURN
5000 DATA163, 163, 183, 195, 183, 163, 175, 191, 163, 175, 163, 163, 163, 163, 163
6000 DATA BOY, GIRL, FIRST, HER, WERE
6010 DATATAKE, NAME, DAY, ASK, SUN
6020 DATAWITH, WHEN, THEM, AND, WENT
6030 DATASTOP, CAN, LOOK, READ, BOOK
6040 DATACAN, BEAT, TIME, RIDE, ADD
6050 DATABALL, HARD, BIG, MAKE, CAME
6060 DATAGAME, GREEN, GOOD, SAY, MEAN
6070 DATATREE, HAD, TOP, MAN, GAVE
7000 DATAAFTERNOON, BECAUSE, THIRD, ALWAYS, ANIMAL
7010 DATABASEBALL, ALIKE, CLOCK, BROTHER, CATCH
7020 DATAMORNING, SEVEN, FRIEND, GROUND, HOUSE
7030 DATA LEARN, LARGE, LUNCH, PURPLE, HORSE
7040 DATASTOP, BEST, SCHOOL, LITTLE, UNDER
7050 DATAWATER, LETTER, AROUND, DRINK, THANK
7060 DATAPRINT, AGAIN, ABOVE, SISTER, LIGHT
7070 DATACOLOR, AIRPLANE, ABOUT, EARTH, ROUND
8000 DATASHELF, DINNER, WINDOW, MACHINE, FINGERNAIL
8010 DATANEIGHBOR, BALLOON, DIRECTION, SANDWICH, PRESIDENT
8020 DATANOTEBOOK, ENGINE, ASLEEP, LANGUAGE, VEGETABLE
8030 DATACOMPANY, TOMORROW, SCREAM, MINUTE, KNIVES
8040 DATAIMPOSSIBLE, BACON, FROZEN, NEEDLE, CAMERA
8050 DATACARDBOARD, BAREFOOT, BEAUTY, IMPORTANT, ANNOUNCE
8060 DATARGARBAGE, ALARM, FARMER, SNEEZE, GENERAL
8070 DATASPOON, WEIGHT, CONTAIN, FAMILY, MYSELF
Your Money Situation
Your parents have decided to give you an allowance of $10 each month. Ten dollars sounded like a fortune at first, but the world is full of exciting things to buy. Your parents have told you if you spend your allowance wisely, they'll raise it. But what does wisely mean? How can your parents know whether buying a hamster is more important than going to the movies? You'll have to spend your money the best way you can and hope they'll agree you spent it wisely. If you spend your money unwisely, however, they may deduct a dollar from your allowance.

Just like real life, “Spend Your Allowance” is full of situations that suddenly pop up. You may have to buy a birthday present, or you may be able to pick up some money doing chores around the house. When you get extra money, keep it if you wish, or spend it if there's something you'd like to buy. It's your money.

How to Play
A game consists of 12 months, with four spending decisions each month. After reading the rules, press any key for the game to begin. There will be a ten-second delay while the data loads.

The computer will ask you to buy one of three items. Sometimes you'll see two or three items you'd like to have. Other times, nothing will look good. In any case, choose the item you'd most like to buy. Indicate your choice by pressing the numbers 1, 2, or 3.

At the end of each month, the computer will tell you how much money you have, how much your allowance is for next month, and what your total amount is on hand. For example, if your first month's allowance is $10, and you spend $12, you will have had a balance of -$2 at the end of January, but your $10 allowance will bring your total amount on hand to $8 for the month of
February. Random events throughout the game may increase or decrease that amount.

If you've spent your allowance wisely in any month, you may hear a musical signal at the beginning of the following month, followed by the news that your allowance has been raised. Your allowance can only be increased $1 at a time, but it can be raised as many months in the year as your parents choose. Remember that unwise spending may cause your parents to reduce your allowance by a dollar per month.

**Scoring**

At the end of the year, the computer will tell you how much your monthly allowance was at the end of the game and also give you a total amount of money you had on hand at the end of the year. You will then have three options:

Press 1 to start the game over. Your allowance will be $10, just as it was at the beginning of the last game.

Press 2 to continue the game that you just finished. Because this is just a continuation, January will be considered the first month of the next year. You can play Spend Your Allowance for as many game years as you want, and your ending allowance can be astronomical if you spend your money wisely. (If you choose this option, wait 10 seconds after pressing the number 2 for the computer to reload the data.)

Press 3 to end the game.

**Note to Parents**

Do you want to use this game to teach your children to spend their money wisely? Appendix B describes the way this program determines if the allowance should be raised or lowered. Changes to this program can easily be made by referring to Appendix B.

**Spend Your Allowance**

100 POKE36879, 28:PRINT"{CLR}"
110 DIMST$(12,1),MT$(11),BT$(99,2),CT$(29,2),RT(2)
150 PRINT"{CLR}{BLK}{DOWN}{RVS}SPEND YOUR ALLOWANCE{OFF}";
160 PRINT"{DOWN}YOUR PARENTS GIVE YOU $10.00 ALLOWANCE PER{2 SPACES}MONTH."
170 PRINT"{DOWN}YOUR ALLOWANCE MAY BE RAISED OR LOWERED{5 SPACES}DEPENDING ON HOW"
175 PRINT"WISELY YOU SPEND IT."
180 PRINT"{DOWN}UNEXPECTED THINGS CAN SOMETIMES HAPPEN WHICH WILL INCREASE OR"
190 PRINT"DECREASE THE MONEY YOU HAVE."
200 PRINT"{DOWN}A GAME CONSISTS OF 12 MONTHS, WITH FOUR{5 SPACES}SPENDING DECISIONS PER MONTH."
210 FOR X=0 TO 12: FOR Y=0 TO 1: READ Z: ST(X,Y)=Z: NEXT Y,X
220 GOSUB 1100: FOR X=0 TO 11: READ X$: MT(X)=X$: NEXT X: GO TO 1000
300 CB=0: AA=1000: IQ=0
310 RESTORE
320 READ X$: IF X$="" THEN 320
330 FOR X=0 TO 99: FOR Y=0 TO 2: READ X$: BT(X,Y)=X$: NEXT Y, X
340 FOR X=0 TO 29: FOR Y=0 TO 2: READ X$: CT(X,Y)=X$: NEXT Y, X
400 FOR L1=0 TO 11: GOSUB 900: IQ=0
410 FOR L2=0 TO 3
420 IF L2=0 THEN 500
430 IF RND(1)>.10 THEN 500
440 X=INT(RND(1)*30): X$=CT(X,0): IF X$="" THEN 440
450 PRINT"{CLR}": CT(X,0)=".": POKE 36878, 15: FOR Y=25 TO 28 STEP -16: POKE 36879, Y: Z=Z: IF Z<128 THEN Z=255-Z
460 POKE 36875, Z: FOR Z=1 TO 80: POKE 36878, Z: POKE 36879, Z: NEXT Z, Y
470 Y=VAL(CT(X,1)): Z=VAL(CT(X,2)): PRINT"{HOME} {3 DOWN}"; X$: X$=STR(Y)
480 GOSUB 1200: IF Z<0 THEN PRINT"{3 DOWN} YOu SPEND "; X$;
485 IF Z>0 THEN PRINT"{3 DOWN} YOU MAKE "; X$
490 CB=CB+(Y*Z): GOSUB 1000
500 FOR X=0 TO 3
510 Y=INT(RND(1)*100): IF BT(X,0)="" THEN 510
520 RT(X)=Y: NEXT X
530 IF RT(0)=RT(1) OR RT(0)=RT(2) OR RT(1)=RT(2) THEN 500
540 PRINT"{CLR}{DOWN} "; MT(L1)=PRINT"{DOWN} DECISION "; L2+1: PRINT"{DOWN} ON WHICH ITEM LISTED"
550 PRINT"{DOWN} BELOW WOULD YOU{7 SPACES}SPEND YOUR ALL OWANCE?{DOWN}"
560 FOR Z=1 TO 3: X$=STR(Z): Y$=RIGHT$(X$, 1): PRINT"{DOWN} {RVS}"; Y$; "{OFF} "; BT$(RT(Z-1),0)
570 X$=BT$(RT(Z-1),1): GOSUB 1200: PRINT"{2 SPACES} COST = "; X$: NEXT Z
580 PRINT"{2 DOWN} {4 SPACES} ENTER {RVS}1{OFF} {RVS}2{OFF} OR {RVS}3{OFF}"
590 GET X$: IF X$="" THEN 590
600 X=VAL(X$): IF X<10 THEN 3 THEN 590
610 Y=VAL(BT$(RT(X-1),1)): CB=CB-Y; Y=VAL(BT$(RT(X-1),2)): IQ=IQ+Y
620 BT$(RT(X-1),0)="".
630 NEXTL2
700 NEXTL1
800 PRINT"[CLR]{DOWN}[6 SPACES]{RVS}GAME OVER!
{OFF}":X$=STR$(CB):GOSUB1200
810 PRINT"[2 DOWN]YOUR TOTAL AMOUNT OF{2 SPACES}CASH IS ":X$=STR$(AA):GOSUB1200
820 PRINT"[DOWN]YOUR CURRENT MONTHLY{2 SPACES}ALLOWANCE IS{SHIFT-SPACE}";X$=GOSUB1100
830 PRINT"[3 DOWN]ENTER REPLAY OPTION:{DOWN]"
840 PRINT"[DOWN]{RVS}1{OFF}START GAME OVER":PRINT"
{DOWN}{RVS}2{OFF}CONTINUE GAME":PRINT"
{DOWN}{RVS}3{OFF}END GAME"
850 GETX$:IFX$=""THEN850
860 X=VAL(X$):ONXGOTO300,310,880
870 GOTO850
880 POKE36879,27:PRINT"[CLR]":END
900 PRINT"[CLR]{DOWN}START OF ";MT$(L1)
905 X=IQ/4:IFCB<0ORX<4THEN2000
910 AA=AA+100
920 POKE36878,15:FORX=130TO240STEP5:POKE36876,X:FO
930 POKE36878,0:POKE36876,0
940 PRINT"[2 DOWN]BECAUSE OF YOUR WISE{2 SPACES}SPENDING HABITS, YOUR PARENTS HAVE RAISED"
950 PRINT"YOUR ALLOWANCE BY $1{2 SPACES}PER MONTH."
965 PRINT"[DOWN]ALLOWANCE{3 SPACES}=";X$=CB+AA
970 X$=STR$(CB):GOSUB1200:PRINT"[DOWN]NEW BALANCE {SPACE}=";X$=GOSUB1000
980 RETURN
1000 PRINT"[HOME]{22 DOWN}[3 SPACES](PRESS ANY KEY"
1010 GETX$:IFX$=""THEN1010
1020 RETURN
1100 POKE36878,15:FORX=0TO12:POKE36876,X:FO
1110 NEXTY:POKE36876,0:NEXTX:POKE36878,0:RETURN
1200 X=VAL(X$):X$=STR$(X):X=LEN(X$):IFX>3THEN1230
1210 IFX=2THENY$=LEFT$(X$,1)+"$0.0"+RIGHT$(X$,2):GO
1220 YS=LEFT$(X$,1)+"$"+RIGHT$(X$,2):GOTO1280
1230 X=X-3;YS=LEFT$(X$,1)+"$"+MID$(X$,2,X)+"."+RIG
1280 X$=YS:IFLEN(X$)>7THENRETURN
1290 Y$=" "+Y$:GOTO1280
2000 IFX=>2ORAA<500ORIQ=0THEN960
LEVEL 2

2010  AA=AA-100
2020  POKE36878,15:FORX=240TO130STEP-5:POKE36876,X:FORY=1TO20:NEXTX,Y
2030  POKE36878,0:POKE36876,0
2040  PRINT"{2 DOWN}"UNWISE SPENDING HAS{3 SPACES}CA
2050  PRINT"USED YOUR PARENTS TO LOWER YOUR ALLOWANCE"BY $1 PER MONTH."
2060  GOTO960
3000  DATA175,2,147,1,175,1,147,1,175,1,183,1,191,3,175,3
3010  DATA195,2,195,1,175,2,183,2,191,4
3020  DATAJANUARY,FEBRUARY,MARCH,APRIL,MAY,JUNE,JULY,AUGUST,SEPTEMBER,OCTOBER
3030  DATANOVEMBER,DECEMBER,"$"
3100  DATA"JOE'S MATH NOTES",100,1,"KUNG FU POSTER",150,1
3110  DATA"PET FROG",125,1,"BOX OF MATCHES",75,1
3120  DATA"LIVE BABY BAT",175,1,"PET SNAKE",150,1
3130  DATA"SODA POP",50,1,"FIRECRACKERS",100,1
3140  DATA"STINK BOMB",150,1,"PET MOUSE",125,1
3150  DATA"WHITE RAT",200,1,"LOCKPICKING SET",75,1
3160  DATA"PET SPIDER",100,1,"PELLET GUN",250,1
3170  DATA"BUBBLE GUM",50,1,"MOM & BABY RABBITS",80,1
3180  DATA"BROKEN ROLLER SKATE",200,1,"DRUM SET",300,1
3190  DATA"ROTTEN GOOSE EGG",200,1,"LOCK WITHOUT A {SPACE}KEY",175,1
3210  DATA"BASEBALL CARDS",75,2,"CAT'S EYE MARBLE",50,2
3220  DATA"COMIC BOOK",50,2,"ROCK & ROLL RECORD",200,2
3230  DATA"HOT FUDGE SUNDAE",150,2,"PET GOLDFISH",175,2
3240  DATA"PAIR OF DICE",100,2,"PEN KNIFE",100,2
3250  DATA"BOX OF CHOCOLATES",200,2,"BUMPER STICKER ",100,2
3260  DATA"FALSE MUSTACHE",125,2,"PHONY NOSE",75,2
3270  DATA"PEA SHOOTER",50,2,"NERF BALL",100,2
3280  DATA"JELLY BEANS",50,2,"WOLFSMAN MODEL",200,2
3290  DATA"DRACULA'S FANGS",100,2,"TATTOO KIT",150,2
3300  DATA"WATER PISTOL",150,2,"PET HAMSTER",150,2
3310  DATA"HARMONICA",100,3,"HULA HOOP",75,3
3320  DATA"ROLLER SKATES",300,3,"CHAMPION YO-YO",200,3
3330  DATABASKETBALL,300,3,"T-SHIRT",175,3
3340  DATA"MATCHBOX CAR",125,3,"MOVIE TICKET",200,3
3350  DATA"COMPUTER GAME",300,3,"STUFFED ANIMAL",300,3
Level 2

3360 DATA "ICE CREAM CONE", 75, 3, "BUBBLE STUFF", 50, 3
3370 DATA "BANJO", 400, 3, "CAP GUN", 200, 3
3380 DATA "FOOTBALL", 300, 3, "CATCHER'S MITT", 400, 3
3390 DATA "BASEBALL BAT", 250, 3, "BUG COLLECTION", 200, 3
3400 DATA "CAMPING TENT", 350, 3, "CACTEEN", 150, 3
3410 DATA "STAMP COLLECTION", 200, 4, "POSTAGE STAMPS", 200, 4
3420 DATA "BICYCLE PUMP", 300, 4, "TENNIS SHOES", 500, 4
3430 DATA "FROZEN YOGURT", 200, 4, "PENCILS", 175, 4
3440 DATA "KITE", 300, 4, "DOG FOOD", 500, 4
3450 DATA "CAMERA FILM", 250, 4, "FILM DEVELOPING", 350, 4
3460 DATA "FINGER PAINTS", 350, 4, "COIN COLLECTION", 500, 4
3470 DATA "SHELL COLLECTION", 300, 4, "ELECTRIC TRAIN", 500, 4
3480 DATA "CHECKER SET", 275, 4, "SCOUT KNIFE", 300, 4
3490 DATA "MICKEY MOUSE WATCH", 500, 4, "COMPASS", 250, 4
3500 DATA "BOOK OF MAGIC", 300, 4, "TOY TYPEWRITER", 500, 4
3510 DATA "BIRTHDAY CARD", 150, 5, "NOTEBOOK", 300, 5
3520 DATA "DICTIONARY", 600, 5, "POCKET CALCULATOR", 650, 5
3530 DATA "SILVER DOLLAR", 700, 5, "DIARY", 400, 5
3540 DATA "TOM SAWYER BOOK", 300, 5, "CHESS SET", 450, 5
3550 DATA "DOMINOES", 400, 5, "SAVINGS ACCOUNT", 500, 5
3560 DATA "GET-WELL PRESENT", 300, 5, "BIRTHDAY PRESENT", 350, 5
3570 DATA "WEDDING PRESENT", 500, 5, "FLEA COLLAR", 250, 5
3580 DATA "KITTNY LITTER", 350, 5, "ANT FARM", 500, 5
3590 DATA "DRAWING PAPER", 550, 5, "GIFT FOR MOM", 600, 5
3600 DATA "GIFT FOR DAD", 600, 5, "WATERCOLOR SET", 575, 5
4000 DATA "GRANDMA SENDS YOU A[3 SPACES]CHECK FOR YOUR[8 SPACES]BIRTHDAY", 500, 1
4010 DATA "MOM PAYS YOU FOR[6 SPACES]BABYSITTING YOUR[6 SPACES]LITTLE BROTHER", 300, 1
4020 DATA "YOU SELL YOUR BASEBALL GLOVE TO YOUR FRIEND[2 SPACES]TOMMY", 400, 1
4030 DATA "YOU MOW YOUR[10 SPACES]NEIGHBOR'S LAWN TO GET EXTRA MONEY", 300, 1
4040 DATA "MOM PAYS YOU FOR DOING AN EXTRA GOOD JOB [5 SPACES]CLEANING YOUR ROOM", 300, 1
4050 DATA "YOU WIN A PRIZE AT[4 SPACES]SCHOOL FOR BEING A[4 SPACES]GOOD STUDENT", 500, 1

Level 2

4060 DATA "YOU RETURN A WALLET [3 SPACES] THAT YOU FIND AND GET A REWARD", 500, 1
4070 DATA "YOU WIN A CONTEST FROM A LOCAL RADIO STATION", 500, 1
4080 DATA "HELP JEFF DELIVER [5 SPACES] PAPERS ON HIS [9 SPACES] NEWSPAPER ROUTE", 300, 1
4090 DATA "YOU GET FOUR 'A'S ON [2 SPACES] YOUR REPORT CARD, AND DAD IS VERY PLEASED", 400, 1
4100 DATA "YOU AND SUSIE MAKE [4 SPACES] MONEY RUNNING A [7 SPACES] LEMONADE STAND", 500, 1
4110 DATA "YOU LOSE A TOOTH AND [2 SPACES] THE TOOTH [SPACE] FAIRY LEAVES YOU SOME COINS", 75, 1
4120 DATA "YOU RAKE THE YARD AND DAD PAYS YOU FOR IT", 200, 1
4130 DATA "YOU CLEAN THE HOUSE [3 SPACES] AND MOM PAYS YOU FOR [2 SPACES] YOUR HARD WORK", 250, 1
4140 DATA "YOU DON'T WATCH TV FOR A WHOLE WEEK AND DAD [2 SPACES] REWARDS YOU", 300, 1
4150 DATA "YOU RIDE YOUR BICYCLE TIRE POPS AND YOU HAVE TO BUY A NEW ONE", 250, -1
4160 DATA "YOU JOIN A SECRET CLUB AND HAVE TO PAY DUES", 200, -1
4170 DATA "BUY A BIRTHDAY GIFT [3 SPACES] FOR YOUR SISTER", 150, 1
4180 DATA "YOU BREAK YOUR [8 SPACES] SISTER'S DOLL AND HAVE TO BUY HER A NEW ONE", 500, -1
4190 DATA "YOU BREAK MOM'S LAMP [2 SPACES] AND HAVE TO REPLACE [3 SPACES] IT", 500, -1
4200 DATA "YOU LOSE YOUR WALLET [2 SPACES] ON THE WAY HOME FROM [2 SPACES] SCHOOL", 400, -1
4210 DATA "YOU KNOCK YOUR BALL [3 SPACES] THROUGH A WINDOW AND [2 SPACES] MUST FIX IT", 400, -1
4220 DATA "PAY YOUR FRIEND TO [4 SPACES] TEACH YOU YO-YO [7 SPACES] TRICKS", 100, -1
4230 DATA "YOU AND BETTY GO TO [3 SPACES] THE CIRCUS", 200, -1
4240 DATA "DAD MAKES YOU BUY BACK A BROKEN TOY YOU SOLD JOHN", 200, -1
4250 DATA "BUY DAD A PRESENT FOR HIS BIRTHDAY", 400, -1
4260 DATA "BUY A GIFT TO TAKE TO SALLY'S BIRTHDAY PARTY", 350, -1
4270 DATA "YOUR FAVORITE CANDY [3 SPACES] BARS ARE ON SALE, AND YOU BUY A CASE", 500, -1
4280 DATA "YOU PAY YOUR LITTLE [3 SPACES] BROTHER TO WASH THE [3 SPACES] DOG FOR YOU", 300, -1
4290 DATA "DAD MAKES YOU PAY PART OF THE DOCTOR BILL TO GET A BEAN OUT OF YOUR EAR", 400, -1
Word Scramble

Skill Area: Language Arts
Level: II, III, IV
Memory: Unexpanded 5K VIC
Equipment required: None
Modification: Yes (modification may require additional memory)

A Long Night and Tired Eyes

It’s one of those nights. There’s a super triple feature on television — three monster movies, back-to-back. You should do your homework, but you just have to find out if the cockroach really does eat Cincinnati.

By the time the third feature ends, your eyes are almost shut. You hit the pillow and fall asleep in 43 seconds. Two minutes later, you sit straight up in bed. Miss Zane, your English teacher, is yelling at you in your mind. You’ve just remembered the big exam tomorrow. And you spent the evening watching cockroaches dine on Cincinnati, Ohio!

There’s nothing to do but get out of bed and study for that exam. Miss Zane is no easy teacher, and if you flunk the exam you’ll be grounded until four years from next Saturday. But your eyes don’t seem to care. They just want to sleep. Every time you try to read a word, your eyes play tricks on you. All the words are jumbled up. If you don’t unjumble those words quickly, you’re going to be in big trouble with Miss Zane tomorrow morning.

How to Play

"Word Scramble" is geared to three different skill levels. Ask for Level 1 if you’re a beginner. Most people will choose Level 2, which contains words of five or six letters. Level 3, containing words of seven to nine letters, is for experts. Press the number of the level you want, then hit the RETURN key to start the game.

The computer will show you a word with its letters scrambled. Type the correct word on the computer keyboard and press the RETURN key to enter it. If you change your mind, use the INST/DEL key to erase the letters you don’t want. A correct answer will be rewarded with music and colored lights. An incorrect answer will be greeted with a buzz. You can guess as many times as you want, or you can skip a tough word altogether by
pressing the F1 key. If you press the F1 key, the computer will unscramble the word and show you the correct answer. Unscramble as many words as you can in the two-minute time limit.

**Scoring**

You'll receive five points for each word you correctly unscramble. One point will be deducted from your score for each incorrect guess. There are 50 words in each level of difficulty, so the ideal high score would be 250 points. That total, however, is very difficult to reach. But if you're really good at Word Scramble, you'll be sure to pass Miss Zane's test.

**Word Scramble**

```plaintext
100  TS=50
110  DIM WT$(TS-1), R%(20)
120  POKE 36879, 254
130  M=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120)
     +221
140  C=37888+4*(PEEK(36866)AND128)+221
200  PRINT "[BLK] [CLR] [DOWN] [4 SPACES] [RVS] WORD
     [2 SPACES] SCRAMBLE [OFF]": PRINT "[DOWN] THE COMPUTER
     WILL SHOW YOU A SCRAMBLED WORD."
210  PRINT "YOU MUST UNSCRAMBLE IT AND ENTER THE CORRECT
     WORD."
220  PRINT "[DOWN]+5 POINTS FOR EACH [7 SPACES] CORRECT
     WORD."
230  PRINT "[DOWN]-1 POINT FOR AN [10 SPACES] INCORRECT
     GUESS."
240  PRINT "[DOWN] TWO MINUTES PER GAME.": PRINT "[DOWN] USE
     [RVS] F1 [OFF] TO SKIP A WORD."
260  PRINT "[DOWN] (HIT ANY KEY TO START)";
270  GET X$: IF X$ = "" THEN 270
300  PRINT "[CLR] [DOWN] ENTER SKILL LEVEL ---"
310  PRINT "[2 DOWN] [RVS] 1 [OFF] [SHIFT-SPACE] - BEGIN
     MENT": PRINT "[5 SPACES] 4 LETTERS"
320  PRINT "[2 DOWN] [RVS] 2 [OFF] - INTERMEDIATE": PRINT "[5
     SPACES] 5-6 LETTERS"
330  PRINT "[2 DOWN] [RVS] 3 [OFF] [SHIFT-SPACE] - ADVANCE
     D": PRINT "[5 SPACES] 7-9 LETTERS"
335  PRINT "[2 DOWN] (ENTER 1, 2 OR 3)"
340  GET X$: IF X$ = "" THEN 340
350  IF X$ < "1" OR X$ > "3" THEN 340
360  SK=VAL(X$): RESTORE: IF SK=1 THEN 380
370  X=(SK-1)*TS: FOR Y=1 TO X: READ X$: NEXT Y
380  FOR X=1 TO TS: READ X$: IF X$ < X$: NEXT X
390  SC=0: WC=1: TL$="000200": TI$="000000"
500  X=INT(RND(1)*TS): UW$=WT$(X-1): IF UW$ = "$" THEN 500
```

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Level 2

510 WT$(X)=""$
520 X=LEN(UW$):FOR Y=1TO X:R$(Y)="":NEXT
530 Z=INT(RND(1)*X)+1:IF R$(Z)<0 THEN 530
540 R$(Z)=Y:NEXT Y:SW$="":FOR Y=1TO X:SW$=SW$+MID$(UW$,$(Y),1):NEXT Y
550 IF SW$=UW$ THEN 520
560 X$=MID$(TI$,3,2)+"."+MID$(TI$,5,2)
565 IF TL$<TI$ THEN 700
570 PRINT "{CLR}{DOWN} WORD ";WC:PRINT"{DOWN} TIME = ";X$:PRINT"{3 DOWN} ";SW$
600 GOSUB 3000
605 IF SX$="" THEN 650
610 IF SX$<UW$ THEN GOSUB 7000:SC=SC-1:GOTO 600
620 PRINT "{CLR}":POKE36878,15;Y=150:FOR X=126 TO 254:SEP 16
630 POKE 36879,X:POKE 36876,Y:Y=Y+5:FOR Z=1 TO 50:NEXT Z:X:POKE 36878,0:POKE 36876,0
640 SC=SC+5
650 WC=WC+1:IF WC<(TS+1) THEN 500
700 IF SC<0 THEN SC=0
710 PRINT "{CLR}{DOWN}{6 SPACES}{RVS} GAME {2 SPACES} OVER{/OFF}":"PRINT"{3 DOWN} SCORE =";SC
720 PRINT"{3 DOWN} PLAY AGAIN? ({RVS}Y{OFF} OR {RVS}N{OFF})"
730 GET X$:IF X$="" THEN 730
740 IF X$="Y" THEN 300
750 IF X$<>"N" THEN 730
760 END
7000 POKE 36878,15:POKE 36874,150:FOR X=1 TO 1000:NEXT X
7005 POKE 36876,0:POKE 36878,150:FOR X=1 TO 1000:NEXT X:RETURN
8000 SW$="":FOR X=0 TO 19:POKE X,32:POKE C+X,0:NEXT:POKE160
8010 GET X$:IF TI$<TI$ THEN 700
8020 Y$=MID$(TI$,3,2)+"."+MID$(TI$,5,2):PRINT"HOME\{3 DOWN\}{8 RIGHT}\":Y$
8025 IF X$="" THEN 8010
8030 X=ASC(X$)
8040 IF X=13 THEN PRINT"{6 DOWN} ":UW$:FORX=1 TO 900:NEXT:PRINT"{CLR}":SW$="";RETURN
8045 IF X=13 THEN RETURN
8050 IF X=0 THEN 8100
8055 IF X<65 OR X>90 THEN 8010
8060 Z=LEN(SW$):POKE Z+X-64:POKEX+Z+1,160:SW$=SW$+X$:GOTO 8010
8100 Z=LEN(SW$):IF X=0 THEN 8010
9000 DATATALK, FOUR, BEST, BLUE, WARM, SOAP, FOOT, PIL, W ORK, YELL

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Level 2

9010 DATAEVEN, GATE, HELP, HOUR, JOKE, WORD, GIRL, MOON, NICELY, DISH
9020 DATAJULY, JUNE, BOOK, HIDE, BOYS, TREE, CORN, GONE, QUIT, EASY
9030 DAGOLD, GOAL, WHIP, PILE, PIGS, PLAY, TEST, BOIL, TOYS, LION
9040 DATAROAR, THEM, ZOOM, MATH, FIVE, NINE, FARM, JUNK, HEAD, IRON
9100 DATAAPPLE, BUTTER, CHILD, DRIVE, ENOUGH, GIVEN, HOLLOW, IGLOO, LAMBS, MAKER
9110 DATANOISE, PLAYER, QUIET, RUBBER, SHAVE, TELLER, VI OLET, WATER, YOUNG, ZEBRA
9120 DATAPLEASE, CAMEL, STORY, MOUSE, RABBIT, PENCIL, DESKS, CHAIR, WATCH, SHELL
9130 DATASLEEP, ORANGE, BOTTLE, HOTEL, CANDLE, MONDAY, FORGET, LIGHT, PILLOW, SHELF
9140 DATAGIANT, WHALE, SHIRT, THREE, EVERY, PHONE, LETTER, GRASS, BUBBLE, ROAST
9200 DATAALPHABET, BOTTLED, GEOGRAPHY, DANGEROUS, ELEMENTS
9210 DATAFEBRUARY, GREATER, HELIPORT, ISOLATE, LAMINATE
9230 DATAMESSAGE, NOVEMBER, OPTIMIST, PASSAGE, REMEMBER
9240 DATASALIVATE, TELEPHONE, UNKNOWN, VACCINATE, WITNESS
9250 DATAMUSHROOM, EVAPORATE, PHYSICIAN, REGULATE, REPORTER
9260 DATACOMPUTER, TERMINAL, GRANDSON, APRICOT, QUESTION
9270 DATaweather, GIRAFFE, SHARPEN, HYDROGEN, JOURNAL
9280 DATABEDROOM, TROUSERS, NECKTIE, RELIGION, SCIENCE
9290 Datagramball, LUBRICATE, BATHROOM, CLOTHES, WASHING
9300 DATALAUNDRY, DRAWER, ASPARAGUS, OATMEAL, PENGUIN
Intermediate Games
Alphabet Soup

Skill Area: Language Arts
Level: III, IV
Memory: Unexpanded 5K VIC
Equipment required: None
Modification: No

Lunchtime
It’s lunchtime again, and the only thing to eat in the house is alphabet soup. Alphabet soup isn’t a bad lunch, if you like soup, that is. But the good thing about alphabet soup isn’t the taste. The good thing is that letters float up from the bottom of the bowl and bob around on the top with the peas and the carrots. If you don’t have anything better to do, you can make all sorts of words with the letters.

How to Play
Today it’s OK to play with your food. Sixteen letters float up to the top in your bowl of alphabet soup. See how many words of two letters or more you can make with those 16 letters.

When you see a word in the line of letters, type it on the computer keyboard. If you decide you don’t like a word you typed, you can use the INST/DEL key to erase the letters, and they’ll reappear in the line at the top. Once you press RETURN, however, you must type the symbol @ followed by the word, to return the letters to the line. For example, if you’ve entered the word zero and decide you’d rather spell zebra, type @zero, and zero will disappear. The letters Z, E, R, and O will all return to the soup bowl, and you can use them again.

Before the game starts, you can decide how long you want the game to last. If you’re quick, make the time limit 1 minute. If you’d rather concentrate on getting beautiful words than on spelling words quickly, choose a longer playing time up to four minutes. If you’ve used all the letters you can and the time still isn’t up, press F1 to end the round early.

At the end of a game, you can press Y or N, indicating whether or not you want to play again. If you want to play again but would like to select a different time limit, press R to reset the time.
Scoring

The score is based on the word length and the value of the letters in the word. A six-letter word, for example, is going to be worth a lot more than three two-letter words.

At the top of the soup bowl, you'll notice the 16 letters you'll be using in the round. Underneath each letter is a number. Numbers that are harder to use — Q, X, Z, and some others — are worth more points than letters you can use anywhere. Try to use those big letters first.

The computer does not check to see if the word is spelled correctly, or even if it is a word. If you're playing "Alphabet Soup" with a friend, you can check each other, perhaps using a dictionary. You'll just have to be trusted if you're playing by yourself!

At the end of the game, your score will appear. Each word you created will be printed, together with the point value for that word. Then you'll see your total score. Your score will depend a little bit on which letters float to the top of the soup bowl, but the final result will depend most on how good you are at making letters with your food.

Alphabet Soup

100 PRINT"{CLR}":POKE36879,27:CB=828:LP=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120)+3
110 CO=(37888+4*(PEEK(36866)AND128))-LP+3:CP=LP+46
120 DIML%(25,2),WS(7):X=RND(-TI)
130 PRINT"{BLU}{2SPACES}{RVS}*ALPHABET{2SPACES}SOUP*{OFF}":PRINT"{DOWN}16 RANDOM LETTERS AND THEIR POINT VALUES"
140 PRINT"{DOWN}WILL BE PRINTED."
150 PRINT"{DOWN}BUILD WORDS OF 2 OR{3SPACES}MORE LETTERS EACH."
160 PRINT"{DOWN}END A ROUND EARLY BY{2SPACES}USING ALL 16 LETTERS{2 SPACES}OR BY PRESSING {RVS}F1{OFF}."
170 PRINT"{DOWN}CANCEL A WORD BY USING ' @ ' FOLLOWED BY THE{3 SPACES}WORD."
180 PRINT"{DOWN}SCORE IS BASED ON WORDLENGTH AND LETTER{5 SPACES}VALUES."
185 GOSUB7000
190 PRINT"{DOWN}{3 SPACES}(PRESS ANY KEY)";
200 FORW=0 TO 25:READX,Y,Z:L%(W,0)=X:L%(W,1)=Y:L%(W,2)=Z:NEXTW
210 GETX$ :IFX$ =""THEN210
220 PRINT"{CLR}{2 DOWN}MINUTES PER GAME?":PRINT"{2 DOWN}ENTER A NUMBER {RVS}1{OFF} TO {RVS}4{OFF}"  
230 GETRL$: IFRL$=""THEN230  
240 IFRL$<"1" OR RL$>"4" THEN230  
250 TL$="000"+RL$+"00"  
300 POKE36879,25:WC=0:LC=0:PRINT"{CLR}":FORW=0 TO25  
310 FORX=1TOL%(W,1):POKECB+LC,L%(W,0):LC=LC+1:NEXT  
X,W  
320 FORX=0 TO7:W$(X)=".":NEXTX  
330 FORX=0 TO15  
340 Y=INT(RND(1)*LC):Z=PEEK(CB+Y):IFZ=0 THEN340  
350 POKECB+Y,0:POKELP+X,Z:POKELP+X+CO,0=W=L%(Z-1,2)+48  
360 POKELP+X+22,W:POKELP+X+22+CO,3:NEXTX  
370 POKECP-1,62:POKECP-1+CO,4:T$l$="000000"  
400 WB$="":LE=0:D%=0  
410 IF TL$>TL$THEN800  
415 J$=MID$(TL$,3,2)+"."+MID$(TL$,5,2)  
416 PRINT"{HOME}{22 DOWN}";SPC(8);J$;  
420 GETX$: IFX$="" THEN410  
430 X=ASC(X$):IFX=13 THEN600  
435 IFX=133 THEN800  
437 IFX=20 THEN1700  
440 IFX$="@" ANDLE=0 AND D%=0 AND WC>0 THEN GOTO500  
450 IFX<65 ORX<90 THEN GOTO410  
455 IF D%=1 THEN490  
460 W=0  
465 IF PEEK(LP+W)=(X-64) THEN480  
470 W=W+1:IF W<16 THEN465  
475 GOSUB1800:GOTO410  
480 POKELP+W,32:POKELP+W+CO,1:POKELP+W+22,32:POKELP+W+22+CO,1  
490 WB$=WB$+X$  
500 POKECP+LE,X-64:POKECP+LE+CO,4:LE=LE+1:IF LE<17 THEN HEN410  
510 IFD%<>1 THEN700  
600 X=LEN(WB$):IF X<2 THEN GOSUB1800:GOTO410  
610 IFD%<>1 THEN700  
620 W=0  
625 IF WB$=W$(W) THEN640  
630 W=W+1:IF W<8 THEN625  
635 GOSUB1800:GOTO750  
640 WS(W)=".";X$="":FORX=1 TO(W*2)+4:X$=X$+"{DOWN}"
4D:NEXTX:PRINT"{HOME}";X$;"{20 SPACES}"  
650 WC=WC-1:FORX=1 TO X=0  
660 IF PEEK(LP+Z)=32 THEN680  
670 Z=Z+1:GOTO660  
680 X$=MID$(WB$,Y,1):W=ASC(X$)-64:POKELP+Z,W:POKELP+Z+CO,0
690  W=L%(W-1,2):POKELP+Z+22,W+48:POKELP+Z+22+CO,3:  
    NEXTY:GOTO750
700  X=0
705  IFW$(X)="."THEN720
710  X=X+1:IFX<8THEN705
720  W$(X)=WB$:X$="";FORY=1TO(X*2)+4:X$=X$+"{DOWN}"  
    :NEXTY:PRINT"{HOME}";X$;"";WB$;:WC=WC+1
750  FORX=0TO18:POKECP+X,32:POKECP+X+CO,1:NEXTX  
760  X=0
765  W=PEEK(LP+X):IFW<>32THEN400
770  X=X+1:IFX<16THEN765
800  POKE36879,27:W=0:PRINT"{CLR}WORD-SCORE"  
    :PRINT"\r\n"  
810  X=0
815  IFW$(X)="."THEN900
820  WB$=W$(X):Y=LEN(WB$):Z=Y:IFZ>8THENZ=8
830  S=Z-2:FORZ=1TOY:X$=MID$(WB$,Z,1):A=ASC(X$)-65:  
    S=S+L%(A,2):NEXTZ
840  PRINT"{DOWN}";WB$;"";S
850  W=W+1:X=X+1:IFX<8THEN815
900  PRINT"{DOWN}TOTAL SCORE=";W
930  PRINT"{DOWN}AGAIN?{RVS}Y{OFF}/ {RVS}N{OFF}/  
     {RVS}R{OFF}=NEW TIME";
940  GETX$:IFX$=""THEN940
950  IFX$="Y"THEN300
955  IFX$="R"THEN220
960  IFX$<>"N"THEN940
970  END
1700  IFLE<1THENGOSUB1800:GOTO410
1710  LE=LE-1
1720  X=PEEK(CP+LE):POKECP+LE,32:POKECP+LE+CO,1  
1725  IFD%=1THEN1760
1730  W=0
1735  IFPEEK(LP+X)=32THEN1750
1740  W=W+1:IFW<16THEN1735
1750  POKELP+W,X:POKELP+W+CO,0:POKELP+W+22,L%(X-1,2)  
    +48:POKELP+W+22+CO,3
1760  IFLE=0THENWB$="";D$="";GOTO410
1770  X$=LEFT$(WB$,LE):WB$=X$:GOTO410
1800  POKE36878,15:POKE36874,140:FORW=0TO200:NEXTW:  
    POKE36878,0:POKE36874,0:RETURN
7000  POKE36878,15
7010  READX,Y:IFX<0THEN7030
7020  POKE36876,X:FORZ=1TO(Y*150):NEXTZ:POKE36876,0  
    :GOTO7010
7030  POKE36878,0:RETURN
7100  DATA195,2,195,1,191,1,183,2,183,1,183,1,175,1  
    ,163,1,175,1,183,1,163,4,-1,0
8000 DATA 9,1,2,2,3,3,2,3,4,4,2,5,12,1,6,2,4,7,3,2,8,2,4,9,9,1
8010 DATA 10,1,8,11,1,5,12,4,1,13,2,3,14,6,1,15,8,1,16,2,3,17,1,9,18,6,1
8020 DATA 19,4,1,20,6,1,21,4,1,22,2,4,23,2,4,24,1,8,25,2,4,26,1,9
Level

3

Lawn Mower

Skill Area: Mathematics
Level: III, IV
Memory: Unexpanded 5K VIC
Equipment required: None
Modification: No

The Summer Job
Dad’s decided the time has come to teach you responsibility. This summer, you won’t get an allowance. You’re going to enter the world of high finance instead.

Your job is to mow lawns in the neighborhood. Dad will let you use his power mower, and he’ll lend you $15 to get your business started. The rest is up to you.

You’ll get $5 for each lawn mowed, but you’re responsible for your own supplies. You have to buy gasoline for the lawn mower. You also have to oil the machine. You’ll need plastic bags to haul the grass clippings away. And once in a while, you have to get the mower blades sharpened or the machine won’t work. The $15 Dad gave you is for your first supplies. You’ll have to pay that money back at the end of the summer.

How to Play
At the beginning of the summer, and again at the start of each month, the computer will ask you what supplies you want. You can buy 0 to 9 gallons of gasoline, at the current price. Next, you’ll be asked how much oil you want to buy. Again, press 0 to 9 to make your decision. Then you’ll be asked how many plastic lawn and leaf bags you want to purchase. These bags are sold by the dozen, so if you press 1, for example, you’re buying one dozen bags. Finally, you need to decide whether you want to have the mower blades sharpened. The lawn mower can’t run forever on dull blades. It’s a good idea to start the summer by sharpening the blades.

Once you’ve purchased your supplies, it’s time to start mowing lawns. You can mow as many lawns per month as you have supplies, but once you run out of gas, oil, or plastic bags, or your lawn mower blades get dull, you can’t mow any more lawns for the rest of the month. Buy your supplies wisely. Wait for a good price on something before you stock up, but make sure you don’t
run out! If you do, it's going to be a long, poor summer.

Watch the screen to see your progress. You'll hear the sound of the lawn mower as the grass is mowed. When each lawn is mowed, the computer will give a running tally of how many gallons of gasoline you have left, how much oil you have in reserve, and how many plastic bags are on hand. Keep this tally in mind when you're purchasing supplies next month. After all, you don't want to end the year with 256 plastic trash bags!

Scoring
At the end of the summer, you'll find out your cash balance and your balance after paying Dad his $15.

Lawn Mower

100 POKE36879,250:PRINT"{CLR}"
110 DIMMT$(4),ST%(20,1)
120 FORX=0TO20:FORY=0TO1:READZ:ST%(X,Y)=Z:NEXTY,X
130 FORX=0TO4:READX$:MT$(X)=X$:NEXTX
150 PRINT"{CLR}{BLK}{DOWN}{RVS}{6 SPACES}LAWN MOWER{6 SPACES}{OFF}";
160 PRINT"{DOWN}DAD LOANS YOU $15 SO{2 SPACES}YOU CAN RUN A LAWN{4 SPACES}MOWING SERVICE{SPACE}DURING"{2DOWN}DAD LOANS YOU $15 SO{2 SPACES}YOU CAN RUN A LAWN{4 SPACES}MOWING SERVICE{SPACE}DURING"
170 PRINT"THE SUMMER.{2 SPACES}AT THE{3 SPACES}END OF SUMMER YOU MUST PAY DAD BACK THE $15."
180 PRINT"{2 DOWN}YOU GET $5 FOR EACH{3 SPACES}LAWN YOU MOW, BUT YOU MUST DEDUCT EXPENSES{2 SPACES}SUCH AS:"
190 PRINT"{2 DOWN}GAS FOR THE MOWER{5 SPACES}OIL FOR THE MOWER{5 SPACES}LAWN AND LEAF BAGS"
200 PRINT"MOWER SHARPENING"
210 GOSUB10000:GOSUB1100
220 PRINT"{CLR}{DOWN}IF YOU RUN OUT OF{5 SPACES}SUPPLIES IN THE MIDDLE OF A MONTH, OR IF YOUR";
230 PRINT"MOWER GETS DULL FROM{2 SPACES}LACK OF SHARPENING,{3 SPACES}YOU LOSE YOUR INCOME"
240 PRINT"FOR THE REST OF THAT{2 SPACES}MONTH."
250 PRINT"{2 DOWN}THE OBJECT OF THE GAME IS TO BUY{SPACE}YOUR{3 SPACES}SUPPLIES WISELY SO"
260 PRINT"THAT YOU CAN EARN AS{2 SPACES}MUCH AS POSSIBLE{6 SPACES}DURING THE SUMMER."
270 GOSUB1100
300 MO=1500:GA=0:OA=0:BA=0:SA=0
310 FORLI=0TO4:LM=0:MM=0
320 X=INT(RND(1)*71)+80:D1$="GAS":D2$="GALLON":GOSUB1200
330 IFY=0THEN350
Level 3

340 GA = GA + (Y * 100) : MO = MO - (X * Y)
350 X = INT (RND (1) * 51) + 90 : D1$ = "OIL" : D2$ = "QUART" : GO SUB 1200
360 IF Y = 0 THEN 380
370 OA = OA + (Y * 100) : MO = MO - (X * Y)
380 X = INT (RND (1) * 151) + 200 : D1$ = "LAWN BAGS" : D2$ = "DOZEN" : GO SUB 1200
390 IF Y = 0 THEN 410
400 BA = BA + (Y * 12) : MO = MO - (X * Y)
410 X = INT (RND (1) * 201) + 400 : GO SUB 1300 : PRINT "{CLR} {DOWN} MONTH = " : MT$(L1)
420 PRINT "{2 DOWN} DO YOU WANT TO PAY" : PRINT "FOR MO WER SHARPENING?" : PRINT "{2 DOWN} Cost = " : X$
430 PRINT "{2 DOWN} ENTER {RVS} Y{OFF} OR {RVS} N{OFF}" ;
440 GET X$ : IF X$ = "N" THEN 440
450 IF X$ = "Y" THEN 440
460 IF X$ = "Y" THEN 440
470 MO = MO - X
480 X = INT (RND (1) * 21) + 20 : SA = SA + X
490 GC = INT (RND (1) * 51) + 20 : OC = INT (RND (1) * 31) + 10
500 BC = INT (RND (1) * 4) + 1
510 IF MO < 0 THEN GC = GC * 2 : OC = OC * 2 : BC = BC * 2
520 X = 1 : IF (GA - GC) < 0 THEN 700
530 X = 2 : IF (OA - OC) < 0 THEN 700
540 X = 3 : IF (BA - BC) < 0 THEN 700
550 X = 4 : IF (SA - 1) < 0 THEN 700
560 GA = GA - GC : OA = OA - OC : BA = BA - BC : SA = SA - 1
570 LM = LM + 1 : MM = MM + 500
600 PRINT "{CLR} {DOWN} " ; MT$(L1) : PRINT "{DOWN} LAWN #" ; LM
610 X = MM : GO SUB 1300 : PRINT "{DOWN} MONEY MADE = " ; X$
620 PRINT "{DOWN} GAS LEFT {3 SPACES} = " ; INT ((GA + 100) / 100) : PRINT "{DOWN} OIL LEFT {3 SPACES} = " ; INT ((OA + 100) / 100)
630 PRINT "{DOWN} BAGS LEFT {2 SPACES} = " ; BA
640 FOR X = 3 TO 15 STEP 3 : GO SUB 660 : NEXT X
650 FOR X = 15 TO 0 STEP -3 : GO SUB 660 : NEXT X : GOTO 500
660 POKE 36878, X : POKE 36875, 140 : POKE 36877, 130
670 POKE 36874, 170 : FOR Y = 1 TO 100 : NEXT Y
675 POKE 36874, 140 : FOR Y = 1 TO 100 : NEXT Y
680 IF X = 0 THEN POKE 36877, 0 : POKE 36874, 0 : POKE 36875, 0
690 RETURN
700 PRINT "{CLR}" : POKE 36878, 15 : POKE 36874, 140 : FOR Y = 1 TO 600 : NEXT Y : POKE 36878, 0 : POKE 36874, 0
720 ONX GOTO 730, 740, 750, 760
730 PRINT "{2 DOWN} OUT OF GAS!" : GOTO 770
740 PRINT "{2 DOWN} OUT OF OIL!" : GOTO 770
750 PRINT"{2 DOWN}OUT OF LAWN BAGS!";GOTO770
760 PRINT"{2 DOWN}MOWER NOT SHARP!"
770 PRINT"{3 DOWN}LAWNS MOWED = ";LM:X=MM:GOSUB130
0:PRINT"{DOWN}MONEY MADE{2 SPACES}=";X$:MO=MO+MM
780 X=MO:GOSUB1300:PRINT"{DOWN}BALANCE{5 SPACES}=";X$:GOSUB1100:GOTO770
800 PRINT"{CLR}{2 DOWN}{5 SPACES}SUMMER OVER!":X=MO:
GOSUB1300:PRINT"{3 DOWN}CASH ON HAND = ";X$:
810 X=1500:GOSUB1300:PRINT"{DOWN}LESS LOAN
{4 SPACES}=";X$:MO=MO-1500:X=MO:GOSUB1300:
830 PRINT"{3 DOWN}{3 SPACES}REPLAY? {(RVS)Y{OFF} O
R{RVS}N{OFF})"
840 GETX$:IFX$="THEN840
850 IFX$="Y"THEN300
860 IFX$<"N"THEN840
870 POKE36879,27:PRINT"{CLR}";END
1000 POKE36879,15:FORX=0TO20:POKE36876,ST%(X,0):FO
RY=1TO(ST%(X,1)*100):NEXTY
1010 POKE36878,0:NEXTX:POKE36878,0:RETURN
1100 PRINT"{HOME}{22 DOWN}{3 SPACES}(PRESS ANY KEY
"
1110 GETX$:IFX$="THEN1110
1120 RETURN
1200 PRINT"{CLR}{DOWN}MONTH = ";MT$(L1):GOSUB1300
1210 PRINT"{2 DOWN}ITEM = ";D1$:PRINT"{2 DOWN}COST
{4 SPACES}=";X$:PRINT"PER ";D2$
1220 PRINT"{2 DOWN}HOW MANY DO YOU WANT?";PRINT
{3 SPACES}ENTER {RVS}0{OFF} THROUGH {RVS}9
{OFF}"
1230 GETD1$:IFD1$="THEN1230
1240 IFD1$<"0"ORD1$="9"THEN1230
1250 Y=VAL(D1$):RETURN
1300 X$=STR$(X$);Z=LEN(X$)
1310 IFZ<3THENX$=LEFT$(X$,1)+"$0."+RIGHT$(X$,1):GO
TO1370
1320 IFZ<4THENX$=LEFT$(X$,1)+"$."+RIGHT$(X$,2):GO
TO1370
1330 Z=Z-3:X$=LEFT$(X$,1)+"$"+MID$(X$,2,Z)+"."+RIG
HT$(X$,2)
1370 Z=LEN(X$):IFZ>7THENRETURN
1380 X$= "+X$:GOTO1370
3000 DATA225,2,195,2,195,2,207,1,209,2,231,2,231,2
,228,2,225,1,219,2
,219,2,223,2,223,2,225,2
3020 DATAMAY,JUNE,JULY,AUGUST,SEPTEMBER
Level 3

Plan a Menu

Skill Area: Science
Level: III, IV
Memory: At least 8K expansion required
Equipment required: None
Modification: Yes

Making Meals
This program lets a player pick a sample meal. Then the computer tells the player how nutritious the meal was and how much weight the player would gain or lose by following such a meal-planning strategy all the time.

How to Play
The game begins by asking for your age and sex. Indicate the proper answer by typing M, F, or the numerical age. Hit the RETURN key to enter each response.

Next, you’ll be shown a number of foods from six different food categories: entrees, vegetables, fruits, breads, drinks and desserts. Category by category, the player chooses the foods for a sample meal. Selections are made by typing the letter that appears to the left of the item. To move to another category, always press the letter Z.

You may choose as many items from a category as you want. If nothing in a category looks appealing, you may by-pass the category altogether by pressing Z.

When the sample menu is complete, the computer will analyze it to see what quantities of the following items it contains:

- calories
- protein
- vitamin A
- vitamin C
- thiamin
- riboflavin
- niacin
- calcium
- iron

The computer multiplies all totals by 3 to indicate what percent of the minimum daily requirements of those calories or nutrients you would get if you ate three similar meals in a day. The percentage total for each item will be printed next to its name.

Scoring
Each sample meal is rated according to the number of calories it contains and the amount of nutrients found in the chosen foods.
The computer rates each meal as fair, average, good, very good, or excellent.

Each meal is also evaluated to tell you how many pounds per week you would gain or lose if all the meals contained the same number of calories as the sample meal. Although people’s metabolisms are different, the calorie count would apply to an average-sized person whose metabolism burns food at a normal rate. If you’re over- or underweight, take this into account and use calorie charts, not “Plan a Menu,” to determine how many calories you should consume.

**Plan a Menu**

100 DIM NT$(16, 1), CT$(2, 7, 1), HT(18, 8), VT(8), DT$(8),
    GT$(4)
110 FOR X = 0 TO 16: FOR Y = 0 TO 1
120 READ Z: NT$(X, Y) = Z: NEXT Y, X
130 POKE 36879, 190
200 PRINT CHR$(147); "[DOWN]{BLK}{RVS}{5 SPACES}PLAN
      A MENU{6 SPACES}{OFF}"
210 PRINT"{DOWN} YOU WILL BE SHOWN A[3 SPACES]NUMBE
      R OF FOODS FROM 6DIFFERENT FOOD GROUPS."
220 PRINT"{DOWN} YOU MAY SELECT AS MANYITEMS AS YOU
      WANT FROM EACH GROUP."
230 PRINT"{DOWN} IF DESIRED, YOU MAY{3 SPACES}BYPAS
      S A GROUP AND NOTPICK ANYTHING FROM IT."
240 PRINT"{DOWN} WHEN YOUR MENU IS{5 SPACES}COMPLET
      E, IT WILL BE{2 SPACES}ANALYZED FOR ITS"
250 PRINT"NUTRITIONAL VALUE."
260 GOSUB 1000
270 FOR X = 0 TO 2: FOR Y = 0 TO 7: FOR W = 0 TO 1
280 READ Z: CT$(X # Y # W) = Z: NEXT W, Y, X
290 FOR X = 0 TO 8: READ X$: DT$(X) = X$: NEXT X
300 FOR X = 0 TO 4: READ X$: GT$(X) = X$: NEXT X
310 PRINT"{2 DOWN}{3 SPACES}(PRESS ANY KEY)"
320 GET X$: IF X$ = "" THEN 320
330 RESTORE
340 READ X$: IF X$ <> "" THEN 340
400 REM **MAIN LOOP**
410 FOR X = 0 TO 8: VT(X) = 0: NEXT X
420 PRINTCHR$(147); "{2 DOWN}{2 SPACES}YOUR SEX?"
430 PRINT"{DOWN}{2 SPACES}{RVS}M{OFF}=MALE {RVS}F
      {OFF}=FEMALE{DOWN}"
440 S$ = "": POKE 198, 0: INPUT S?
450 IFS$ = "M" AND S$ = "" THEN 440
460 PRINT"{3 DOWN}{2 SPACES}YOUR AGE IN YEARS?"
    {DOWN}"
LEVEL 3

470  X$="";POKE198,0;INPUTX$
480  X=VAL(X$);IFX<1THENVX=1
490  IFX>99THENVX=99
500  IFX<10THENVY=0;S$="X"
510  IFSS="M"THENVY=1
520  IFSS="F"THENVY=2
530  Z=0
540  IFX<=CL%(Y, Z, 0)THEN560
550  Z=Z+1;GOTO540
560  CL%=CT%(Y, Z, 1)
570  PRINTCHR$(147);:READX$
580  IFX$="$$"THEN800
590  PRINT"{DOWN}{RVS}";X$;"{OFF}{DOWN}";X=0
600  READX$;IFX$="$$"THEN700
610  S$=CHR$(X+65)
620  PRINT"{RVS}";S$;"{OFF}-";X$
630  FOR X=0 TO 8:READZ:HT(X, Y)=Z:NEXTY
640  X=X+1;GOTO630
650  IFX$="A"ORX$>"Z"THEN710
660  IFX$="Z"THEN600
670  X=ASC(X$)+64
680  FORX=SM+66TOSM+484STEP22
690  IFPEEK(X)=YTHEN770
700  NEXTX;GOTO710
710  GETX$;IFX$=""THEN710
720  IFX$<"A"ORX$>"Z"THEN710
725  IFX$="Z"THEN600
730  Y=ASC(X$)+64
740  FORX=SM+66TOSM+484STEP22
750  IFPEEK(X)=YTHEN770
760  NEXTX;GOTO710
770  FORX=0TO21;POKE(X+Z),32:NEXTZ
780  FORX=0TO8;VT(X)=VT(X)+HT(Y-129,X):NEXTX
790  GOTO710
800  PRINT"{DOWN}THREE MEALS PER DAY{3 SPACES}SIMILAR TO THE ONE{4 SPACES}SPECIFIED WOULD FILL"
810  PRINT"THESE NUTRITIONAL{5 SPACES}NEEDS:{DOWN}"
820  Y=0;FORX=0TO8
830  Z=DT$(X)
840  IFLEN(Z)<10THENVX=X$+"{SHIFT-SPACE}";GOTO840
850  Z=VT(X)*3;IFX=0THENVZ=(X*100)/CL%;W=Z
855  IFX>0ANDZ>=100THENVY=Y+1
860  GOSUB1100;PRINT" ";X$;"-";S$
870  NEXTX
880  X=ABS(W-100);Y=Y-INT(X/20);Y=INT(Y/2);IFY<0THE NY=0
890  IFY>4THENVY=4
900  PRINT"{DOWN}THE NUTRITIONAL VALUE OF THIS MENU WOULD BE RATED ";GT$(Y);".";
910  PRINT"{DOWN}{3 SPACES}(PRESS ANY KEY)"
920  GETX$;IFX$=""THEN920
930  X=CL%*7;Y=VT(0)*21;IFX=YTHENX=-1;GOTO970
940  IFX>YTHENX$="LOSE";Z=X-Y;GOTO960
950  X$="GAIN";Z=Y-X

64
960 X=INT(Z/3500): IF X<1 THEN X=1
970 GOSUB 1200
980 PRINT "{2 DOWN} ANOTHER MENU? \{{RVS}Y{OFF} OR \{{RVS}N{OFF}}";
985 GET X$: IF X$="" THEN 985
990 IF X$="Y" THEN 330
995 IF X$<="N" THEN 985
999 GOSUB 1000: PRINTCHR$(147);: POKE36879, 27: END
1000 POKE 36878, 15: FOR X=0 TO 16: POKE 36875, NT%(X, 0)
1010 FOR Y=1 TO 100*NT%(X, 1): NEXT Y
1020 POKE 36876, 0: NEXT X
1030 POKE 36878, 0
1040 SM=4*(PEEK(36866) AND 128)+64*(PEEK(36869) AND 120)
1050 RETURN
1100 S$=STR$(INT(Z))+"%"
1110 IF LEN(S$)<>7 THEN RETURN
1120 S$="{SHIFT-SPACE}"+S$: GOTO 1110
1200 PRINTCHR$(147);: "{3 DOWN} FOLLOWING A MENU LIKE THE ONE JUST SHOWN"
1210 PRINT "WOULD CAUSE YOU TO"
1215 IF X<0 THEN PRINT "KEEP YOUR SAME WEIGHT LEVEL.";
1220 PRINT X$; X; "POUNDS PER"
1230 PRINT "WEEK."
1240 RETURN
3000 DATA 191, 2, 183, 2, 175, 4, 191, 2, 183, 2, 175, 4, 175, 2, 175, 2, 175, 2
3010 DATA 183, 2, 183, 2, 183, 2, 191, 2, 183, 2, 175, 4
3100 DATA 1100, 2, 1250, 3, 1400, 5, 1600, 7, 2000, 9, 2200
3110 DATA 0, 0, 0, 0
3120 DATA 111, 2500, 13, 2700, 17, 3000, 21, 2800, 34, 2800, 5
3130 DATA 4, 2600, 99, 2400, 0, 0
3140 DATA 111, 2250, 13, 2300, 15, 2400, 17, 2300, 21, 2000, 3
3150 DATA 4, 2000, 54, 1850, 99, 1700
3200 DATA "CALORIES, PROTEIN, "VITAMIN A", "VITAMIN C", "THIAMIN", "RIBOFLAVIN"
3210 DATA "TANACIN, CALCIUM, IRON"
3300 DATA "FAIR, AVERAGE, GOOD, "VERY GOOD", EXCELLENT"
3400 DATA "" DATA "[5 SPACES] MAIN COURSES[5 SPACES]"
4000 DATA "REFRIED BEANS", 142, 14, 0, 0, 0, 0, 5, 3
4010 DATA "ROAST BEEF", 182, 57, .3, 0, 3, 12, 20, 1.1, 18
4030 DATA "BEEF LIVER", 195, 50, 908, 38, 15, 209, 70, .9, 4, 2
4040 DATA "FRIED CHICKEN", 201, 58, 3, 0, 4, 22, 30, 1.2, 11
4050 DATA "HARD BOILED EGG", 79, 13, 5, 0, 2, 8, .2, 3, 6
4070 DATA "BAKED HAM", 179, 57, 0, 0, 37, 15, 25, 1.1, 18
4080 DATA "MEAT LOAF", 230, 34, 2, 0, 18, 14, 17, 7, 13
4090 DATA"BREADED PERCH",193,36,0,0,6,5,8,3,6
4100 DATA"PORK CHOP",308,46,0,0,5,14,25,9,15
4110 DATA"T-BONE STEAK",212,64,0,0,5,13,28,1,19
4120 DATA"TUNA FISH",168,54,1,4,0,3,6,51,7,9
4130 DATA"BAKED BEANS",156,12,3,5,7,2,4,7,13
4140 DATA"BEEF STEW",209,23,46,27,9,9,23,3,16
4150 DATA"CHILI CON CARNE",333,29,3,0,5,11,17,8,24
4160 DATA"MACARONI & CHEESE",215,13,9,0,7,12,5,18,5
4170 DATA"CHEESE PIZZA",354,28,19,20,25,29,19,33,15
4180 DATA"CHICKEN SOUP",59,5,0,1,1,3,1,2,4,9,3
4190 DATA"SPAGHETTI & MEAT",332,29,32,37,17,18,20,12,21
4200 DATA"BEEF TACO",216,38,7,7,11,15,17,14
4210 DATA"$$"
4500 DATA"{6 SPACES}VEGETABLES{6 SPACES}"
4510 DATA"ASPARAGUS",12,2,11,27,7,6,4,1,3,2
4520 DATA"GREEN BEANS",16,1,5,7,13,3,4,1,5,3,2
4530 DATA"LIMA BEANS",94,10,5,23,10,5,6,4,12
4540 DATA"COOKED BEETS",31,1,2,3,3,7,1,2,5,1,6,3
4550 DATA"BROCCOLI STALK",20,4,39,117,5,9,3,7,3
4560 DATA"CABBAGE",13,1,1,7,28,7,6,5,3,1,1
4570 DATA"CARROT STICKS",21,9,110,7,2,1,8,1,5,1,9,2
4580 DATA"CAULIFLOWER",13,2,7,55,3,3,2,1,3,2
4590 DATA"CELER STICKS",10,8,3,8,1,3,1,2,1,2,1,1
4600 DATA"CORN ON THE COB",114,6,10,18,10,8,9,.4,4
4610 DATA"BLACK EYE PEAS",134,15,9,35,25,8,9,3,14
4620 DATA"GREEN BEANS",54,6,10,17,15,4,7,1,5,8
4630 DATA"BAKED POTATO",132,6,0,47,9,4,12,1,3,6
4640 DATA"FRENCH FRIES",233,6,0,30,7,4,13,1,3,6
4650 DATA"MASHED POTATOES",63,3,4,1,17,5,3,5,2,2
4660 DATA"SWEET POTATO",76,1,9,89,20,3,2,2,2,3
4670 DATA"SUMMER SQUASH",16,1,7,9,20,3,5,4,3,2
4680 DATA"SLICED TOMATO",22,1,7,18,38,4,2,4,1,3,3
4690 DATA"LETTUCE SALAD",13,1,1,28,43,2,2,1,5,3,3
4700 DATA"$$"
5000 DATA"{4 SPACES}GRAIN PRODUCTS{4 SPACES}"
5010 DATA"BAGEL",165,9,6,0,9,6,6,.9,7
5020 DATA"BISCUIT",103,3,0,0,5,5,4,3,2
5030 DATA"WHITE BREAD",61,3,0,0,6,4,4,1,9,3
5040 DATA"WHEAT BREAD",55,4,0,0,4,1,8,3,2,3
5050 DATA"CORNBREAD",191,9,5,1,7,9,12,5,9,7
5060 DATA"CRACKER",72,2,0,0,5,1,2,2,.3,1,7
5070 DATA"HOMINY GRITS",62,2,1,5,0,3,2,3,1,2
5080 DATA"EGG NOODLES",100,5,1,1,0,7,4,5,8,4
5090 DATA"OATMEAL",66,4,0,0,7,1,2,.5,1,1,4
5100 DATA "PANCAKE", 61, 3, 1.4, 0, 4, 5, 1.5, 6, 1.7
5110 DATA "COOKED RICE", 112, 3, 0, 0, 7, 4, 5, 1.5, 1.5
5120 DATA "DINNER ROLL", 156, 8, 0, 13, 7, 9, 2, 7
5130 DATA "WHITE TOAST", 61, 3, 0, 0, 6, 4, 4, 1.9, 3
5140 DATA "CORN TORTILLA", 63, 2, .1, 0, 3, 1.2, 1.5, 6, 5
5150 DATA "WAFFLES", 130, 7, 2, 0, 6, 8, 3, 11, 3
5160 DATA "$$"
5500 DATA "{8 SPACES}FRUITS{8 SPACES}"
5510 DATA "MEDIUM APPLE", 80, .5, 2, 10, 3, 1.8, .5, 1, 2
5520 DATA "MEDIUM BANANA", 101, 2, 5, 20, 4, 4, 1, 4
5530 DATA "CANTALOUPE", 29, 1.1, 65, 53, 3, 1.8, 3, 1.3, 2
5540 DATA "FRUIT SALAD", 99, 2, 11, 73, 7, 5, 4, 5, 5
5550 DATA "GRAPEFRUIT HALF", 48, .9, 10, 75, 3, 1.2, 1, 1.9, 3
5560 DATA "GRAPES", 48, .6, 1.4, 5, 3, 1.2, 1, 9, 1.7
5570 DATA "MEDIUM ORANGE", 65, 2, 5, 110, 9, 3, 3, 5, 3
5580 DATA "MEDIUM PEACH", 100, .8, 11, 6, .9, 1.5, 4, .5, 2
5590 DATA "MEDIUM PEAR", 101, 1.9, .7, 12, 2, 4, 1, 1.3, 3
5600 DATA "PINEAPPLE SLICE", 90, .6, 1.2, 15, 7, 1.2, 1, 1.3, 2
5610 DATA "STEWED PRUNES", 108, 1.1, 9, 1.7, 1.3, 2, 2, 1.9, 5
5620 DATA "RAISINS", 123, 1.7, .2, 0, 3, 1.8, 1, 3, 8
5630 DATA "STRAWBERRIES", 28, .8, 9, 73, 1.3, 3, 2, 1.6, 4
5640 DATA "WATERMELON", 52, 1.5, 24, 23, 4, 4, 2, 1.4, 6
5650 DATA "APPLESAUCE", 116, .5, 1, 1.7, 2, .6, 0, .5, 3
5660 DATA "DRIED APRICOTS", 39, 1.2, 33, 3, 0, 1.2, 3, 1.0, 4
5670 DATA "$$"
6000 DATA "{8 SPACES}DRINKS{8 SPACES}"
6010 DATA "BUTTERMILK", 99, 18, 1.6, 4, 6, 22, .7, 29, .7
6020 DATA "HOT COCOA", 64, 15, 5, 3, 19, 1.4, 22, 3
6030 DATA "WHOLE MILK", 150, 18, 6, 4, 6, 23, 1.29, .7
6040 DATA "CHOCOLATE MILK", 208, 18, 6, 4, 6, 24, 1.6, 28, 3
6050 DATA "2% LOWFAT MILK", 121, 18, 10, 4, 6, 24, 1.1, 30, .7
6060 DATA "SKIM MILK", 86, 19, 10, 4, 6, 20, 1.1, 30, .6
6070 DATA "CHOCOLATE MILKSHAKE", 356, 20, 5, 0, 9, 39, 1.9, 40, 5
6080 DATA "ORANGE JUICE", 56, 1.4, 5, 93, 7, .6, 2, 1.1, .6
6090 DATA "Lemon JUICE", 26, 1.7, 19, 32, 4, 2.5, .9, 6
6090 DATA " BLACK COFFEE", .2, 0, 0, 0, 0, 0, 3, 3, 1.1
6110 DATA "COLA SOFT DRINK", 96, 0, 0, 0, 0, 0, 0, 0
6120 DATA "BEER", .151, 1.7, 0, 0, 0, 0, 6, 11, 1.8, 0
6130 DATA "WATER", 0, 0, 0, 0, 0, 0, 0, 0
6140 DATA "$$"
6500 DATA "{7 SPACES}DESSERTS{7 SPACES}"
6510 DATA "VANILLA ICE CREAM", 135, 5, 5, .6, 1.7, 10, .3, 9, .3
Level 3

6520 DATA "STRAWBERRY YOGURT", 225, 20, 2, 2, 5, 22, 1, 31, .8
6530 DATA "AMERICAN CHEESE", 106, 14, 7, 0, .5, 6, .1, 17, .6
6540 DATA "SWISS CHEESE", 107, 18, 5, 0, .4, 6, .1, 27, .3
6550 DATA "SALTPEANUTS", 211, 14, 0, 8, 3, 31, 3, 4
6560 DATA "COTTAGE CHEESE", 109, 29, 3, 0, 1.5, 10, .7, 6, .8
6570 DATA "GRAHAM CRACKERS", 54, 1.7, 0, 0, 7, 1.8, 1, 6, 1.1
6580 DATA "BAKED CUSTARD", 152, 16, 9, 0, 3, 15, .5, 15, 3
6590 DATA "CHOCOLATE BAR", 147, 3, 1.5, 0, 1.3, 6, .5, 7, 1.7
6600 DATA "DEVIL'S FOOD CAKE", 234, 5, 2, 0, 1.3, 4, 1, 4, 3
6610 DATA "SPONGE CAKE", 196, 8, 6, 0, 2, 5, .5, 2, 4
6620 DATA "SUGAR COOKIE", 89, 1.9, .4, 0, 3, 2, 2, 1.6, 1.7
6630 DATA "CAKE DOUGHNUT", 125, 2, .5, 0, 5, 4, 3, 1.3, 2
6640 DATA "GELATIN DESSERT", 71, 3, 0, 0, 0, 0, 0, 0, 0
6650 DATA "APPLE PIE", 403, 5, .9, 3, 10, 8, 9, 1.3, 6
6660 DATA "POPCORN", 23, 1, 2, 0, 0, 0, .6, .5, 1, 1.1
6670 DATA "CHOCOLATE PUDDING", 161, 10, 3, 0, 2, 12, .5, 13, 2
6680 DATA "DANISH PASTRY", 274, 7, 4, 0, 3, 6, 3, 3, 3
6690 DATA "ORANGE SHERBET", 135, 2, 2, 3, 1.3, 2.4, .3, 5, 8
6700 DATA "$\$"
7000 DATA "$\$$"
Stargazer

Skill Area: Science
Level: III, IV
Memory: At least 8K expansion required
Equipment required: None
Modification: Yes

The Stargazer
You are the emperor’s stargazer, and it’s your job to look at the night sky. The emperor expects you to foretell the future by looking at the constellations. He also wants you to predict the weather by peering at the stars.

As far as you know, you can’t predict the future from the stars. And the only way the constellations can give you a weather report is if you can’t see them because of the clouds. But the emperor wants a stargazer, and you want the job. Besides, you’ve learned some things from watching the sky. Each constellation has its own history, and people like to have you tell them about it.

If you hope to keep your job, the least you can do is know where the constellations are. Also, you should know something about each one so you can impress the emperor with your knowledge.

How to Play
The computer will show you one of 32 constellations and ask you to name it by its shape. Because constellations change position as the seasons progress, the picture you see will be the one that best represents the picture in the constellation, as seen from the ground. The computer will show you in which month the constellation looks like this, as well as tell you in which direction you have to look (assuming you’re in North America) to see the constellation.

Look at the constellation and see if you can determine its name solely from its shape. If you can, type the name of the constellation on the computer keyboard and hit RETURN. Since the computer will count any guess as a wrong answer if it is spelled incorrectly, refer to this list of the 32 constellations in “Stargazer”:

Andromeda  Aquila  Bootes  Canis Major
Aquarius    Aries    Cancer    Capricornus
If you're unable to guess the name of the constellation by its
shape alone, the computer will give you a clue that may help you
identify the constellation after you press the RETURN key. If the
clue helps, type the answer on the keyboard.

If you still can't guess the constellation after receiving a clue,
press RETURN again and the computer will tell you the name of
the constellation and let you look at the star pattern and its name
for a few seconds. Then the computer will give you another con-
stellation to guess.

**Scoring**

You'll receive 10 points for each constellation you guess by its
shape alone. You'll receive 2 points for each constellation name
you guess after getting a clue from the computer.

Your score will be given in two areas. You'll first see the num-
ber of points, which will appear in the Total Points category. Then
the computer will give you a Percentage Score.

If you want to quit playing and still see a final score, type
END to answer any question. This stops the game, but will not
reduce your score.

If you don't do too well the first time, try again. Remember, it
took thousands of years for ancient societies to spot constellations
in the sky and develop stories about each one.

**Stargazer**

100 NS=32
110 DIMCT$(NS-1,3),ST%(NS-1,19),NT%(13,1)
120 PRINTCHR$(147);:POKE36879,254:C$="{22 SPACES}"
130 FOR X=0 TO 13: FOR Y=0 TO 1: READ Z: NT%(X,Y)=Z: NEXT Y, X:
   X=RND(0)
140 PRINT"{BLK}{RVS}{6 SPACES}STARGAZERI{6 SPACES}"
   "{OFF}"
150 PRINT"{DOWN}YOU WILL BE ASKED TO{2 SPACES}NAME
   CONSTELLATIONS IN THE NIGHT SKY."
160 PRINT"{DOWN}THE SKY DIRECTION AND OPTIMUM VIEW
   ENG MONTH WILL ALSO BE PROVIDED.";
170 PRINT "{DOWN}A CLUE WILL BE GIVEN{2 SPACES}IF Y
OU CAN'T GUESS THENAME BY ITS SHAPE.";
180 PRINT "{DOWN}TEN POINTS IF YOU{5 SPACES}GUESS B
ASED ON SHAPE{2 SPACES}ALONE.{2 SPACES}TWO POI
NTS IF"
190 PRINT "YOU USE AN EXTRA CLUE.";
193 PRINT "{DOWN}TYPE {RVS}END{OFF} TO END EARLY.";
195 PRINT "{DOWN}{2 SPACES}(TEN SECOND DELAY)"
200 GOSUB 1000
210 CB=828:M=4*(PEEK(36866) AND 128)+64*(PEEK(36869)
AND 128)
220 FORX=0 TO TONS - 1
230 FORY=0 TO 3:READX$:CT$(X,Y)=X$:NEXTY
240 Y=0
250 READZ:ST%(X,Y)=Z:Y=Y+1:IFZ>0 THEN 250
260 NEXTX
270 PRINT "{3 SPACES}(PRESS ANY KEY)";
280 GETX$:IFX$="THEN200
300 S%=0:FORX=1 TO TONS:POKECB+X,0:NEXTX
310 FORX=1 TO TONS:GOSUB 2000:POKECB+X,Z:NEXTX
320 POKE 36879,24
400 FORLC=1 TO TONS
410 CI=PEEK(CB+LC)-1
415 PRINTCHR$(147);"{BLK}{22 DOWN}";SPC(6);"SCORE
{SPACE}=";S%;
420 PRINT "{HOME}";:FORX=1 TO 13
430 PRINT "{BLU}{RVS}{22 SPACES}{OFF}"; :NEXTX
440 X$=CT$(CI,1);X=22-LEN(X$)-LEN(CT$(CI,2))
450 FORY=1 TO X:POKE Y,X+"{SHIFT-SPACE}";NEXTY
460 X$=X$+CT$(CI,2)
470 PRINT "{HOME}{12 DOWN}{RVS}";X$;"{OFF}";
480 X=0
490 Y=ST%(CI,X):IFY=0 THEN 510
500 POKEM+Y,174:X=X+1:GOTO 490
510 PRINT "{2 DOWN}{BLK}{2 SPACES}CONSTELLATION?
{DOWN}"
520 X=10:GOSUB 3000
530 IFX$="Q" THEN 600
535 IFX$="END" THEN 610
540 PRINT "{HOME}{15 DOWN}";CT$(CI,3);".";
550 X=2:GOSUB 3000
560 IFX$="Q" THEN 600
565 IFX$="END" THEN 610
570 PRINT "{BLU}{HOME}{15 DOWN}{2 SPACES}";CT$(CI,0)
580 FORX=1 TO 3000:NEXTX
600 NEXTLC
610 POKE 36879,254
620 PRINTCHR$(147);"{RED}{DOWN}{6 SPACES}{RVS}GAME
OVER!{OFF}"

DATA "ITS STARS WERE ONCE [3 SPACES] KNOWN AS SCORPIO'S [4 SPACES] CLAWS"
DATA "ITS BODY WINDS BETWEEN THE BIG AND THE LITTLE DIPPERS"
DATA "URSAMAJOR", SEPTEMBER, NORTH
DATA "THE BIG DIPPER IS [5 SPACES] 'BEARLY' HALF OF THIS CONSTELLATION"
DATA "URSAMINOR", JUNE, NORTH
DATA "THENORTHSTARISTHE TIP OF ITS TAIL"
DATA "THE NORTHERN CROSS [4 SPACES] FORMS THIS BIRD'S NECK AND BODY"
DATA "HE KNEELS ON THE HEAD OF THE DRAGON HE KILLED"
DATA "ANTARES IS ONE REASON IT SHINES SO BRIGHTLY"
DATA "THE MAINSAIL 'STAR [3 SPACES] GROUP RIDES ON THIS [3 SPACES] SERPENT'S BACK"
DATA "ITS MANE IS FORMED BY 'THE SICKLE' STAR [5 SPACES] GROUP"
DATA "THE CENTAUR LOOKS MORE LIKE A TEAPOT IN THE [2 SPACES] SKY"
DATA "THE WATER FROM HIS JAR FEEDS THE 'SOUTHERN [3 SPACES] FISH'"
DATA 3, 5, 26, 49, 29, 98, 112, 147, 179, 199, 222, 0
DATA "THE STAR SPICA IS A [3 SPACES] STALK OF GRAIN IN HER HAND"
DATA 31, 47, 81, 94, 124, 192, 239, 0
DATA 3, 47, 112, 158, 204, 207, 208, 254, 191, 216, 214, 172, 150, 152, 153, 131, 0
DATA "THE TAILS OF THESE [4 SPACES] FISHES ARE BOUND BY [3 SPACES] RIBBON"
DATA 16, 18, 36, 60, 58, 69, 79, 81, 91, 93, 116, 143, 161, 164, 206, 207, 250, 0
DATA "THIS 'SEA GOAT' MAY BE PAN IN DISGUISE"
DATA 81, 82, 94, 95, 103, 163, 187, 210, 0
DATA "THE PLEIADES FORM THE APEX OF ITS SHOULD ER"
DATA 16, 18, 36, 60, 58, 69, 79, 81, 91, 93, 116, 143, 161, 164, 206, 207, 250, 0
DATA "JUPITER IN DISGUISE [3 SPACES] (THE EAGLE) FORMS THE TAIL OF SERPENS"
DATA 16, 18, 36, 60, 58, 69, 79, 81, 91, 93, 116, 143, 161, 164, 206, 207, 250, 0
DATA "IT CONTAINS ALGOL, A [2 SPACES] VARIABLE STAR THAT IS REALLY TWO STARS"
DATA "BEETELGEUSE AND RIGEL [2 SPACES] ARE FOUND [SPACE] HERE"
DATA 51, 53, 99, 103, 121, 143, 135, 157, 159, 160, 212, 0
DATA "ITS MAJOR STARS ARE [3 SPACES] CASTOR AND [SPACE] POLLUX"
DATA 60, 94, 103, 182, 189, 192, 236, 0
DATA "WHEN ITS CLUSTER [6 SPACES] PRAESEPE IS VISIBLE, [2 SPACES] RAIN IS FORETOLD"
DATA 73, 82, 120, 145, 0
DATA "DENEB KAITOS IS THE [3 SPACES] 'SEA MONST ER'S' [5 SPACES] MAJOR STAR"
ANDROMEDA, DECEMBER, SOUTH

"IT FEATURES A SPIRAL THAT CAN BE SEEN ON MOONLESS NIGHTS"

CANIS MAJOR, JANUARY, SOUTH

"SIRIUS' ASTRONOMY STUDENTS WILL RECOGNIZE THIS"

CANIS MAJOR, JANUARY, SOUTH

"THIS RABBIT IS FLEEING FROM ORION, 'THE HUNTER"

ERIDANUS, JANUARY, SOUTH

"THE RIVER' IS THOUGHT TO REPRESENT CHINA'S RIVER PO"

PEGASUS, DECEMBER, SOUTH

"THREE STARS OF THE 'GREAT SQUARE' FORM ITS TORSO"
State of the Union

Skill Area: Social Studies
Level: III, IV
Memory: At least 16K expansion required
Equipment required: None
Modification: Yes

Geography
“State of the Union” is a question-and-answer game designed to teach students the names of the 50 United States, their capitals, and various facts about each state’s history or economics. Players are asked up to four questions about each state, and are given points depending on how many questions are used before the state is identified.

How to Play
To begin the game, hit any key. Because of the length of the program, there is about a ten-second delay between the time you hit the key and the time the game begins.

When a question is asked, type the name of the state on the keyboard and hit RETURN. If you don’t know the answer to the question, you can either make a guess, or hit the RETURN key. Abbreviations and misspellings will count as incorrect answers, so you must write out the correctly spelled name of the state. For your reference, the correct spellings of the state names appear below:

Alabama  Hawaii  Massachusetts
Alaska    Idaho   Michigan
Arizona   Illinois Mississippi
Arkansas  Indiana Missouri
California Iowa    Montana
Colorado  Kansas  Nebraska
Connecticut Kentucky Nevada
Delaware  Louisiana New Hampshire
Florida   Maine   New Jersey
Georgia   Maryland

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New Mexico  Pennsylvania  Utah
New York    Rhode Island  Vermont
North Carolina  South Carolina  Virginia
North Dakota  South Dakota  Washington
Ohio        Tennessee    West Virginia
Oklahoma     Texas       Wisconsin
Oregon       Wyoming

If you're still unable to name a state after you've seen all four questions, the name of the state will flash on the screen.

**Scoring**

If you answer correctly after only one question, 4 points.
  If you answer after the second question, 3 points.
  If you answer after the third question, 2 points.
  If you answer after the fourth question, 1 point.
  If you are still unable to give the name of the state, -5 points.

A running total of your score is shown on the screen after each question, and a grand total appears at the end of the game. You will also see a percentage score at game's end to let you know how well you've done. If you don't want to play an entire game of State of the Union, type END as an answer to any question. This stops the game and gives your final score.

**State of the Union**

100  NS=50:CB=828:POKE36879,254
200  GOSUB700
205  S%=0:FORX=1TONS:POKECB+X,0:NEXTX
210  FORX=1TONS:GOSUB800:POKECB+Z,X:NEXTX
300  FORX=1TONS:Y=PEEK(CB+X);Y=(Y-1)*5
310  RESTORE:IFY=0THEN330
320  FOR=1TOY:READXS$:NEXTX
330  FOR=1TO5:READXS$:QT$(W-1)=XS$:NEXTW
400  FORW=0TO3
405  PRINTCHR$(147);"{BLK}{21 DOWN}";SPC(6);"SCORE {SPACE}=";S%;
410  PRINT"{HOME}{2 DOWN} QUESTION \#";W+1
420  PRINT"{3 DOWN}";QT$(W);"{3 DOWN}"
430  X$="":POKE198,0:INPUTX$:IFX$=QT$(4)THEN500
435  IFX$="END"THEN600
440  POKE36879,24:POKE36878,15:POKE36874,180:FORW=1
to100:NEXTW
450  POKE36878,0:POKE36874,0:POKE36879,254
460  NEXTW:PRINT"{PUR}{2 DOWN} STATE=";QT$(4):S%=S%
-5
FOR W = 1 TO 1500: NEXT W, X
GOTO 600
S% = S% + (4 - W): POKE 36879, 30: POKE 36878, 15: FOR V = 170 TO 220
POKE 36875, V: NEXT V: POKE 36878, 0: POKE 36879, 254
NEXT X
PRINT "[BLK][CLR][DOWN][6 SPACES][RVS]TEST OVER 1[OFF]"
PRINT "[3 DOWN] YOUR SCORE = "; S%
IFS% < 0 THEN S% = 0
X = X - 1: IF X < 1 THEN X = 1
X = INT((S% * 100) / (X * 4))
PRINT "[DOWN] YOUR GRADE = "; X; "[LEFT]%"
GETX$; IFX$ = "THEN660
IFX$ = "Y" THEN 205
IFX$ <> "N" THEN 660
END
PRINT "[BLK][CLR][DOWN][RVS][2 SPACES]STATE OF [SPACE]THE UNION[2 SPACES][OFF]"
PRINT " 1 QUESTION[2 SPACES]4."; PRINT " 2 QUESTIONS = [2 SPACES]3.";
PRINT " 3 QUESTIONS = [2 SPACES]2."; PRINT " 4 QUESTIONS = [2 SPACES]1.";
PRINT " ALL MISSED[2 SPACES] = -5.";
PRINT "[DOWN] TYPE [RVS]END[OFF] TO END EARLY.";
PRINT "[DOWN] (HIT ANY KEY TO START)";
PRINT "[DOWN][2 SPACES] (TEN-SECOND DELAY)"
GETX$; IFX$ = "THEN790
RETURN
W = 0
Z = INT((RND(1) * NS) + 1): IF PEEK(CB + Z) = 0 THEN RETURN
W = W + 1: IF W < 9 THEN 810
Z = 1
IF PEEK(CB + Z) = 0 THEN RETURN
Z = Z + 1: GOTO 835
DATA "JEFFERSON DAVIS BECAME PRESIDENT OF THE [6 SPACES] CONFEDERACY HERE"
DATA "THE SOUTH'S LARGEST [3 SPACES] STEEL PRODUCING STATE"

Level
3

470 FOR W = 1 TO 1500: NEXT W, X
480 GOTO 600
500 S% = S% + (4 - W): POKE 36879, 30: POKE 36878, 15: FOR V = 170 TO 220
510 POKE 36875, V: NEXT V: POKE 36878, 0: POKE 36879, 254
520 NEXT X
600 PRINT "[BLK][CLR][DOWN][6 SPACES][RVS]TEST OVER 1[OFF]"
610 PRINT "[3 DOWN] YOUR SCORE = "; S%
620 IF S% < 0 THEN S% = 0
625 X = X - 1: IF X < 1 THEN X = 1
630 X = INT((S% * 100) / (X * 4))
640 PRINT "[DOWN] YOUR GRADE = "; X; "[LEFT]%"
660 GETX$; IFX$ = "THEN660
670 IFX$ = "Y" THEN 205
680 IFX$ <> "N" THEN 660
690 END
700 PRINT "[BLK][CLR][DOWN][RVS][2 SPACES]STATE OF [SPACE]THE UNION[2 SPACES][OFF]"
715 PRINT " 1 QUESTION[2 SPACES]4."; PRINT " 2 QUESTIONS = [2 SPACES]3.";
720 PRINT " 3 QUESTIONS = [2 SPACES]2."; PRINT " 4 QUESTIONS = [2 SPACES]1.";
725 PRINT " ALL MISSED[2 SPACES] = -5.";
730 PRINT "[DOWN] TYPE [RVS]END[OFF] TO END EARLY.";
785 PRINT "[DOWN] (HIT ANY KEY TO START)";
787 PRINT "[DOWN][2 SPACES] (TEN-SECOND DELAY)"
790 GETX$; IFX$ = "THEN790
795 RETURN
800 W = 0
810 Z = INT((RND(1) * NS) + 1): IF PEEK(CB + Z) = 0 THEN RETURN
820 W = W + 1: IF W < 9 THEN 810
830 Z = 1
835 IF PEEK(CB + Z) = 0 THEN RETURN
840 Z = Z + 1: GOTO 835
1000 DATA "JEFFERSON DAVIS BECAME PRESIDENT OF THE [6 SPACES] CONFEDERACY HERE"
1010 DATA "THE SOUTH'S LARGEST [3 SPACES] STEEL PRODUCING STATE"
1020 DATA"IT'S FAMOUS FOR MAGNOLIAS, COTTON, AND EARLY AEROSPACE RESEARCH"
1030 DATA"THE STATE CAPITAL IS MONTGOMERY, ALABAMA"
1040 DATA"THE HIGHEST PEAK IN NORTH AMERICA IS MONTGOMERY"
1050 DATA"IT WAS ONCE KNOWN AS SEWARD'S ICE BOX"
1060 DATA"IT HAS THE LARGEST AREA AND THE SMALLEST POPULATION"
1070 DATA"THE STATE CAPITAL IS JUNEAU, ALASKA"
1080 DATA"THE LAST MAINLAND STATE TO JOIN THE UNION"
1090 DATA"ASTRONOMERS LIKE ITS DRY, CLEAR AIR"
1100 DATA"THE HOME OF THE GRAND CANYON"
1110 DATA"THE STATE CAPITAL IS PHOENIX, ARIZONA"
1120 DATA"IT PRODUCES 90% OF AMERICA'S ALUMINUM"
1130 DATA"IT WAS THE HOME OF HANGING JUDGE PARKER"
1140 DATA"IT CONTAINS AMERICA'S ONLY DIAMOND MINE"
1150 DATA"THE STATE CAPITAL IS LITTLE ROCK, ARKANSAS"
1160 DATA"THE MOST POPULOUS STATE"
1170 DATA"IT CONTAINS THE LOWEST ELEVATION IN NORTH AMERICA"
1180 DATA"THERE WAS 'GOLD IN THEM THAR HILLS'"
1190 DATA"THE STATE CAPITAL IS SACRAMENTO, CALIFORNIA"
1200 DATA"THE STATE WITH THE HIGHEST OVERALL ELEVATION"
1210 DATA"IT PRODUCES 72% OF THE WORLD'S MOLYBDENUM"
1220 DATA"ITS NAME MEANS 'COLORED RED' IN SPANISH"
1230 DATA"THE STATE CAPITAL IS DENVER, COLORADO"
1240 DATA"IT WAS THE HOME OF NATHAN HALE"
1250 DATA"IT RECEIVED STATEHOOD IN 1788"
1260 DATA"IT IS FAMOUS FOR YALE UNIVERSITY"
1270 DATA"THE STATE CAPITAL IS HARTFORD, CONNECTICUT"
1280 DATA"THE FIRST STATE TO RATIFY THE CONSTITUTION"
1290 DATA "IT IS SOMETIMES CALLED THE 'CHEMICAL CAPITAL OF THE WORLD'"
1300 DATA "AMERICA'S SECOND SMALLEST STATE"
1310 DATA "THE STATE CAPITAL IS DOVER", DELAWARE
1320 DATA "ITS COASTLINE MEASURES 1,350 MILES"
1330 DATA "THE SOUTHERNMOST OF THE CONTINENTAL U.S"
1340 DATA "THE HOME OF CAPE CANAVERAL"
1350 DATA "THE STATE CAPITAL IS TALLAHASSEE", FLORIDA
1360 DATA "THE LAST OF THE 13 COLONIES TO BE SETTLED"
1370 DATA "HOME OF STONE MOUNTAIN PARK"
1380 DATA "BIRTHPLACE OF UNCLE REMUS, SCARLETT O'HARA AND COCA-COLA"
1390 DATA "THE STATE CAPITAL IS ATLANTA", GEORGIA
1400 DATA "THIS STATE WAS FORMED BY ERUPTING VOLCANOS"
1410 DATA "THE 50TH STATE TO JOIN THE UNION"
1420 DATA "WORLD WAR II STARTED FOR THE U.S. WITH AN ATTACK HERE"
1430 DATA "THE STATE CAPITAL IS HONOLULU", HAWAII
1440 DATA "IT LEADS IN PRODUCTION OF SILVER AND COBALT"
1450 DATA "HOME OF THE NATION'S DEEPEST CANYON -- HELLS CANYON"
1460 DATA "THE STATE CAPITAL IS BOISE"
1465 DATA "FAMOUS FOR ITS POTATOES", IDAHO
1470 DATA "THE LINCOLN-DOUGLAS DEBATES WERE HELD HERE"
1480 DATA "IT IS HOME OF THE WORLD'S TALLEST BUILDING"
1490 DATA "THE STATE CAPITAL IS SPRINGFIELD"
1500 DATA "THE WINDY CITY IS PART OF THIS GREAT LAKE"
1510 DATA "THE SMALLEST OF THE 'LOWER 48' STATES WEST OF THE ALLEGHENIES"
1520 DATA "ITS LAKE MICHIGAN WATERFRONT IS LINED WITH STEEL MILLS"
1530 DATA "IT IS THE HOME OF PURDUE UNIVERSITY"
1540 DATA "THE STATE CAPITAL IS INDIANAPOLIS", INDIANA
1550 DATA "THIS FARMING STATE PRODUCES 10% OF AMERICA'S FOOD"
1560 DATA "IT IS THE LEADING LOG STATE IN THE U.S"
1570 DATA "IT IS BORDERED BY SIX FARMING AND TWO GREAT LAKE STATES"
1580 DATA "THE STATE CAPITAL IS {2 SPACES} DES MOINES "{3 SPACES} IOWA"
1590 DATA "IT PRODUCES MORE WHEAT THAN ANY OTHER STATE"
1600 DATA "IT HAD ITS OWN CIVIL {2 SPACES} WAR OVER SLAVERY IN {3 SPACES} 1821"
1610 DATA "LEAVENWORTH FEDERAL {3 SPACES} PENITENTIARY IS HERE"
1620 DATA "THE STATE CAPITAL IS {2 SPACES} TOPEKA", KANSAS
1630 DATA "PRESIDENTS OF BOTH {4 SPACES} CIVIL WAR Factions {4 SPACES} CAME FROM THIS STATE"
1640 DATA "THE STATE CAPITAL IS {2 SPACES} FRANKFORT"
1650 DATA "IT IS THE SITE OF THE WORLD'S MOST FAMOUS {3 SPACES} HORSE RACE"
1660 DATA "MAMMOTH CAVE AND FORT KNOX ARE HERE", KENTUCKY
1670 DATA "IT CONTAINS THE {7 SPACES} NATION'S SECOND {7 SPACES} BUSIEST SEAPORT"
1680 DATA "IT IS DIVIDED INTO {4 SPACES} PARISHES, AND NOT {5 SPACES} COUNTIES"
1690 DATA "THE STATE CAPITAL IS {2 SPACES} BATON ROUGE"
1700 DATA "THE HOME OF CAJUNS, {3 SPACES} CRAWFISH AND MARDI {4 SPACES} GRAS", LOUISIANA
1710 DATA "THIS STATE HAD A 'TEA PARTY' BUT NOT IN {5 SPACES} BOSTON"
1720 DATA "IT WAS A PART OF {6 SPACES} MASSACHUSETTS {SPACE} UNTIL {3 SPACES} 1820";
1730 DATA "THE STATE CAPITAL IS {2 SPACES} AUGUSTA"
1740 DATA "IT IS FAMOUS FOR ITS {2 SPACES} LOBSTER", MAINE
1750 DATA "THE ONLY STATE WITH A STATE SPORT -- {8 SPACES} JOUSTING"
1760 DATA "THE FIRST STATE TO {4 SPACES} RATIFY THE {12 SPACES} CONSTITUTION"
1770 DATA "IT STRADDLES {10 SPACES} CHESAPEAKE BAY"
1780 DATA "THE STATE CAPITAL IS {2 SPACES} ANNAPOLIS", MARYLAND
1790 DATA "THE PILGRIMS FIRST {4 SPACES} LANDED HERE"
1800 DATA "HOME OF THE INFAMOUS {2 SPACES} SALEM WITCH TRIALS"
1810 DATA "THE HOME OF HARVARD {3 SPACES} UNIVERSITY"
1820 DATA "THE STATE CAPITAL IS {2 SPACES} BOSTON", MASSACHUSETTS
1830 DATA "IT IS COMPOSED OF TWO PENINSULAS, DIVIDED BY THE GREAT LAKES"
1840 DATA "THE STATE CAPITAL IS [2 SPACES] LANSING"
1845 DATA "IT IS THE AUTOMOBILE [2 SPACES] CAPITAL OF THE WORLD"
1850 DATA "A GREAT LAKE SHARES [3 SPACES] ITS NAME", MICHIGAN
1860 DATA "IT CONTAINS MORE THAN 15,000 LAKES"
1870 DATA "THE HOME OF THE MAYO [2 SPACES] CLINIC"
1880 DATA "THE MISSISSIPPI RIVER HAS ITS ORIGIN IN THIS STATE"
1890 DATA "THE STATE CAPITAL IS [2 SPACES] ST. PAUL", MINNESOTA
1900 DATA "ONLY VIRGINIA HAD MORE CIVIL WAR BATTLES THAN THIS STATE"
1910 DATA "DEVASTATED IN 1969 BY AMERICA'S MOST POWERFUL HURRICANE"
1920 DATA "ITS NAME IS AN INDIAN WORD MEANING 'LARGE RIVER'"
1930 DATA "THE STATE CAPITAL IS [2 SPACES] JACKSON", MISSISSIPPI
1940 DATA "IT RANKS FIRST IN THE NATION IN LEAD MINING"
1950 DATA "IT WAS ADMITTED AS A SLAVE STATE WHEN MAINE JOINED AS A FREE STATE"
1960 DATA "IT IS THE 'GATEWAY TO THE WEST'"
1970 DATA "THE STATE CAPITAL IS [2 SPACES] JEFFERSON CITY", MISSOURI
1980 DATA "IT IS THE MUSTARD SEED CAPITAL OF THE U.S"
1990 DATA "GLACIER NATIONAL PARK IS HERE"
2000 DATA "THE SITE OF CUSTER'S LAST STAND"
2010 DATA "THE STATE CAPITAL IS [2 SPACES] HELENA", MONTANA
2020 DATA "THE BIRTHPLACE OF [5 SPACES] PRESIDENT GEORGE FORD"
2030 DATA "THE PLATTE RIVER RUNS THE WIDTH OF THE STATE"
2040 DATA "THE TRANSCONTINENTAL RAILROAD STARTED HERE IN 1865"
2050 DATA "THE STATE CAPITAL IS [2 SPACES] OMAHA", NEBRASKA
2060 DATA "THE DRIEST STATE, WITH LESS THAN 3 INCHES OF RAIN PER YEAR"
2070 DATA "THE SITE OF [11 SPACES] UNDERGROUND NUCLEAR TESTS"
2080 DATA "THE STATE CAPITAL IS [2 SPACES] CARSON CITY"
2090 DATA "IT IS THE GAMBLING CAPITAL OF THE U.S", NEVADA
DATA "IT SHARED A GOVERNOR WITH MASSACHUSETTS FROM 1699-1741"
DATA "AS THE 9TH STATE TO RATIFY, IT MADE THE CONSTITUTION LEGAL"
DATA "PUBLIC PARK LANDS COMprise ONE-FIFTH OF THIS STATE"
DATA "THE STATE CAPITAL IS CONCORD, NEW HAMPSHIRE"
DATA "ONE OF ITS CITIES WAS USED AS A PATTERN FOR THE MONOPOLY BOARD"
DATA "THE HOME OF PRINCETON AND RUTGERS [11 UNIVERSITIES]"
DATA "THE SITE OF 'AMERICA'S OTHER LAS VEGAS'", "NEW JERSEY"
DATA "IT LEADS THE NATION IN URANIUM PRODUCTION"
DATA "THE FIRST ATOMIC BOMB WAS PRODUCED AND EXPLODED HERE"
DATA "THE STATE CAPITAL IS SANTA FE"
DATA "CARLSBAD CAVERNS IS ITS MAJOR TOURIST ATTRACTION", "NEW MEXICO"
DATA "ITS LARGEST CITY WAS THE FIRST U.S. CAPITAL"
DATA "IT LEADS THE NATION IN MANUFACTURING"
DATA "IT CONTAINS THE NATION'S LARGEST CITY AND PORT"
DATA "THE STATE CAPITAL IS ALBANY", "NEW YORK"
DATA "THE WRIGHT BROTHERS' FIRST PLANE FLEW HERE"
DATA "HOME OF THE WORLD'S 'LOST COLONY'"
DATA "IT LEADS THE NATION INTO TOBACCO PRODUCTION"
DATA "THE STATE CAPITAL IS RALEIGH", "NORTH CAROLINA"
DATA "THE BIRTHPLACE OF ULYSSES GRANT AND SIX OTHER PRESIDENTS"
DATA "THE ABOLITIONIST MOVEMENT BEGAN HERE"
DATA "IT LEADS THE NATION INTO LIME PRODUCTION"
DATA "THE STATE CAPITAL IS COLUMBUS", "OHIO"
DATA "90% OF THIS RURAL STATE IS DEVOTED TO FARM LAND"
DATA "HOME OF THE BADLANDS"
DATA "SITE OF THE RED RIVER VALLEY"
"THE STATE CAPITAL IS BISMARCK", \"NORTH DAKOTA\"

"IT WAS THE BIRTHPLACE OF WILL ROGERS"

"IT WAS PART OF INDIAN TERRITORY DURING THE 19TH CENTURY"

"INDIANS WANTED PART OF ITS LAND TO BECOME THE STATE OF SEQUOYAH"

"THE STATE CAPITAL IS OKLAHOMA CITY", OKLAHOMA

"IN 1811 JOHN JACOB ASTOR FOUNDED A FUR DEPOT HERE"

"IT BOASTS THE NATION'S DEEPEST LAKE, CRATER LAKE"

"IT LEADS THE NATION IN LUMBER PRODUCTION"

"THE STATE CAPITAL IS SALEM", OREGON

"BENJAMIN FRANKLIN IS ITS MOST FAMOUS SON"

"IT IS THE HOME OF THE 1ST RADIO STATION -- KDKA"

"VALLEY FORGE AND GETTYSBURG ARE BOTH IN THIS STATE"

"THE STATE CAPITAL IS HARRISBURG", PENNSYLVANIA

"ROGER WILLIAMS STARTED THE STATE'S FIRST SETTLEMENT IN 1636"

"IT WAS THE LAST OF THE ORIGINAL COLONIES TO RATIFY THE CONSTITUTION"

"IT IS THE NATION'S SMALLEST STATE, AND IT IS NOT AN ISLAND"

"THE STATE CAPITAL IS PROVIDENCE", RHODE ISLAND

"THE CIVIL WAR STARTED HERE"

"IT WAS THE 1ST STATE TO SEcede FROM THE UNION"

"IT IS THE BIGGEST PEACH-PRODUCING STATE EAST OF CALIFORNIA"

"THE STATE CAPITAL IS COLUMBIA", "SOUTH CAROLINA"

"IT CONTAINS THE GEOGRAPHICAL CENTER OF THE U.S"

"IT LEADS THE NATION IN GOLD PRODUCTION"

"IT IS FAMOUS FOR MOUNT RUSHMORE"

"THE STATE CAPITAL IS PIERRE", "SOUTH DAKOTA"

"IT LEADS THE NATION IN ZINC PRODUCTION"

"ANDREW JACKSON MADE HIS HOME HERE"
DATA "IT IS THE MUSIC CENTER OF AMERICA"
DATA "THE STATE CAPITAL IS [2 SPACES] NASHVILLE"
DATA "IT WAS AN INDEPENDENT COUNTRY FOR ALMOST A [2 SPACES] DECADE"
DATA "IT LEADS THE NATION IN OIL, CATTLE AND COTTON PRODUCTION"
DATA "THE BATTLE OF THE [5 SPACES] ALAMO WAS Fought HERE"
DATA "THE STATE CAPITAL IS [2 SPACES] AUSTIN", TEXAS
DATA "IT CONTAINS THE [7 SPACES] NATION'S LARGEST OPEN PIT COPPER MINE"
DATA "ITS ORIGINAL NAME WAS DESERET"
DATA "BRIGHAM YOUNG LED THE FIRST MORMON SETTLERS HERE"
DATA "THE STATE CAPITAL IS [2 SPACES] SALT LAKE CITY", UTAH
DATA "IT CLAIMS TWO U.S. [4 SPACES] PRESIDENTS, BUT ONE [3 SPACES] WAS PROBABLY BORN IN CANADA"
DATA "IT IS THE ONLY NEW [4 SPACES] ENGLAND STATE WITHOUT AN OCEAN COASTLINE"
DATA "IT'S FAMOUS FOR THE [3 SPACES] PRODUCTION OF MAPLE [3 SPACES] SYRUP"
DATA "THE STATE CAPITAL IS [2 SPACES] MONTPELIER", VERMONT
DATA "IT IS FAMOUS FOR COAL PRODUCTION"
DATA "HARPER'S FERRY IS [6 SPACES] LOCATED HERE"
DATA "STONEWALL JACKSON WAS A NATIVE OF THIS STATE"
DATA "THE STATE CAPITAL IS [2 SPACES] CHARLESTON", "WEST VIRGINIA"
DATA "IT HAS THE MILDEST [4 SPACES] CLIMATE OF ALL THE [4 SPACES] NORTHERN STATES"
DATA "IT LEADS THE NATION IN APPLE PRODUCTION"
DATA "IT CONTAINS THE ONLY [2 SPACES] ACTIVE VOLCANO IN THE CONTINENTAL U.S"
DATA "THE STATE CAPITAL IS [2 SPACES] OLYMPIA", WASHINGTON
DATA "IT WAS THE HOME OF THE MAIN CAPITAL OF THE CONFEDERACY"
DATA "THE FIRST PERMANENT [3 SPACES] ENGLISH SETLEMENT IN AMERICA WAS HERE"
DATA "IT IS THE BIRTHPLACE [2 SPACES] OF EIGHT PRESIDENTS"
DATA "THE STATE CAPITAL IS [2 SPACES] RICHMOND", VIRGINIA
2900 DATA "IT WAS THE BOYHOOD [4 SPACES] HOME OF HARRY HOUDINI"
2910 DATA "IT LEADS THE NATION IN BEER PRODUCTION"
2920 DATA "IT IS THE NATION'S [4 SPACES] LEADING DAIRY STATE"
2930 DATA "THE STATE CAPITAL IS [2 SPACES] MADISON", WISCONSIN
2940 DATA "WOMEN WERE FIRST GIVEN THE RIGHT TO VOTE [5 SPACES] HERE"
2950 DATA "IT'S DEVIL'S TOWER WAS THE FIRST U.S. [8 SPACES] NATIONAL MONUMENT"
2960 DATA "IT IS THE HOME OF [5 SPACES] YELLOWSTONE NATIONAL [2 SPACES] PARK"
2970 DATA "THE STATE CAPITAL IS [2 SPACES] CHEYENNE", WYOMING
Money Talks
You had the day all planned. You were going to spend the morning playing with the computer, and you wanted to goof around with your friends in the afternoon. After dark, you hoped to borrow enough money from Mom to go to the movies.

Mom has different ideas. She wants you to go to the grocery store. The list isn’t a long one — it’s just ten items. But going to the store isn’t exactly the way you wanted to spend your day.

But Mom offers a compromise. She’ll give you the money and the grocery list. You go to the grocery store and buy everything she needs. Any money you save by shopping wisely, you get to keep for your night at the movies.

The idea still doesn’t sound as good as spending the day with your computer and hanging around with the kids, but it beats missing the movie altogether.

How to Play
The computer will show you a selection of ten items. Each time you need to make a purchase, you may choose between Brand A and Brand B. Select the brand you think is the better bargain by pressing A or B. Each time you choose the better buy, the computer will let you know with sound and flashing colors. If you choose the more expensive brand, the computer screen will go black and you’ll get a raspberry.

Scoring
At the end of each game, the computer will tell you the number of wise purchases you made, followed by the number of unwise choices. Then the computer will tell you how much you saved by comparison shopping.
Wise Shopper

100 DIM$ (19, 1): POKE 36879, 26: B1$ = "{RVS}[22 SPACES] [OFF]" : C$ = "{CYN}{PUR}{GRN}{BLU}{YEL}" 
110 B2$ = "{RVS}[7 SPACES][OFF][8 SPACES][RVS] [7 SPACES][OFF]"
120 PRINT "{BLK}[CLR][DOWN][5 SPACES][RVS] WISE SHOP PER[OFF]": PRINT "[DOWN] YOU ARE GOING TO THE [2 SPACES] STORE TO BUY 10 ITEMS.";
160 PRINT "[3 DOWN] (HIT ANY KEY TO START)"; POKE 36878, 15
170 READ X, Y: IF X < 0 THEN 190
180 POKE 36876, X: FOR Z = 1 TO (Y * 100): NEXT Z: POKE 36876, 0: GOTO 170
190 GET X$: IF X$ = "" THEN 190
200 EC = 0: RC = 0: XS = 0: FOR X = 0 TO 19: READ X$, Y$: P$(X, 0) = X$: P$(X, 1) = Y$: NEXT X
300 QA = INT (RND (1) * 7) + 3
310 QD = INT (RND (1) * 7) + 3: IF QA = QD THEN 310
320 PA = INT (RND (1) * 11) + 30: X = INT (RND (1) * 5) + 1: IF RND (1) > .5 THEN X = X * -1
330 PB = PA + X
340 X = INT (RND (1) * 20): IF P$(X, 0) = "$" THEN 340
350 XS = P$(X, 0): Y$ = P$(X, 1): P$(X, 0) = "$"
360 X = INT (RND (1) * 5) + 1: Z$ = MID$(C$, X, 1)
400 PRINT "[CLR]"; Z$: FOR X = 1 TO 3: PRINT B1$; Z$ NEXT X
410 FOR X = 1 TO 10: PRINT B2$: NEXT X: FOR X = 1 TO 3: PRINT B1$: NEXT X
420 PRINT "[BLK][HOME][6 DOWN][8 RIGHT]"; X$: PRINT " [DOWN][8 RIGHT]"; Y$
430 X = QA * PA: GOSUB 8000
440 PRINT "[HOME][17 DOWN][RVS] A [OFF]"; QA; "Ounces For "; X$
450 X = QB * PB: GOSUB 8000
460 PRINT "[DOWN][RVS] B [OFF]"; QB; "Ounces For "; X$
480 PRINT "[HOME][7 RIGHT][RVS] ITEM "; EC + RC + 1; " [OFF]"
500 GET X$: IF X$ = "" THEN 500
510 IF X$ = "A" AND X$ < "B" THEN 500
520 IF X$ = "B" AND DPB > PATHEN500
530 IFX$="A"ANDPA>PB THEN 600
540 GOTO 700
600 POKE36878,15:POKE36874,140:POKE36879,8:FORX=1 TO 300:NEXTX:POKE36878,0:POKE36874,0
610 POKE36879,26:EC=EC+1
620 GOTO 790
700 POKE36878,15:FORX=16TO26STEP-16
710 POKE36878,180:FORZ=1TO50:NEXTZ:POKE36878,0:POKE36874,0
720 POKE36879,26:EC=EC+1
730 IFX$="A"THENXS=XS+((PB-PA)*QA):GOTO790
740 XS=XS+((PA-PB)*QB)
790 IFRC+EC<10 THEN 300
800 PRINT"{CLR}{DOWN}{4 SPACES}{RVS}SHOPPING OVER! {OFF}"
810 PRINT"{2 DOWN}{2 SPACES}RIGHT ITEMS =";RC
820 PRINT"{DOWN}{2 SPACES}WRONG ITEMS =";EC
830 X=RC*10
840 PRINT"{DOWN}{2 SPACES}CORRECT %{3 SPACES}=";X;
"{LEFT}%"
850 IFRC=0 THEN 900
860 X=XS:GOSUB 8000
870 PRINT"{2 DOWN}TODAY YOU SAVED ";X$
880 PRINT"{DOWN}BY WISE SHOPPING."
900 PRINT"{2 DOWN}PLAY AGAIN? ({RVS}Y{OFF}/{RVS}N {OFF})"
910 GETX$:IFX$=""THEN 910
920 IFX$="N"THEN PRINT"{CLR}"":POKE36879,27:END
930 IFX$<"Y"THEN 910
940 RESTORE
950 READX:IFX$<"-2 THEN 950
960 GOTO 200
8000 Y$=STR$(X):X=LEN(Y$):ONXGOTO 8010,8010,8020,8030
8010 X$="$0.0"+RIGHT$(Y$,1):RETURN
8020 X$="$0."+RIGHT$(Y$,2):RETURN
8030 X$="$"+MID$(Y$,2,1)+"."+RIGHT$(Y$,2):RETURN
9000 DATA195,2,195,2,187,1,183,1,183,2,179,1,183,1,183,4,179,1,183,2,179,1
9010 DATA183,1,195,2,183,1,195,1,187,4,175,2,-1,-2
9100 DATACORN,FLAKES,DISH,SOAP,CAKE,MIX,GINGER,SNAPS,BREAD,CRUMBS
9110 DATARICE,"{SHIFT-SPACE}",BROWN,SUGAR,SUGAR,COBES,OAT,MEAL,CORN,MEAL
9120 DATACORN,CHIPS,POTATO,FLAKES,FUDGE,MIX,PIZZA,MIX,FRUIT,BARS
9130 DATAPASTA,"",BAKING,SODA,BAKING,POWD,WAFFLES,MIX,RED,BEANS

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Advanced Games
The Formidable Element Man

Everything in the world is made up of elements. The Element Man is no exception. But even though he's made of the same stuff as you and I, the Element Man is not exactly the kind of guy you'd invite to a party.

One thing is true about the Element Man: he knows where he's not wanted but he'll do his best to be there anyway. If you know your elements, you can keep this strange character from your doorstep.

How to Play

The computer will pick the name of one of the 103 known elements and tell you how many letters it contains. You must discover the element by selecting a letter at a time. If you pick more than 11 incorrect letters, you'll create the dreaded Element Man.

A line of blank spaces will appear on the computer screen to indicate how many letters are in the name of the element the computer chose. The message ENTER A LETTER will appear and you should type a letter you think may be in the word.

When you type a letter, one of two things will happen. If the letter does belong in the name of this element, it will appear in its proper place(s) among the word spaces. If the letter does not belong in the word, however, you'll hear a buzzing noise, the screen will temporarily go black, and the letter will appear on the bottom of the screen to remind you that you've already used it. (If you use a letter twice, the second use will show as incorrect.) Finally, a piece of the Element Man will appear. If you use 11 incorrect letters, the Element Man is yours to keep.

A list of the chemical elements appears below. Familiarize yourself with the names, but don't use the list when you're playing "Element Man." You won't have nearly as much fun if you do.
Here are the names of the 103 chemical elements as they appear in Element Man:

- actinium
- aluminum
- americium
- antimony
- argon
- arsenic
- astatine
- barium
- berkelium
- beryllium
- bismuth
- boron
- bromine
- cadmium
- calcium
- californium
- carbon
- cerium
- cesium
- chlorine
- chromium
- cobalt
- copper
- curium
- dysprosium
- einsteinium
- erbium
- europium
- fermium
- florine
- francium
- gadolinium
- gallium
- germanium
- gold
- hafnium
- helium
- holmium
- hydrogen
- indium
- iodine
- iridium
- iron
- krypton
- lanthanum
- lawrencium
- lead
- lithium
- lutetium
- magnesium
- manganese
- mendelevium
- mercury
- molybdenum
- neodymium
- neon
- neptunium
- nickel
- niobium
- nitrogen
- nobelium
- palladium
- phosphorous
- platinum
- plutonium
- polonium
- potassium
- praseodymium
- promethium
- protactinium
- radium
- radon
- rhenium
- rhodium
- rubidium
- ruthenium

No point score is given in Element Man. At the end of a round, the computer will ask if you want to try another element. You can type Y for Yes or N for No. If you indicate you don't want to play again, the computer will tell you how many words you've correctly identified since this session of Element Man began. The computer will also tell you how many words you've missed.

**Element Man**

100 NW%=103:POKE36879,26:CB=828:PRINT"{CLR}"
110 DIM NT%(15),WT$(NW%-1),WI$(19)
94
FOR X=0 TO 15: READ Z: NT%(X)=Z: NEXTX: FORX=1TONW%: READX$: WT$(X-1)=X$: NEXTX
PRINT"[CLR][BLK][DOWN][RVS][5 SPACES]ELEMENT [2 SPACES]MAN[5 SPACES][OFF];
PRINT"[2 DOWN]THE COMPUTER WILL PICK A CHEMICAL ELEMENT AND";
PRINT"SHOW YOU THE NUMBER OF LETTERS IT CONTAINS.
PRINT"[2 DOWN] YOU MUST GUESS THE ELEMENT BY SELECTING [2 SPACES] ONE LETTER AT A TIME.
PRINT"[2 DOWN] IF YOU PICK MORE THAN 11 INCORRECT LETTERS, THE FORMIDABLE ELEMENT"
PRINT"MAN WILL APPEAR!!"
PRINT"[DOWN] HIT ANY KEY TO START ;:GOSUB2500
PRINT"[2 SPACES](TEN SECOND DELAY)"
GETX$: IFX$="THEN210
FORX=1TONW$: POKECB+X,0:NEXTX
FORX=1TONW$: GOSUB800: POKECB+Z,X:NEXTX
FORLC=1TONW%
X=PEEK(CB+LC): WO$=WT$(X-1)
LW%=LEN(WO$)
FOR LC=1TONW%
X=PEEK(CB+LC): WO$=WT$(X-1)
LW%=LEN(WO$)
FOR X=0 TO LW%-1
WI$(X)=MID$(WO$,X+1,1): NEXTX
LC%=0: OF%=462: BC%=0: GOSUB1000: LW%=LW%-1
GETX$: IFX$="THEN400
X=ASC(X$): IFX<65 OR X>90 THEN 400
HI=0: FOR Y=0 TO LW%: IF WI$(Y)<>X$ THEN 530
HI=1: WI$(Y)=""POKE1+375+Y,X-64
LC%=LC%+1
NEXT Y: IF HI=1 THEN 560
GOSUB3000: BC%=BC%+1
IF BC%>10 THEN GOSUB2000: LO%=LO%+1: FOR X=1 TO 2000: NEXTX: GOTO700
IF LC%<=LW% THEN 400
GOSUB4000: WI%=WI%+1: GOTO700
GETX$: IFX$="THEN720
IFX$="Y" THEN NEXTLC: GOTO220
IFX$="N" THEN 720
PRINT"[3 DOWN] # CORRECT =", WI%
PRINT"[2 DOWN] # MISSED[2 SPACES]=": LO%
GOSUB2500: POKE36879,27
END
Y=0
Z=INT(RND(1)*NW%)+1: IF PEEK(CB+Z)=0 THEN RETURN
Y=Y+1: IF Y<10 THEN 810
810 Z=INT(RND(1)*NW%)+1: IF PEEK(CB+Z)=0 THEN RETURN
820 Y=Y+1: IF Y<10 THEN 810
830  Z=1
840  IF PEEK(CB+Z)=0 THEN RETURN
850  Z=Z+1: GOTO 840
1000 PRINT "{CLR}{BLK}{DOWN}{5 SPACES}ELEMENT
{2 SPACES}MAN{2 DOWN}"
1110 PRINT "{12 DOWN}"
1500 PRINT "{DOWN}{BLK}***********";
1510 PRINT "ENTER A LETTER: ";
1520  X=(LW%-1)
1530  FORY=0 TO X
1540  POKE 1+375+Y,45: POKE 2+375+Y,6
1550  RETURN
2000 FOR X=0 TO LW%: IF WI$(X)="$" THEN 2020
2010  Y=ASC(WI$(X)): POKE 1+375+X,Y-64
2020  NEXT X
2030  POKE 36878,15: FOR X=200 TO 150 STEP -5: POKE 36874,X
2040  FORY=0 TO X: POKE 36876,OF%: FOR Z=1 TO 100: NEXT Z: POKE 36876,0
2050  NEXT Y, X: POKE 36878,0: RETURN
2500  PRINT "{BLU}";: ON(BC%+1) GOTO 3010, 3020, 3030, 3040, 3050, 3060, 3070, 3080, 3090, 3100, 3110, 3120
2510  PRINT "{HOME}{3 DOWN}"; SPC(9); "g@3Vg@l": GOTO 3500
2520  PRINT SPC(8); "YQ*QEG3": GOTO 3500
2530  PRINT SPC(8); "< - >": GOTO 3500
2540  RETURN
3000  PRINT "{HOME}{3 DOWN}"; SPC(9); "^TjE+igT3": GOTO 3500
3010  PRINT "{HOME}{3 DOWN}"; SPC(9); "@3+3": GOTO 3500
3020  PRINT SPC(7); "_ (RVS){3 SPACES}{OFF} _": GOTO 3500
3030  PRINT SPC(7); "{RVS}E{OFF}12+ii": GOTO 3500
3040  PRINT SPC(7); "iE3E3+§gE3": GOTO 3500
3050  PRINT SPC(7); "g+3E+3": GOTO 3500
3060  PRINT SPC(7); "g£ig+3l+tt£l"
3070  PRINT SPC(7); "U*e +3[RVS]E{OFF}E2 + $"; GOTO 3500
3080  PRINT SPC(7); "e[3]{RVS}E{OFF}E2 + $"; GOTO 3500
3090  PRINT SPC(7); "e[3]E[3]{RVS}E{OFF}E2 + $"; GOTO 3500
3100  PRINT SPC(7); "e[3]E[3]{RVS}E{OFF}E2 + $"; GOTO 3500
3110  PRINT SPC(7); "e[3]E[3]{RVS}E{OFF}E2 + $"; GOTO 3500
3500  POKE 36878,15: POKE 36874,130: POKE 36879,14: FOR Y=1 TO 100: NEXT Y
3510  POKE 36878,26: POKE 36878,0: POKE 36874,0
3520  POKE 1+OF%,X-64: POKE 2+OF%,0: OF%=OF%+1
3530  RETURN
4000  POKE 36878,15: Y=130: FOR X=254 TO 30 STEP -16: POKE 36879,X: POKE 36876,Y
4010  FOR Z=1 TO 7: NEXT Z: Y=Y+7: NEXT X
4020  POKE 36876,0: POKE 36878,0: RETURN
5010  DATA 197, 209, 201, 215, 207, 195
5020  DATA ACTINIUM, ALUMINUM, AMERICIUM, ANTIMONY, ARGON
DATAARSENIC, ASTATINE, BARIUM, BERKELIUM, BERYLLIUM
DATABISMUTH, BORON, BROMINE, CADMIUM, CALCIUM
DATACALIFORNIUM, CARBON, CERIUM, CESIUM, CHLORINE
DATACHROMIUM, COBALT, COPPER, CURIUM, DYSPROSIUM
DATAEINSTEINIUM, ERBIUM, EUROPIUM, FERMIIUM, FLUORINE
DATAFRANCIUM, GADOLINIUM, GALLIUM, GERMANIUM, GOLD
DATAHAIFNIUM, HELIUM, HOLMIUM, HYDROGEN, INDIUM
DATAIODINE, IRIDIUM, IRON, KRYPTON, LANTHANUM
DATALAWRENCIUM, LEAD, LITHIUM, LUTETIUM, MAGNESIUM
DATAMANGANESE, MENDELEVIUM, MERCURY, MOLYBDENUM, NEODYMIUM
DATANEON, NEPTUNIUM, NICKEL, NIOBium, NITROGEN
DATANOBElIUM, OSMIUM, OXYGEN, PALLADIUM, PHOSPHORUS
DATAPLATINUM, PLUTONIUM, POLONIUM, POTASSIUM, PRASEODYMIUM
DATAPROMETHIUM, PROTACTINIUM, RADIUM, RADON, RHE NNIUM
DATARHODIUM, RUBIDIUM, RUTHENIUM, SAMARIUM, SCAN DIUM
DATELESIUM, SILICON, SILVER, SODIUM, STRONTIUM
DATASULFUR, TANTALUM, TECHNETIUM, TELLURIUM, TEBIUM
DATATHALLIUM, THORIUM, THULIUM, TIN, TITANIUM
DATATUNGSTEN, URANIUM, VANADIUM, XENON, YTTERBIUM
DATAYTTRIUM, ZINC, ZIRCONIUM
Level 4

Four by Four

Skill Area: Memory and Logic
Level: IV
Memory: Unexpanded 5K VIC
Equipment required: None
Modification: Yes (modification may require additional memory)

The Race
You’re dreaming again, and anything can happen in a dream. This time you’re the smartest person on earth, and you’re on television matching wits with a computer. In your dream, you need to know something about every subject imaginable. You also have to be able to come up with your answers quickly. You can’t hope to beat a computer unless you’re fast.

How to Play
The computer will select four categories and four letters of the alphabet. In each category, you then enter a word that begins with the letter the computer has picked. An asterisk — * — indicates you can use any letter to begin a word. For example, the computer has chosen the letters A, *, K, and W, and the first category is Mammals. For the letter A, you select aardvark and type that in. The * is a wild card, so you can type in the name of any animal. At first you can’t think of an animal whose name begins with a K, so you skip that letter for now by pressing the RETURN key on the keyboard. The computer will return to this question later. The last letter in the category is W, so you type wombat. Then the next category appears.

After you’ve gone through all four categories, the unanswered questions will appear again. The categories will repeat until one of three things happens:

- You’ve answered all the questions.
- Your four-minute time limit is up.
- You type QUIT on the keyboard instead of entering an answer.

In “Four by Four,” good spelling is not essential. As long as you enter a word beginning with the correct letter, the computer will consider the answer correct. This puts the responsibility on you to answer the questions honestly. You could cheat the com-
puter and win, but that’s not the object of the game, of course.

When a category asks for people’s names, type only the person’s last name. Under U.S. Presidents, for example, you can’t put Zachary Taylor’s name in the Z column. If you draw Z in the U.S. Presidents category, you’ll have to leave that space blank because there are no presidents whose surnames begin with the letter Z. You can enter Zachary’s name in the T column for Taylor. You don’t need to type his first name after the last one.

Scoring

After you’ve answered all the questions, run out of time, or quit the round, your score will appear. The score is based on the number of correct answers you entered (correct meaning the answer begins with the right letter), along with the time it took you to finish the round.

The computer will also give you the high score on all rounds of Four by Four that you’ve played in this session. You may only be playing against a computer in your dream, but in reality you can play against yourself or against another person.

If you’re playing Four by Four with a friend, you can play a round and then tell the computer to give your friend the same categories and letters. Then you’ll see who’s the quickest to come up with answers.

Four by Four

50 DIM C$(34), L$(27), A$(3,3), C$(3), L$(3): X=RND(-TI)
60 M=4*(PEEK(36866) AND 128)+64*(PEEK(36869) AND 120):
   C=(37888+4*(PEEK(36866) AND 128))-M
100 POKE36879,30: PRINT"{CLR}{BLK}{5SPACES}{RVS}FOUR BY FOUR{OFF}";
110 PRINT"{DOWN}4 CATEGORIES AND 4{4SPACES}LETTER S ARE SELECTED. ENTER A WORD WHICH"
120 PRINT"MATCHES EACH CATEGORY AND EACH LETTER. {6 SPACES}(* = ANY LETTER)"
140 PRINT"{DOWN}HIT {RVS}RETURN{OFF} TO SKIP A {2 SPACES}QUESTION AND RETURN TO IT LATER."
150 PRINT"{DOWN}TYPE {RVS}QUIT{OFF} TO END THE {2 SPACES}GAME BEFORE THE 4{5 SPACES}MINUTE TI ME LIMIT."
160 PRINT"{DOWN}SCORING IS BASED ON{3 SPACES}CORRECT ANSWERS AND{3 SPACES}THE AMOUNT OF TIME {4 SPACES}USED.";
170 PRINT"{DOWN}{3 SPACES}(PRESS ANY KEY)";
180 FOR X=0 TO 34: READ X$: C$(X)=X$: NEXT X: FOR X=0 TO 27: READ X$: L$(X)=X$: NEXT X: HS=0
```
Level

GETX$: IFX$="" THEN 190
FORX=0 TO 3
Y=INT(RND(1)*35): IF X=0 THEN C$(X)=Y: GOTO 240
FORZ=0 TO X-1: IF C$(Z)=Y THEN 210
NEXTZ
NEXTX
FORX=0 TO 3
Y=INT(RND(1)*28): IF X=0 THEN L$(X)=Y: GOTO 290
FORZ=0 TO X-1: IF L$(Z)=Y THEN 260
NEXTZ
L$(X)=Y
NEXTX
FORX=0 TO 3: FORY=0 TO 3: A$(X,Y)="": NEXT Y, X
TI$="0000"
HC=0: FORX=0 TO 3: Y=0
FORZ=0 TO 3: IF A$(X,Z)="" THEN Y=1
NEXTZ: IF Y=0 THEN 700
HC=1: PRINT "{CLR}{DOWN}"; C$(C$(X))
FORY=0 TO 3: PRINT "{PUR}{3DOWN}"; L$(L$(Y)): NEXT Y
X$="{BLK}{HOME}{5DOWN}": A$(X,Y):X$=X$+"{4DOWN}": NEXTX
FORX=0 TO 3: IF I$(X, Y)<>"HTHEN 600
GOSUB 7000
IFS="QUIT" THEN 800
IF LEN(I$)<>0 THEN 550
IF LEN(I$)=0 OR LEFT$(I$, 1)<>L$(L$(Y)) THEN 600
A$(X,Y)=I$
NEXTY
NEXTX
FORX=0 TO 3: FORY=0 TO 3: IF A$(X,Y)<>"HTHEN W=W+1
NEXTY: S=S+W*W: NEXTX
FORY=0 TO 3: IF A$(Y,X)<>MM THEN W=W+1
NEXTY: S=S+W*W: NEXTX: Y=0
S=S+Y: Z=0
IF S<16 THEN HS=S: Z=1
PRINT "{CLR}{DOWN}{6SPACES}{RVS}GAME OVER!"
IF S>HS THEN HS=S: Z=1
PRINT "{DOWN}{6SPACES}{RVS}GAME OVER!"
PRINT "{DOWN}{6SPACES}{RVS}GAME OVER!"
PRINT "HIGH SCORE ="; HS
PRINT "{DOWN}{6SPACES}{RVS}ENTER REPLAY OPTION;"
PRINT "{DOWN}{2SPACES}{RVS}{OFF} END THE GAME"
PRINT "{DOWN}{2SPACES}{RVS}{OFF} END THE GAME"
PRINT "{DOWN}{2 SPACES}{RVS}S{OFF} REPLAY SAME SETUP"
PRINT "{DOWN}{2 SPACES}{RVS}N{OFF} REPLAY NEW SETUP"
GETX$: IFX$="" THEN 980
```
990 IFX$="S" THEN 300
1000 IFX$="N" THEN 200
1010 IFX$="E" THEN 980
1020 END
7000 I$="": J=112+(Y*88)+M: POKE J, 160: POKE J+C, 0
7010 GETX$: IF I$>"000400" THEN 800
7020 IFX$="" THEN 7010
7030 L=ASC(X$): IFL<>20 THEN 7100
7050 X$=LEFT$(I$, LEN(I$)-1): I$=X$: POKE J+LEN(I$), 16
0: POKE J+LEN(I$)+1, 32
7060 POKE J+C+LEN(I$), 0: POKE J+C+LEN(I$)+1, 1: GOTO 701
0
7100 IF L=13 THEN POKE J+LEN(I$), 32: POKE J+C+LEN(I$), 1: RETURN
7150 IFL>63 THEN L=L-64
7160 POKE J+LEN(I$), L: POKE J+C+LEN(I$), 0: I$=I$+X$
7170 POKE J+LEN(I$), 160: POKE J+C+LEN(I$), 0: GOTO 7010
9000 DATA "NAMES OF U.S. CITIES", "NAMES OF U.S. STATES", "NAMES OF FRUITS"
9010 DATA "NAMES OF VEGETABLES", "FAMOUS SINGERS", "CHEMICAL ELEMENTS"
9020 DATA "U.S. PRESIDENTS", "NAMES OF BIRDS"
9030 DATA "NAMES OF FLOWERS", "FAMOUS WOMEN", "FAMOUS MEN"
9040 DATA "MUSICAL INSTRUMENTS", "ORGANS OF THE BODY"
9050 DATA "NAMES OF ANIMALS", "NATIONS OF THE WORLD", "NAMES OF OCCUPATIONS"
9060 DATA "FAMOUS SONG TITLES", "NAMES OF CARS", "NAMES OF SPICES"
9070 DATA "NAMES OF INSECTS", "FAMOUS BOOK TITLES", "BOOKS OF THE BIBLE"
9080 DATA "FAMOUS AUTHORS", "WEIGHTS AND MEASURES"
9090 DATA "WORLD LEADERS", "NAMES OF MAMMALS", "NAMES OF COLORS"
9100 DATA "NAMES OF FISH", "BREEDS OF DOG", "MAGAZINE NAMES"
9110 DATA "CORPORATION NAMES"
9120 DATA "MOVIE ACTORS", "MOVIE ACTRESSES", "NAMES OF MOVIES"
9130 DATA "NAMES OF T.V. SHOWS"
W, Y, Z, *, **, ***
Exploring the Solar System

"Heavenly Bodies" is a question-and-answer game designed to teach students about the planets of the solar system. Points will be given if you correctly identify a planet from a clue given.

How to Play

The game consists of 100 questions, each of which pertains to one of the nine known planets, or the Planet X of astronomical theory. You indicate your answer by entering the letter of the planet, as shown on the screen. If you make an incorrect guess, the correct answer will flash on the computer screen before play resumes.

You can quit playing at any time by pressing F1 on the keyboard. Your percentage score will not be affected if you quit before all 100 questions have been asked.

Scoring

You receive 10 points for each correct answer, and -1 point for each incorrect answer. A score based on the number of questions asked and the number of questions answered correctly is shown at the end of a game. You’ll see both a numerical score and a percentage score.

Heavenly Bodies

100 NO=100:S=4*(PEEK(36866)AND128)+64*(PEEK(36869) AND120)
110 CB=828:POKE36879,30:X=RND(-TI)
120 PRINTCHR$(147);"{RED}{DOWN}{RVS}{3 SPACES}HEAVENLY{2 SPACES}{OFF}";
130 PRINT"{2 DOWN}YOU WILL BE PRESENTED WITH FACTS ABOUT EACH OF THE PLANETS IN THE"
140 PRINT"SOLAR SYSTEM."
150 PRINT"{DOWN}YOU MUST INDICATE{5 SPACES}THE PLANET TO WHICH{3 SPACES}THAT FACT APPLIES."
160 PRINT"{DOWN}SCORING:"
170 PRINT"{DOWN}[2 SPACES]CORRECT[3 SPACES]= +10";
PRINT"[2 SPACES]INCORRECT =[2 SPACES]-1"
175 PRINT"{DOWN}PRESS [RVS]F1[OFF] TO QUIT EARLY";
180 PRINT"{DOWN}[6 SPACES][RVS]GOOD LUCK[OFF]"
190 PRINT"{DOWN}[3 SPACES]PRESS ANY KEY"
195 GETX$:IFX$=""THEN195
200 S%=0:QA=0:QC=0:FORX=1TONQ
210 POKECB+X,0:NEXTX:PRINTCHR$(147);"{RED}[3 DOWN]
220 FORX=1TONQ
230 Y=0
240 Z=INT(RND(1)*NQ)+1:IFPEEK(CB+Z)=0THEN290
250 Y=Y+1:IFY<6THEN240
260 Z=1
270 IFPEEK(CB+Z)=0THEN290
280 Z=Z+1:GOTO270
290 POKECB+Z,X:NEXTX
300 FORX=1TONQ:Y=PEEK(CB+X)-1
310 RESTORE:IFY=0THEN330
320 FORZ=1TOY:READQ$,A$:NEXTZ
330 READQ$,A$
390 PRINTCHR$(147);"{RED}[22 DOWN]";SPC(6);"SCORE
340 {SPACE}=";S%;
400 PRINT"{HOME}{BLU}{RVS}***HEAVENLY[2 SPACES]BODIES***{OFF}"
405 FORZ=1TO8:PRINT"{RVS}[22 SPACES]{OFF}"
410 PRINT"{BLK}{DOWN}ENTER YOUR ANSWER:";
420 PRINT"{BLK}{DOWN}M = MERCURY"
430 PRINT" V = VENUS"
440 PRINT" E = EARTH"
450 PRINT" A = MARS"
460 PRINT" J = JUPITER"
470 PRINT" S = SATURN"
480 PRINT" U = URANUS"
490 PRINT" N = NEPTUNE"
500 PRINT" P = PLUTO"
510 PRINT" X = PLANET X"
600 PRINT"{BLU}[RVS]{HOME}[3 DOWN]";Q$;".";
610 POKE198,0
620 GETX$:IFX$=""THEN620
630 IFASC(X$)=133THEN910
635 QA=QA+1
637 IFX$=A$THEN820
640 IFX$="M"ORX$="V"ORX$="E"ORX$="A"ORX$="J"ORX$="U"ORX$="S"THEN670
650 IFX$="N"ORX$="P"ORX$="X"THEN670
660 GOTO620
670 Y=1:IFA$="V"THENY=2
680 IFA$="E"THENY=3
Level 4

690 IF A$ = "A" THEN Y = 4
700 IF A$ = "J" THEN Y = 5
710 IF A$ = "S" THEN Y = 6
720 IF A$ = "U" THEN Y = 7
730 IF A$ = "N" THEN Y = 8
740 IF A$ = "P" THEN Y = 9
750 IF A$ = "X" THEN Y = 10
760 Y = (Y * 22) + 243 + S
770 POKE 36878, 15
780 FOR Z = 1 TO 6: POKE 36876, 175
790 FOR W = Y TO Y + 20: POKE W, PEEK(W) + 128: NEXT W: FOR W = 1 TO 1
800 POKE 36879, 24: POKE 36876, 150: FOR W = Y TO Y + 20: POKE W, PEEK(W) - 128: NEXT W: POKE 36876, 0: NEXT Z
810 POKE 36878, 0: POKE 36879, 30: S$ = S$ - 1: GOTO 900
820 POKE 36878, 15: Z = 150: FOR Y = 110 TO 30 STEP -16
830 POKE 36879, Y: POKE 36875, Z: Z = Z + 10: FOR W = 1 TO 30: NEXT W: FOR W = 30 TO 1
840 POKE 36879, 27: PRINTCHR$(147); "{DOWN} 6 SPACES {RVS} GAME OVER"
850 NEXT X
860 PRINTCHR$(147); "{2 DOWN} 6 SPACES {RVS} GAME OVER"
870 PRINT "{3 DOWN} # QUESTIONS ="; QA
880 PRINT "{DOWN} # CORRECT {3 SPACES} ="; QC
890 IF QA = 0 THEN QA = 1
900 POKE 36879, X
910 PRINTCHR$(147); "{DOWN} 6 SPACES {RVS} GAME OVER"
920 PRINT "{DOWN} # QUESTIONS ="; QA
930 PRINT "{DOWN} # CORRECT {3 SPACES} ="; QC
940 IF QA = 0 THEN QA = 1
950 X = INT((QC * 100) / QA)
960 PRINT "{DOWN} # QUESTIONS ="; X; "{LEFT} %"
970 PRINT "{DOWN} # CORRECT {3 SPACES} ="; S
980 PRINT "{DOWN} PLAY AGAIN? {RVS} {OFF} OR {RVS} {OFF}"
990 GETX$: IF X$ = "" THEN 990
1000 IF X$ = "Y" THEN 200
1010 IF X$ = "N" THEN 940
1020 POKE 36878, 27: PRINTCHR$(147): END
2000 DATA "THE SECOND SMALLEST PLANE T, ITS DIAMETER IS 3100 MILES", M
2010 DATA "IT MOVES AROUND THE SUN AT 30 MILES PER SECOND", M
2020 DATA "IT CIRCLES THE SUN EVERY 88 EARTH DAYS", M
2030 DATA "IT TAKES 59 EARTH DAYS TO TURN ONCE ON ITS AXIS", M
2040 DATA "ITS SUN SIDE IS 800 DEGREES FAHRENHEIT", M
2050 DATA "THE SIDE AWAY FROM THE SUN MAY BE ABOUT ROOM TEMPERATURE", M
2060 DATA "IT MAY HAVE A THIN ATMOSPHERE OF HYDROGEN AND HELIUM", M
2070 DATA "IT HAS A PERMANENT MAGNETIC FIELD DESPITE ITS SLOW ROTATION", M
2080 DATA "IT IS APPROXIMATELY 36 MILLION MILES FROM THE SUN", M
2090 DATA "IT IS THE NEAREST PLANET TO THE SUN", M
2100 DATA "IT IS USUALLY THE 2ND PLANET FROM THE SUN", V
2110 DATA "ITS APPROXIMATE DISTANCE FROM THE SUN IS 67 MILLION MILES", V
2120 DATA "ONCE EVERY 19 MONTHS, IT IS THE NEAREST PLANET TO THE SUN", V
2130 DATA "EXCEPT FOR THE SUN AND OUR MOON, IT IS THE BRIGHTEST OBJECT IN THE SKY", V
2140 DATA "ITS BRIGHTNESS IS CAUSED BY ITS THICK WHITE CLOUD COVER", V
2150 DATA "ITS ATMOSPHERE IS PROBABLY COMPOSED OF SULPHURIC ACID", V
2160 DATA "ITS SURFACE TEMPERATURE IS 600 DEGREES FAHRENHEIT", V
2170 DATA "ITS CARBON DIOXIDE ATMOSPHERE IS 100 TIMES THE PRESSURE OF EARTH'S", V
2180 DATA "ITS DAY IS 117.4 EARTH DAYS, AND ITS YEAR IS 225 DAYS", V
2190 DATA "IT HAS HIGH ALTITUDE WINDS OF 200 M.P.H", V
2200 DATA "IT IS THE 5TH LARGEST PLANET, ITS DIAMETER BEING ALMOST 8,000 MILES", E
2210 DATA "ITS CORE IS THOUGHT TO BE A SOLID METALLIC AND MAGNETIC SUBSTANCE", E
2220 DATA "FOR EVERY 100-200 FEET BELOW ITS SURFACE, THE TEMPERATURE INCREASES 1 DEGREE", E
2230 DATA "ITS ATMOSPHERE CONSISTS OF OXYGEN, HYDROGEN AND ARGON", E
2240 DATA "ITS ATMOSPHERE EXTENDS 300,000 FEET ABOVE THE PLANET'S SURFACE", E
2250 DATA "THE AVERAGE DAY IS 23 HOURS, 56 MINUTES OF EARTH TIME", E
2260 DATA "ONE OF ITS OCEANS COVERS MORE THAN 125% OF ITS LAND MASS", E
2270 DATA "ITS MOST PREVALENT LIFE FORM IS INSECT", E
2280 DATA "IT IS THE THIRD PLANET FROM THE SUN", E
2290 DATA "WATER VAPOR ACCOUNTS FOR UP TO 4% OF ITS ATMOSPHERIC VOLUME", E
DATA "IT IS THE 4TH PLANET FROM THE SUN, AND THE 1ST PLANET BEYOND EARTH",
A
DATA "ITS YEAR IS 687 'EARTH' DAYS LONG",
A
DATA "ITS DIAMETER IS 4,200 MILES",
A
DATA "ITS DAY IS 24 HOURS AND 37 MINUTES LONG IN 'EARTH' TIME",
A
DATA "ITS APPROXIMATE DISTANCE FROM THE SUN IS 141 MILLION MILES",
A
DATA "ITS CARBON DIOXIDE ATMOSPHERE IS ONLY 1-2% THE PRESSURE OF EARTH'S",
A
DATA "MOST OF ITS SURFACE IS A DESERT OF REDDISH SAND AND ROCK",
A
DATA "ITS MYSTERIOUS 'CANALS' MAYBE GIANT CANYONS",
A
DATA "IT HAS TWO MOONS -- DEIMOS AND PHOBOS",
A
DATA "IT HAS A VOLCANIC SURFACE BUT WAS ONCE PROBABLY COVERED WITH WATER",
A
DATA "ITS DIAMETER OF 88,000 MILES MAKES IT THE LARGEST OF THE KNOWN PLANETS",
J
DATA "ONE OF ITS DAYS IS ONLY 10 'EARTH' HOURS LONG",
J
DATA "ITS APPROXIMATE DISTANCE FROM THE SUN IS 480 MILLION MILES",
J
DATA "ITS YEAR IS NEARLY 12 'EARTH' YEARS LONG",
J
DATA "NO KNOWN LIFE FORM COULD SURVIVE ITS ATMOSPHERE OF METHANE",
J
DATA "IT IS COVERED WITH CLOUDS OF AMONIA ICE CRYSTALS",
J
DATA "IT MAY BE A GASEOUS PLANET WITH NO SOLID CORE",
J
DATA "IT HAS AT LEAST 16 MOONS, 4 OF WHICH ARE ALMOST MERCURY'S SIZE",
J
DATA "ITS MASS IS DOUBLE THAT OF ALL THE OTHER PLANETS COMBINED",
J
DATA "ITS MOST FAMOUS MOONS ARE IO AND GANYMED",
J
DATA "IT IS LOCATED 1.8 BILLION MILES FROM THE SUN",
U
DATA "ITS YEAR IS 84 'EARTH' YEARS LONG",
U
DATA "ITS DAY IS 15.5 'EARTH' HOURS LONG",
U
DATA "ITS DIAMETER IS 32,000 MILES", U
DATA "IT WAS DISCOVERED IN 1781 BY SIR WILLIAM HERSHEYEL", U
DATA "ITS NORTH POLE IS TILTED 98 DEGREES OFF A PERPENDICULAR ORBIT", U
DATA "IT HAS AT LEAST FIVE MOONS AND EIGHT RINGS ALONG ITS EQUATORIAL PLANE", U
DATA "ITS SURFACE IS PROBABLY ROCKY WITH ANICY CRUST", U
DATA "ITS EXTREME TILT CAUSES 'SUMMER TO BE 42 'EARTH' YEARS LONG", U
DATA "IT WAS THE FIRST PLANET DISCOVERED AFTER BODE'S THEORY", U
DATA "IT IS 900 MILLION MILES FROM THE SUN-- TWICE JUPITER'S DISTANCE", S
DATA "ITS EQUATORIAL DIAMETER IS 71,000 MILES", S
DATA "ITS DAY IS 10 'EARTH' HOURS LONG", S
DATA "ITS ATMOSPHERE AND SURFACE RESemble A COLDER VERSION OF JUPITER", S
DATA "OF ITS KNOWN 16 MOONS, SIX WERE DISCOVERED AFTER 1979", S
DATA "ITS RINGS ARE 170,000 MILES IN DIAMETER", S
DATA "THE THICKNESS OF ITS RINGS IS ONLY 10 MILES", S
DATA "ITS RINGS ARE COMPOSED OF MATERIAL THAT MAY BE A SHATTERED MOON", S
DATA "ITS YEAR IS 29.5 'EARTH' YEARS LONG", S
DATA "ITS MOON TITAN IS UNIQUE BECAUSE IT HAS AN ATMOSPHERE", S
DATA "IT IS USUALLY CLOSER TO THE SUN THAN PLUTO", N
DATA "UNTIL 1989, IT WILL BE THE FARthest FROM THE SUN OF THE KNOWN PLANETS", N
DATA "ITS DISTANCE FROM THE SUN IS ABOUT 2.8 BILLION MILES", N
DATA "ITS YEAR IS 165 'EARTH' YEARS LONG", N
DATA "IT HAS AT LEAST 3 MOONS, THE LARGEST OF WHICH IS TRITON", N
DATA "LIKE JUPITER, IT MAY PRODUCE HEAT INDEPENDENTLY OF THE SUN", N
DATA "ITS INCREASE IN BRIGHTNESS MAY HINT HUGE SURFACE STORMS", N
DATA "ITS DIAMETER IS ABOUT 30,000 MILES", N
DATA "IT HAS A DAY OF 16 EARTH HOURS", N
DATA "IN 1846, ASTRONOMERS FOUND IT AFTER LOOKING LESS THAN 30 MINUTES", N
DATA "IT IS USUALLY ABOUT 5,900 BILLION MILES FROM THE SUN", P
DATA "ITS ERRATIC ORBIT MAY TEMPORARILY BRING IT CLOSER TO THE SUN THAN JUPITER", P
DATA "IT TAKES 247.7 EARTH YEARS TO CIRCLE THE SUN", P
DATA "ITS DAY IS 6.4 EARTH DAYS LONG", P
DATA "USING MATHEMATICAL COMPUTATION, IT WAS DISCOVERED IN 1930", P
DATA "IT HAS AT LEAST ONE MOON, CHARON", P
DATA "ITS DIAMETER IS ABOUT 1,500 MILES", P
DATA "IT WAS DISCOVERED BY AMERICAN CLYDE TOMBAUGH", P
DATA "IT MAY HAVE ONCE BEEN A MOON OF NEPTUNE", P
DATA "IT TAKES SUNLIGHT 5.5 HOURS TO REACH THIS PLANET", P
DATA "CLYDE TOMBAUGH WAS LOOKING FOR THIS PLANET WHEN HE FOUND PLUTO", X
DATA "ITS MASS IS ESTIMATED AT 286 TIMES THAT OF EARTH", X
DATA "ITS YEAR IS ABOUT 464 EARTH YEARS", X
DATA "BODE'S LAW ESTIMATES IT IS 7,172 MILLION MILES FROM THE SUN", X
DATA "IT HAS A FAMILY OF 16 COMETS", X
DATA "ITS ORBIT IS ESTIMATED TO BE 120 DEGREES OFF PERPENDICULAR", X
DATA "ITS MASS IS THREE TIMES THAT OF SATURN", X
DATA "IT LIES IN THE SAME GENERAL DIRECTION AS CASSIOPEIA", X
DATA "IT HAS NEVER BEEN SEEN WITH THE NAKED EYE OR WITH A TELESCOPE", X
DATA "IT HAS CAUSED NEPTUNE AND URANUS TO DEVIATE FROM THEIR CALCULATED ORBITS", X
Mother Earth

Skill Area: Social Studies
Level: IV
Memory: Two programs, each requiring at least 16K expansion
Equipment required: None
Modification: Yes

Exploring the World

"Mother Earth" is actually two games — one a question-and-answer game concerning the world’s major countries, and the other a similar game concerning countries that are not as prominent in world affairs. More than 120 countries are represented in Mother Earth, but geography buffs will note that other smaller countries (many of them possessions of Great Britain) are not mentioned in the game. If you want to include other countries, you should refer to the Programmer’s Notes.

The information for Mother Earth is loaded as two separate games because of the volume of material. Called Mother Earth 1, which covers prominent countries, and Mother Earth 2, which covers less prominent nations, the games are identical in format.

After loading Mother Earth 1 or Mother Earth 2 into the computer, you'll be asked to choose the area of the world you wish to cover. These include:

A — Europe
B — North Africa and the Middle East
C — Africa
D — Asia and the Pacific
E — Western Hemisphere

Questions will be asked about the countries in that area of the world. Points are given depending on how fast you identify a country from the clues given.

How to Play

You'll be asked up to five questions about each country. Identify the country by typing in the name. Because these names must be spelled correctly for the computer to count the answers as correct, the spellings appear alphabetically, by game, below:
### Mother Earth 1

| Afghanistan | Germany | Lebanon | Spain |
| Argentina  | Ghana   | Liberia | Sudan |
| Australia  | Great Britain | Libya | Switzerland |
| Austria    | Greece  | Mexico  | Syria |
| Brazil     | India   | Namibia | Taiwan |
| Cambodia   | Iran    | Norway  | Turkey |
| Canada     | Iraq    | Pakistan | Uganda |
| Chile      | Ireland | Panama  | United States |
| China      | Israel  | Paraguay | Uruguay |
| Cuba       | Italy   | Peru    | USSR |
| Denmark    | Ivory Coast | Saudi Arabia | Venezuela |
| Egypt      | Japan   | Scotland | Vietnam |
| Ethiopia   | Jordan  | Senegal | Zimbabwe |
| Finland    | Kenya   | South Africa |   |
| France     | Korea   |         |      |

### Mother Earth 2

| Albania    | The Gambia | Oman |
| Algeria    | Guatemala  | Philippines |
| Angola     | The Guianas | Poland |
| Bahamas    | Guinea     | Portugal |
| Bangladesh | Haiti      | Puerto Rico |
| Belgium    | Honduras   | Qatar |
| Benin      | Hungary    | Rumania |
| Bolivia    | Iceland    | Sierra Leone |
| Botswana   | Indonesia  | Somalia |
| Bulgaria   | Jamaica    | South Yemen |
| Burma      | Kuwait     | Sri Lanka |
| Cameroon   | Lesotho    | Tanzania |
| Colombia   | Luxembourg | Thailand |
| Congo      | Madagascar | Togo |
| Costa Rica | Mauritania | Tunisia |
| Cyprus     | Morocco    | U. Arab Emirates |
| Czechoslovakia | Mozambique | Yemen |
| Dominican Republic | The Netherlands | Yugoslavia |
| Ecuador    | New Zealand | Zaire |
| El Salvador | Nicaragua | Zambia |
The countries represented in Mother Earth 1 and Mother Earth 2 are divided according to the relative importance of the country in the geographical section of the world where it is located. You may argue that Guatemala or Poland isn't in the same class as Togo or South Yemen, but the former countries occupy the same relative status in the Western Hemisphere and Europe as the latter countries do in Africa and the Middle East.

If a question is asked by the computer in Mother Earth and you do not know the answer, you can either make a guess or press the RETURN key. Up to five questions will be asked randomly about each country. One of the five questions will always be the national capital or capitals. The last question of the series of five will always be a multiple-choice question, which includes the correct answer among the names of three countries in the same geographical vicinity.

**Scoring**

Points are awarded as follows:

- If the question is answered after one clue, 5 points.
- If the question is answered after two clues, 4 points.
- If the question is answered after three clues, 3 points.
- If the question is answered after four clues, 2 points.
- If the question is answered after five clues, 1 point.
- If the computer has to answer the question for you, -5 points.

At the end of the game, a numerical score will be shown. A percentage score will also be given to let you know the grade you earned. The computer will then ask if you want to play again. If you do, you can select one of the remaining five categories or choose to play the same category again. Because the questions are presented in random order, every game is different.

To play only a partial game, you can type END as an answer to any of the questions. This stops the game, but will not affect your total score.

**Mother Earth 1**

```
100  CB=828:MP=1017:POKE36879,174:DIMQT$(29,4)
200  GOSUB700
205  GOSUB1000:S%=0:FORX=1TONE:POKECB+X,0:NEXTX
210  FORX=1TONE:GOSUB800:POKECB+2,X:NEXTX
300  FORX=1TONE:Y=PEEK(CB+X)-1
340  FORW=0TO3:RS(W)=0:NEXTW
```
FOR W = 1 TO 4
V = INT(RND(1)*4); IF R(V) <> 0 THEN
FOR W = 0 TO 3
PRINT CHR$(147) "{BLK} {21 DOWN}" SPC(6) "{SPACE} " S %
QUESTIN #"; W + 1
PRINT "{3 DOWN}" X$ ". {3 DOWN}"
GOSUB 900 IF X$ = "Q" THEN 500
IF X$ = "END" THEN 600
NEXT W
GOSUB 2000 W = 4
IF X$ = "Q" THEN 500
IF X$ = "END" THEN 600
PRINT "{RED} {2 DOWN} {2 SPACES}" QT$(Y, 4); S% = S% - 5
FOR W = 1 TO 2500: NEXT W, X: GOTO 600
S% = S% + (W - 5): POKE 36879, 30: POKE 36878, 15: FOR V = 170 TO 220
POKE 36875, V: NEXT V: POKE 36878, 0: POKE 36879, 174
NEXT X
PRINT "{BLKHcLRHDOWN}{6 SPACES}{RVS} TEST OVER I{OFF}"
PRINT "{3 DOWN} YOUR SCORE = "; S %
IFS% < 0 THEN S% = 0
X = INT((S% * 100)/(X*5))
PRINT "{DOWN} YOUR GRADE = "; X; " {LEFT}"%
PRINT "{3 DOWN} PLAY AGAIN?"; PRINT "{DOWN} ENTER " RVS Y[OFF] OR [RVS] N[OFF]"
GET X$: IF X$ = "" THEN 660
IF X$ = "Y" THEN 205
IF X$ <> "N" THEN 660
POKE 36879, 27: PRINT "[CLR]" END
PRINTCHR$(147): PRINT "[BLK] {DOWN} [RVS] [5 SPACES] MOTHER EARTH [5 SPACES] [OFF]"
PRINT "{DOWN} YOU WILL BE ASKED UP [2 SPACES] TO 5 QUESTIONS ABOUT [2 SPACES] SELECTED NATIONS OF"
PRINT "THE EARTH."
740 PRINT" ALL MISSED{2 SPACES}=-5."
750 PRINT"{DOWN}TYPE {RVS}END{OFF} TO END EARLY.";
785 PRINT"{DOWN}[3 SPACES](PRESS ANY KEY)";
790 GETX$:IFX$=""THEN790
795 RETURN
800 W=0
810 Z=INT((RND(1)*NE)+1):IFPEEK(CB+Z)=0 THEN RETURN
820 W=W+1:IFW<9 THEN810
830 Z=1
835 IFPEEK(CB+Z)=0 THEN RETURN
840 Z=Z+1:GOTO835
900 X$="":POKE198,0:INPUTX$:IFX$=QT$(Y,4)THENX$="Q"
905 RETURN
910 POKE36879,24:POKE36878,15:POKE36874,180:FORV=1 TO100:NEXTV
920 POKE36878,0:POKE36874,0:POKE36879,174:RETURN
1000 PRINTCHR$(147);"[2 DOWN]ENTER DESIRED CATEGOR
1010 PRINT"{RVS}Y{2 DOWN}EUROPE";
1020 PRINT"{RVS}B{OFF}N.AFRICA/MIDEAST";
1030 PRINT"{RVS}C{OFF}AFRICA";
1040 PRINT"{RVS}D{OFF}ASIA/THE PACIFIC";
1050 GETX$:IFX$=""THEN1050
1060 IFX$<"A"ORX$>"E"THEN1050
1070 RESTORE:NE=0
1080 READA$:IFA$>X$THEN RETURN
1090 IFX$=A$THEN1130
1120 FORX=1TO5:READA$:GOTO1080
1130 FORX=0TO4:READA$:QT$(NE,X)=A$:NE=NE+1:GOTO1080
2000 MCS$(0)=QT$(Y,4)
2010 X1=INT(RND(1)*NE):IFX1=Y THEN2010
2020 MCS$(1)=QT$(X1,4)
2030 X2=INT(RND(1)*NE):IFX2=X1 ORX2=Y THEN2030
2040 MCS$(2)=QT$(X2,4)
2050 FORX1=0TO2:POKEMP+X1,0:NEXTX1
2060 FORX1=1TO3
2070 X2=INT(RND(1)*3):IFPEEK(MP+X2)<0 THEN2070
2080 POKE(MP+X2),X1:NEXTX1
2085 PRINTCHR$(147);"{BLK}[21 DOWN]";SPC(6);"SCORE =";S$;
2090 PRINT"{HOME}[2 DOWN] QUESTION # 5{3 DOWN}"
2100 PRINT"MULTIPLE CHOICE:{DOWN}"
2110 FORX1=0TO2
2120 X2=PEEK(MP+X1)
2130 PRINT"{DOWN}[2 SPACES]";MC$(X2-1)
2140 NE XT X1:PRINT"{DOWN}";GOSUB900:RETURN

113
3000 DATAA,"THE THAMES RIVER RUNS THROUGH ITS CAPITAL"
3010 DATA"ITS CAPITAL IS LONDON"
3020 DATA"IT IS THE HOME OF [5 SPACES]STONEHENGE AND KING [3 SPACES]ARTHUR"
3030 DATA"IT RULES SCOTLAND, [4 SPACES]WHICH OCCUPIES 37% OF ITS MAJOR ISLAND, "GREAT BRITAIN"
3050 DATA"ITS TWO CAPITALS ARE [2 SPACES]BELFAST AND DUBLIN"
3060 DATA"CATHOLIC AND [10 SPACES]PROTESTANT WARS [7 SPACES]DIVIDE THE COUNTRY"
3070 DATA"THE 1846 POTATO FAMINE DECIMATED THE COUNTRY", IRELAND
3080 DATAA,"VIKINGS FROM HERE MAY HAVE BEATEN COLUMBUS [2 SPACES]TO AMERICA"
3090 DATA"ITS NORTH SEA PRODUCES THE WORLD'S BIGGEST [3 SPACES]FISH CATCH"
3120 DATAA,"THIS HAS THE LARGEST [2 SPACES]POPULATION OF ALL THE SCANDINAVIAN NATIONS"
3125 DATA"THE CAPITAL OF THIS [3 SPACES]NATION IS STOCKHOLM"
3130 DATA"THE 'MIDDLE WAY' [6 SPACES]BETWEEN GOVERNMENT AND PRIVATE INDUSTRY"
3150 DATAA,"THIS NATION IS KNOWN [2 SPACES]FOR ITS [SPACE]FINE FURNITURE AND DAIRY PRODUCTS"
3160 DATA"THE CAPITAL OF THIS [3 SPACES]NATION IS COPENHAGEN"
3170 DATA"GREENLAND IS HELD BY [2 SPACES]THIS COUNTRY"
3230 DATAA,"ORIGINALLY, ITS [7 SPACES]PEOPLE CAME FROM ASIA"
3240 DATA"THE CAPITAL OF THIS [3 SPACES]NATION IS HELSINKI"
3250 DATA"SWEDISH IS CONSIDERED THE COUNTRY'S SECOND [2 SPACES]LANGUAGE"
3260 DATA"RUSSIA TOOK MOST OF [3 SPACES]THIS COUNTRY AFTER [4 SPACES]WORLD WAR II", FINLAND
3390 DATAA,"NAPOLEON BECAME THIS [2 SPACES]COUNTRY'S EMPEROR"
3400 DATA "IT IS A CENTER OF ART, FOOD AND FASHION"
3410 DATA "IT WAS THE BIRTHPLACE OF DEBUSSY AND LOUIS PASTEUR"
3420 DATA "THE CAPITAL OF THIS NATION IS PARIS, FRANCE"
3430 DATA "IT WAS DIVIDED AMONG FOUR COUNTRIES AFTER WORLD WAR II"
3440 DATA "THE USSR CONTROLS ONE-FOURTH OF ITS CITIZENS"
3450 DATA "ITS MAJOR RIVERS ARE THE DANUBE AND THE RHINE"
3460 DATA "ITS TWO CAPITALS ARE BONN AND EAST BERLIN, GERMANY"
3470 DATA "IT IS DIVIDED INTO 22 STATES, KNOWN AS 'CANTONS'"
3480 DATA "ITS PEOPLE SPEAK FRENCH, GERMAN AND ITALIAN"
3490 DATA "ITS NEUTRALITY MAKES IT A CENTER OF DIPLOMACY"
3500 DATA "THE CAPITAL OF THIS NATION IS BERNE, SWITZERLAND"
3510 DATA "IT WAS ONCE THE CENTER OF AN EASTERN EUROPEAN EMPIRE"
3520 DATA "THE GEOGRAPHY OF THE LAND IS SIMILAR TO SWITZERLAND'S"
3530 DATA "ADOLPH HITLER WAS BORNHERE AND LATER DEFEATED THE COUNTRY"
3540 DATA "THE CAPITAL OF THIS NATION IS VIENNA, AUSTRIA"
3550 DATA "IT WAS RULER OF THE WORLD UNTIL DEFEATED BY GERMANY IN 500 A.D"
3560 DATA "IT WAS THE CENTER OF THE RENAISSANCE--THE REBIRTH OF KNOWLEDGE"
3570 DATA "ITS CITIES OF VENICE AND FLORENCE ARE CENTERS OF ART"
3580 DATA "THE CAPITAL OF THIS NATION IS ROME, ITALY"
3582 DATA "WESTERN CIVILIZATION DEVELOPED FROM THIS NATION'S CULTURE"
3584 DATA "IT IS SURROUNDED BY THE MEDITERRANEAN, ALGIAN AND IONIC SEAS"
3590 DATA "POSSESSIONS OF THIS COUNTRY INCLUDE CRETE AND RHODES"
3600 DATA "THE CAPITAL OF THIS NATION IS ATHENS, GREECE"
3610 DATA "THE ROMANS KNEW IT AS CALEDONIA"
3620 DATA "ITS CITY OF GLASGOW IS THE CHIEF INDUSTRIAL CENTER OF BRITAIN"
3630 DATA"IT OCCUPIES THE[7 SPACES]NORTHERN 37% OF THE[3 SPACES]ISLE OF GREAT BRITAIN"
3640 DATA"BRITAIN RULES IT, BUT IT MAINTAINS EDINBURGH AS ITS CAPITAL", SCOTLAND
3650 DATA,"THE 1917 REVOLUTION[3 SPACES]CHANGED IT'S FORM OF[3 SPACES]GOVERNMENT"
3660 DATA"THE COUNTRY IS A LARGE PLAIN DIVIDED BY THE[2 SPACES]URAL MOUNTAINS"
3670 DATA"ITS MAJOR PORTS ARE ON THE SHORE OF THE BLACK SEA"
3680 DATA"THE CAPITAL OF THIS[3 SPACES]NATION IS MOSCOW", USSR
3970 DATA,"IT COVERS MOST OF THE IBERIAN PENINSULA, BUT HAS NO MAJOR HARBORS"
3980 DATA"A MOORISH PALACE, THE ALHAMBRA, RESIDES[SPACE]IN[2 SPACES]ITS CITY OF GRENADA"
3990 DATA"ITS ROCK OF GIBRALTAR IS ACTUALLY OWNED[SPACE]BY[2 SPACES]BRITAIN"
4000 DATA"THE CAPITAL OF THIS[3 SPACES]NATION IS MADRID", SPAIN
4070 DATA"THOUGH IT IS MOSLEM,[2 SPACES]MOST OF ITS TRADITIONS ARE EUROPEAN"
4075 DATA"THE CAPITAL OF THIS[3 SPACES]NATION IS ANKARA", TURKEY
4130 DATA"MORE THAN 85% OF ITS[2 SPACES]POPULATION IS JEWISH"
4140 DATA"WATERS FROM THE JORDAN RIVER IRRIGATE ITS[4 SPACES]NEGEV DESERT"
4150 DATA"THE CAPITAL OF THIS[3 SPACES]NATION IS JERUSALEM", ISRAEL
4170 DATA"IT LOST THE GOLAN[5 SPACES]HEIGHTS TO ISRAEL IN[2 SPACES]THE 'SEVEN-DAY WAR'"
4180 DATA"IT HAS BEEN RULED BY[2 SPACES]THE SOCIALIST BAATH[3 SPACES]PARTY SINCE 1963"
4190 DATA"THE CAPITAL OF THIS[3 SPACES]NATION IS DAMASCUS", SYRIA
4210 DATA"BOTH CHRISTIANS AND[3 SPACES]MOSLEMS HAVE LEADERS[2 SPACES]IN THE GOVERNMENT"
DATA "ITS LANGUAGES ARE ARABIC, FRENCH, AND ARMENIAN"

DATA "THE CAPITAL OF THIS NATION IS BEIRUT", LEBANON

DATA "IT SHARES THE DEAD SEA WITH ITS ENEMY ISRAEL"

DATA "IT IS HOME FOR MANY ARABS DISPLACED BY THE CREATION OF PALESTINE"

DATA "ITS ONLY PORT IS ON THE AQABA GULF"

DATA "THE CAPITAL OF THIS NATION IS AMMAN", JORDAN

DATA "IN ANCIENT TIMES, IT WAS CALLED MESOPOTAMIA"

DATA "THE TIGRIS AND EUPHRATES RIVERS MEET HERE"

DATA "THE HANGING GARDENS OF BABYLON WERE LOCATED HERE"

DATA "THE 'ARABIAN NIGHTS' IS SET IN ITS CAPITAL OF BAGHDAD", IRAQ

DATA "RESIDENTS SPEAK MANY LANGUAGES, BUT THE OFFICIAL TONGUE IS FARSI"

DATA "IT HAS THE WORLD'S 3RD LARGEST RESERVE OF CRUDE OIL"

DATA "A 1979 REVOLUTION MADE AN ISLAMIC LEADER ITS RULER"

DATA "THE CAPITAL OF THIS NATION IS TEHERAN", IRAN

DATA "IT OCCUPIES ABOUT 80% OF THE ARABIAN PENINSULA"

DATA "THE COUNTRY IS NAMED FOR ITS FOUND, IBN SAUD"

DATA "THE MOSLEM SHRINES OF MECCA AND MEDINA ARE HERE"

DATA "THE CAPITAL OF THIS NATION IS RIYADH", "SAUDI ARABIA"

DATA "THE 1ST WORLD RULER IS TODAY AN UNDEVELOPED COUNTRY"

DATA "THE MAIN POPULATION CENTERS ARE ON THE BANKS OF THE NILE"

DATA "THE ASWAN DAM AND THE SUEZ CANAL ARE BOTH FOUND HERE"

DATA "THE CAPITAL OF THIS NATION IS CAIRO", EGYPT

DATA "FORMERLY RULED BY CARTHAGE, ROME, ITALY, BRITAIN AND FRANCE"
4690 DATA "THOUGH A MONARCHY IN [2 SPACES] 1952, IT BECAME [7 SPACES] SOCIALIST IN 1969"
4700 DATA "ITS LOW-SULPHUR OIL [3 SPACES] RESERVES ARE IN GREAT DEMAND"
4710 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS TRIPOLI", LIBYA
4880 DATAC, "ITS CAPITAL CITY WAS [2 SPACES] THE CAPITAL OF FRENCH WEST AFRICA"
4890 DATA "IT CONTAINS THE BEST [2 SPACES] SEAPORT IN WEST [7 SPACES] AFRICA"
4900 DATA "OF THE FRENCH-SPEAKING AFRICAN NATIONS, IT IS THE MOST DEMOCRATIC"
4910 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS DAKAR", SENEGAL
4960 DATA, "IT IS THE MOST [8 SPACES] PROSPEROUS OF [SPACE] AFRICA'S TROPICAL NATIONS"
4970 DATA "IT IS LOCATED BETWEEN GHANA AND LIBERIA [SPACE] ON [2 SPACES] THE GULF OF GUINEA"
4980 DATA "THIS PRO-WESTERN [6 SPACES] AFRICAN NATION IMPORTS 20% OF ITS WORKERS"
4990 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS A BIDJAN", "IVORY COAST"
5160 DATAC, "ITS NAMESAKE WAS AN [3 SPACES] AFRICAN NATION THAT [3 SPACES] LASTED 800 YEARS"
5170 DATA "IT WAS FORMERLY THE [3 SPACES] GOLD COAST, A BRITISH COLONY"
5180 DATA "IT LEADS THE WORLD IN CACAO PRODUCTION, [SPACE] FROM WHICH CHOCOLATE IS [4 SPACES] MADE"
5190 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS ACCRA", GHANA
5320 DATAC, "BLACK FREEDMEN FOUNDED THIS NATION IN 1822"
5330 DATA "IT IS THE OLDEST [6 SPACES] AFRICAN REPUBLIC"
5340 DATA "THE GOVERNMENT IS [5 SPACES] SIMILAR TO THAT OF THE UNITED STATES"
5350 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS MONROVIA", LIBERIA
5360 DATAC, "IT WAS ANCIENTLY KNOWN AS NUBIA"
5380 DATA "IT IS THE LARGEST [5 SPACES] COUNTRY IN AFRICA"
5390 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS KHARTOUM", SUDAN
5400 DATAC, "IT WAS ANCIENTLY [6 SPACES] CALLED ABYSSINIA"
410 DATA "ITS LANGUAGE, AMHARIC, IS UNIQUE AND COMPLEX"
EXCEPT FOR SIX YEARS, IT HAS NEVER BEEN RULED BY A FOREIGN POWER

THE CAPITAL OF THIS NATION IS ADDIS ABABA, ETHIOPIA

"TOURISTS HUNTING BIG GAME BUILT ITS LARGE TOURIST INDUSTRY"

"THE NILE'S SOURCE IS FOUND BETWEEN THIS NATION AND UGANDA"

"IT WON INDEPENDENCE AFTER THE MAU MAU UPRISING"

"THE CAPITAL OF THIS NATION IS NAIROBI", KENYA

"BILHARZIASIS IS A COMMON DISEASE DUE TO THE LARGE AMOUNTS OF WATER"

"IT IS BORDERED BY LAKES VICTORIA, EDWARD AND ALBERT"

"IDI AMIN EXPELLED 45,000 UNDESIRABLES FROM HERE IN 1972"

"THE CAPITAL OF THIS NATION IS KAMPALA", UGANDA

"THOUGH MAINLY BLACK, IT ONLY RECENTLY GOT A BLACK GOVERNMENT"

"ITS MAIN GEOGRAPHIC FEATURE IS VICTORIA FALLS"

"IT BECAME THE 154TH UNITED NATIONS MEMBER IN 1980"

"THE CAPITAL OF THIS NATION IS SALISBURY", ZIMBABWE

"ITS OFFICIAL TONGUES ARE ENGLISH AND AFRIKAANS"

"IT'S THE WORLD LEADER IN DIAMOND, GOLD AND URANIUM PRODUCTION"

"'APARTHEID' SUBJUGATES ITS BLACK MAJORITY TO THE WHITE MINORITY"

"ITS CAPITAL CITIES ARE CAPE TOWN AND BLOEMFONTEIN", "SOUTH AFRICA"

"IT WAS FORMERLY CALLED SOUTH-WEST AFRICA"

"THE U.N. SEPARATED IT FROM SOUTH AFRICA FREE IT FROM APARTHEID"

"IT HAS BEEN WITHOUT AN OFFICIAL FORM OF GOVERNMENT SINCE 1968"

"THE CAPITAL OF THIS NATION IS WINDHOEK", "NAMIBIA"

"IT'S THE 2ND LARGEST NATION IN THE WORLD BASED ON POPULATION"
6050 DATA "IT IS THE LARGEST [5 SPACES] DEMOCRATIC COUNTRY IN THE ORIENT"
6060 DATA "THE TAJ MAHAL IS FOUND WITHIN THIS FORMER [4 SPACES] BRITISH POSSESSION"
6070 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS NEW DELHI", INDIA
6130 DATA "IT WAS FAMOUS FOR THE INDUS VALLEY [10 SPACES] CIVILIZATION"
6140 DATA "ITS FORMER EASTERN [4 SPACES] TERRITORY IS NOW [6 SPACES] BANGLADESH"
6150 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS ISLAMABAD", PAKISTAN
6200 DATA "IT WAS CALLED 'THE [4 SPACES] HERMIT KINGDOM' DUE TO ITS UNFRIENDLINESS"
6210 DATA "IT WAS FORMERLY CALLED ARIANA, BACTRIA AND [3 SPACES] KHORASAN"
6220 DATA "IT'S SURROUNDED BY [4 SPACES] IRAN, PAKISTAN AND THE USSR"
6230 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS KABUL", AFGHANISTAN
6250 DATA "THE GREAT WALL WAS [4 SPACES] BUILT HERE TO PROTECT FARMERS FROM INVADERS"
6260 DATA "THE YANGTZE RIVER WAS THE CENTER OF ITS [5 SPACES] ANCIENT CIVILIZATION"
6270 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS PEKING", CHINA
6280 DATA "THIS ISLAND IS ALSO [3 SPACES] KNOWN AS [SPACE] FORMOSA"
6290 DATA "ASIANS HAVE USED THIS ISLAND AS A REFUGE FOR CENTURIES"
6300 DATA "CHINA CONSIDERS THIS [2 SPACES] ISLAND PART OF THEIR [2 SPACES] COUNTRY"
6310 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS TAIPEI", TAIWAN
6320 DATA "OKINAWA AND IWO JIMA [2 SPACES] ARE POSSESSIONS OF [4 SPACES] THIS ISLAND COUNTRY"
6330 DATA "ITS MOST PROMINENT [4 SPACES] GEOGRAPHICAL FEATURE [2 SPACES] IS MOUNT FUJI"
6340 DATA "THIS FORMER SILK [6 SPACES] CAPITAL IS NOW FAMOUS FOR ELECTRONICS AND [3 SPACES] AUTOS"
6350 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS TOKYO", JAPAN
6360 DATA, "THIS PENINSULAR NATION HAS BEEN RULED BY [5 SPACES] CHINA, JAPAN AND THE [2 SPACES] USSR"
THE 38TH PARALLEL DIVIDES THIS COUNTRY INTO TWO SECTIONS.

THE NORTH SECTION DOES MANUFACTURING, WHILE THE SOUTH FARMS.

IT HAS TWO CAPITALS—PYONGYANG AND SEOUL, KOREA.

WARS WITH VIETNAM AND THAILAND HAVE TAKEN MOST OF ITS LAND.

LAKE TONLE SAP PROVIDES THE FISH TO FEED THIS COUNTRY.

90% OF THE POPULATION ARE DESCENDED FROM THE KHMER EMPIRE.

THE CAPITAL OF THIS NATION IS PHNOM PENH, CAMBODIA.

A 22-YEAR DIVISION OF THIS COUNTRY ENDED IN 1976.

THIS COUNTRY DEFEATED KUBLAI KHAN'S ARMY IN 1288.

THE U.S. FOUGHT HERE FROM 1956 TO 1973 IN A LOSING BATTLE WITH RUSSIA.

THE CAPITAL OF THIS NATION IS HANOI, VIETNAM.

THIS IS THE ONLY CONTINENT OCCUPIED BY A SINGLE NATION.

IT WAS SETTLED BY DEPORTED BRITISH CRIMINALS.

IT WAS ORIGINALLY PEOPLED BY ABORIGINES.

THE CAPITAL OF THIS NATION IS CANBERRA, AUSTRALIA.

THE MAYAS, TOLTECS AND AZTECS RULED HERE.

HERNANDO CORTEZ CONQUERED THE COUNTRY IN 1519.

IT CLAIMED WHAT IS NOW TEXAS UNTIL 1836.

THE CAPITAL OF THIS NATION IS MEXICO CITY, MEXICO.

BALBOA FIRST SIGHTED THE PACIFIC OCEAN FROM HERE.

THE SHORTEST DISTANCE BETWEEN THE ATLANTIC AND THE PACIFIC IS HERE.

U.S. TROOPS WILL BE REMOVED FROM STANALBY BY 1999.

THE CAPITAL OF THIS NATION IS PANAMA, PANAMA.

COLUMBUS FIRST REACHED SOUTH AMERICA HERE, IN 1498.
DATA "PETROLEUM AND IRON ORE MAKE IT ONE OF THE RICIHEST NATIONS IN THE ARE A"

DATA "THE WORLD'S HIGHEST WATERFALL, ANGEL FALLS, IS FOUND HERE"

DATA "THE CAPITAL OF THIS NATION IS CARACAS, VENEZUELA"

DATA "THIS COMMUNIST NATION IS ONLY 90 MILES FROM FLORIDA"

DATA "ITS CAPITAL IS THE LARGEST CITY IN THE WEST INDIES"

DATA "ITS CHIEF EXPORTS ARE SUGAR AND FINE CIGARS"

DATA "THE CAPITAL OF THIS NATION IS HAVANA, CUBA"

DATA "THIS LARGE NATION IS BIGGER THAN AMERICA'S 'LOWER 48'"

DATA "THE AMAZON RIVER IS LOCATED HERE"

DATA "THIS NATION IS LOCATED DUE SOUTH OF GREENLAND"

DATA "THE CAPITAL OF THIS NATION IS BRAZIL"

DATA "THE CORNERSTONE OF THE CAPITAL CITY CATHEDRAL WAS LAID BY PIZARRO"

DATA "IT IS FAMOUS FOR THE ANDES MOUNTAINS AND ITS LLAMAS"

DATA "IT IS THE NUMBER ONE FISHING NATION OF THE WORLD"

DATA "THE CAPITAL OF THIS NATION IS LIMA, PERU"

DATA "IT AND BOLIVA ARE SOUTH AMERICA'S TWO LANDLOCKED NATIONS"

DATA "IT LOST 60% OF ITS POPULATION IN THE WAR OF TRIPLE ALLIANCE"

DATA "MUCH OF ITS LAND WAS WON FROM BOLIVA IN THE CHACO WAR"

DATA "THE CAPITAL OF THIS NATION IS ASUNCION, PARAGUAY"

DATA "IT PRODUCES 10% OF THE WORLD'S COPPER"

DATA "IT PRODUCES HALF OF THE WORLD'S IODINE"

DATA "IT SHARES THE ISLAND OF TIERRA DEL FUEGO WITH ARGENTINA"

DATA "THE CAPITAL OF THIS NATION IS SANTIAGO, CHILE"

DATA "IT HAS LATIN AMERICA'S HIGHEST PER CAPITA INCOME"

DATA "EUROPEANS MAKE UP 97% OF THIS COUNTRY'S POPULATION"
7340 DATA "ITS PAMPAS ARE SIMILAR TO THE U.S. GRAIN BELT"
7350 DATA "THE CAPITAL OF THIS NATION IS BUENOS AIRES, ARGENTINA"
7360 DATA "CHARUGA INDIANS LIVED HERE UNTIL THE SPANISH ARRIVED IN 1624"
7370 DATA "FLOODS AND DROUGHT RAISED ITS COST OF LIVING 1200% IN NINE YEARS"
7380 DATA "IT IS BORDERED BY BRAZIL, ARGENTINA AND THE ATLANTIC OCEAN"
7390 DATA "THE CAPITAL OF THIS NATION IS MONTEvIDEO, URUGUAY"
7400 DATA "IT WON INDEPENDENCE FROM GREAT BRITAIN IN 1776"
7410 DATA "IT IS BORDERED BY CANADA, MEXICO AND TWO OCEANS"
7420 DATA "THE MISSISSIPPI RIVER DIVIDES THE COUNTRY"
7430 DATA "THE CAPITAL OF THIS NATION IS WASHINGTON, D.C., UNITED STATES"
7440 DATA "IN LAND AREA, IT IS THE WORLD'S SECOND LARGEST COUNTRY"
7450 DATA "MOST OF ITS PEOPLE LIVE NEAR THE U.S. BORDER"
7460 DATA "ITS FRENCH-SPEAKING PEOPLE HAVE TRIED TO SECEDE FROM THE NATION"
7470 DATA "THE CAPITAL OF THIS NATION IS OTTAWA, CANADA"
9999 DATA

Mother Earth 2
100 CB=828; MP=1017; POKE 36879, 174; DIM QT$(29, 4)
200 GOSUB 700
205 GOSUB 1000; S%=0; FOR X=1 TO N: POKE X*7+1, 0: NEXT X
210 FOR X=1 TO N: POKE X*7+1, Y=PEEK(CB+X)-1
300 FOR W=0 TO 3
305 PRINT CHR$(147); "{BLK}{21 DOWN}"; SPC(6); "SCORE ="; S%;
350 FOR W=1 TO 4
360 V=INT(RND(1)*4); IF R(S)<1 THEN PRINT "{HOME}{2 DOWN} QUESTION ", W+1
370 RS(V)=W: NEXT W
400 FOR W=0 TO 3
405 PRINT CHR$(147); "{BLK}{21 DOWN}";
410 PRINT "{HOME}{2 DOWN} QUESTION "; W+1
420 IF X$="Q THEN PRINT ""; X$; " .{3 DOWN}"
440 GOSUB 9000; IF X$="Q" THEN 500
445 IF X$="END" THEN 600
450 NEXT W
460 GOSUB 2000: W = 4
470 IF X$="Q" THEN 500
475 IF X$="END" THEN 600
480 PRINT "{RED}{2 DOWN}{2 SPACES}"; QT$(Y, 4); S$ = S$ - 5
490 FOR W = 1 TO 2500: NEXT W, X: GOTO 600
500 S$ = S$ + (5 - W): POKE 36879, 30: POKE 36878, 15: FOR V = 170 TO 220
510 POKE 36875, V: NEXT V: POKE 36878, 0: POKE 36879, 174
520 NEXT X
600 PRINT "{BLK}{CLR}{DOWN}{6 SPACES}{RVS}TEST OVER {OFF}";
610 PRINT "[3 DOWN] YOUR SCORE = "; S$
620 IF S$ < 0 THEN S$ = 0
625 X = X - 1: IF X < 1 THEN X = 1
630 X = INT((S$ * 100) / (X * 5))
640 PRINT "[DOWN] YOUR GRADE = "; X; "[LEFT]";
660 GET X$: IF X$ = "THEN 600
670 IF X$ = "Y" THEN 205
680 IF X$ <> "N" THEN 600
690 POKE 36879, 27: PRINT "[CLR]": END
700 PRINTCHR$(147); "MOTHER EARTH[5 SPACES][OFF]";
705 PRINT "[DOWN] YOU WILL BE ASKED UP[2 SPACES] TO 5 QUESTIONS ABOUT[2 SPACES] SELECTED NATIONS OF"
706 PRINT "THE EARTH."
715 PRINT " 1 QUESTION[2 SPACES]=[2 SPACES]5."; PRINT " 2 QUESTIONS=[2 SPACES]4.";
720 PRINT " 3 QUESTIONS=[2 SPACES]3.";
730 PRINT " 4 QUESTIONS=[2 SPACES]2."; PRINT " 5 QUESTIONS=[2 SPACES]1.";
740 PRINT " ALL MISSED[2 SPACES]= -5.";
750 PRINT "[DOWN] TYPE [RVS] END[OFF] TO END EARLY.";
785 PRINT "[DOWN][3 SPACES](PRESS ANY KEY)";
790 GET X$: IF X$ = "THEN 790
795 RETURN
800 W = 0
810 Z = INT((RND(1)*NE)+1): IF POKE(CB+Z) = 0 THEN RETURN
820 W = W + 1: IF W < 9 THEN 810
830 Z = 1
835 IF POKE(CB+Z) = 0 THEN RETURN
840 Z = Z + 1: GOTO 835
4

900 X$="";POKE198,0;INPUTX$;IFX$=QT$(Y,4)THENX$="O"":RETURN
905 IFX$="END"THENRETURN
910 POKE36879,24:POKE36878,15:POKE36874,180:FORV=1 TO100:NEXTV
920 POKE36878,0:POKE36874,0:POKE36879,174:RETURN
1000 PRINTCHR$(147);"{2 DOWN}ENTER DESIRED CATEGORY";
1010 PRINT"{2 DOWN}A{OFF}EUROPE":PRINT"{2 DOWN}B{OFF}N.AFRICA/MIDEAST":
1020 PRINT"{2 DOWN}C{OFF}AFRICA":PRINT"{2 DOWN}D{OFF}ASIA/THE PACIFIC":PRINT"{2 DOWN}E{OFF}WESTERN HEMISPHERE"
1050 GETX$:IFX$=""THEN1050
1060 IFX$<"A"ORX$>"E"THEN1050
1070 RESTORE:NE=0
1080 READA$:IFA$>X$THENRETURN
1090 IFX$=A$THEN1130
1120 FORX=1TO5:READA$:QT$(NE,X)=A$:NE=NE+1:GOTO1080
2000 MC$(0)=QT$(Y,4)
2010 X1=INT(RND(1)*NE):IFX1=YTHEN2010
2020 MC$(1)=QT$(X1,4)
2030 X2=INT(RND(1)*NE):IFX2=X1ORX2=YTHEN2030
2040 MC$(2)=QT$(X2,4)
2050 FORX1=0TO2:POKEEMP+X1,0:NEXTX1
2060 FORX1=1TO3
2070 X2=INT(RND(1)*3):IFPEEK(MP+X2)<>0THEN2070
2080 POKE(MP+X2),X1:NEXTX1
2085 PRINTCHR$(147);"{BLK}{21 DOWN}SCORE={S%;
2090 PRINT"{HOME}{2 DOWN}QUESTION # 5{3 DOWN}"
2100 PRINT"MULTIPLE CHOICE:{DOWN}"
2110 FORX1=0TO2
2120 X2=PEEK(MP+X1)
2130 PRINT"{DOWN}{2 SPACES}";MC$(X2-1)
2140 NEXTX1:PRINT"{DOWN}";GOSUB900:RETURN
3000 DATAA,"THE CITY OF REYKJAVIK BORDERS THE ARCTIC{4 SPACES}CIRCLE"
3010 DATA,"IT WAS A TERRITORY OF DENMARK UNTIL 1944"
3020 DATA,"THE WATER IN THE HOME SIS HEATED BY GEYSERS"
3030 DATA,"THIS ISLAND HAS A{5 SPACES}VOLCANO AND EUROPE'S{2 SPACES}LARGEST GLACIER",ICELAND
3270 DATAA,"GOD MADE THE EARTH,{2 SPACES}BUT THE {SPACE}DUTCH MADE THE COUNTRY"
3280 DATA,"A COMMON NAME FOR THIS COUNTRY MEANS 'HOLLOW LAND'"
DATA "ITS WINDMILLS PUMP WATER BACK INTO THE SEA"

DATA "ITS CAPITAL IS A MAJOR DIAMOND CENTER", "THE NETHERLANDS"

DATAA, "THE ARDENNES PLATEAU IS A CENTER OF ZINC AND COAL PRODUCTION"

DATA "THE CAPITAL OF THIS NATION IS BRUSSELS"

DATA "THE CONGO (ZAIRE) USED TO BE A COLONY OF BELGIUM"

DATA "ITS LANGUAGE IS A MIXTURE OF FLANDERS AND FRENCH", BELGIUM

DATAA, "THE ARDENNES PLATEAU IS A CENTER OF ZINC AND COAL PRODUCTION"

DATA "THE CAPITAL OF THIS NATION IS BRUSSELS"

DATA "IT IS RULED BY A GRANDDUKE AND A PRIME MINISTER"

DATA "IT LOST TO GERMANY IN BOTH WORLD WARS", LUXEMBOURG

DATA "THE LACK OF NATURAL BOUNDARIES MAKES ITS SHAPE CHANGE OFTEN"

DATA "IT HAS BEEN OVERRUN BY AUSTRIA, PRUSSIA AND RUSSIA"

DATA "GERMANY INVADED THIS COUNTRY TO START WORLD WAR II"

DATA "THE CAPITAL OF THIS NATION IS WARSAW", POLAND

DATAA, "IT IS DIVIDED INTO THREE REGIONS, ONE OF WHICH IS BOHEMIA"

DATA "IT HAS HAD RESTRICTED FREEDOM SINCE RUSSIA OVERRUN IT IN 1968"

DATA "IT CONTAINS THE ELBE RIVER AND CARPATHIAN MOUNTAINS"

DATA "THE CAPITAL OF THIS NATION IS PRAGUE", CZECHOSLOVAKIA

DATAA, "IT WAS RULED BY TURKS AND OTHER INVADERS UNTIL 1867"

DATA "ITS FIRST KING ALSO WROTE" AUSTRIA"

DATA "THE COUNTRY WAS OVERRUN BY RUSSIA IN 1956"

DATA "THE CAPITAL OF THIS NATION IS BUDAPEST", HUNGARY

DATAA, "ITS PLOESTI OIL FIELDS ARE AMONG THE RICHEST IN EUROPE"

DATA "COMMUNISTS TOOK OVER THIS NATION IN 1947"

DATA "AGAINST SOVIET WISHES, IT REMAINS FRIENDLY TO WESTERN NATIONS"
THE CAPITAL OF THIS NATION IS BUCHAREST, ROMANIA

IT OCCUPIES THE EASTERN PART OF THE BALKAN PENINSULA

ITS MANY MOUNTAINS CAUSE IT TO HAVE VERY LITTLE ARABLE LAND

ONE OF ITS IMPORTANT EXPORTS IS ROSE OIL FOR PERFUME

THE CAPITAL OF THIS NATION IS SOFIA, BULGARIA

ITS NAME MEANS 'LAND OF THE SOUTHEN SLAVS'

ITS LANGUAGES INCLUDE SLOVENIAN, MACEDONIAN AND SERBO-CROATIAN

ITS RULER, TITO, KEPT THIS COMMUNIST COUNTRY SEPARATE FROM RUSSIA

THE CAPITAL OF THIS NATION IS BELGRADE, YUGOSLAVIA

THOUGH A SOVIET SATTELITE, IT USUALLY SIDES WITH CHINA

ITS CHIEF PRODUCTS AREMARKETED MAINLY BY CHINA

IT WAS RULED BY THE TURKS FOR OVER 400 YEARS

THE CAPITAL OF THIS NATION IS TIRANA, ALBANIA

MOZAMBIQUE AND ANGOLA WERE FORMERLY RULED BY THIS COUNTRY

MADEIRA AND THE AZORES ARE BOTH RULED BY THIS COUNTRY

THE COUNTRY IS DIVIDED BY THE TAGUS RIVER

THE CAPITAL OF THIS NATION IS LISBON, PORTUGAL

THIS MEDITERRANEAN ISLAND WAS CONTROLLED BY BRITAIN UNTIL 1960

BOTH GREECE AND TURKEY HAVE Fought FOR CONTROL OF THIS COUNTRY

THE CONSTITUTION CALLS FOR BOTH GREEK AND TURKISH LEADERS

THE CAPITAL OF THIS NATION IS NICOSTA, CYPRUS

THIS IS ONE OF THE FEW MID-EAST NATIONS WITH ENOUGH RAINFALL FOR FARMING

IT WAS ONCE PART OF SHEBA, WHOSE QUEEN ACHIEVED BIBLICAL FAME

MANY OF ITS PEOPLE ARE SUPPORTED BY OIL-RICH RELATIVES IN OTHER NATIONS
THE CAPITAL OF THIS NATION IS SANAA", YEMEN
ITS CAPITAL SUPPLIED INCENSE, SILK AND SPICES IN BIBLICAL TIMES
IT CONTROLS THE ISLANDS OF SOCO TRA, KAMARAN AND PERIM
IT'S BIGGEST ASSET IS THE GULF OF ADEN SEAPORT
THE CAPITAL AND ONLY MAJOR CITY IS ADEN", "SOUTH YEMEN"
IT OCCUPIES THE EASTERN CORNER OF THE ARABIAN PENINSULA
IT RULED ZANZIBAR UNTIL THE 186 1 BRITISH INTERVENTION
IT IS RULED BY A SULTAN
THE CAPITAL OF THIS NATION IS MUSKAT", OMAN
IT WAS FORMED FROM 3 BRITISH SHEIKDOMS AND THE 7 TRUCIAL STATES
ITS OIL INCOME GIVES IT ONE OF THE HIGHEST PER CAPITA INCOMES IN THE WORLD
QATAR SECEDED FROM THE FEDERATION IN 1971
THE CAPITAL OF THIS NATION IS A BU DHABI", "U. ARAB EMIRATES"
ITS LACK OF SKILLED LABOR RESTRICTS ITS PER CAPITA INCOME TO $18,000
IT BECAME INDEPENDENT OF THE UNITED ARAB EMIRATES IN 1971
IT WAS CONQUERED BY BAHRAIN, TURKEY AND GREAT BRITAIN
THE CAPITAL OF THIS NATION IS DOHA", QATAR
THOUGH A SMALL NATION, IT RANKS 7TH IN THE WORLD IN OIL PRODUCED
IT IS BORDERED BY IRAQ, SAUDI A RABIA, AND THE PERSIAN GULF
IT HAS BEEN RULED BY THE AL-SAB AH DYNASTY SINCE 1759
THE CAPITAL OF THIS NATION IS KUWAIT", KUWAIT
IT IS LOCATED BETWEEN LIBYA AND ALGERIA"
4740 DATA "THE ANCIENT POWER OF CARTHAGE WAS LOCATED HERE"
4750 DATA "THE CAPITAL OF THIS NATION IS TUNISIA"
4760 DATA "IT WAS PART OF THE FRENCH NATION, NOT A COLONY"
4770 DATA "25% OF THE POPULATION SPEAKS BERBER DIALECTS"
4780 DATA "IT IS BORDERED BY TUNISIA, LIBYA AND MOROCCO"
4790 DATA "THE CAPITAL OF THIS NATION IS ALGIERS"
4800 DATA "THE CITY OF TANGIER IS ONE OF THE WORLD'S GREAT FREE PORTS"
4810 DATA "ITS MOST FAMOUS CITIES ARE CASABLANCA AND MARRAKECH"
4820 DATA "ITS PORTS WERE ONCE RULED BY SPAIN BUT THE COUNTRY WAS RULED BY FRANCE"
4830 DATA "THE CAPITAL OF THIS NATION IS RABAT"
4840 DATA "LOCATED SOUTH OF MOROCCO, THIS STATE IS PEOPLED WITH NOMADS"
4850 DATA "IT ANNEXED THE SOUTH PART OF THE SPANISH SAHARA IN 1976"
4860 DATA "IN 1980, IT GAVE ITS SHARE OF THE SPANISH SAHARA TO MOROCCO"
4870 DATA "THE CAPITAL OF THIS NATION IS NOUAKCHOTT"
4880 DATA "LOCATED SOUTH OF MOROCCO, THIS STATE IS PEOPLED WITH NOMADS"
4890 DATA "IT ANNEXED THE SOUTH PART OF THE SPANISH SAHARA IN 1976"
4900 DATA "IN 1980, IT GAVE ITS SHARE OF THE SPANISH SAHARA TO MOROCCO"
4910 DATA "THE CAPITAL OF THIS NATION IS CONAKRY"
4920 DATA "ITALY ACHIEVED INDEPENDENCE FROM THIS NATION IN 1976"
4930 DATA "IT CONTAINS UP TO HALF OF THE WORLD'S BAUXITE"
4940 DATA "IT BROKE FROM FRANCE, THEN BECAME COMMUNIST TO GET RUSSIAN AID"
4950 DATA "THE CAPITAL OF THIS NATION IS CONAKRY"
5000 DATA "ITS ECONOMY HAS BEEN HELPED BY THE CALCIUM PHOSPHATE INDUSTRY"
5010 DATA "ITS POPULATION IS MADE UP OF BANTU AND HAMITIC TRIBES"
5020 DATA "THIS FRENCH TERRITORY WAS LOST BY THE GERMANS IN WORLD WAR II"
5030 DATA "THE CAPITAL OF THIS NATION IS LOME"
5040 DATA "THE COUNTRY WAS KNOWN AS DAHOMEY TIL 1975"
5050 DATA "THE FORMER KINGDOM OF ABOMEY BECAME A SOCIALIST STATE IN 1974"
THE PORT OF COTONOU IS ITS GREATEST ASSET

IT HAS TWO CAPITALS — PORTO-NOVO AND COTONOU, BENIN

IT WAS CONTROLLED BY BOTH THE FRENCH AND THE BRITISH UNTIL 1960

ITS OFFICIAL LANGUAGES ARE FRENCH AND ENGLISH

HALF OF ITS BRITISH SECTOR WAS ANNEXED TO NIGERIA IN 1961

THE CAPITAL OF THIS NATION IS Y AOUNDE, CAMEROON

THE ALBERT SCHWEITZER LAMBARENE HOSPITAL IS LOCATED HERE

MUCH OF ITS WEALTH HAS COME FROM ITS HARD WOOD FORESTS

HUGE DEPOSITS OF URANIUM AND MANGANESE HAVE BEEN FOUND HERE

THE CAPITAL OF THIS NATION IS LIBREVILLE, GABON

BRITAIN ESTABLISHED ITS CAPITAL AS A FREE SLAVE SANCTUARY

MORE THAN 60,000 DESCENDANTS OF SLAVES (CREOLES) LIVE HERE

IT IS LOCATED ON THE ATLANTIC, BETWEEN LIBERIA AND GUINEA

THE CAPITAL OF THIS NATION IS FREETOWN, SIERRA LEONE

IT BECAME BRITAIN'S FIRST AFRICAN POSSESSION IN 1588

IT IS SURROUNDED BY SENEGAL ON THREE SIDES

ITS CROPS OF PEANUTS AND RICE ARE GROWN ALONG THE GAMBIA RIVER

THE CAPITAL OF THIS NATION IS BANJUL, THE GAMBIA

IT IS LOCATED ON THE EASTERN HORN OF AFRICA

MANY OF ITS NOMAD PEOPLE LIVE OUTSIDE THE COUNTRY'S BORDERS

A SMALL AREA IS STILL CONTROLLED BY THE FRENCH

THE CAPITAL OF THIS NATION IS MOGADISHU, SOMALIA

IT WAS CREATED WHEN TANGANYIK A AND ZANZIBAR MERGED
MOUNT KILIMANJARO IS LOCATED IN THIS NATION.

ITS ISLAND OF ZANZIBAR WAS ONCE THE CENTER OF ARAB SLAVE TRADING.

THIS NATION'S CAPITAL IS DAR-ES-SALAAM, TANZANIA.

ITS PREVIOUS NAME WAS THE BELGIAN CONGO.

ONE OF THE WORLD'S LARGEST RIVERS, THE ZAIRE, IS HERE.

TWO-THIRDS OF THE WORLD'S COBALT COMES FROM HERE.

THE CAPITAL OF THIS NATION IS KINSHASA, ZAIRE.

IT SHARES THE NAME OF AFRICA'S SECOND LARGEST RIVER.

THOUGH A FRENCH-SPEAKING COUNTRY, IT IS A SOCIALIST NATION.

IT CONSISTS OF A STRIPOF LAND BETWEEN GABON AND ZAIRE.

THE CAPITAL OF THIS NATION IS LUSAKA, ZAMBIA.

ITS MAIN GEOGRAPHICAL FEATURE IS THE ZAMBEBE RIVER.

IT WAS CONTROLLED BY PORTUGAL FROM 1505 TO 1975.

ITS NEW MAOIST LEADERS HAVE CLOSED PRIVATE SCHOOLS.

A PORTUGUESE COLONY UNTIL 1975, IT'S 12 TIMES THE SIZE OF PORTUGAL.

IT WAS UNCOLONIZED UNTIL 400,000 PORTUGUESE MOVED THERE RECENTLY.

ITS MARXIST GOVERNMENT WAS ESTABLISHED WITH HELP FROM THE USSR AND CUBA.

THE CAPITAL OF THIS NATION IS LUANDA, ANGOLA.
5840 DATAC,"THIS INDIAN ISLAND [4 SPACES] NATION IS [SPACE] THE SIZE OF TEXAS"
5850 DATA "IT SUPPLIES 80% OF THE WORLD'S VANILLA"
5860 DATA "THE NATION'S PEOPLE [3 SPACES] ARE OF INDO NESIAN [5 SPACES] DESCENT"
5930 DATA "AFRICA'S BUSHMEN MAKE THEIR HOME HERE"
5940 DATA "IT WAS CREATED BY THE BRITISH TO PROTECT THE TRIBESMEN FROM THEIR [2 SPACES] ENEMIES"
5950 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS GABORONE", BOTSWANA
5960 DATAC,"IT'S COMPLETELY [7 SPACES] SURROUNDED BY SOUTH [3 SPACES] AFRICA"
5970 DATA "MORE THAN HALF OF ITS WORKING POPULATION [4 SPACES] WORKS IN SOUTH AFRICA"
5980 DATA "ITS MOUNTAIN TERRAIN [2 SPACES] HAS PROTECTED IT FROM SOUTH AFRICA"
5990 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS Maseru", LESOTHO
6080 DATAD,"IT WAS FORMERLY KNOWN AS EAST PAKISTAN"
6090 DATA "THE MOUTH OF THE [6 SPACES] GANGES RIVER IS FOUND HERE"
6100 DATA "IT IS ALMOST ENTIRELY SURROUNDED BY INDIA"
6110 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS Dacca", BANGLADESH
6160 DATAD,"IN RECENT HISTORY, [4 SPACES] THIS COUNTRY WAS KNOWN AS CEYLON"
6180 DATA "IT IS AN ISLAND OFF [3 SPACES] THE SOUTHERN TIP OF [3 SPACES] INDIA"
6190 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS Columbo", "SRI LANKA"
6400 DATAD,"THE IRAWADDY RIVER CAN BE NAVIGATED FOR 900 [2 SPACES] MILES IN THIS COUNTRY"
6430 DATA "THE CAPITAL OF THIS [3 SPACES] NATION IS Rangoon", BURMA
6440 DATAD,"EACH MAN HERE MUST BE A BUDDHIST MONK [SPACE] FOR [3 SPACES] PART OF HIS LIFE"
It was formerly called Siam.

No European country has ever controlled this Southeast Asian country.

Its capital of Bangkok has more canals than Venice, Thailand.

This archipelago extends into both the Indian and Pacific oceans.

The islands bear the name of King Philip II of Spain.

The island of Java contains 1,500 persons per square mile.

The capital of this nation is Jakarta, Indonesia.

The Spanish founded its main city, and its currency is the peso.

The main languages are Filipino, English, and Spanish.

The capital is Quezon City, and its chief is Manila, Philippines.

Captain Cook claimed this island group for Britain in 1769.

It was settled first by Maoris and then by the British.

It consists of the southernmost islands of Polynesia.

The capital of this nation is Wellington, New Zealand.

The nation of Belize is claimed by this nation.

It is located between Mexico and Honduras.

Columbus arrived here on his final voyage in 1502.

It has the largest population of all the Central American nations.

The capital of this nation is Guatemala City, Guatemala.

Its languages are English and Spanish, and 90% of its people are mestizo.

It is bordered by Guatemala, Nicaragua, and El Salvador.

The capital of this nation is Tegucigalpa, Honduras.

It's Central America's smallest nation.
6850 DATE "IT'S THE ONLY CENTRAL AMERICAN COUNTRY WITH NO SEACOAST"
6860 DATE "ITS WORKERS IN [8 SPACES] HONDURAS HAVE USED [2 SPACES] PROBLEMS WITH THAT [4 SPACES] COUNTRY"
6870 DATE "THE CAPITAL OF THIS [3 SPACES] NATION IS SAN SALVADOR", "EL SALVADOR"
6900 DATE "IT IS BETWEEN HONDURAS AND CENTRAL AMERICA"
6910 DATE "THE CAPITAL OF THIS [3 SPACES] NATION IS MANAGUA", "NICARAGUA"
6920 DATE "ITS 90% LITERACY RATE IS THE HIGHEST IN [5 SPACES] CENTRAL AMERICA"
6930 DATE "ITS STANDARD OF LIVING IS HIGHEST OF ANY [5 SPACES] CENTRAL AMERICAN [6 SPACES] NATION"
6940 DATE "ITS ECONOMY IS BASED [2 SPACES] MAINLY ON [SPACE] SMALL [7 SPACES] INDEPENDENT FARMS"
6950 DATE "THE CAPITAL OF THIS [3 SPACES] NATION IS SAN JOSÉ", "COSTA RICA"
7000 DATE "THESE 3 NORTH COAST [3 SPACES] COUNTRIES ARE FORMER [2 SPACES] BRITISH COLONIES"
7010 DATE "THEY ARE COMPOSED OF [2 SPACES] FRENCH GUIANA, SURINAM AND GUYANA"
7020 DATE "ONE OF THESE 3 NATIONS USED TO BE A FRENCH [3 SPACES] PRISON COLONY"
7030 DATE "ITS CAPITALS ARE [6 SPACES] GEORGETOWN, CAJENNE, [2 SPACES] AND PARAMARIBO", "THE GUIANAS"
7080 DATE "IT IS THE ONLY SOUTH [2 SPACES] AMERICAN COUNTRY WITH ATLANTIC AND PACIFIC [2 SPACES] COASTS"
7090 DATE "ONLY BRAZIL PRODUCES [2 SPACES] MORE COFFEE THAN THIS COUNTRY"
7100 DATE "IT PRODUCES 95% OF THE WORLD'S EMERALDS"
7110 DATE "THE CAPITAL OF THIS [3 SPACES] NATION IS BOGOTA", "COLOMBIA"
7120 DATE "IT OCCUPIES THE WEST [2 SPACES] HALF OF [SPACE] THE ISLAND OF HISPANIOLA"
7130 DATE "ITS CHIEF EXPORTS ARE RUM AND MOLASSES, [SPACE] AND IT IS POPULAR WITH [4 SPACES] TOURISTS"
7140 DATE "ITS CITIZENS ARE [6 SPACES] DESCENDED FROM AFRICAN SLAVES"
THE CAPITAL OF THIS NATION IS PORT-AU-PRINCE, HAITI.

IT SHARES THE ISLAND OF HISPA NOLA WITH HAITI.

COLUMBUS'S ASHES ARE HERE.

IT BOASTS THE WORLD'S LARGEST SUGAR MILL.

THE CAPITAL OF THIS NATION IS SANTO DOMINGO, DOMINICAN REPUBLIC.

IF THE U.S. EVER ADDS ANOTHER STATE, THIS WILL BE IT.

IT SENDS A NON-VOTING REPRESENTATIVE TO THE U.S. CONGRESS.

ITS CITIZENS ARE ALSO CITIZENS OF THE U.S.

THE CAPITAL OF THIS NATION IS SAN JUAN, PUERTO RICO.

IT IS SELF-GOVERNING, THOUGH UNDER BRITISH CONTROL.

THE ARAWAK INDIANS WHO LIVED HERE WERE KILLED BY SPAIN.

IT SPEAKS ENGLISH, BUTTIES ITSELF WITH CUBA AND RUSSIA.

THE CAPITAL OF THIS NATION IS KINGSTON, JAMAICA.

THEY ARE A GROUP OF 700 ISLANDS EAST OF FLORIDA.

COLUMBUS FIRST REACHED THE NEW WORLD HERE.

THEIR INCOME COMES FROM TOURISM, RUM, DRUGS AND BANKING.

THE CAPITAL OF THIS NATION IS NASSAU, BAHAMAS.

ITS NAME IS SPANISH FOR 'EQUATOR'.

IT IS THE WORLD'S LARGEST PRODUCER OF BANANAS.

ITS THE WORLD'S MAIN PRODUCER OF BALSAM WOOD.

THE CAPITAL OF THIS NATION IS QUITO, ECUADOR.

ONLY MALAYSIA PRODUCES MORE TIN THAN THIS COUNTRY.

THE ANDES MOUNTAINS FORM ITS WESTERN BORDER.

CHILE CAPTURED THIS COUNTRY'S PACIFIC COAST.

THE CAPITAL OF THIS NATION IS LA PAZ, BOLIVIA.

THE CAPITAL OF THIS NATION IS QUITO, ECUADOR.

THEY ARE A GROUP OF 700 ISLANDS EAST OF FLORIDA.

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THE ANDES MOUNTAINS FORM ITS WESTERN BORDER.

CHILE CAPTURED THIS COUNTRY'S PACIFIC COAST.

THE CAPITAL OF THIS NATION IS LA PAZ, BOLIVIA.
Mr. President

Skill Area: Social Studies
Level: IV
Memory: At least 8K expansion required
Equipment required: None
Modification: Yes

Leaders of the Country

"Mr. President" is designed to teach facts about the United States presidents. You are given clues about each of the American presidents and are then asked to identify the president from the clues. Points are given depending on how many clues it takes you to identify a president.

How to Play

You will be given up to four questions that can be answered with the name of a particular president.

To begin the game, hit any key and wait ten seconds for the computer to organize the questions.

When a question is asked by the computer, answer it by typing the name of the president as it appears below. The computer will count any misspelling as an incorrect answer, so make sure to enter the names exactly. If you don't know the answer to a clue, take a guess, or press the RETURN key.

Here are the presidents whose names you'll be using:

J Adams     J Garfield     L Johnson     F Roosevelt
Q Adams     U Grant       J Kennedy     T Roosevelt
C Arthur    W Harding     A Lincoln     W Taft
J Buchanan  B Harrison    J Madison     Z Taylor
J Carter    W Harrison    W McKinley   H Truman
G Cleveland R Hayes       J Monroe     J Tyler
C Coolidge  H Hoover      R Nixon      M Van Buren
D Eisenhower A Jackson     F Pierce     G Washington
M Fillmore  T Jefferson   J Polk        W Wilson
G Ford      A Johnson     R Reagan

You'll notice a few things about this list. First, the men are listed by first initial rather than first name. Second, there is no period after the initial as it is written for the computer. Third, because there are two presidents with the name J Adams — John
Adams and John Quincy Adams — the two men have been distinguished by referring to the latter as Q Adams. Pay close attention to these rules. If you know the answer to a question is Abraham Lincoln and you enter the words Abraham Lincoln or even A. Lincoln, the computer will count your answer as incorrect.

If you still haven’t discovered the name of a president after four questions, the name will appear on the screen. A second or two after the name flashes, the game will continue.

To quit the game before all the presidents have been used, simply type END as an answer to any question. This will not affect your final score.

**Scoring**

Points will be awarded as follows:

- If you guess correctly after only one clue, 4 points.
- If you guess correctly after two clues, 3 points.
- If you guess correctly after three clues, 2 points.
- If you guess correctly after four clues, 1 point.
- If the computer has to show you the correct answer, -5 points.

Your score is shown at the end of the game. You will also see a percentage score.

**Mr. President**

```basic
100 NP=39:CB=828:POKE36879,27
200 GOSUB700
205 S%=0:FORX=1TONP:POKECB+X,0:NEXTX
210 FORX=1TONP:GOSUB800:POKECB+Z,X:NEXTX
300 FORX=1TONP:Y=PEEK(CB+X):Y=(Y-1)*5
310 RESTORE:IFY=0THEN330
320 FORW=1TO5:READX$:QT$(W-1)=X$:NEXTW
330 FORW=1TO5:READX$:QT$(W-1)=X$:NEXTW
400 FORW=0TO3
405 PRINT"[BLK][CLR][21 DOWN]";SPC(6);"SCORE =";S%
410 PRINT"[HOME][2 DOWN]QUESTION #";W+1.
420 PRINT"[3 DOWN]HE ";QT$(W);".{3 DOWN}".
430 X$="":POKE198,0:INPUTX$:IFX$="END"THEN600
435 IFX$=QT$(4)THEN500
440 POKE36879,24:POKE36878,15:POKE36874,180:FORV=1TO150:NEXTV
450 POKE36878,0:POKE36874,0:POKE36879,27
460 NEXTW:PRINT"[PUR][2 DOWN]ANSWER = ";QT$(4):S%=S%+5
470 FORW=1TO2500:NEXTW,X
```
480 GOT0600
500 S%=S%+(4-W):POKE36879,30:POKE36878,15:FORV=170
to240
510 POKE36875,V:NEXTV:POKE36878,0:POKE36877,0:
POKE36879,27
520 NEXTV
600 PRINT"{BLK}{CLR}{DOWN}{7 SPACES}{RVS}FINISHED
{OFF}";
610 PRINT"{3 DOWN}YOUR SCORE = ";S%
620 IF S%<0 THEN S%=0
630 X=X-1:IF X<1 THEN X=1
640 X=INT((S%*100)/(X*4))
650 PRINT"{DOWN}YOUR GRADE = ",X;"{LEFT}";
660 PRINT"{3 DOWN}PLAY AGAIN?":PRINT"{DOWN}ENTER
{RVS}Y{OFF} OR{RVS}N{OFF}"
670 GETX$:IFX$=""THEN660
680 IFX$<>"N"THEN660
690 END
700 PRINT"{BLK}{CLR}{DOWN} * MISTER PRESIDENT *
705 PRINT"{DOWN}YOU WILL BE GIVEN UP[2 SPACES]TO 4
QUESTIONS ABOUT[2 SPACES]EACH U.S. PRESIDENT.
{DOWN}"
710 PRINT"POINTS WILL BE GIVEN[2 SPACES]DEPENDING
{SPACE}UPON HOW[4 SPACES]MANY QUESTIONS YOU
{4 SPACES}NEED:{DOWN}"
715 PRINT" 1 QUESTION ={2 SPACES}4.";PRINT
" 2 QUESTIONS ={2 SPACES}3.";
720 PRINT" 3 QUESTIONS ={2 SPACES}2.";PRINT" 4 QUE
STIONS ={2 SPACES}1.";
725 PRINT" ALL MISSED={2 SPACES}=-5.";
730 PRINT"{DOWN}TYPE {RVS}END{OFF} TO END EARLY.";
735 PRINT"{2 DOWN}{3 SPACES}(PRESS ANY KEY)"
740 GETX$:IFX$=""THEN790
745 RETURN
800 W=0
810 Z=INT((RND(1)*NP)+1):IF PEAK(CB+Z)=0 THEN RETURN
820 W=W+1:IF W<10 THEN810
830 Z=1,
835 IF PEAK(CB+Z)=0 THEN RETURN
840 Z=Z+1:GOTO835
1000 DATA"SERVED FROM 1789 TO 1797"
1005 DATA"WAS THE ONLY[7 SPACES]PRESIDENT ELECTED
{5 SPACES}UNANIMOUSLY"
1010 DATA"MAY HAVE DIED FROM BEING BLED TO DEATH B
YLEECHES"
1020 DATA"HAD JOHN ADAMS FOR A VICE-PRESIDENT","G
{SPACE}WASHINGTON"
1030 DATA "WAS THE FIRST TO BE DEFEATED FOR REELECTION"
1040 DATA "WAS THE FIRST TO REELECTION"?LIVE IN THE WHITE HOUSE"
1050 DATA "ERRONEOUSLY SAID ON HIS DEATHBED, 'JEFFERSON STILL LIVES'"
1055 DATA "SERVED FROM 1797 TO 1801"
1060 DATA "J ADAMS", "WAS THE SECOND PRESIDENT BORN IN VIRGINIA"
1070 DATA "BEAT CHARLES PINCKNEY IN A REELECTION"
1075 DATA "DIED ON AMERICA'S 50TH ANNIVERSARY"
1080 DATA "SERVED FROM 1801 TO 1809", "T JEFFERSON"
1090 DATA "WAS CALLED THE 'FATHER OF THE CONSTITUTION'"
1100 DATA "HAD BOTH OF HIS VICE-PRESIDENTS DIE IN OFFICE"
1110 DATA "DECIDED TO ENTER THE WAR OF 1812", "SERVED FROM 1809 TO 1817", "J MADISON"
1120 DATA "WAS A STUDENT OF THOMAS JEFFERSON"
1130 DATA "WAS BOTH SECRETARY OF STATE AND SECRETARY OF WAR"
1140 DATA "WAS THE FOURTH PRESIDENT BORN IN VIRGINIA"
1150 DATA "SERVED FROM 1817 TO 1825", "J MONROE"
1160 DATA "WAS SECRETARY TO RUSSIA'S U.S. MINISTER AT AGE 14"
1170 DATA "WON HIS OFFICE THANKS TO HENRY CLAY"
1180 DATA "PUBLISHED POETRY", "SERVED FROM 1825 TO 1829", "Q ADAMS"
1190 DATA "WAS THE 1ST TO EXPERIENCE AN ASSASSINATION ATTEMPT"
1200 DATA "WAS THE HERO OF THE BATTLE OF NEW ORLEANS"
1210 DATA "WAS OUR 7TH PRESIDENT", "WAS Nicknamed 'OLD HICKORY'", "A JACKSON"
1220 DATA "RAN TWICE AS A DEMOCRAT, AND ONCE AS A FREE SOIL CANDIDATE"
1230 DATA "LOST POPULARITY DUE TO THE DEPRESSION OF 1837"
1240 DATA "WAS VICE-PRESIDENT UNDER ANDREW JACKSON"
1250 DATA "WAS OUR 8TH PRESIDENT IDENT, AND SERVED FROM 1837 TO 1841", "M VAN BUREN"
1260 DATA "WAS THE OLDEST MAN EVER TO BE SWORN IN AS PRESIDENT, EXCEPT FOR REAGAN"
DATA"DIED FROM A COLD CAUGHT DURING HIS INAUGURAL ADDRESS"
1280 DATA"WAS THE FIRST TO DIE IN OFFICE"
1290 DATA"WAS OUR 9TH PRESIDENT, AND SERVED FOR ONLY 31 DAYS", "W HARRISON"
1300 DATA"HAD THE NICKNAME IN OFFICE OF 'OLD VETO'"
1310 DATA"WAS THE 1ST PRESIDENT IN DANGER OF IMPEACHMENT"
1320 DATA"WAS THE 1ST PRESIDENT TO TAKE OFFICE AFTER A PRESIDENT'S DEATH"
1330 DATA"WAS OUR 10TH PRESIDENT, AND SERVED FROM 1841 TO 1845", "J TYLER"
1340 DATA"BEAT HENRY CLAY BY 38,000 VOTES"
1350 DATA"ANNEXED TEXAS AND OREGON TO THE U.S"
1360 DATA"HAD GEORGE DALLAS AS HIS VICE-PRESIDENT"
1370 DATA"WAS OUR 11TH PRESIDENT, AND SERVED FROM 1845 TO 1849", "J POLK"
1380 DATA"HAD THE NICKNAME OF 'OLD ROUGH AND READY'
1390 DATA"WAS A 2ND COUSIN OF JAMES MADISON"
1400 DATA"DIED FROM EATING TOO MANY CHERRIES"
1410 DATA"WAS OUR 12TH PRESIDENT, AND SERVED FROM 1849 TO 1850", "Z TAYLOR"
1420 DATA"BEGAN HIS CAREER AS AN APPRENTICE WOOLCARDER"
1430 DATA"SERVED AS MEDIATOR IN A GUANO DISPUTE"
1440 DATA"SERVED AS VICE-PRESIDENT TO ZACHARY TAYLOR"
1450 DATA"WAS OUR 13TH PRESIDENT, AND SERVED FROM 1853 TO 1857", "M FILLMORE"
1460 DATA"WAS A BRIGADIER GENERAL IN THE MEXICAN WAR"
1470 DATA"WAS THE YOUNGEST U.S. SENATOR AT AGE 33"
1480 DATA"HAD WILLIAM R. KING AS HIS VICE-PRESIDENT"
1490 DATA"WAS OUR 14TH PRESIDENT, AND SERVED FROM 1853 TO 1857", "F PIERCE"
1500 DATA"WAS AGAINST FREEING THE SLAVES BECAUSE THEY WOULD TAKE OVER THE SOUTH"
1510 DATA"TRIED 3 TIMES BEFORE FINALLY BEING NOMINATED AS PRESIDENT"
1520 DATA"WAS OUR 15TH PRESIDENT, AND SERVED FROM 1857 TO 1861"
1530 DATA"WAS OUR ONLY BACHELOR PRESIDENT, "J. BUCHANAN"
1540 DATA"BEAT STEPHEN DOUGLAS IN A FAMOUS SENATORIAL RACE"
1550 DATA"WAS THE 1ST PRESIDENT TO BE ASSASSINATED"
1560 DATA"WAS OUR 16TH PRESIDENT, AND SERVED FROM 1861 TO 1865"
1570 DATA"WAS KNOWN AS THE GREAT EMANCIPATOR, "A LINCOLN"
1580 DATA"WAS A SOUTHERN SENATOR WHO REMAINED LOYAL TO THE NORTH IN THE CIVIL WAR"
1590 DATA"WAS OUR 17TH PRESIDENT, AND SERVED FROM 1865 TO 1869"
1600 DATA"WAS VICE-PRESIDENT UNDER LINCOLN"
1610 DATA"WAS IMPEACHED AND ACQUITTED, "A JOHNSON"
1620 DATA"WAS A TEETOTALER, BUT SMOKED 20 CIGARS EACH DAY"
1630 DATA"WAS HELPED TO ELECTION BY THE NEWLY FREED SLAVES"
1640 DATA"WAS KNOWN AS AMERICA'S GREATEST WAR HERO"
1650 DATA"WAS OUR 18TH PRESIDENT, AND SERVED FROM 1869 TO 1877, "U GRANT"
1660 DATA"HAD A WIFE WITH THE NickNAME OF *LEMONADE LUCY*"
1670 DATA"WON THE PRESIDENCY WITH 250,000 VOTES LESS THAN HIS OPPONENT"
1680 DATA"WON THE PRESIDENCY BY 1 ELECTORAL VOTE"
1690 DATA"WAS OUR 19TH PRESIDENT, AND SERVED FROM 1877 TO 1881, "R HAYES"
1700 DATA"WAS A FORMER LAY MINISTER AND EVANGELIST"
1710 DATA"WAS OPPOSED TO WAR OR SLAVERY BECAUSE OF HIS RELIGION"
1720 DATA"WAS THE 2ND PRESIDENT TO BE ASSASSINATED"
1730 DATA"WAS OUR 20TH PRESIDENT, AND SERVED DURING 1881, "J GARFIELD"
1740 DATA"WAS FROM VERMONT, BUT MAY HAVE BEEN BORN IN CANADA"
1750 DATA"HAD NO VICE-PRESIDENT"
1760 DATA"WAS VICE-PRESIDENT TO JOHN GARFIELD"
1770 DATA"WAS OUR 21ST PRESIDENT, AND SERVED FROM 1881 TO 1885, "C ARTHUR"
1780 DATA "WAS A BACHELOR WHEN ELECTED, BUT MARRIED  
{2 SPACES} WHILE IN OFFICE"
1790 DATA "SAID 'I HAVE TRIED SO HARD TO DO RIGHT'"
1800 DATA "SERVED FROM 1885 TO 1889 AND FROM 1893 TO 
1897"
1810 DATA "WAS BOTH OUR 22ND {2 SPACES} AND 24TH PRES 
IDENT", "G CLEVELAND"
1820 DATA "HAD LEVI P. MORTON AS HIS VICE-PRESIDENT 
"
1830 DATA "HAD A GRANDFATHER {2 SPACES} WHO HAD BEEN 
{SPACE} PRESIDENT BEFORE HIM"
1840 DATA "DEFEATED GROVER {4 SPACES} CLEVELAND AND W 
AS {5 SPACES} DEFEATED BY HIM"
1850 DATA "WAS OUR 23RD PRESIDENT, AND SERVED FROM 
M1889 TO 1893", "B HARRISON"
1860 DATA "TWICE DEFEATED {5 SPACES} WILLIAM JENNINGS 
BRYAN FOR THE PRESIDENCY"
1870 DATA "SERVED 6 TERMS IN {2 SPACES} THE HOUSE OF 
{10 SPACES} REPRESENTATIVES"
1880 DATA "WAS OUR 25TH PRESIDENT, AND SERVED FROM 
M1897 TO 1901"
1890 DATA "WAS ASSASSINATED {3 SPACES} BY ANARCHIST L 
EON {5 SPACES} CZOLGOSZ", "W MCKINLEY"
1900 DATA "BECAME PRESIDENT {3 SPACES} AFTER MCKINLEY 
'S {6 SPACES} ASSASSINATION"
1910 DATA "WAS OUR 26TH PRESIDENT, AND SERVED FROM 
M1901 TO 1909"
1920 DATA "WAS THE FOUNDER OF THE NATIONAL PARK 
{5 SPACES} SYSTEM"
1930 DATA "ORGANIZED THE {6 SPACES} 'ROUGH RIDERS' ", " 
ROOSEVELT"
1940 DATA "WAS SECRETARY OF {3 SPACES} WAR UNDER TEDD 
Y {7 SPACES} ROOSEVELT"
1950 DATA "BECAME CHIEF {7 SPACES} JUSTICE OF THE SUP 
REMECOURT AFTER BEING {5 SPACES} PRESIDENT"
1960 DATA "WAS OUR 27TH PRESIDENT, AND SERVED FROM 
M1909 TO 1913"
1970 DATA "WAS OUR FATTEST {4 SPACES} PRESIDENT, WEIG 
HING {3 SPACES} 325 POUNDS WHEN {7 SPACES} ELECTED 
"
1980 DATA "W TAFT"
1985 DATA "CALLED RACIAL {6 SPACES} SEGREGATION 'NOT 
{6 SPACES} HUMILIATING BUT A {5 SPACES} BENEFIT' 
"
1990 DATA "USED THE REELECTIONSLOGAN 'HE KEPT US OUT 
OF WAR'"
2000 DATA "WAS OUR 28TH PRESIDENT, AND SERVED FROM 
M1913 TO 1921"
2010 DATA "IS OFTEN ASSOCIATED WITH THE LEAGUE OF
{4 SPACES}NATIONS", "W WILSON"
2020 DATA "SAID 'I AM NOT FIT FOR THIS OFFICE AND
{3 SPACES}NEVER SHOULD HAVE BEEN HERE'"
2030 DATA "WAS OUR 29TH PRESIDENT, AND SERVED FROM
M1921 TO 1923"
2040 DATA "DIED AMIDST {8 SPACES}CORRUPTION AND MAY
{4 SPACES}HAVE BEEN POISONED"
2050 DATA "WAS LINKED WITH THE TEAPOT DOME SCANDAL", 
"W HARDING"
2060 DATA "WAS FAMOUS FOR {5 SPACES}BREAKING BOSTON'
S {5 SPACES}POLICE STRIKE"
2070 DATA "WAS OUR 30TH PRESIDENT, AND SERVED FROM
M1923 TO 1929"
2080 DATA "WEANED ON A {3 SPACES}PICKLE,' ACCORDING TO
ALICE LONGWORTH"
2090 DATA "WAS KNOWN AS {7 SPACES} 'SILENT CAL', "C C
COOLIDGE"
2100 DATA "LATER WORKED UNDER PRESIDENTS TRUMAN AND
EISENHOWER"
2110 DATA "WAS A MINING {7 SPACES}ENGINEER BEFORE EN-
TERING POLITICS"
2120 DATA "WAS OUR 31ST PRESIDENT, AND SERVED FROM
M1929 TO 1933"
2130 DATA "LOST HIS REELECTION BID BECAUSE OF THE
{4 SPACES}GREAT DEPRESSION", "H HOOVER"
2140 DATA "WAS OUR 32ND PRESIDENT, BEGINNING HIS
{2 SPACES}TERM IN 1933"
2150 DATA "IS CREDITED WITH {3 SPACES}SAVING AMERICA
FROM {3 SPACES}THE GREAT DEPRESSION"
2160 DATA "WAS PRESIDENT {6 SPACES}DURING MOST OF WORLD
{2 SPACES}WAR II"
2170 DATA "SERVED BEFORE PRESIDENTS WERE ALLOWED
{3 SPACES}ONLY TWO TERMS", "F ROOSEVELT"
2180 DATA "WAS THE ONLY 20TH {2 SPACES}CENTURY PRESI-
DENT WHO NEVER WENT TO COLLEGE"
2190 DATA "WAS OUR 33RD PRESIDENT, AND SERVED FROM
M1945 TO 1953"
2200 DATA "WAS A HABERDASHER {2 SPACES}BEFORE ENTER-
ING {7 SPACES}POLITICS"
2210 DATA "WAS PRESIDENT WHEN ATOMIC BOMBS WERE
{5 SPACES}DROPPED ON JAPAN", "H TRUMAN"
2220 DATA "WAS WANTED BY BOTH PARTIES AS A PRES-
{4 SPACES}IDENTIAL CANDIDATE"
2230 DATA "PLAYED FOOTBALL FOR WEST POINT"
2240 DATA "WAS OUR 34TH PRESIDENT, AND SERVED FROM
M1953 TO 1961"
2250 DATA "WAS THE ONLY PRESIDENT TO BE A 5-STAR
{2 SPACES}GENERAL", "D EISENHOWER"
2260 DATA "LIVED A SHORTER {4 SPACES} LIFE THAN ANY OTHER {3 SPACES} PRESIDENT"
2270 DATA "WAS THE YOUNGEST {3 SPACES} MAN EVER ELECTED PRESIDENT"
2280 DATA "MAY HAVE BEEN {6 SPACES} ELECTED BECAUSE HE {4 SPACES} LOOKED GOOD ON T.V."
2290 DATA "WAS OUR 35TH PRESIDENT, AND SERVED FROM 1961 TO 1963", "J KENNEDY"
2300 DATA "BECAME SENATE {6 SPACES} DEMOCRAT LEADER DURING HIS 1ST SENATE TERM"
2310 DATA "WAS PRESIDENT {6 SPACES} DURING THE VIETNAM WAR ESCALATION"
2320 DATA "WAS OUR 36TH PRESIDENT, AND SERVED FROM 1963 TO 1969"
2330 DATA "WAS KNOWN FOR THE {2 SPACES} 'GREAT SOCIETY', "L JOHNSON"
2340 DATA "WAS PRESIDENT WHEN THE VOTING AGE WAS 18"
2350 DATA "WAS PRESIDENT WHEN MAN SET FOOT ON THE MOON"
2360 DATA "WAS OUR 37TH PRESIDENT, AND SERVED FROM 1969 TO 1974"
2370 DATA "WAS THE ONLY PRESIDENT TO RESIGN IN THE MIDDLE OF A TERM", "R NIXON"
2380 DATA "WAS BORN WITH THE {2 SPACES} NAME OF LESLIE LYNCH {2 SPACES} KING, JR"
2390 DATA "WAS NEVER ELECTED {2 SPACES} PRESIDENT OR VICE {3 SPACES} PRESIDENT"
2400 DATA "WAS A MALE MODEL {3 SPACES} AND FOOTBALL PLAYER {3 SPACES} BEFORE ENTERING {7 SPACES} POLITICS"
2410 DATA "WAS OUR 38TH PRESIDENT, AND SERVED FROM 1974 TO 1977", "G FORD"
2420 DATA "MAY HAVE LOST HIS REELECTION DUE TO PROBLEMS IN THE MIDDLE EAST"
2430 DATA "WAS PRESIDENT {6 SPACES} DURING THE IRAN HOSTAGE CRISIS"
2440 DATA "WAS OUR 39TH PRESIDENT, AND SERVED FROM 1977 TO 1981"
2450 DATA "WAS A FORMER PEANUT FARMER, AND HAD A BROTHER NAMED BILLY", "J CARTER"
2460 DATA "STARTED HIS CAREER AS AN ILLINOIS LIFE GUARD"
2470 DATA "WAS THE 1ST PRESIDENT TO HAVE BEEN DIVORCED"
2480 DATA "RAN ON A PLATFORM OF 'NEW FEDERALISM'"
2490 DATA "WAS OUR 40TH PRESIDENT, AND TOOK OFFICE IN 1981", "R REAGAN"
Movers and Shakers

Skill Area: Social Studies
Level: IV
Memory: At least 16K expansion required
Equipment required: None
Modification: Yes

People of the Past

"Movers and Shakers" is a question-and-answer game designed to acquaint students with the heroes and villains of world history. You'll be asked up to three questions about selected men or women of history. Points are determined by the number of questions it takes you to identify a particular character.

How to Play

This game is divided into eight categories, which are as follows:

A. World Leaders
B. Artists and Thinkers
C. Famous Women
D. American Heroes
E. Villains and Outlaws
F. Scientists
G. Modern Religious Leaders
H. Random Selections

There are 63 historical characters in Movers and Shakers, but some may appear in more than one category. For example, Adolph Hitler would appear in Category A, but he would also appear in Category E. All characters are included in Category H.

To choose a category, type the letter of the category you wish to play. Wait ten seconds for the data to load and the game to begin.

You'll be asked three questions about each character. The computer will count misspellings as incorrect answers, so a correctly spelled list of characters in Movers and Shakers appears as follows:
Level 4

Alexander the Great
Ethan Allen
Thomas Aquinas
Attila the Hun
Aristotle
Benedict Arnold
Clara Barton
Ludwig van Beethoven
Alexander Graham Bell
Napoleon Bonaparte
John Wilkes Booth
Johannes Brahms
Caligula
John Calvin
George Washington Carver
Catherine II
Frederic Chopin
Cleopatra
Marie Curie
Benjamin Disraeli
Mary Baker Eddy
Thomas Edison
Albert Einstein
Enrico Fermi
Henry Ford
Benjamin Franklin
Sigmund Freud
Mohandas Gandhi
Paul Gaugin
Johan van Goethe
Alexander Hamilton
King Henry VIII

Adolph Hitler
Edward Jenner
John Paul Jones
Carl Jung
Martin Luther King
Robert E. Lee
Nikolai Lenin
Louis XIV
Martin Luther
Guglielmo Marconi
Karl Marx
Wolfgang Mozart
Benito Mussolini
Sir Isaac Newton
Friedrich Nietzsche
Florence Nightingale
Louis Pasteur
Eva Peron
Pablo Picasso
Plato
Grigori Rasputin
Rembrandt van Rijn
Peter Paul Rubens
Socrates
Petr Tchaikovsky
Mao Tse-Tung
Vincent van Gogh
Pancho Villa
Booker T. Washington
Duke of Wellington
Brigham Young

Scoring

Points are awarded as follows:

• 3 points if the correct answer is given after 1 clue.
• 2 points if the correct answer is given after 2 clues.
• 1 point if the correct answer is given after 3 clues.
• If all questions are missed, 3 points are deducted from the score.

At the end of the game, you’ll be shown a display stating your
total number of points, as well as a percentage score. If you’d like to stop playing before the game is completed, just type END as an answer to any question. This does not count as an answer and does not reduce your score.

**Movers and Shakers**

```basic
100 NS=63: CB=828: POKE36879, 254: DIM QT$(24, 3)
200 GOSUB 700
205 GOSUB1000: S%=0: FOR X=1 TO N: POKE CB+X, 0: NEXT X
210 FOR X=1 TO N: POKE 800: POKE CB+Z, X: NEXT X
300 FORX=1 TO Y: PEEK(CB+X)-1
340 FOR W=0 TO 2: POKE 36879, 254
350 FOR W=1 TO 3
360 V=INT(RND(1)*3): IF V<>0 THEN GOSUB 700
370 RS(W)=0: FOR X=1 TO N: POKE CB+X, W: NEXT X
380 FOR X=1 TO N: Y=PEEK(CB+X)-1
390 FOR X=1 TO 2: RS(X)=0: NEXT X
400 FOR W=1 TO 3
410 W=INT(RND(1)*3): IF W<>0 THEN 410
420 S%=S%+(3-W)*2
430 FOR X=1 TO 2500: NEXT X, W: GOTO 600
440 W=INT((S%*100)/(W*3))
450 PRINT "your grade = "; W"%
```

**raw text**

```
Level 4

Movers and Shakers
```

100 NS=63: CB=828: POKE36879, 254: DIM QT$(24, 3)
200 GOSUB 700
205 GOSUB1000: S%=0: FOR X=1 TO N: POKE CB+X, 0: NEXT X
210 FOR X=1 TO N: POKE 800: POKE CB+Z, X: NEXT X
300 FORX=1 TO Y: PEEK(CB+X)-1
340 FOR W=0 TO 2: POKE 36879, 254
350 FOR W=1 TO 3
360 V=INT(RND(1)*3): IF V<>0 THEN GOSUB 700
370 RS(W)=0: FOR X=1 TO N: POKE CB+X, W: NEXT X
380 FOR X=1 TO N: Y=PEEK(CB+X)-1
390 FOR X=1 TO 2: RS(X)=0: NEXT X
400 FOR W=1 TO 3
410 W=INT(RND(1)*3): IF W<>0 THEN 410
420 S%=S%+(3-W)*2
430 FOR X=1 TO 2500: NEXT X, W: GOTO 600
440 W=INT((S%*100)/(W*3))
450 PRINT "your grade = "; W"%
```

147
706 PRINT "PEOPLE."
710 PRINT "{DOWN}POINTS WILL BE GIVEN{2 SPACES}DEPENDING UPON HOW{4 SPACES}MANY QUESTIONS YOU {4 SPACES}NEED:{DOWN}"
715 PRINT " 1 QUESTION={2 SPACES}3."; PRINT " 2 QUESTIONS ={2 SPACES}2."
720 PRINT " 3 QUESTIONS ={2 SPACES}1.";
725 PRINT "ALL MISSED{2 SPACES}=-3.";
730 PRINT "{DOWN}TYPE {RVS}END{OFF} TO END EARLY.";
735 PRINT "{DOWN}{3 SPACES}(PRESS ANY KEY)"
790 GETX$; IFX$=""THEN790
795 RETURN
800 W=0
810 Z=INT((RND(1)*NE)+1):IF PEEK(CB+Z)=0 THEN RETURN
820 W=W+1:IFW<9THEN810
830 Z=1
835 PEEK(CB+Z)=0 THEN RETURN
840 Z=Z+1:GOTO835
900 X$="":POKE198,0:INPUTX?:IFX$=QT$(Y,0)THENX$="Q "";RETURN
905 IFX$="END" THEN RETURN
910 POKE36879,24:POKE36878,15:POKE36874,180:FORV=1 TO100:NEXTV
920 POKE36878,0:POKE36874,0:POKE36879,254:RETURN
1000 PRINT "{CLR}{2 DOWN}ENTER DESIRED CATEGORY {2 DOWN}":PRINT "{RVS}B{OFF} WORLD LEADERS"
1010 PRINT "{DOWN}C{OFF} FAMOUS WOMEN"
1020 PRINT "{DOWN}D{OFF} AMERICAN HEROES"; PRINT "{DOWN}E{OFF} VILLAINS &{SHIFT-SPACE} OUTLAWS"
1030 PRINT "{DOWN}F{OFF} SCIENTISTS"; PRINT "{DOWN}G{OFF} RELIGIOUS LEADERS"
1040 PRINT "{DOWN}H{OFF} RANDOM SELECTIONS"
1050 GETX$; IFX$=""THEN1050
1060 IFX$<"A" ORX$="H"THEN1050
1070 RESTORE; NE=0; IFX$="H" GOTO1200
1080 READA$:X=LEN(A$); Y=1;IFA$=""$THENRETURN
1090 IFX$=MID$(A$,Y,1)THEN1130
1100 Y=Y+1; IFY<=XTHEN1090
1120 FORX=1TO4;READA$:NEXTX;GOTO1080
1130 FORX=0TO3;READA$:QT$(NE,X)=A$:NEXTX;NE=NE+1;GOTO1080
1200 X=INT(RND(1)*(NS-19)); X=X*5:IFX=0THEN1220
1210 FORY=1TOX;READA$:NEXTY
1220 FORX=0TO19;READA$:FORY=0TO3;READA$:QT$(X,Y)=A$:NEXTY;X=NE=20:RETURN
3000 DATAB,"SIGMUND FREUD"
DATA "HE WAS THE FATHER OF PSYCHOANALYSIS, BORN IN 1856"

DATA "HIS BOOKS WERE BURNED BY THE NAZIS, WHO CALLED THEM 'JEISH PORNOPHARY'"

DATA "HE COINED THE TERMS ID, EGO, AND SUPEREGO"

DATA "CARL JUNG"

DATA "BORN IN 1875, HE CREATED ANALYTICAL PSYCHOLOGY"

DATA "HE WAS KNOWN AS 'THE SAGE OF ZURICH'"

DATA "HE BELIEVED ALL PEOPLE WERE INTROVERTS OR EXTROVERTS"

DATA "MARIE CURIE"

DATA "SHE AND HER HUSBAND DISCOVERED POLONIUM AND RADIUM"

DATA "SHE WAS THE FIRST WOMAN TO RECEIVE THE NOBEL PRIZE"

DATA "BORN IN 1867, SHE DIED OF LEUKEMIA CAUSED BY WORKING WITH RADIUM"

DATA "ALBERT EINSTEIN"

DATA "BORN IN 1879, HE WAS CONSIDERED RETARDED BY HIS PARENTS"

DATA "HE DEVELOPED THE 'THEORY OF RELATIVITY'"

DATA "ONE OF HISTORY'S GREATEST THINKERS, HE REVOLUTIONIZED PHYSICS"

DATA "GUGLIELMO MARCONI"

DATA "HIS ATTIC IN ITALY WAS THE WORLD'S FIRST RADIO STATION"

DATA "BORN IN 1874, HE HAD INVENTED A WIRELESS TRANSMITTER BY THE AGE OF 21"

DATA "HIS INVENTION SHOWED ITS IMPORTANCE WHEN THE TITANIC SANK"

DATA "SIR ISAAC NEWTON"

DATA "BORN IN 1642, HE WAS THE DISCOVERER OF GRAVITY"

DATA "HE WAS A BRITISH MATHEMATICIAN AND ASTRONOMER"

DATA "HIS CONCEPT OF AN ORDERLY UNIVERSE INFLUENCED MEN FOR CENTURIES"

DATA "KARL MARX"

DATA "THOUGH DESCENDED FROM RABBIS, HE CALLED RELIGION 'THE OPIUM OF THE MASSES'"
4

DATA"HE WROTE 'DAS KAPITAL' AND NEW YORK DAILY [4 SPACES]TRIBUNE EDITORIALS"
3270 DATA"HE WROTE 'THE[9 SPACES]COMMUNIST MANIFESTO'[2 SPACES]WHILE LIVING IN PARIS"
3280 DATA"FRIEDRICH NIETZSCHE"
3290 DATA"THOUGH ASSOCIATED WITH NAZISM, HE HATED THE [2 SPACES]NAZI IDEAL"
3300 DATA"THE FATHER OF THE [5 SPACES] 'SUPERMAN' THEOLOGY, HE WAS INSANE FOR MOST OF HIS LIFE"
3310 DATA"HIS GREATEST WORK WAS 'THUS SPAKE [11 SPACES] ZARATHUSTRA'"
3320 DATA"ALEXANDER GRAHAM BELL"
3330 DATA"HE WAS THE INVENTOR OF THE TELEPHONE"
3340 DATA"HE TAUGHT HELEN KELLEARTO SPEAK"
3350 DATA"HIS FATHER INVENTED[3 SPACES]'VISIBLE SPEECH'[6 SPACES]COMMUNICATION FOR THE DEAF"
3360 DATA"ENRICO FERMI"
3370 DATA"HE STUDIED THE EFFECT OF SLOW NEUTRONS ON [3 SPACES]NUCLEAR REACTIONS"
3390 DATA"HE ACHIEVED THE FIRST SELF-SUSTAINING [7 SPACES]NUCLEAR REACTION"
3400 DATA"EDWARD JENNER"
3410 DATA"HE DEVELOPED[10 SPACES] VACCINATIONS"
3420 DATA"HE HELPED TO ERADICATE SMALLPOX"
3430 DATA"HIS STUDIES OF THE [4 SPACES] CUCKOO HAVE BENEFITED ORNITHOLOGY"
3440 DATA"ROBERT E. LEE"
3450 DATA"HE OPPOSED SLAVERY AND WAR, BUT LED THE [6 SPACES] CONFEDERATE ARMY"
3480 DATA"LOUIS PASTEUR"
3490 DATA"HE PROVED DISEASE IS [2 SPACES] CAUSED BY [SPACE] BACTERIA"
3500 DATA"HIS FERMENTATION WORK SAVED FRANCE's BEEF [3 SPACES] AND SILK INDUSTRIES"
3510 DATA"HE INVENTED[11 SPACES] PASTEURIZATION"
3520 DATA"PAUL GAUGING"
3530 DATA"VAN GOGH LIVED WITH [3 SPACES] HIM IN FRANCE'S[7 SPACES]'YELLOW HOUSE'"
3540 DATA"HE IS FAMOUS FOR HIS [2 SPACES] PAINTINGS [SPACE] OF PRIMITIVE POLYNESIAN LIFE"
3550 DATA"HE LEFT HIS FAMILY TO END HIS LIFE IN THE [3 SPACES] SOUTH SEAS"
360 DATA"VINCENT VAN GOGH"
"THE POTATO EATERS" IS ONE OF HIS MOST FAMOUS WORKS
"ONLY ONE OF HIS PAINTINGS SOLD DURING HIS LIFETIME"
"HE CUT OFF HIS EAR FOR JEALOUSY OF GAUGIN"
"FABLO PICASSO"
"HIS FATHER STOPPED PAINTING WHEN HE SAW HIS SON'S TALENT"
"HE SIGNED HIS ART WITH HIS MOTHER'S MAIDEN NAME"
"HE FOUND THE CUBIST MOVEMENT IN ART"
"REMBRANDT VAN RIJN"
"THE NIGHT WATCH" IS HIS MOST FAMOUS PAINTING"
"HE WAS A FAMOUS DUTCH PORTRAIT PAINTER"
"HIS PAINTINGS ARE UNEXCELLED IN THEIR TREATMENT OF LIGHT"
"JOHANNES BRAHMS"
"HE BEGAN HIS CAREER PLAYING PIANO IN THE RED-LIGHT DISTRICT"
"HE COMPOSED THE GERMAN REQUIEM"
"HIS MOST FAMOUS WORK IS A LULLABY"
"FREDERIC CHOPIN"
"HE WAS POLAND'S MUSICAL PRODIGY"
"HIS 'DEATH MARCH' IS A FAMILIAR REFRAIN OF DOOM"
"HIS MUSIC INFLUENCED LISZT, WAGNER AND DEBUSSY"
"WOLFGANG MOZART"
"HE WROTE MORE THAN 600 MUSICAL COMPOSITIONS"
"HIS 'DON GIOVANNI' IS CONSIDERED ONE OF THE MOST PERFECT OPERAS"
"HE BEGAN COMPOSING AT THE AGE OF 5 AND DIED WHEN HE WAS 35"
"PETR TCHAIKOVSKY"
"HE COMPOSED 'SWAN LAKE' AND 'THE NUTCRACKER'"
"THE 'PATHETIQUE' IS HIS SIXTH SYMPHONY"
"HE IS THE MOST FAMOUS RUSSIAN COMPOSER"
"AC, CLEOPATRA"
"ALTHOUGH A GREEK, SHE WAS THE LAST QUEEN OF EGYPT"
3860 DATA "SHE LOVED BOTH MARK [3 SPACES] ANTONY AND
SPACE] JULIUS [5 SPACES] CAESAR"
3870 DATA "SHE KILLED HERSELF [4 SPACES] RATHER THAN
3880 DATAB, "PETER PAUL RUBENS"
3890 DATA "HE INVENTED THE [7 SPACES] FLEMISH STYLE OF
SPACE] BAROQUE PAINTING"
3900 DATA "ROYALTY FAVORED HIS [3 SPACES] PAINTINGS,
SPACE] MAKING HIM A RICH MAN"
3910 DATA "HE WAS KNIGHTED BY [4 SPACES] CHARLES I"
3920 DATAB, "JOHAN VAN GOETHE"
3930 DATA "HE WAS CALLED THE [5 SPACES] 'GERMAN SHAKE
SPACE] SPEARE'"
3940 DATA "HIS MOST FAMOUS WORK [2 SPACES] WAS THE DRAMA 'FAUST'"
3950 DATA "HE WROTE A NOVEL THAT CAUSED SUICIDES AL
LESS OVER EUROPE"
3960 DATAB, "LOUIS XIV"
3970 DATA "HE WAS KNOWN AS THE [3 SPACES] 'SUN KING'"
3980 DATA "HE BUILT A PALACE AT [2 SPACES] VERSAILLES
SPACE] BECAUSE HE HATED PARIS"
3990 DATA "HIS EXCESSIVE TAXES [3 SPACES] CAUSED THE
SPACE] FRENCH [5 SPACES] REVOLUTION"
4000 DATAB, "NAPOLEON BONAPARTE"
4010 DATA "HE WAS THE FIRST [6 SPACES] EMPEROR OF FRANCE"
4020 DATA "HE WAS EXILED FROM [4 SPACES] FRANCE AFTER
SPACE] THE DUKE OF WELLINGTON DEFEATED HIM"
4030 DATA "THE NATION OF FRANCE [2 SPACES] TRACES ITS
SPACE] ROOTS TO [3 SPACES] HIM"
4040 DATAB, "KING HENRY VIII"
4050 DATA "HIS COUNTRY ADOPTED A NEW RELIGION SO HE
SPACE] COULD GET DIVORCED"
4060 DATA "HE MARRIED SIX WIVES [2 SPACES] AND DIVORCED
SPACE] FOUR OF THEM"
4070 DATA "HE HELPED INTRODUCE [3 SPACES] THE RENAISSANCE TO [4 SPACES] GREAT BRITAIN"
4080 DATAB, "BENITO MUSSOLINI"
4090 DATA "KNOWN AS 'IL DUCE', HE WAS DICTATOR OF ITALY FOR 20 YEARS"
4100 DATA "HE WAS AN EXPULSED [4 SPACES] SOCIALIST WHO
SPACE] STARTED THE FACIST PARTY"
4110 DATA "HE SUPPORTED HITLER IN WWII, BUT HIS COUNTRY FELL TO THE ALLIES"
4120 DATAB, "MAO TSE-TUNG"
4130 DATA "HE AND KARL MARX WERE COMMUNISM'S LEADING
SPACE] PHILosophers"
4140 DATA "HE RULED A FOURTH OF [2 SPACES] THE EARTH'S PEOPLE FOR 25 YEARS"
4150 DATA "HE ESTABLISHED THE PEOPLE'S PUBLIC OF CHINA IN 1949"
4160 DATA "EVA PERON"
4170 DATA "SHE WAS PROBABLY THE MOST POWERFUL WOMAN IN ARGENTINA'S HISTORY"
4180 DATA "THE 'SHIRTLESS ONES' CALLED HER A SAINT FOR HER SOCIAL PROGRAMS"
4190 DATA "A RADIO ACTRESS, SHE LATER BECAME LABOR MINISTER OF ARGENTINA"
4200 DATAD, "JOHN PAUL JONES"
4210 DATA "THIS SCOT WAS A NAVAL HERO DURING THE REVOLUTIONARY WAR"
4220 DATA "HE SAID 'I HAVE NOT YET BEGUN TO FIGHT'"
4230 DATA "LATER IN HIS LIFE HE BECAME AN ADMIRAL IN THE RUSSIAN NAVY"
4240 DATAD, "CATHERINE II"
4250 DATA "THIS RUSSIAN RULER WAS A GERMAN PRINCESS, EDUCATED IN FRANCE"
4260 DATA "SHE DEFeated HER HUSBAND PETER FOR THE RUSSIAN THRONE"
4270 DATA "SHE ADDED MORE THAN 200,000 SQUARE MILES TO RUSSIA DURING HER REIGN"
4280 DATAAB, "BENJAMIN DISRAELI"
4290 DATA "HE WROTE SEVERAL NOVELS BASED ON HIS FRIENDS' SCANDALS"
4300 DATA "HE WAS THE FATHER OF THE CONSERVATIVE PARTY IN GREAT BRITAIN"
4310 DATA "A JEWISH STATESMAN, SERVED TWICE AS PRIME MINISTER OF BRITAIN"
4320 DATAABG, "MOHANDAS GANDHI"
4330 DATA "HIS IDEA OF 'MILITANT NONVIOLENCE' LED TO INDIA'S INDEPENDENCE"
4340 DATA "HE LIVED IN SOUTH AFRICA FOR 21 YEARS, LEADING THE INDIANS THERE"
4350 DATA "HE WAS ASSASSINATED WHILE WORKING FOR A HINDU-MUSLIM TRUCE"
4360 DATAD, "ADOLPH HITLER"
4370 DATA "HE HEADED THE NATIONALSOCIALIST GERMAN WORKERS' PARTY"
4380 DATA "HE WAS DICTATOR OF GERMANY FOR 13 FATEFUL YEARS"
4390 DATA "MORE THAN 6 MILLION JEWS DIED UNDER HIS ORDERS"
4400 DATAA, "NIKOLAI LENIN"
4410 DATA "HE WAS THE FIRST HEAD OF THE USSR AFTER THE REVOLUTION"
4420 DATA "HIS BROTHER WAS {7 SPACES} EXECUTED FOR TRYING TO ASSASSINATE A CZAR"
4430 DATA "HE DIRECTED THE {7 SPACES} BOLSHEVIK UPRISING FOR 22 YEARS WHILE IN {5 SPACES} EXILE"
4440 DATA "PANCHO VILLA"
4450 DATA "HE WAS A GUERRILLA {5 SPACES} LEADER DURING THE {5 SPACES} MEXICAN REVOLUTION"
4460 DATA "HE ROBBED FROM RICH {3 SPACES} LANDOWNERS [SPACE] AND GAVE TO THE POOR"
4470 DATA "HE WENT BY THE NAME OF A FAMOUS BANDIT, AND {2 SPACES} WAS HIMSELF A BANDIT"
4480 DATA "DUKE OF WELLINGTON"
4490 DATA "HE IS FAMOUS FOR THE {2 SPACES} DEFEAT OF [SPACE] NAPOLEON AT WATERLOO"
4500 DATA "HE WAS RESPONSIBLE FOR BRITAIN'S CATHOLIC [4 SPACES] EMANCIPATION ACT"
4510 DATA "THIS 'IRON DUKE' WAS {2 SPACES} BURIED UNDER THE SAINT PAUL'S CATHEDRAL DOME"
4520 DATA "HENRY FORD"
4530 DATA "THIS SCHOOL DROP OUT {3 SPACES} CHANGED THE FACE OF {3 SPACES} AMERICAN INDUSTRY"
4540 DATA "HE CREATED THE FIVE {3 SPACES} DAY WORK WEEK"
4550 DATA "HE DEVELOPED THE FIRST MASS-PRODUCTION AUTO"
4560 DATA "MARY BAKER EDDY"
4570 DATA "SHE FOUNDED THE {7 SPACES} CHRISTIAN SCIENCE [5 SPACES] CHURCH"
4580 DATA "HER BOOK WAS 'SCIENCE AND HEALTH WITH KEY TO THE SCRIPTURES'"
4590 DATA "SHE FOUNDED THE {7 SPACES} 'CHRISTIAN SCIENCE' MONITOR"
4600 DATA "GRIGORI RASPUTIN"
4610 DATA "HE TAUGHT THAT MAN {4 SPACES} MUST SIN BEFORE HE {4 SPACES} COULD BE FORGIVEN"
4620 DATA "HIS SUPPOSED HEALING {2 SPACES} POWERS ATTACKED THE {2 SPACES} CZARINA TO HIM"
4630 DATA "HIS NEGATIVE INFLUENCE MAY HAVE HELPED CAUSE THE RUSSIAN {11 SPACES} REVOLUTION"
4640 DATA "BRIGHAM YOUNG"
4650 DATA "HE LED THE MORMON {4 SPACES} CHURCH FOR 33 YEARS"
4660 DATA "HE WAS THE LEADER OF A RELIGIOUS EXODUS TO {3 SPACES} UTAH"
4670 DATA "HE IS MOST OFTEN {6 SPACES} ASSOCIATED WITH THE {3 SPACES} PRACTICE OF POLYGAMY"
4680 DATA "MARTIN LUTHER"
4690 DATA "HIS '95 THESES' CAUSED THIS MONK TO BE {7 SPACES} EXCOMMUNICATED"
4700 DATA "HIS REBELLION STARTED THE PROTESTANT [8 SPACES] REFORMATION"
4710 DATA "HE HELPED NUNS ESCAPE FROM NUNNERIES, AND [3 SPACES] MARRIED ONE OF THEM"
4720 DATAD, "BOOKER T. WASHINGTON"
4730 DATA "THIS SON OF A SLAVE [3 SPACES] FOUNDED TUSKEGEE [6 SPACES] INSTITUTE"
4750 DATA "HE CHAMPIONED [9 SPACES] EDUCATION FOR BLACKS [2 SPACES] AND AMERICAN INDIANS"
4760 DATAAE, "ATTILA THE HUN"
4770 DATA "HE WAS THE KING OF THE HUNS STARTING IN [6 SPACES] 433 A.D"
4780 DATA "THOUGH HE CONQUERED [3 SPACES] MOST OF THE WORLD, HE WAS DEFEATED TWICE BY ITALY"
4790 DATA "HIS NICKNAME WAS THE [2 SPACES] 'SCOURGE OF GOD'"
4800 DATAA, "ALEXANDER THE GREAT"
4810 DATA "AS KING OF MACEDONIA, HE CONQUERED THE [6 SPACES] EASTERN WORLD IN THREE YEARS"
4830 DATA "HIS DREAM WAS TO [6 SPACES] CONQUER THE WORLD AND THEN UNITE IT"
4840 DATAB, ARISTOTLE
4850 DATA "THIS GREEK SCIENTIST [2 SPACES] WAS EDUCATED BY PLATO FOR 20 YEARS"
4870 DATA "HE FOUNDED THE SCIENCE OF DEDUCTIVE LOGIC"
4880 DATAD, "ETHAN ALLEN"
4890 DATA "HE ORGANIZED THE GREENMOUNTAIN BOYS"
4900 DATA "HE HELPED BENEDICT [4 SPACES] ARNOLD CAPTURE FORT [3 SPACES] TICONDEROGA IN 1775"
4910 DATA "HE FOUGHT AGAINST [5 SPACES] CANADA IN THE AMERICAN REVOLUTION"
4920 DATAE, "BENEDICT ARNOLD"
4930 DATA "HE HELPED CAPTURE ST. JOHNS, QUEBEC, DURING THE REVOLUTIONARY WAR"
4940 DATA "GEORGE WASHINGTON MADE HIM COMMANDER OF WEST POINT"
4950 DATA "CAUGHT SPYING FOR THE BRITISH, HE WAS CALLED AMERICA'S BIGGEST [5 SPACES] TRAITOR"
4960 DATACD, "CLARA BARTON"
4970 DATA "SHE FOUNDED THE [7 SPACES] AMERICAN RED CROSS [4 SPACES] SOCIETY"
Level 4

4980 DATA"SHE SEARCHED FOR{6 SPACES}MISSING SOLDIERS AFTER THE CIVIL WAR"
4990 DATA"SHE AIDED VICTIMS OF{2 SPACES}THE JOHNSTOWN FLOOD{3 SPACES}AND THE BOER WAR"
5000 DATAE, "JOHN WILKES BOOTH"
5010 DATA"HE WAS ONE OF A FAMILY OF FAMOUS ACTORS"
5020 DATA"HE WANTED TO KIDNAP{3 SPACES}AND KILL THE PRESIDENT AND VICE-PRESIDENT"
5030 DATA"HE WAS SHOT FOR THE{3 SPACES}MURDER OF A BRAHAM{5 SPACES}LINCOLN"
5040 DATAAD, "MARTIN LUTHER KING"
5050 DATA"THIS BAPTIST PREACHER WON THE NOBEL PEACE E{3 SPACES}PRIZE IN 1968"
5060 DATA"HIS NON-VIOLENT WORK{2 SPACES}WITH BLACK CIVIL{6 SPACES}RIGHTS LED TO HIS{5 SPACES}DEATH"
5070 DATA"HE ORGANIZED THE{6 SPACES}SOUTHERN CHRISTIAN{4 SPACES}LEADERSHIP CONFERENCE"
5080 DATAG, "JOHN CALVIN"
5090 DATA"A FRENCH PROTESTANT, [2 SPACES]HIS ORIGIN AL AVOCATION WAS LAW"
5100 DATA"HIS BOOK MAINTAINED{3 SPACES}THAT ALL CHRISTIAN{4 SPACES}DOCTRINE WAS FOUND IN SCRIPTURE"
5110 DATA"HIS CREED FORMED THE{2 SPACES}CHURCH OF SCOTLAND AND OTHER PRESBYTERIAN [4 SPACES]GROUPS"
5120 DATAE, CALIGULA
5130 DATA"THE SON OF AGrippina, His REAL NAME WAS [5 SPACES]GAIUS CAESAR"
5140 DATA"AFTER MAKING HIS HORSES A CONSUL, HE WAS [6 SPACES]ASSASSINATED AT THE{3 SPACES}AGE OF 29"
5150 DATA"A MENTAL ILLNESS{6 SPACES}CAUSED HIM TO [SPACE]KILL AND TORTURE PEOPLE AT [5 SPACES]DINNER"
5160 DATAADF, "GEORGE WASHINGTON CARVER"
5170 DATA"HE WAS RANSOMED FROM [2 SPACES]RACIST NIGHT RIDERS[3 SPACES]FOR A $300 HORSE"
5180 DATA"HE DEVELOPED MORE [5 SPACES] THAN 300 PRODUCTS FROM PEANUTS"
5190 DATA"HE DEVELOPED MORE THAN 115 PRODUCTS FROM [5 SPACES] SWEET [3 SPACES] POTATOES"
5200 DATAAB, SOCRATES
5210 DATA"HE WAS A SCULPTOR, [4 SPACES] BUT BECAME INTERESTED IN PHILOSOPHY"
He was sentenced to death for corrupting the morals of youth.

"The Republic" was his greatest philosophical work.

His academy made Athens the intellectual center of Greece.

He believed that God was the absolute idea of good.

"Ludwig van Beethoven"

Mozart said to 'keep your eye on him'.

He wrote the Ninth Symphony after he was deaf.

He surpassed Mozart and Haydn in the development of the symphony.

His academy made Athens the intellectual center of Greece.

He believed that God was the absolute idea of good.

"Ludwig van Beethoven"

Mozart said to 'keep your eye on him'.

He wrote the Ninth Symphony after he was deaf.

He surpassed Mozart and Haydn in the development of the symphony.

"Florence Nightingale"

She was most famous as a Crimean War nurse.

Her school of nursing was the first formal training for nurses.

She was called 'the lady with the lamp'.

"Thomas Aquinas"

He was the 'dumb ox' whose bellows filled the world.

He taught that man learned truth from both faith and his senses.

He organized the Dominican school of the Catholic faith.

"Thomas Edison"

He invented over 1,000 products, but had very little schooling.

He invented the phonograph and the motion picture machine.

His greatest invention was the electric light bulb.

"Benjamin Franklin"

He worked as a printer and published his own almanac.

He performed electrical experiments with kites.

He started the postal service in the 13 colonies.

"Alexander Hamilton"
He was the first U.S. Secretary of the Treasury.
He advocated a U.S. government based on property and wealth.
His doctrine of implied powers still influences the Supreme Court.
That Old Bag of Bones
You’ve heard people say their family has a “skeleton in the closet.” Usually they mean Aunt Mildred is a bit peculiar, or Uncle Ferd has a very strange hobby. But there’s another way to get a skeleton in your closet. Lose this game, and you’ll have a skeleton sitting right on your closet floor.

Do you want a skeleton in your closet? Of course not. But if you know your bones, you won’t have any problem with the knock-kneed character.

How to Play
“Skeleton” is designed to teach you the names of human bones, nerves, and other parts of the basic skeletal structure. The computer will pick one of these body parts, which you must try to name.

Determine the bone by trying one letter at a time. If you pick more than 11 incorrect letters, you’ll find a skeleton sitting in your closet.

Hit any key to begin. Wait ten seconds for play to begin. The computer will ask you to enter a letter. If it’s a letter that’s found in the bone the computer has in mind, the computer will show you that letter’s position in the word. If you guess incorrectly, the screen will go black, the incorrect letter you’ve tried will display at the bottom of the screen, and part of the skeleton will appear in your closet.

The names included in Skeleton appear below. Familiarize yourself with the list, but try not to use it during play. You may find it easier if you use the list, but you won’t have as much fun.

atlas  carpal bones  femur
axillary nerve  cervical vertebrae  fibula
axis  clavicle  frontal bone
brachial plexus  coccyx  humerus
Scoring
At the end of a round, the computer will ask if you want another word. Press the letter Y for Yes or the letter N for No. After you've finished playing Skeleton, the computer will tell you how many parts you correctly identified, as well as how many you missed.

Skeleton
100 NW%=48:POKE36879,254:CB=828:PRINT"{CLR}" 110 DIM NT%(19),WT$(NW%-1),WI$(19) 120 S1=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120):S2=37888+4*(PEEK(36866)AND128) 130 FORX=0TO19:READZ:NT%(X)=Z:NEXTX:PORX=1TONW%:READ$:WT$(X-1)=X$:NEXTX 140 PRINT"{CLR}{BLK}{DOWN}{RVS}{7SPACES}SKELETON{7SPACES}{OFF}"; 150 PRINT"{2DOWN}THE COMPUTER WIL PICK THE NAME OF A HUMAN" 160 PRINT"BONE, WHICH YOU MUST{2 SPACES}THEN GUESS" 170 PRINT"{2 DOWN}DETERMINE THE BONE BY GUESSING ONE LETTER ATA TIME." 180 PRINT"{2 DOWN}IF YOU PICK MORE THAN 11 INCORRECT LETTERS, A SKELETON WILL HANG" 190 PRINT"IN YOUR CLOSET!!" 200 PRINT"{DOWN} HIT ANY KEY TO START ";:GOSUB2500 205 PRINT"{2 SPACES}{TEN SECOND DELAY}"; 210 GETX$:IFX$=""THEN210 220 FORX=1TONW$:POKECB+X,Ø:NEXTX 230 FORX=1TONW$:GOSUB800:POKECB+Z,X:NEXTX 300 FORLC=1TONW% 310 X=PEEK(CB+LC):WO$=WT$(X-1) 320 LW%=LEN(WO$) 330 SC=Ø:FORX=ØTOLW%-1
340 \text{WI}(X) = \text{MID}(\text{WO}, X+1, 1); \text{IFASC(WI}(X)\text{)} = 32 \text{THEN} SC = SC + 1
345 \text{NEXTX}
350 \text{LC} = 0; OF = 462; BC = 0; \text{GOSUB 1000}; LW = LW - 1
400 \text{GETX} = \text{IFX} = "\text{THEN} 400"
410 X = \text{ASC(X$)}; IFX < 65 OR X > 90 \text{THEN} 400
500 HI = 0; FORY = 0; TLW$ = IFW$; (Y) <= X$ \text{THEN} 530
510 HI = 1; WI$(Y) = "$"; POKE 1 + 375 + Y, X - 64
520 LC = LC + 1
530 \text{NEXTY}; IF HI = 1 \text{THEN} 560
540 \text{GOSUB 3000}; BC = BC + 1
550 IF (LC + SC) <= LW \text{THEN} 400
560 IF (LC + SC) <= LW \text{THEN} 400
570 \text{PRINT} "{\text{CLR}}; \text{PUR}"; {\text{DOWN}}; [4 \text{ SPACES}]; \text{RVS} \text{ANOTHER B ONE} ?{\text{OFF}}"; \text{PRINT} "{\text{2 DOWN}}; [5 \text{ SPACES}]; \text{ENTER} \text{RVS} Y\{\text{OFF}\} \text{OR} \text{RVS} N\{\text{OFF}\}"
720 \text{GETX} = \text{IFX} = "\text{THEN} 720"
730 IFX$ = "Y" \text{THEN} \text{NEXTLX}; \text{GOTO 220}
740 IFX$ = "N" \text{THEN} 720
750 \text{PRINT} "{\text{BLK}}; [3 \text{ DOWN}]; \# \text{ CORRECT} = "; WI$
760 \text{PRINT} "{\text{2 DOWN}}; \# \text{ MISSED} [2 \text{ SPACES}]; = "; LO$
770 \text{GOSUB 2500}; \text{POKE 36879, 27}
780 \text{END}
800 Y = 0
810 Z = \text{INT}(\text{RND}(1) * \text{NW}) + 1; \text{IF} \text{PEEK(CB} + Z) = 0 \text{THEN} \text{RETURN}
820 Y = Y + 1; IFY < 10 \text{THEN} 810
830 Z = 1
840 \text{IF} \text{PEEK(CB} + Z) = 0 \text{THEN} \text{RETURN}
850 Z = Z + 1; \text{GOTO 840}
1000 \text{PRINT} "{\text{CLR}}; \text{BLK}"; {\text{DOWN}}; [7 \text{ SPACES}]; \text{SKELETON} \{ \text{DOWN} \}"
1110 \text{PRINT} "{\text{12 \ DOWN}}"
1500 \text{PRINT} "{\text{DOWN}}; \text{BLK}"; \text{**************};
1510 \text{PRINT} "\text{ENTER A LETTER}: "
1520 \text{FORY} = 0; \text{TO} (\text{LW} - 1); X = 45; \text{IFASC(WI$(Y)) = 32 \text{THEN} X = 32}
1540 \text{POKE} 1 + 375 + Y, X; IFX = 45; \text{THENPOKES} 2 + 375 + Y, 6
1550 \text{NEXTX; RETURN}
2000 \text{FORX} = 0; \text{TO} \text{LW}%; \text{IFWI$(X) = "$ \text{THEN} 2020}
2010 \text{X} = \text{ASC(WI$(X))}; \text{IFY} = 32 \text{THEN} 2020
2015 \text{POKE} 1 + 375 + X, Y - 64
2020 \text{NEXTX}
2030 \text{POKE} 36878, 15; \text{FORX} = 200; \text{TO} 150 \text{STEP} - 5; \text{POKE} 36874, X
2040 \text{FORY} = 1; \text{TO} X; \text{NEXTX}; \text{X} = \text{POKE} 36879, 254; \text{POKE} 36878, 0; \text{POKE} 36874, 0; \text{RETURN}
2500 \text{POKE} 36878, 15; \text{FORX} = 0; \text{TO} 19; \text{POKE} 36876, \text{NT}(X); \text{FORY} = 1; \text{TO} 100; \text{NEXTX}; \text{POKE} 36876, 0
2510 \text{NEXTX}; \text{POKE} 36878, 0; \text{RETURN}
Mythology

“Unicorn” is a history game about people who never were. The 37 characters whose lives are presented here lived in the minds of the ancient Greeks and Romans. These are the stories of Greek and Roman mythology.

You’ll be asked up to five questions about each of 37 Greek and Roman mythological heroes. The questions will be presented in random order, so every game is different. Points are given depending on how many questions you use to identify the hero or heroine in question.

How to Play

To begin the game, hit any key. Because of the amount of data in Unicorn, there’s a ten-second delay after the key is pressed before the game begins.

When a question is asked by the computer, type the name of the mythological hero or heroine on the keyboard. If you can’t guess the name of the character from the clue provided, hit the RETURN key.

Abbreviations and misspellings count as incorrect answers, so you must write out the full name of the character. Many of these characters have both Greek and Roman names. For example, the god with the Greek name of Hermes is identical to the Roman god known as Mercury. Unless otherwise specified, Unicorn uses the Greek names. The Roman name is considered an incorrect answer by the computer.

The 37 mythological characters depicted in Unicorn are listed as a spelling aid below. Try to answer the questions without referring constantly to this list.

- Achilles
- Aeneas
- Agamemnon
- Andromeda
- Aphrodite
- Apollo
- Artemis
- Athena
- Cassandra
- Circe
- Daedalus
- Dionysus
### Level 4

<table>
<thead>
<tr>
<th>Echo</th>
<th>Mars</th>
<th>Pandora</th>
<th>Sisyphus</th>
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<tbody>
<tr>
<td>Hades</td>
<td>Medea</td>
<td>Pelops</td>
<td>Tantalus</td>
</tr>
<tr>
<td>Hecate</td>
<td>Medusa</td>
<td>Persephone</td>
<td>Theseus</td>
</tr>
<tr>
<td>Helen</td>
<td>Narcissus</td>
<td>Perseus</td>
<td>Zeus</td>
</tr>
<tr>
<td>Heracles</td>
<td>Odysseus</td>
<td>Phaeton</td>
<td></td>
</tr>
<tr>
<td>Hermes</td>
<td>Oedipus</td>
<td>Poseidon</td>
<td></td>
</tr>
<tr>
<td>Jason</td>
<td>Orpheus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you are unable to guess the hero or heroine's name after the first four questions have been presented, the fifth is a multiple-choice question. The correct name is included in the possible answers. The correct name will flash on the screen if the correct name is still not discovered.

### Scoring

Points are given in Unicorn as follows:

- If you get the right name after only one question, 5 points.
- If you guess after the second question, 4 points.
- If you guess after the third question, 3 points.
- If you guess after four questions, 2 points.
- If you guess after five questions, 1 point.
- If you are still unable to guess the name of the mythological character, -5 points.

At the end of the game, you'll see the total number of points, as well as a percentage score. You can quit playing at any time by entering the word END as an answer to any of the questions. Your final score will not be affected by this.

### Unicorn

```plaintext
100  NS=37:CB=828:POKE36879,254:DIMQT$(7)
200  GOSUB700
205  S%=0:FORX=1TONS:POKECB+X,0:NEXTX
210  FORX=1TONS:GOSUB800:POKECB+Z,X:NEXTX
300  FORX=1TONS:Y=PEEK(CB+X):Y=(Y-1)*8
310  RESTORE:IFY=0THEN330
320  FORW=1TOY:READX$:NEXTW
330  FORW=1TO8:READX$:QT$(W-1)=X$:NEXTW
340  W=VAL(QT$(7))+3:AN$=QT$(W):FORW=0TO3:RS(W)=0:NEXTW
350  FORW=1TO4
360  V=INT(RND(1)*4):IFRS(V)<0THEN360
370  RS(V)=W:NEXTW
400  FORW=0TO3
```
405 PRINTCHR$(147);"[BLK]{22 DOWN}";SPC(6);"SCORE {SPACE}=";S%;
410 PRINT"[HOME]{2 DOWN} QUESTION #";W+1
420 X$=QT$(RS(W)-1)
430 PRINT"[3 DOWN]";X$;"[3 DOWN]"
440 GOSUB900:IFX$="Q"THEN500
442 IFX$="END"THEN660
445 PRINTCHR$(147);"[BLK]{22 DOWN}";SPC(6);"SCORE {SPACE}=";S%;
450 NEXTW:PRINT"[HOME]{2 DOWN} QUESTION # 5":PRINT "[3 DOWN]CHOOSE FROM ONE OF THE FOLLOWING:
3 DOWN"
460 PRINT" ";QT$(4):PRINT" ";QT$(5):PRINT" ";QT$(6 )"[2 DOWN]"
470 GOSUB900:IFX$="Q"THENW=4:GOTO500
475 IFX$="END"THEN660
480 PRINT"[PUR]{2 DOWN} ANSWER=";AN$:S%=S%-5
490 FORW=1TO2500:NEXTW:X=GOTO660
500 S%=S%+(5-W):POKE36879,30:POKE36878,15:FORV=170 TO220
510 POKE36875,V:NEXTV:POKE36878,0:POKE36875,0:POKE36879,254
520 NEXTX
600 PRINT"[BLK]{CLR}{DOWN}{RVS} TEST OVER {OFF}"}
610 PRINT"[3 DOWN] YOUR SCORE = ";S%
620 IF$<0THENS$=0
625 X=X-1:IFX<1THENX=1
630 X=INT((S%*100)/(X*5))
640 PRINT"[DOWN] YOUR GRADE = ";X;"{LEFT}"
650 PRINT"[3 DOWN] PLAY AGAIN?":PRINT"[DOWN] ENTER {RVS}Y{OFF} OR {RVS}N{OFF}"
660 GETX$:IFX$=""THEN660
670 IF$="Y"THEN205
680 IFX$<>"N"THEN660
690 END
700 PRINT"[BLK]{CLR}{DOWN}{RVS} {4 SPACES} U N I C O R N {5 SPACES}{OFF}";
705 PRINT"[DOWN] YOU WILL BE ASKED UP {2 SPACES} TO 5 QUESTIONS ABOUT {2 SPACES} SELECTED MYTHOLOGICAL CHARACTERS."
706 PRINT"CHARACTERS."
710 PRINT"[DOWN] POINTS WILL BE GIVEN {2 SPACES} DEPENDING UPON HOW {4 SPACES} MANY QUESTIONS YOU {4 SPACES} NEED {DOWN}"
715 PRINT" 1 QUESTION {2 SPACES} = {2 SPACES}5.";PRINT" 2 QUESTIONS = {2 SPACES}4."
720 PRINT" 3 QUESTIONS = {2 SPACES}3.";PRINT" 4 QUESTIONS = {2 SPACES}2.";PRINT" 5 QUESTIONS = {2 SPACES}1."
Level 4

725 PRINT" ALL MISSED{2 SPACES}=-5." 
730 PRINT"{DOWN}TYPE{RVS}END{OFF} TO END EARLY."; 
785 PRINT"{DOWN}{3 SPACES}(PRESS ANY KEY){SPACES}"; 
790 GETX$:IFX$=""THEN790 
795 RETURN 
800 W=0 
810 Z=INT((RND(1)*NS)+1):IFPEEK(CB+Z)=0THENRETURN 
820 W=W+1:IFW<9THEN810 
830 Z=1 
835 IFPEEK(CB+Z)=0THENRETURN 
840 Z=Z+1:GOTO835 
900 X$="":POKE198,0:INPUTX$:IFX$=AN$THENX$="Q":RET 
URN 
905 IFX$="END"THENRETURN 
910 POKE36879,24:POKE36878,15:POKE36874,180:FORV=1 
100 TO100:NEXTV 
920 POKE36878,0:POKE36874,0:POKE36879,254:RETURN 
1000 DATA"SHE WAS THE GREEK{5 SPACES}GODDESS OF WIT 
CHCRAFT" 
1010 DATA"THE ONLY TITAN TO KEEPER POWERS WHEN ZE 
US{2 SPACES}BECAME MASTER OF THE{2 SPACES}UNI 
VERSE" 
1020 DATA"SHE IS USUALLY SHOWN{2 SPACES}AS HAVING 
{SPACE}3 HEADS" 
1030 DATA"HOWLING DOGS WERE{5 SPACES}ASSOCIATED WI 
TH HER{3 SPACES}SPELL" 
1040 DATA"HECATE, ARTEMIS, MEDUSA, 1 
1050 DATA"SHE WAS THE WORLD'S{3 SPACES}MOST BEAUTI 
FUL WOMAN" 
1060 DATA"PARIS SEDUCED HER AWAY FROM MENELAUS, HER 
{4 SPACES}HUSBAND" 
1070 DATA"THE TROJAN WAR WAS{4 SPACES}FOUGHT TO RE 
CLAIM HER" 
1080 DATA"SHE RETURNED TO HER{3 SPACES}HUSBAND AFT 
ER PARIS{3 SPACES}WAS SLAIN" 
1090 DATAMEDEA, HELEN, CIRCE, 2 
1100 DATA"HE WAS KNOWN TO THE{3 SPACES}ROMANS AS M 
ERCURY, THEMESSENGER GOD"; 
1110 DATA"HE GUARDED TRAVELERS, SHEPHERDS AND TRAD 
ERS" 
1120 DATA"A TRICKSTER WHO HELPED ROBBERS COMMIT CRI 
MES" 
1130 DATA"HE USED A WINGED CAP{2 SPACES}AND WINGED 
ANKLES FOR TRAVELING" 
1140 DATAMARS, ACHILLES, HERMES, 3 
1150 DATA"HIS SONS WERE ROMULUS AND REMUS, TWIN 
{7 SPACES}FOUNDERS OF ROME" 
1160 DATA"HE WAS THE ROMAN GOD{2 SPACES}OF WAR"
DATA"THE WARRIOR GODDESS{3 SPACES}BELLONE TRAVELED AT{3 SPACES}HIS SIDE"

1180 DATA"HE WAS THE ROMAN GOD{2 SPACES}OF AGRICULTURE AND{4 SPACES}SPRING"

1190 DATA"MARS, ZEUS, JASON, 1"

1200 DATA"HE INVENTED THE TROJAN HORSE"

1210 DATA"HIS TRIP HOME FROM THE TROJAN WAR TOOK TWENTY YEARS"

1220 DATA"HE RECLAIMED HIS WIFE PENELope BY KILLING HER 100 SUITORS"

1230 DATA"THE ROMANS CALLED HIM ULYSSES"

1240 DATA"HERMES, ODYSSEUS, ZEUS, 2"

1250 DATA"THE GREEK GOD OF THE{2 SPACES}SEA, KNOWN TO THE{5 SPACES}ROMANS AS NEPTUNE"

1260 DATA"HE WAS SWALLOWED BY{3 SPACES}HIS FATHER, BUT LATER FREED BY ZEUS"

1270 DATA"HE CREATED THE HORSE"

1280 DATA"HE WON HIS KINGDOM OF THE SEA BY CHOSING G{3 SPACES}LOTS"

1290 DATA"AGAMEMNON, HERMES, POSEIDON, 3"

1300 DATA"HE WAS GOD OF THE{5 SPACES}WIND, THE SON OF{6 SPACES}AEOLUS"

1310 DATA"IN LIFE, HE WAS THE{3 SPACES}KING OF CORINTH"

1320 DATA"HE WAS A CRAFTy AND{3 SPACES}EVIL MAN"

1330 DATA"HIS ETERNAL PUNISHMENT WAS PUSHING A BOULDER UPHILL"

1340 DATA"Sisyphus, Dionysus, Artemis, 1"

1350 DATA"HE WAS THE SON OF ZEUS AND THE FATHER OF{5 SPACES}PELOPS"

1360 DATA"HE SINNED BY REVEALING THE SECRETS OF ZEUS"

1370 DATA"HE KILLED HIS SON{5 SPACES}PELOPS AND SERVED HIM AT A BANQUET"

1380 DATA"HE WAS PUNISHED BY{4 SPACES}ETERNAL HUNGER AND{4 SPACES}THIRST"

1390 DATA"Hercules, Tantalus, Sisyphus, 2"

1400 DATA"AS THE GOD OF G ODS, HERULED OLYMPUS"

1410 DATA"HE USED THE CYCLOPES{2 SPACES}TO HELP DEFEAT THE{4 SPACES}TITANS"

1420 DATA"HE GAVE AWAY THE SEA{2 SPACES}AND THE UNIVERSE, BUT KEPT THE HEAVENS"

1430 DATA"HIS ROMAN NAME IS{5 SPACES}JUPITER"

1440 DATA"POSEIDON, APOLLO, ZEUS, 3"

1450 DATA"HIS FATHER SERVED HIM AS A MAIN COURSE AT A BANQUET"

1460 DATA"HIS SHOULDER WAS EATEN BY A GODDESS, BUT{SPACE}W AS REPLACED WITH IVORY"
"He was restored to life and won his bride in a chariot race."

"He was cursed for cheating in a chariot race."

Pelops, Daedalus, Hermes, 1

A Titan, his name means 'forethought'.

"He created mankind."

"He stole fire from heaven to give to man."

"He was chained to a mountain for his theft, and rescued by Hercules."

Phaeton, Prometheus, Pelops, 2

"She was created by Zeus to thwart man."

"Her name means 'gift of all' because she got gifts from all gods."

"She married Epimetheus-- creator of animals."

"By opening a jar, she unleashed evil on the world."

Athena, Echo, Pandora, 3

"His pride almost destroyed the earth."

"His dream was to be recognized as Apollo's son."

"He drove the chariot of the sun too near the earth."

"Zeus killed him to save earth from the burning sun."

Phaethon, Aeneas, Mars, 1

"Known to the Romans as Pluto, he was god of the underworld."

" Aphrodite told Eros to shoot him with arrows so he would know love."

"He fell in love with Persephone and kidnapped her."

"As long as he keeps Persephone, the earth is dark and cold."

Zeus, Hades, Mars, 2

"She was captured by Hades to be his bride."

"Eating pomegranate seeds forced her to live with Hades."

"Her mother made earth barren until she was reclaimed."

168
THE FOUR MONTHS SHE SPENT WITH HADES ARE CALLED WINTER.

SHE ALWAYS HAD TO HAVE THE LAST WORD.

SHE PROTECTED ZEUS FROM HERA BY TRAPPING HER IN CONVERSATION.

SHE WAS CURSED NEVER BEING ALLOWED TO SPEAK FIRST.

SHE WASTED AWAY TO NOTHING BUT A VOICE FOR LOVE OF NARCISSUS.

SHE BROKE THE HEART OF ECHO AND CAUSED HER END.

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"SHE WAS OFFERED AS A SACRIFICE TO THE SEA GOD NEREUS"
"PERSEUS SAVED HER, AND SHE BECAME HIS BRIDE"
ATHENA, ARTEMIS, ANDROMEDA,
"HIS NAME MEANT 'GLORY OF HERA,' BUT HERA WANTED HIM KILLED"
"HE DID 12 IMPOSSIBLE TASKS TO PLEASE KING EURYSTHEUS"
"CALLED HERCULES BY THE ROMANS, HE WENT TO MOUNT OLYMPUS AFTER HIS DEATH"
"HE WAS KILLED BY THE BLOOD OF A CENTAUR"
HERACLES, HADES, HERMES,
"HE WAS RAISED BY A CENTAUR, CHIRON"
"HE ORGANIZED A QUEST TO FIND THE GOLDEN FLEECE"
"HIS SHIP WAS THE ARGO AND HIS WARRIORS WERE ARGONAUTS"
"HE WON THE FLEECE, BUT NOT THE THRONE OF HIS KINGDOM"
AENEAS, JASON, APOLLO,
"HER POTION GOT JASON THE GOLDEN FLEECE"
"SHE DELIVERED HER OWN BROTHER TO JASON TO BEKILLED"
"SHE KILLED KING PELIASTO HELP JASON BECOME KING"
"SHE KILLED JASON'S WIFE TO AVENGE HIS THRONES BETRAYAL"
MEDUSA, ARTEMIS, MEDEA,
"HE WAS EARTH'S BEST ARCHITECT AND SCULPTOR"
"HE KILLED HIS NEPHEW BECAUSE TALUS HAD MORE TALENT THAN HE DID"
"THE MINOTAUR NOR ITS VICTIMS COULD ESCAPE THE LABYRINTH HE MADE"
"HE MADE HUMAN WINGS, BUT HIS SON ICARUS FELL TO EARTH AND DIED"
"HE SOLVED THE RIDDLE OF THE SPHINX AND MARRIED JOCASTA"
DATA"HE BLINDED HIMSELF AFTER LEARNING JOCASTAWAS HIS MOTHER"
DATA"HE WANTED TO BE A HERO LIKE COUSIN HERACLES"
DATA"MEDEA TRIED TO KILL HIM BEFORE AESUS NAMED HIM AS SON AND HEIR"
DATA"HE WAS CHOSEN AS A SACRIFICE TO THE MINOTAUR"
DATA"HE SLEW THE MINOTAUR AND ESCAPED THE LABYRINTH"
DATA"HE WAS CHOSEN AS SON AND HEIR"
DATA"HE WAS CHOSEN AS A SACRIFICE TO THE MINOTAUR"
DATA"HE SLEW THE MINOTAUR AND ESCAPED THE LABYRINTH"
DATA"HE COULD NOT BE HURT BECAUSE HIS MOTHER DIPPED HIM IN THE RIVER STYX"
DATA"HE KILLED THE TROJAN LEADER AT THE SCAEAN GATE"
DATA"HE WAS KILLED BY AN ARROW THAT PIERCED HIS VULNERABLE HEEL"
DATA"HE WAS A TROJAN PRINCE AND SON OF APHRODITE"
DATA"HE KILLED TURNUS OVER THE LOVE OF LAVINIA"
DATA"THE CAESARS TRACED THEIR ORIGIN TO HIM"
DATA"HE WAS THE ANCESTRAL HERO OF ROME"
DATA"HE WAS THE KING WHO LED THE AEANS IN THE TROJAN WAR"
DATA"HE SACRIFICED A WOMAN TO SAVE HIS FLEET FROM A WINDSTORM"
DATA"HE KILLED BY THE LOVER OF CLYTEMNESTRA"
DATA"SHE WAS THE GODDESS OF LOVE, CALLED VENUS BY THE ROMANS"
DATA"SHE WAS FATHERED AFTER HIS CASTRATION"
DATA"SHE WAS THE GODDESS OF INTELLECTUALISM AND THE SKY"
DATA"SHE WAS HONORED AS THE MOTHER OF AENEAS"
DATA"HE WAS THE GOD OF PROPHECY AND LIGHT"
ARCHERS, PHYSICIANS, AND MUSICIANS CALLED HIM THEIR PATRON"

DATA"AESCULAPIUS, GOD OF MEDICINE, WAS HIS SON"

DATA"HIS JOB WAS TO DRIVE THE CHARIOT OF THE SUN ACROSS THE SKY"

DATA"APOLLO'S TWIN, SHE WAS GODDESS OF THE MOON AND OF BIRTH"

DATA"HER ROMAN COUNTERPART WAS DIANA"

DATA"SHE WAS GUARDIAN OF FORESTS AS WELL AS OF WILD ANIMALS"

DATA"BECAUSE HE CHALLENGED HER TO A DISCUS-THROWING CONTEST, ORION DIED"

DATA"SHE WAS KNOWN TO ROME AS MINERVA, GODDESS OF WAR AND WISDOM"

DATA"SHE WAS FULLY ARMED FOR WAR AT BIRTH"

DATA"SHE WON ATHENS IN A CONTEST WITH POSEIDON"

DATA"HER TEMPLE IS THE PARTHENON"

DATA"APHRODITE, CASSANDRA"

DATA"APOLLO GAVE HER THE GIFT OF PROPHECY"

DATA"SHE WAS CURSED THAT NOONE WOULD BELIEVE HER PREDICTIONS"

DATA"AGAMEMNON CAPTURED HER AFTER TROY FELL"

DATA"SHE WAS MURDERED BY CLYTEMNESTRA"

DATA"SHE WAS A DAUGHTER OF THE SUN"

DATA"SHE WAS BANISHED TO THE ISLE OF AEA FOR KILLING HER HUSBAND"

DATA"SHE RESTORED FRIENDS OF ODYSSEUS WHO HAD BEEN TURNED INTO PIGS"

DATA"LIVING WITH ODYSSEUS FOR A YEAR, SHE HAD HIS SON"

DATA"HE WAS BANISHED TO THE ISLE OF AEAEA FOR KILLING HER HUSBAND"

DATA"THE GOD OF WINE, HE WAS CALLED BACCHUS BY THE ROMANS"

DATA"A PARTY ANIMAL, HIS ORGIES WERE ATTENDED BY SATYRS AND NYMPHS"

DATA"HIS SACRED ANIMALS WERE THE BULL, GOAT AND SERPENT"

DATA"HE WAS WORSHIPPED AS AGOD OF DRUNKENNESS ALLOVER THE KNOWN WORLD"

DATA"ATHENA, ANDROMEDA, ARTEMIS"

DATA"SHE WAS KNOWN TO ROME AS MINERVA, GODDESS OF WAR AND WISDOM"

DATA"SHE WASCURSED THAT NOONE WOULD BELIEVE HER PREDICTIONS"

DATA"AGAMEMNON CAPTURED HER AFTER TROY FELL"

DATA"SHE WASMURDERED BY CLYTEMNESTRA"

DATA"THE GODOFWINE, HE WAS CALLED BACCHUS BY THE ROMANS"

DATA"A PARTY ANIMAL, HIS ORGIES WERE ATTENDED BY SATYRS AND NYMPHS"

DATA"HIS SACRED ANIMALS WERE THE BULL, GOAT AND SERPENT"

DATA"HE WAS WORSHIPPED AS AGOD OF DRUNKENNESS ALLOVER THE KNOWN WORLD"
Just for Fun
When the Homework’s Done
Asteroid Blast

Skill Area: Coordination
Level: II, III, IV
Memory: Unexpanded 5K VIC
Equipment required: Joystick handy, but not essential
Modification: No

Asteroid Cluster
You are commander of Space Station Omega, but your command and very life are in jeopardy. A cluster of asteroids is on the way. As the asteroids surround your space station, the future of hundreds of men and women is in your hands.

How to Play
The computer will fire missiles from the left edge of the screen. You can cause each missile to climb or dive by using the joystick or the keyboard. If you’re using the keyboard, press W to cause the missiles to climb. Press Z to cause the missiles to dive. The object of the game is to clear all the stationary asteroids from the vicinity of your space station with the missiles. Don’t hit your station with a missile, or you and your crew are doomed!

Control your game by choosing three options:
A. The number of asteroids in the asteroid cluster.
B. The speed of your missiles.
C. The number of warheads each missile can fire.

The computer will ask how many asteroids you want. Type a number from 1 to 100, and press the RETURN key. Next, you’ll be asked how fast you want the missiles to go. Press a number from 1 to 9, followed by the RETURN key, to indicate missile speed. 1 is the fastest, and 9 is the slowest missile speed. Third, you’ll be asked how many shots you want each missile to be capable of firing. Press 1, 2, 3, 4, or 5, and then the RETURN key. The computer fires each missile one by one, and you control it, changing its path up or down to hit the asteroids and avoid the space station.

Scoring
At the end of a game, the computer will tell you how many asteroids you destroyed, together with how many missiles it took.
You’ll then be given a rank, ranging from private all the way to 4-star general. To increase your rank, you may want to choose a higher number of asteroids, a faster missile speed, and only one or two warheads per missile.

**Asteroid Blast**

```plaintext
100 DIMRT$(9):POKE36879,190:GOSUB5000
110 P1=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120)
P2=37888+4*(PEEK(36866)AND128)
120 FORX=0TO9:READX$:RT$(X)=X$:NEXTX
150 GOSUB2000:PRINT"{CLR}":MC=0:UC=0:FORX=0TO22:POKE1+(X*22),97:POKE2+(X*22),0:NEXTX
160 GOSUB1000
170 Y=INT(RND(1)*23):MC=MC+1:Y=(Y*22)+1:HC%=0
180 FORX=0TO20:A=PEEK(P1+Y+X):IFA=102THEN400
190 IFA=42THEN500
200 POKE1+Y+X,81:POKE2+Y+X,2
210 FORZ=1TOSP%:NEXTZ:POKE1+Y+X,Z,2:POKE2+Y+X,Z
220 IFPEEK(197)=90OR(PEEK(37137)AND4)=0THEN600
230 IFPEEK(197)=30OR(PEEK(37137)AND8)=0THEN650
240 NEXTX:GOTO170
400 UC=UC+1:POKE1+Y+X,86:POKE2+Y+X,4:POKE36878,1
5:POKE36877,200
410 FORQ=1TO100:NEXTQ:POKE36878,0:POKE36877,0:IFUC=TC%THEN300
420 POKE1+Y+X,Z:POKE2+Y+X,Z,1:HC%=HC%+1:IFHC%=MW%THEN170
430 GOTO200
500 PRINT"{CLR}{7 DOWN}{2 RIGHT}{RVS}STARBASE DESTROYED{OFF}"
510 POKE36878,15:FORX=250TO190STEP-5:POKE36879,X:P0KE36878,X
520 FORY=1TO100:NEXTY:POKE36876,0:POKE36878,0
530 GOSUB5000:SP%=9999:GOTO3000
600 IFA<22THEN240
610 Y=Y-22:GOTO240
650 IFA>463THEN240
660 Y=Y+22:GOTO240
1000 Y=INT(RND(1)*23)
1010 Z=INT(RND(1)*12)+10
1020 POKE1+(Y*22)+Z,42:POKE2+(Y*22)+Z,0
1030 FORX=1TOTC%
1040 Y=INT(RND(1)*23)
1050 Z=INT(RND(1)*17)+5
1060 Y=(Y*22)+Z
1070 A=PEEK(P1+Y):IFA=102ORZ=42THEN1040
1080 POKE1+Y,102:POKE P2+Y,6:NEXTX
1090 FORX=1TO1000:NEXTX:RETURN
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176
2000 PRINT"{CLR}{DOWN}ENTER # OF ASTEROIDS
{2 SPACES}(1 TO 100)"
2010 INPUTX$: TC%=VAL(X$): IF TC%<1 OR TC%>100 THEN 2010
2020 PRINT"{2 DOWN}ENTER MISSILE SPEED{3 SPACES}(1
  =FAST-TO- 9=SLOW)"
2030 INPUTX$: SP%=VAL(X$:): IF SP%<1 OR SP%>9 THEN 2030
2040 PRINT"{2 DOWN}ENTER # OF WARHEADS{3 SPACES}(1
  TO 5 PER MISSILE)"
2050 INPUTX$: MW%=VAL(X$:): IF MW%<1 OR MW%>5 THEN 2050
2060 SP%=SP%*10
2070 RETURN
3000 PRINT"{CLR}{3 DOWN}ASTEROIDS =";UC:POKE198,0
3010 PRINT"{DOWN}MISSILES{2 SPACES}=";MC
3030 X=INT(((TC%*10)-(SP%/5))/(MC*MW%))
3040 IFX<0 THEN X=0
3050 IF X>9 THEN X=9
3060 PRINT"{4 DOWN}YOUR RANK IS:{DOWN}"; PRINTRT$(X)
3080 PRINT"{4 DOWN}PLAY AGAIN? {{RVS}y{OFF} OR
{RVS}n{OFF}}"
3090 GETX$: IF X$="" THEN 3090
3100 IF X$="Y" THEN 150
3110 IF X$="N" THEN 3090
3120 POKE36879,27:PRINT"{CLR}:END
5000 PRINT"{CLR}{BLK}{DOWN}{RVS}ASTEROID
BLAST{4 SPACES}{OFF}"
5010 PRINT"{2 DOWN}YOU MUST SAVE YOUR{4 SPACES}SPACE
STATION FROM A{2 SPACES}GROUP OF ASTEROIDS"
5020 PRINT"{4 DOWN}THAT HAVE SURROUNDED{2 SPACES}IT."
5030 PRINT"{DOWN}THE COMPUTER FIRES{4 SPACES}MISSILES FROM THE LEFTSIDE OF THE SCREEN." 
5040 PRINT"{DOWN}YOU CAN CAUSE EACH{4 SPACES}MISSILE TO CLIMB OR{3 SPACES}DIVE BY USING THE"
5050 PRINT"{DOWN}JOYSTICK OR THE{7 SPACES}KEYBOARD:" 
5060 PRINT"{DOWN}{2 SPACES}{{RVS}W{OFF}=CLIMB
{3 SPACES}{RVS}Z{OFF}=DIVE}";GOSUB6000
5070 PRINT"{CLR}{DOWN}YOU IF CAUSE A MISSILE TO HIT
YOUR SPACE{5 SPACES}STATION, THE GAME WILL";
5080 PRINT"BE OVER."
5090 PRINT"{DOWN}YOU CAN CONTROL THE{3 SPACES}DIFFICULTY OF EACH{4 SPACES}GAME BY THREE FACTORS :
";
5100 PRINT"{DOWN} Q NUMBER OF ASTEROIDS"; : PRINT"{DOWN} Q MISSILE SPEED"
5105 PRINT"{DOWN} Q MISSILE WARHEADS"
5110 PRINT"{DOWN}A MISSILE WITH MORE{3 SPACES}THAN
1 WARHEAD CAN{4 SPACES}DESTROY MULTIPLE"
5120 PRINT"ASTEROIDS PER FLIGHT."; GOSUB6000
5130 PRINT"{CLR}{2 DOWN}LEGEND:";PRINT"{2 DOWN} [RED]Q[BLK] - MISSILE";PRINT"{DOWN} {BLU} [+] [BLK] - ASTEROID"
5140 PRINT"{DOWN} * - SPACE STATION"
5150 GOSUB6000:RETURN
6000 PRINT"{HOME}{22 DOWN}{3 SPACES}(PRESS ANY KEY )";
6010 GETX$:IFX$="""THEN6010
6020 RETURN
9000 DATA PRIVATE, SERGEANT, LIEUTENANT, CAPTAIN, MAJOR, COLONEL
9010 DATA "** GENERAL", "** GENERAL", "*** GENERAL", "**** GENERAL"
Black Hole

Skill Area: Coordination
Level: II, III, IV
Memory: Unexpanded 5K VIC
Equipment required: Joystick handy, but not essential
Modification: No

Space Fleet
You are a star fleet captain, and you’re in a tight spot. Your ships must get to Eridani Epsilon, but between your fleet and the star is a series of black holes. Any ship that enters a black hole is lost forever. Your assignment is to get as many ships as possible through the field of black holes and reach Eridani Epsilon on schedule.

How to Play
Each ship, launched by the computer, travels from left to right. You manipulate your ship around the black holes towards the right edge of the screen by using the joystick, or the keyboard. When using the keyboard, pressing $H$ causes your ship to climb, or pressing $Z$ causes it to dive.

You can control the game by choosing three options:
A. The number of starships in your fleet.
B. The speed your starships will travel.
C. The number of black holes around which you’ll have to navigate.

The computer first asks how many starships you’ll start with. Type any number from 1 to 50 and then press the RETURN key. Next, you’ll be asked how fast you want your ships to travel. Type any number from 1, the fastest speed, to 9, the slowest, and hit RETURN. Third, indicate how many black holes will show on the screen. Type any number from 25 to 100 and then press RETURN.

Scoring
Your score is based on the number of starships in your fleet, as well as the number that successfully navigate the field of black holes. You’ll be awarded a rank from private to 4-star general, depending on your navigational prowess. To increase your chances of a high ranking, you may want to choose a large number of starships, a fast starship speed, and a large number of black holes.
Black Hole

100 DIMRT$(9):POKE36879,170:GOSUB5000
110 P1=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120):P2=37888+4*(PEEK(36866)AND128)
120 FORX=0TO9:READX$:RT$(X$)=X$:NEXTX
150 GOSUB2000:PRINT"{CLR}";SD$="0"
155 FORX=0TO22:POKEP1+(X*22),97:POKEP2+(X*22),0:NEXTX
160 GOSUB1000
165 FOREC=1TOEC%
170 Y=INT(RND(1)*23);Y=(Y*22)+1
180 FORX=0TO20:A=PEEK(P1+Y+X):IFA=81THEN400
200 POKEP1+Y+X,90:POKEP2+Y+X,2
210 FORZ=1TOSP%;NEXTZ:POKEP1+Y+X,32:POKEP2+Y+X,2
220 IFPEEK(197)=9OR(PEEK(37137)AND4)=0THEN00
230 IFPEEK(197)=33OR(PEEK(37137)AND8)=0THEN650
240 NEXTX
250 NEXTEC:GOTO3000
400 SD$=SD$+1:POKE36879,8:POKE36878,15
410 POKE36874,140:FORQ=1TO400:NEXTQ
420 POKE36878,0:POKE36874,0:POKE36879,170
430 GOTO250
600 IFY<22THEN240
610 Y=Y-22:GOTO240
650 IFY>463THEN240
660 Y=Y+22:GOTO240
1000 FORX=1TOBH%
1010 Y=INT(RND(1)*23)
1020 Z=INT(RND(1)*17)+5
1030 Y=(Y*22)+Z
1040 A=PEEK(P1+Y):IFA<>32THEN1010
1050 POKEP1+Y,81:POKEP2+Y,0:NEXTX
1060 FORX=1TO1000:NEXTX:RETURN
2000 PRINT"{CLR}";{DOWN}"ENTER # OF STARSHIPS
{2 SPACES}(10 TO 50)"
2010 INPUTX$:EC$=VAL(X$):IFEC$<10OREC$>50THEN2010
2020 PRINT"{2 DOWN}ENTER STARSHIP SPEED{2 SPACES}{
1=FAST-TO-9=SLOW}"
2030 INPUTX$:SP$=VAL(X$):IFSP$<10ORSP$>9THEN2030
2040 PRINT"{2 DOWN}ENTER # OF BLACK HOLES(25 TO 100)"
2050 INPUTX$:BH$=VAL(X$):IFBH$<25ORBH$>100THEN2050
2060 SP%=SP%*10
2070 RETURN
3000 PRINT"{CLR}";{3 DOWN}# OF STARSHIPS =";EC$:POKE
198,0
3010 PRINT"{DOWN}# DESTROYED =";SD$
3030 X=((EC%−SD%)*100)/EC%;X=X−(SP%/8);X=X−((100−BH%)/5):X=INT(X/10)

180
3040 IFX<0 THEN X=0
3050 IFX>9 THEN X=9
3060 PRINT"{4 DOWN}YOUR RANK IS:{DOWN}";PRINTR$(X)
3090 GETX$; IFX$="" THEN 3090
3100 IFX$="Y" THEN 150
3110 IFX$="N" THEN 3090
3120 POKE36879,27;PRINT"{CLR}";END
5000 PRINT"{CLR}{BLK}{DOWN}{RVS}{6 SPACES}BLACK HOLE{6 SPACES}{OFF}";
5010 PRINT"{2 DOWN}YOU MUST PILOT A{6 SPACES}FLEET OF STARSHIPS{4 SPACES}ACROSS SPACE, AVOIDING ";
5020 PRINT"THE BLACK HOLES."
5030 PRINT"{DOWN}EACH SHIP TRAVELS FROM THE LEFT SIDE OF THE{2 SPACES}SCREEN TO THE RIGHT."
5040 PRINT"{DOWN}YOU CAN CAUSE EACH{4 SPACES}SHIP {SPACE}TO CLIMB OR DIVE BY USING THE"
5050 PRINT"JOYSTICK OR THE{7 SPACES}KEYBOARD:";
5060 PRINT"{DOWN}{2 SPACES}([RVS]W[OFF]=CLIMB {3 SPACES}[RVS]Z[OFF]=DIVE)";GOSUB6000
5090 PRINT"{CLR} {DOWN}YOU CAN CONTROL THE {3 SPACES}DIFFICULTY OF THE GAME BY THREE FACTORS:";
5100 PRINT"{DOWN} + NUMBER OF STARSHIPS"; PRINT"{DOWN} + STARSHIP SPEED"
5120 PRINT"{DOWN} + # OF BLACK HOLES"
5130 PRINT"{4 DOWN}LEGEND:"; PRINT"{2 DOWN} [RED]Z {BLK} - STARSHIP"; PRINT"{DOWN} Q - BLACK HOLE "
5150 GOSUB6000: RETURN
6000 PRINT"{HOME}{22 DOWN}{3 SPACES}(PRESS ANY KEY )";
6010 GETX$; IFX$="" THEN 6010
6020 RETURN
9000 DATA PRIVATE, SERGEANT, LIEUTENANT, CAPTAIN, MAJOR, COLONEL
9010 DATA "** GENERAL", "*** GENERAL","**** GENERAL"
Just For Fun

Earthworms

Skill Area: Coordination
Level: III, IV
Memory: Unexpanded 5K VIC
Equipment required: Joystick
Modification: Yes

The Algae Pit
You are an earthworm, and you love eating algae. The best algae in the world is found in the algae pit. Unfortunately for you, the algae pit is owned by a person who doesn’t like earthworms. In order to protect his precious supply of algae from you, he has sprinkled the pit with pebbles and encircled it with an electric fence. You got inside the fence during a power outage, but now that the power is on, you won’t want to touch it. Running into a pebble will cause you indigestion. Finally, you are so hungry for algae that you must eat algae with every move you make, or you won’t be able to go on. This means you won’t be able to backtrack over ground you’ve covered before. It isn’t an easy task, but it’s your life.

How to Play
Players can choose one of five skill levels. Level 1 is the easiest. When the computer asks which skill level you prefer, type the number you want and wait, joystick in hand, for the game to start.

As soon as “Earthworms” begins, the earthworm will begin moving on its own. You must control the movement to eat the algae or avoid the pebbles with the joystick. Be careful not to run into the fence around the border, or the game is over. Before using the joystick, wait to see which way the earthworm is moving. If you backtrack over a path you’ve already made, the game is over.

Scoring
Scoring is simple. You’re awarded 10 points for each algae ball eaten. Because eating a pebble, running into the fence, or backtracking over your trail ends the game, no points are deducted for those moves.
Earthworms

100 POKE36879,30
110 M=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120)
    :C=37888+4*(PEEK(36866)AND128)
150 PRINT"[CLR][RED][DOWN][RVS][6 SPACES]EARTHWORM
    S[6 SPACES][OFF]";
    [SPACE]DIRT YOU MUST EAT ALGAE ([GRN]Q[RED]) A
    ND AVOID"
170 PRINT"SHARP PEBBLES ([BLU]Z[RED]).";PRINT"
    [DOWN]HITTING PEBBLES OR THE BORDER OF THE SCRE
    EN,"
180 PRINT"OR CROSSING A PREVIOUS TUNNEL WILL END TH
    E[3 SPACES]GAME."
190 PRINT"[DOWN]CONTROL DIRECTION WITH THE JOYSTICK
    ."
200 PRINT"[DOWN]TEN POINTS FOR EACH[3 SPACES]ALGAE
    BALL YOU EAT."
210 GOSUB2300:GOSUB2000
220 PRINT"[CLR][DOWN]ENTER SKILL LEVEL:";
225 PRINT"[3 DOWN][RVS]1[OFF] BEGINNER:";PRINT"
    [DOWN][GRN][RVS][2 SPACES]-TO-";PRINT"[2 DOWN]
    [RVS]5[OFF] ADVANCED"
230 GETX$;IFX$="THEN230
240 SC=0:SL=VAL(X$):IFSL<1ORSL>5THEN230
245 LT=(11-(SL*2)):IFLT>7THENLT=7
250 PRINT"[CLR]";FORY=1TO(SL*3):GOSUB2100:POKEM+X,
    90:POKEC+X,6:NEXTY
260 AC=SL*10:FORY=1TOAC:GOSUB2100:POKEM+X,81:POKE
    C+X,5:NEXTY
270 H1=11:V1=11:POKEM+253,160:POKEM+253,2
280 H2=0:V2=0:X=1:IFRND(1).5THENX=-1
290 LC=0:H2=X:IFRND(1).5THENH2=0:V2=X
300 H3=0:V3=0:GOSUB2200:IFV3<>0ORH3<>0THENH2=H3:V2
    =V3:GOTO360
340 LC=LC+1:IFLC</LTTHEN300
350 LC=0
360 H1=H1+H2:V1=V1+V2:IFH1<0ORH1>21ORV1<0ORV1>22TH
    EN700
370 X=PEEK(M+H1+(V1*22))
380 IFX=32ORX=81THENPOKEM+H1+(V1*22),160:POKEC+H1+
    (V1*22),2:GOTO410
390 IFX=160ORX=90THEN700
400 GOTO300
410 IFX=32THEN300
420 POKE36878,15:FORX=200TO150STEP-5:POKE36877,X:F
    ORY=1TO5:NEXTY,X
425 POKE36878,0:POKE36877,0
Just
For
Fun

430 SC=SC+10:AC=AC-1:IFAC<1THEN250
440 GOTO300
700 POKE36878,15:POKE36874,140:FORX=1TO1000:NEXTX:
POKE36874,0:POKE36874,0
710 PRINT"{CLR}{3 DOWN}{6 SPACES}{RVS}GAME OVER! {OFF}"
720 PRINT"{3 DOWN}SCORE =";SC
730 PRINT"{5 DOWN}REPLAY? ({RVS}Y{OFF} OR {RVS}N {OFF})"
740 GETX$:IFX$=""THEN740
750 IFX$="Y"THEN220
760 IFX$="N"THEN740
770 POKE36879,27:PRINT"{CLR}";END
2000 PRINT"{HOME}{22 DOWN}{3 SPACES} (PRESS ANY KEY )";
2010 GETX$:IFX$=""THEN2010
2020 RETURN
2100 X=INT(RND(1)*506):IFPEEK(M+X)<>32THEN2100
2110 RETURN
2200 POKE37154,127:IF(PEEK(37152)AND128)=0THENH3=1
2210 POKE37154,255:X=PEEK(37137):IF(XAND8)=0THENV3 =1
2220 IF(XAND16)=0THENH3=-1
2230 IF(XAND4)=0THENV3=-1
2240 RETURN
2300 POKE36878,15
2310 READX,Y:IFX<0THENPOKE36878,0:RETURN
2320 POKE36875,X:FORY=1TO(Y*100):NEXTX:POKE36875,0
2330 GOTO2310
3000 DATA231,2,228,1,228,2,231,1,231,2,232,2,228,2 ,231,2,0,1
3010 DATA225,2,225,1,228,2,223,1,225,2,228,2,0,1
3020 DATA232,2,231,1,225,2,231,1,237,2,232,2,231,2 ,0,1
3030 DATA225,2,225,2,232,1,231,2,225,3,-1,-1

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Ladybug

Skill Area: Coordination
Level: II, III, IV
Memory: Unexpanded 5K VIC
Equipment required: None
Modification: No

Life in the Compost Heap
You’re a ladybug and always hungry. The best food in town is in Mrs. Woodstock’s compost heap. It’s just full of wonderful, juicy tomato leaves. It’s your joy in life to run around the wire fence that holds all that tasty food. Whenever you see a particularly ripe tomato leaf, you jump for it.

But Mrs. Woodstock broke a mirror last week; not thinking, she threw the pieces onto the compost heap. Now she’s forgotten about the mirror, but those mirror pieces mean seven years of bad luck for you. Now, quite often when you see what looks like a nutritious tomato leaf, you’ll jump for it and end up bouncing all over that compost heap. What you thought was a leaf turns out to be just a reflection in a piece of the mirror. Even if you could eat it, it wouldn’t taste good.

How to Play
You run around the compost heap waiting for your lunch, and signal lunchtime by pressing the space bar. Eat as many leaves as you can in as few lunchtimes as possible.

There are ten skill levels in “Ladybug,” ranging from 0 (easy) to 9 (hard). Press the number of the skill level you want and wait for the game to begin. Whenever you see a good cluster of leaves, press the space bar. If you hit a mirror fragment, you may bounce out of the compost heap. If you’re lucky, the mirror fragment will bounce you into another tomato leaf or two along the way.

Keep eating leaves until there are none left. If a leaf is completely surrounded by mirror fragments and there is no way to reach it, you can end the game by pressing F1.

Scoring
At the end of a game, the computer will tell you four things:

• How many leaves were in the compost heap.
• How many leaves you ate.
• How many lunchtimes it took you to eat the leaves, and
• What is your numerical score.

Numerical scores are issued by the computer on the basis of how efficiently you attacked the compost heap. The low score is 0, and if you’re good you can probably get scores of 100 or more.

**Ladybug**

```plaintext
100 PRINT"{CLR}":POKE36879,254
110 DIM DT%(3,1), BT%(3,3,1), BV(3), NT%(37,1): GOSUB20 00
120 S=4*(PEEK(36866) AND 128) + 64*(PEEK(36869) AND 120)
130 C=(37888+4*(PEEK(36866) AND 128)) - S
200 PRINT"{CLR}"{DOWN}ENTER SKILL LEVEL:";
210 PRINT"{3 DOWN}{2 SPACES}{RVS}1{OFF} BEGINNER";
220 PRINT"{2 DOWN}{4 SPACES}—TO—";
230 PRINT"{2 DOWN}{2 SPACES}{RVS}9{OFF} ADVANCED"
230 GETX$: IF X$="" THEN 230
240 SK=VAL(X$): IF SK<1 OR SK>9 THEN 230
250 POKE36879,25: P1=160: P2=7: PRINT"{CLR}"; HI=0; BC=
260 FOR W=0 TO 484 STEP 22: GOSUB 3000: NEXT W
270 FOR W=485 TO 504: GOSUB 3000: NEXT W
280 FOR W=505 TO 21 STEP -22: GOSUB 3000: NEXT W
290 FOR W=20 TO 1 STEP -1: GOSUB 3000: NEXT W
300 FOR Y=1 TO SK*2+5
310 W=INT(RND(1)*414)+46
320 IF PEEK(S+W-1)<>32 OR PEEK(S+W)<>32 OR PEEK(S+W+1)<>
330 THEN 310
340 P1=BV(INT(RND(1)*4)): P2=4: GOSUB 3000: NEXT Y
350 NT=INT(SK*5+10): P1=65: P2=5: FOR Y=1 TO NT
360 W=INT(RND(1)*460)+23: IF PEEK(S+W)<>32 THEN 350
370 GOSUB 3000: NEXT Y
400 CP=S
410 IF CP=STHEN I=22: X=1
420 IF CP=S+21 THEN I=-1: X=4
430 IF CP=S+484 THEN I=1: X=2
435 IF CP=S+505 THEN I=-22: X=3
440 POKE CP,160; POKE CP+C,7; CP=CP+I
450 POKE CP,81; POKE CP+C,2
455 IF PEEK(197)=39 THEN 900
460 IF PEEK(197)=32 THEN 500
470 FOR Z=1 TO (10-SK): IF PEEK(197)=32 THEN 500
480 NEXT Z: GOTO 410
500 IF CP=S OR CP=S+21 OR CP=S+484 OR CP=S+505 THEN 410
505 BC=BC+1: PK=7
510 I=DT%(X-1,0): CD=DT%(X-1,1)
```

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520 Z=32:IPK=7THENZ=160
530 POKECP,Z:POKECP+C,PK:PK=1
540 CP=CP+1:X=PEEK(CP)
550 IFY=32THEN630
560 IFY=65THEN600
570 IFY=160THEN660
580 GOTO700

600 GOSUB4000:HI=HI+1
610 IFI=32THEN520
620 IFI=65THEN500
630 IFI=160THEN560
640 GOTO520
650 POKECP,81:POKECP+C,2:FORZ=1TO(20-SK):NEXTZ:IFH
   I>=NTTHEN900
660 GOTO520

670 IFI=22THENI=-1:X=4:GOTO510
680 IFI=THENI=-22:X=S:GOTO410
690 I=22:X=1:GOTO410
700 Z=9:FORW=0TO3:IPBV(W)=YTHENZ=W
710 NEXTW:IFZ>3THEN630
720 X=BT%(Z,CD-I,0);CP=CP+BT%(Z,CD-1,1):GOSUB4020
725 IFPEEK(CP)=65THENGOSUB4010:HI=HI+1
730 POKECP,81:POKECP+C,2:GOTO510

900 PRINT"{CLR}2 DOWN}{6 SPACES}{RVS}GAME OVER!
   (OFF)";POKE36879,254;POKE198,0
910 PRINT"{3 DOWN}# LEAVES{2 SPACES}=";NT
920 PRINT"{DOWN}# EATEN{3 SPACES}=";HI
930 PRINT"{DOWN}# LUNCHES =";BC
940 IFBC=0THENBC=1
950 X=(HI-BC)*5+40:X=X-(2*(9-SK)):IFX<lTHENX=l
955 IFHI<1THENX=1
960 PRINT"{2 DOWN}{2 SPACES}SCORE{3 SPACES}=";X
970 PRINT"{3 DOWN}PLAY AGAIN? (\{RVS\}Y\{OFF\} OR
   \{RVS\}N\{OFF\})"
980 GETX$:IFX$=""THEN980
990 IFX$="Y"THEN200
1000 IFX$<="N"THEN980
1010 GOSUB5000;POKE36879,27;PRINT"{CLR}";END
2000 PRINT"{CLR}{DOWN}{RED}{RVS}{7 SPACES}LADYBUG!
   {7 SPACES}{OFF}";
2010 PRINT"{2 DOWN}THE LADYBUG RUNS{6 SPACES}AROUN
   D THE SCREEN{5 SPACES}WAITING FOR HER LUNCH."
   ;
2020 PRINT"{DOWN}YOU SIGNAL LUNCH TIME BY PRESSING
   THE SPACE BAR."
2030 PRINT"{DOWN}END THE GAME BY EATING ALL THE LEA
   VES OR BY{2 SPACES}PRESSING THE {RVS}F1{OFF}
   \{SPACE\}KEY."
2040 PRINT"{DOWN}EAT AS MANY LEAVES AS POSSIBLE PE
   R LUNCH FOR A HIGHER SCORE.";
2060 PRINT"{2 DOWN}{3 SPACES}{PRESS ANY KEY}";

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2070  FORX=0 TO 3: FORY=0 TO 1: READZ: DT%(X,Y)=Z: NEXTY, X
2080  FORW=0 TO 3: FORX=0 TO 3: FORY=0 TO 12: READZ: BT%(W,X,Y) = Z: NEXTX, W
2090  FORW=0 TO 3: READZ: BV(W)=Z: NEXTW
2100  FORW=0 TO 37: FORX=0 TO 1: READZ: NT%(W,X)=Z: NEXTX, W
2110  GETX$: IF X$="" THEN 2110
2120  RETURN
3000  POKE$+W, P1: POKE$+C+W, P2: RETURN
4010  V1=36877: V2=200: V3=50: GOTO 4100
4020  V1=36876: V2=225: V3=50
4100  POKE36878, 15: POKEV1, V2: FORZ=1 TO V3: NEXTZ
4110  POKE36878, 0: POKEV1, 0: RETURN
5000  POKE36878, 15: FORW=0 TO 37: POKE36875, NT%(W, 0): FORY=1 TO (NT%(W, 1)*100): NEXTY
5010  POKE36875, 0: NEXTW: POKE36878, 0: RETURN
10000 DATA 1, 3, -22, 1, -1, 4, 22, 2
10010 DATA 4, 22, 3, -1, 2, -22, 1, 1
10020 DATA 4, 22, 1, 1, 3, -1, 2, -22
10030 DATA 1, 1, 2, -22, 3, -1, 4, 22
10040 DATA 3, -1, 2, -22, 4, 22, 1, 1
10050 DATA 233, 223, 105, 95
10130 DATA 225, 2, 215, 1, 215, 2, 219, 2, 209, 2, 207, 1, 195, 2, 195, 1
Build a Quiz
Build a Quiz

Skill Area: Any Area
Level: II, III, IV
Memory: Variable (depends on the program you write)
Equipment required: None
Modification: Yes

Build a Quiz

This book contains a lot of programs that will teach your kids a wide assortment of things as they play games. However, no two kids are alike, and even one child’s needs change from day to day. “Build a Quiz” will help you keep on top of those needs.

Build a Quiz comes with two options:

• You can build a quiz on any subject and write it out to tape or disk.
• You can give your child (or yourself) a test on any subject for which you’ve previously written a quiz.

If your child isn’t doing well in civics, say, and there’s a big test coming up, you can make up a sample test from the child’s textbook or class notes. Because this is your test, you can make it as general or specific as you wish. You can use Build a Quiz to create a test about the U.S. Constitution or about the history of your local government. Whatever your child needs can be covered with Build a Quiz, and you can create tests using multiple-choice, true/false, completion questions, or a combination of the three.

The program takes you through the process of building a quiz step by step. If you are using a tape drive, you only have to connect it and press the required tabs when the program instructs you to. However, if you’re using a disk drive to store data, you’ll need to alter the program slightly.

Change line 100 so that DV = 8, signifying reading or writing to/from device #8, the disk drive.

You are then asked if you want to create a new quiz, or if you want to answer the questions of an existing quiz. Creating a new quiz is a simple process of naming the quiz; choosing the type of questions, such as true/false, multiple-choice, or completion; writing the questions; and then providing the correct answers. The computer will prompt you at each step, asking for the ques-
Build
A Quiz

tion, then for the answer. For instance, when you write a multiple-choice question, you'll be asked to give four possible answers. After all four have been typed in, the computer will ask you to show the correct answer by pressing A, B, C, or D on the keyboard.

You can write as many questions as you like, or you can quit by pressing 4. At that point you'll return to the initial screen, and you can save the program by pressing 3.

Later you can LOAD the program and take the quiz by typing in the quiz name. All the questions you entered will be displayed in the order in which they were typed. Correct answers are greeted with a musical tone, while incorrect answers are noted by a buzzing sound and a black screen. When the quiz is completed, your final score — including the number of questions asked, the number correct, and your percentile score — is shown. If you want, you can continue with another quiz, or write a new one.

Build a Quiz has another function, too — fun. Maybe your teenage son has told you he'll pass your quiz on geometry if you pass a quiz he makes up about rock stars. Both tests can be constructed with this program.

Who knows? Now that you have Build a Quiz, maybe the whole family will learn about a variety of unusual subjects.

Build a Quiz

100 POKE36879,190:Z$=CHR$(13):DV=1
120 M=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND120)
C=37888+4*(PEEK(36866)AND128)
200 PRINT"{BLK}{CLR}{DOWN}{5 SPACES}{RVS}BUILD A QUIZ{OFF}"
210 PRINT"{DOWN}OPTION 1 OF THIS{6 SPACES}PROGRAM{SPACE}WILL BUILD A{2 SPACES}QUIZ AND WRITE IT TO"
215 PRINT"TAPE OR DISK."
220 PRINT"{DOWN}OPTION 2 ALLOWS YOU TO TEST YOURSELF WITH A{2 SPACES}PREVIOUSLY WRITTEN{4 SPACES}QUIZ.";
230 PRINT"{2 DOWN} ENTER OPTION:";
240 PRINT"{DOWN} {RVS}1{OFF} CREATE A QUIZ";PRINT"{DOWN} {RVS}2{OFF} TAKE A QUIZ";PRINT"{DOWN} {RVS}3{OFF} END PROGRAM"
250 GETX$;IFX$="THEN250
260 X=VAL(X$):ONXGOTO300,700,280
270 GOTO250
280 POKE36879,27:PRINT"{CLR}";END
Build A Quiz

300 NQ=0:GOSUB7500
310 OPEN9,DV,1,QN$:GOSUB6500
320 NQ=NQ+1:PRINT"{CLR}{DOWN} ENTER QUESTION TYPE:
[ 2 DOWN]"
330 PRINT"{DOWN} {RVS}1{OFF} TRUE/FALSE";PRINT"{DOWN} {RVS}2{OFF} MULTIPLE CHOICE";PRINT"{DOWN} {RVS}3{OFF} COMPLETION"
340 PRINT"{DOWN} {RVS}4{OFF} (ALL DONE)"
350 GETX$:IFX$=""THEN350
360 IFX$="4"THEN550
365 IFX$<"1"ORX$>"3"THEN350
370 GOSUB6500:PRINT"{CLR} QUESTION #";NQ;
380 X=VAL(X$):ONXGOTO400,450,500
390 GOTO350
400 PRINT"(T/F)";O=88:L=66:GOSUB8000:GOSUB6500
410 PRINT"{8DOWN} ENTER {RVS} T{OFF} OR {RVS} F {OFF}";
420 GETX$:IFX$=""THEN420
430 IFX$="T"ANDX$="F"THEN420
440 GOSUB6500:GOTO320
460 GOSUB6500:PRINT"{3 DOWN}B.";O=223:GOSUB8000:GOSUB6500:PRINT"{3 DOWN}C.";O=311:GOSUB8000
470 GOSUB6500:PRINT"{3 DOWN}D.";O=399:GOSUB8000:GOSUB6500
480 PRINT"{2 DOWN} {2 SPACES} (PRESS {RVS} A{OFF},
{RVS} B{OFF}, {RVS} C{OFF} OR {RVS} D{OFF})";
485 GETX$:IFX$=""THEN485
490 IFX$="A"ORX$="D"THEN485
495 GOSUB6500:GOTO320
500 PRINT"(COMP.)";O=66:L=69:GOSUB8000:GOSUB6500:PRINT"{7 DOWN} ENTER CORRECT ANSWER"
510 O=242:L=63:GOSUB8000:GOSUB6500:GOTO320
550 GOSUB6500:CLOSE9:GOTO200
700 GOSUB7500
730 OPEN9,DV,0,QN$:GOSUB6600
740 IFLEN(X$)>21THEN760
750 A$=""""+X$;X$=A$+""":GOTO740
760 PRINT"{CLR}{DOWN}";FORX=1TO10:PRINTX$:;PRINT" ";NEXTX:GOSUB7000:FORX=1TO100:NEXTX
770 NQ=0:CQ=0
800 GOSUB6600
810 IFX$="4"THEN2000
820 IFX$="1"ORX$="3"THEN800
830 NQ=NQ+1:X=VAL(X$)
840 PRINT"{CLR} QUESTION #";NQ
850 ONXGOTO900,1000,1100
860 GOTO800
Build
A Quiz

900 GOSUB 6600: PRINT "[DOWN]"; X$
910 PRINT "[2 DOWN] ENTER [RVS]T{OFF} FOR TRUE"
920 PRINT "[2 DOWN] ENTER [RVS]F{OFF} FOR FALSE"
930 GOSUB 6600
940 GETA$: IFA$="" THEN 940
950 IFA$<"T" AND IFA$<"F" THEN 940
960 IF X$<> A$ THEN 1200
970 GOTO 1300
1010 GOSUB 6600: PRINT "B. " ; X$: GOSUB 6700: GOSUB 6600: PRINT "C. " ; X$: GOSUB 6700
1020 GOSUB 6600: PRINT "D. " ; X$: GOSUB 6700: GOSUB 6600

1040 GETA$: IFA$="" THEN 1040
1050 IFA$<"A" OR IFA$>"D" THEN 1040
1060 IF X$<> A$ THEN 1200
1070 GOTO 1300
1100 GOSUB 6600
1110 PRINT "[DOWN]"; X$: GOSUB 6600
1120 INPUT "[3 DOWN]"; A$
1130 IF X$<> A$ THEN 1200
1140 GOTO 1300
1200 GOSUB 7200: PRINT "[CLR][DOWN] ANSWER = "; X$
1210 FOR X=1 TO 15: NEXT X: GOTO 800
1300 CQ=CQ+1: GOSUB 7000: GOTO 800
2000 PRINT "[CLR][DOWN][6 SPACES][RVS]QUIZ OVER! [OFF]"
2010 PRINT "[2 DOWN] # QUESTIONS = "; NQ
2020 PRINT "[2 DOWN] # CORRECT[3 SPACES] = "; CQ
2030 IF NQ=0 THEN NQ=1
2040 X=INT((CQ*100)/NQ)
2050 PRINT "[2 DOWN] YOUR SCORE[2 SPACES] = "; X; " [LEFT]%"

2060 PRINT "[3 DOWN][3 SPACES](PRESS ANY KEY)"
2070 CLOSE 9
2080 GETX$: IFX$="" THEN 2080
2090 GOTO 2000
6500 PRINT #9, X$, Z$: RETURN
6600 X$=""
6610 GET #9, QQ$
6620 IF QQ$="" THEN 6610
6630 IFASC(QQ$)=13 THEN RETURN
6640 X$=X$+QQ$
6650 GOTO 6610
6700 X=LEN(X$): IFX=19 OR X=41 OR X=63 THEN RETURN
6710 PRINT "[SHIFT-SPACE]"; RETURN

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Build
A
Quiz

7000 POKE36878,15:FORX=110TO190STEP16:POKE36879,X:
POKE36875,X+30:FORY=1TO100:NEXTY,X
7010 POKE36878,0:POKE36875,0:RETURN
7200 POKE36879,15:POKE36878,130:FORX=1TO500:NEXTX
7210 POKE36878,0:POKE36875,0:RETURN
7500 PRINT"{CLR}{3 DOWN}{3 SPACES}ENTER QUIZ NAME:
:" :PRINT"{DOWN}{4 SPACES}(1-22 LETTERS)11
7510 O=176:L=23:GOSUB8000:IFLEN(X$)>22THEN7500
7520 QN$=X$:IFLEN(X$)>11THENQN$=LEFT$(X$,11)
7530 QN$="QUIZ/"+QN$
7540 PRINT"{6 DOWN}{2 SPACES}PREPARE TAPE/DISK":PR
INT"{2 SPACES}THEN PRESS {RVS}RETURN{OFF}"
7550 GETE$:IFE$=""THEN7550
7560 IFASC(E$)<>13THEN7550
7570 RETURN
8000 X$="":POKE+O,160:POKE+O,0
8010 GETY$:IFY$=""THEN8100
8020 X=ASC(Y$):IFX=13THEN8150
8030 IFX=20THEN8100
8040 Y=LEN(X$):X$=X$+Y$:IFY$>63THENX=X-64
8050 POKE+O+Y,X$:POKE+O+Y,0:POKE+O+Y+1,160:POKE
+O+Y+1,0:IFLEN(X$)<LTHEN8010
8060 GOTO8150
8100 Y=LEN(X$):IFY<1THEN8010
8110 POKE+O+Y,32:POKE+O+Y,1:POKE+O+Y-1,160:POKE
+O+Y-1,0
8120 Y$=LEFT$(X$,Y-1):X$=Y$:GOTO8010
8150 Y=LEN(X$):POKE+O+Y,32:POKE+O+Y,1:RETN
Appendix A

Program Information

Contents, by Age and Skill Level

Level 1 Games:
- A-Maze-Ing
- Count the Spots
- Counting Game
- Get the Treasure
- Hidden Picture

Level 2 Games:
- A-Maze-Ing
- Asteroid Blast
- Black Hole
- Counting Game
- Ladybug
- Matchmaker
- Notecrafter
- Personal Story
- Spelling Bee
- Spend Your Allowance
- Word Scramble

Level 3 Games:
- Alphabet Soup
- Asteroid Blast
- Black Hole
- Earthworms
- Ladybug
- Lawn Mower
- Matchmaker
- Notecrafter
- Plan a Menu

Level 4 Games:
- Alphabet Soup
- Asteroid Blast
- Black Hole
- Earthworms
- Element Man
- Four by Four
- Heavenly Bodies
- Ladybug
- Lawn Mower
- Matchmaker
- Mother Earth
- Movers and Shakers
- Mr. President
- Notecrafter
- Plan a Menu
- Skeleton
- Spelling Bee
- Spend Your Allowance
- State of the Union
- Stargazer
- Unicorn
- Wise Shopper
- Word Scramble
Games Requiring Memory Expansion

Element Man, at least 3K expansion required
Heavenly Bodies, at least 8K expansion required
Mother Earth 1, at least 16K expansion required
Mother Earth 2, at least 16K expansion required
Movers and Shakers, at least 16K expansion required
Mr. President, at least 16K expansion required
Plan a Menu, at least 8K expansion required
Spend Your allowance, at least 8K expansion required
Stargazer, at least 8K expansion required
State of the Union, at least 16K expansion required
Unicorn, at least 8K expansion required
Programmer's Notes

This appendix explains some of the changes you may wish to make to the games in this book. These changes are optional, but could be used to make the games more suitable to your needs, or your child's.

Changes can be made either as you enter the program into the computer, or after the program has been entered.

All of the changes accomplish one of four things:

1. Cause the program to accept input from the keyboard, rather than a joystick.
2. Decrease the size of the game so that it will work in a VIC with a smaller memory size.
3. Increase the size of the game to take advantage of larger memory sizes.
4. Revise the questions in a game after all the old questions and answers have been memorized.

Most of the games in this book read their data from DATA statements near the end of the program. For example, all the words in the game "Spelling Bee" are obtained from DATA statements. This allows the user to substitute a completely new set of words by changing only a few statements. (If you're uncertain about the syntax of the DATA statement, please read Appendix C in Personal Computing on the VIC-20, the book that came with your VIC.) Note also that the values defined by DATA statements in this book sometimes have extra spaces in them. This may appear strange in print, but it is designed so that the data will print correctly on the VIC and not wrap around the screen.

The modifications in this appendix that convert a joystick game to use the keyboard assume that the following keys will be used:

W—UP
Z—DOWN
A—LEFT
S—RIGHT
Appendix B

A-Maze-Ing
If you wish to change the two-minute time limit, change the 000200 value (HHMMSS) in line 8000.
The subroutine starting at line 9000 builds the maze. This is a modification of a clever routine used in the game “Mastermaze,” published in the December 1981 edition of COMPUTE!.
Replace the following lines to adapt the game for a keyboard rather than a joystick:

```
8005 J1=PEEK(197):IF J1=9 THEN R2=R2-1
8010 IF J1=33 THEN R2=R2+1
8020 IF J1=17 THEN C2=C2-1
8030 IF J1=41 THEN C2=C2+1
```

Build a Quiz
Quiz files written by the program have a name of QUIZ/ followed by the first 11 characters of the quiz name. Some care must be used to prevent duplicate names. You may change this name structure by changing the subroutine starting at line 7500.

Earthworms
This game may be modified to use the keyboard instead of a joystick. Replace the following lines in the program:

```
2200 KP=PEEK(197)
2210 IF KP=9 THEN V3=-1
2220 IF KP=33 THEN V3=1
2230 IF KP=17 THEN H3=-1
2235 IF KP=41 THEN H3=1
```

Element Man
The number of elements is defined by the variable NW% = 103 in line 100. Change this number if you add or delete any elements.
The element names themselves are defined with DATA statements in lines 10000 through 10200. Elements may be added or deleted from this list as desired. Note that the maximum size of an element name is 20 characters.

Four by Four
Lines 9000 through 9130 define 35 different question categories used in the game. You may modify these as desired, but there must always be 35.
Line 9500 defines the letters of the alphabet that will be used in the game, plus any wild-card letters (shown as asterisks). You may change these if desired, but the number of letters must always be 28.
This game runs very close to the 5K limit of the unexpanded VIC. Because the program stores all your answers in a table, you may run out of memory if you start using answers that are too long. You should enter short answers or abbreviations, as this game is a test of speed and not typing ability.

Get the Treasure

Ten different treasures are defined by line 10000. These numbers correspond with the screen codes in Appendix H of *Personal Computing on the VIC*. You may wish to change this so that the treasures are letters, numbers or other graphic characters, but there must always be ten treasures.

The six colors of the treasures are defined by line 10010. These correspond with the codes in Appendix I of *Personal Computing on the VIC*. You may change them, but there must always be six.

The children for which this game is designed may have a hard time using the keyboard, but if you don't own a joystick, you can change the program to use the keyboard:

```
420 J2=J1:K2=K1:KP=PEEK(197)
430 IF KP=9 THEN J2=J2-1
440 IF KP=33 THEN J2=J2+1
450 IF KP=17 THEN K2=K2-1
455 IF KP=41 THEN K2=K2+1
```

Heavenly Bodies

One hundred different questions are defined, starting with line 2000. If you add or delete any questions, you must change the variable NQ = 100 in line 100. Each question is composed of two different items:

1. The question itself, which must be contained in a DATA statement.
2. The answer to the question, expressed as a one-letter planet code (the same code a player uses when answering questions in the game).

Hidden Picture

Modify the program to use a keyboard instead of a joystick with the following lines:

```
8000 J1=PEEK(197)
8010 IF J1=9 THEN C2=C2-1
8020 IF J1=33 THEN C2=C2+1
8030 IF J1=17 THEN R2=R2-1
8040 IF J1=41 THEN R2=R2+1
8050 IF J1=39 THEN JF=1
```
Appendix B

The routine shown above will also allow you to select the next picture by pressing the F1 function key, instead of the fire button on the joystick.

Program lines 4900 through 7999 are reserved for defining extra pictures, if you have the memory to do so. Use the following procedure to do this:

1. Line 4000 generates a random number from 1 to 4 to determine which of the four pictures to draw. Change this to reflect the new number of pictures after you have added yours.
2. Line 4010 branches to a print routine, depending on the number picked in step 1. Add the line number of your new print routine(s) to this list. The first line number in the reserved area is line 4900.
3. Add a print routine starting at the line specified in line 4010. Use PRINT statements to clear the screen (SHIFT/CLR) and then draw your picture.
4. When your picture is complete, use GOTO 250.

Mother Earth

Both versions of this game are the same, except for the questions asked. Mother Earth 1 has common nations good for young players, while the nations in Mother Earth 2 may be more suitable for adults. If you want to enter the second game, start entering Mother Earth 1 until you reach line 2999, then begin entering the data for Mother Earth 2.

You may add, delete, or change questions in this game, but there must always be at least three nations defined per category, and there cannot be more than 25 nations in any single category.

Each question is composed of six parts:

1. Category (a letter, A through E)
2. Clue 1
3. Clue 2
4. Clue 3
5. Clue 4
6. Answer (name of the nation).

The multiple-choice question is not entered in a DATA statement, but it is generated by the program.

Movers and Shakers

The questions and answers used in this game are defined by
DATA statements in lines 3000 through 5510. You may add new people to the game, as long as the number of people in any one category does not exceed 25. Also, the variable NS = 63 in line 100 must be adjusted to reflect the total number of people in the game.

The data for each person in the quiz are composed of five parts:

1. The category code(s) (A-G)
2. The person's name
3. Clue 1
4. Clue 2
5. Clue 3

Note that the category code may reflect multiple categories if a person is famous in a number of areas (ACD). Note also that category H should not be specified, as it is done automatically by the program.

**Mr. President**

The variable NP in line 100 defines the number of presidents, and the DATA statements in lines 1000 through 2490 provide the clues and answers. If you wish to add an entry, increase NP by one and add the new data after line 2490. The data for each president are defined as follows:

1. Clue 1
2. Clue 2
3. Clue 3
4. Clue 4
5. President's name

Note that the program prefixes each clue with a value of HE.

Even though the presidents are selected in a random order during the game, the clues for each president are always given in the same order. If you wish to use a random selection, make the following changes:

331  FOR W=0 TO 3
332  RT%(W)=∅; NEXT W
333  FOR W=1 TO 4
334  Y=INT(RND(1)*4)
335  IF RT%(Y)<∅ THEN 334
336  RT%(Y)=W; NEXT W
420  PRINT CHR$(17);CHR$(17);CHR$(17);"HE ";QT$(RT%(W)-1);" ";CHR$(17);CHR$(17);CHR$(17)
Appendix B

Plan a Menu
The foods used in this game are defined starting with line 4000. There are six categories of foods, but more could be added. The categories must be in the correct order in the DATA statements, as they’re presented in the same order during the game. Each category of items has the following structure:

1. The name of the food
2. The number of calories per serving
   Items 3 through 10 are numbers which express the percentage of your daily nutritional requirements which this food supplies
3. Protein
4. Vitamin A
5. Vitamin C
6. Thiamin
7. Riboflavin
8. Niacin
9. Calcium
10. Iron

Skeleton
The number of bones and nerves in the program is defined by the variable NW% = 48 in line 100. This should be adjusted if the number of items is increased or decreased. The bones and nerves themselves are named in DATA statements in lines 7000 through 7090. Note that the names cannot exceed 20 characters.

Spelling Bee
The variable NW% = 40 in line 100 defines the total number of words in each skill level (40 times 3, or 120 total). If you change the value of NW% you must also change the number of words in each skill level. The words are defined by DATA statements in the following line number ranges:

   Beginning Words 6000 through 6999.
   Intermediate Words 7000 through 7999.
   Advanced Words 8000 through 8999.

Note that any new words should not be longer than nine letters.

Spend Your Allowance
Lines 3100 through 3600 define 100 different items that may be
purchased. Each item is composed of three parts:

1. The name of the item
2. The cost of the item (500 = $5.00)
3. The prudence factor (1-5) (1 = poor purchase, 5 = wise purchase)

The prudence factors for the four items purchased each month are added together and divided by 4. If the resulting number, the average prudence factor, is 4 or greater, and the current balance is not a negative number, the allowance will be increased by $1. This is done in lines 905-910 of the program.

If the average prudence factor is less than 2, the allowance will be reduced by $1, but only if the resulting monthly allowance is not less than $5. This is done in lines 2000-2010 of the program.

You may wish to modify the items and prudence factors in the game to teach your children your concept of wise buying.

Lines 4000 through 4290 contain 30 surprises which may occur during the game. Each surprise consists of three items:

1. Description of the surprise
2. Amount to adjust allowance (500 = $5.00)
3. Good or bad surprise (1 = Good, -1 = Bad)

**Stargazer**

There are 32 constellations in the game, defined by the variable NS = 32 in line 100. The data for each constellation start in line 9100 and are composed of six parts per constellation:

1. Name of the constellation
2. Name of best viewing month
3. Direction in the sky
4. Clue
5. A variable set of numbers which defines each star in the constellation. These numbers are added to the address of screen memory to determine where a star should appear. (Refer to Appendix I in *Personal Computing on the VIC.*
6. A numeric value of 0 to indicate the end of the stars

**State of the Union**

The number of states is defined by the variable NS = 50 in line 100. The information about the states themselves is defined by DATA statements in lines 1000 through 2970. Each entry consists of four clues, followed by the name of the state.

Although the states are presented in a random order, the
clues within a given state are always in the same order. To change this to a random selection, make the following changes:

```
331 FOR W=0 TO 3
332 RT%(W)=0:NEXT W
333 FOR W=1 TO 4
334 Y=INT(RND(1)*4)
335 IF RT%(Y)<0 THEN 334
336 RT%(Y)=W:NEXT W
420 PRINT CHR$(17);CHR$(17);CHR$(17);QT$(RT%(W)
-1);".";CHR$(17);CHR$(17);CHR$(17)
```

### Unicorn

The mythological characters are defined by lines 1000 through 3740, with the total number of characters represented by the variable NS in line 100. Each character is represented by four clues, followed by a three-name, multiple-choice list. A number 1, 2, or 3 indicates which of the three names is correct. For example, the following lines could be added to create a question about Hercules:

```
3750 DATA"HIS VILE TEMPER OFTEN GOT THE BEST OF HIM"
3760 DATA"AS AN INFANT, HE[6 SPACES]STRANGLED TWO[SPACE]SERPENTS SENT BY HERA"
3770 DATA"HE CLEANED THE STABLES OF AUGEAS"
3780 DATA"HE PERFORMED TWELVE[3 SPACES]LABORS AS A PUNISHMENT FOR KILLING HIS[7 SPACES] CHILDREN"
3790 DATA ZEUS, MARS, HERCULES, 3
```

### Wise Shopper

The number of ounces purchased of each item is calculated by lines 300 through 310. The price per ounce is calculated by lines 320 through 330.

The names of the 20 possible purchase items (only 10 are selected per game) are defined by DATA statements in lines 9000 through 9130. Each name has two parts (corn, flakes) but one-part names can be used by setting the second name to a blank (rice, _____). Each word should not exceed six characters.

Users may change any product name, but there should always be 20 products defined.

### Word Scramble

The variable TS = 50 in line 100 defines the number of words in each skill level (50 times 3 = 150 total words). You may add,
delete, or change words as desired, provided the number of words in each skill level matches the value of TS. Words are defined by DATA statements in the following lines:

9000-9040 Beginner's Words
9100-9140 Intermediate Words
9200-9300 Advanced Words
A Beginner’s Guide to Typing in Programs
A Beginner's Guide to Typing In Programs

What Is a Program?
A computer cannot perform any task by itself. Like a car without gas, a computer has potential, but without a program, it isn’t going anywhere. Most of the programs published in COMPUTE! Books are written in a computer language called BASIC. BASIC is easy to learn and is built into all VIC-20s.

BASIC Programs
Computers can be picky. Unlike the English language, which is full of ambiguities, BASIC usually has only one right way of stating something. Every letter, character, or number is significant. A common mistake is substituting a letter such as O for the numeral 0, a lowercase l for the numeral 1, or an uppercase B for the numeral 8. Also, you must enter all punctuation such as colons and commas just as they appear in the book. Spacing can be important. To be safe, type in the listings exactly as they appear.

Braces and Special Characters
The exception to this typing rule is when you see the braces, such as {DOWN}. Anything within a set of braces is a special character or characters that cannot easily be listed on a printer. When you come across such a special statement, refer to "How to Type In Programs."

About DATA Statements
Some programs contain a section or sections of DATA statements. These lines provide information needed by the program. Some DATA statements contain actual programs (called machine language); others contain graphics codes. These lines are especially sensitive to errors.

If a single number in any one DATA statement is mistyped, your machine could lock up, or crash. The keyboard and STOP key may seem dead, and the screen may go blank. Don't panic —
no damage is done. To regain control, you have to turn off your computer, then turn it back on. This will erase whatever program was in memory, so always SAVE a copy of your program before you RUN it. If your computer crashes, you can LOAD the program and look for your mistake.

Sometimes a mistyped DATA statement will cause an error message when the program is RUN. The error message may refer to the program line that READs the data. The error is still in the DATA statements, though.

Get to Know Your Machine
You should familiarize yourself with your computer before attempting to type in a program. Learn the statements you use to store and retrieve programs from tape or disk. You'll want to save a copy of your program, so that you won't have to type it in every time you want to use it. Learn to use the VIC's editing functions. How do you change a line if you made a mistake? You can always retype the line, but you at least need to know how to backspace. Do you know how to enter reverse characters, lowercase, and control characters? It's all explained in your VIC-20's manual, Personal Computing with the VIC.

A Quick Review
1) Type in the program a line at a time, in order. Press RETURN at the end of each line. Use the INST/DEL key to erase mistakes.
2) Check the line you've typed against the line in the book. You can check the entire program again if you get an error when you RUN the program.
3) Make sure you've entered statements in braces as the appropriate control key (see "How to Type In Programs.")
Appendix D

How to Type In Programs
How to Type In Programs

Many of the programs listed in COMPUTE! Books contain special control characters (cursor control, color keys, reverse characters, etc.). To make it easy to know exactly what to type when entering one of these programs into your computer, we have established the following listing conventions.

Generally, any VIC-20 program listings will contain words in braces which spell out any special characters: {DOWN} would mean to press the cursor down key. {5 SPACES} would mean to press the space bar five times.

To indicate that a key should be shifted (hold down the SHIFT key while pressing the other key), the key would be underlined in our listings. For example, S would mean to type the S key while holding the shift key. This would appear on your screen as a heart symbol. If you find an underlined key enclosed in braces (e.g., {10 N}), you should type the key as many times as indicated (in our example, you would enter ten shifted N’s).

If a key is enclosed in special brackets, [<>], you should hold down the Commodore key while pressing the key inside the special brackets. (The Commodore key is the key in the lower-left corner of the keyboard.) Again, if the key is preceded by a number, you should press the key as many times as necessary.

Rarely, you’ll see a solitary letter of the alphabet enclosed in braces, such as {A}. You should never have to enter such a character on the VIC-20, but if you do, you would have to leave the quote mode (press RETURN and cursor back up to the position where the control character should go), press CTRL-9 (RVs ON), the letter in braces, and then CTRL-0 (RVs OFF).

About the quote mode: You know that you can move the cursor around the screen with the CRSR keys. Sometimes a programmer will want to move the cursor under program control. That’s why you see all the {LEFT}’s, {HOME}’s, and {BLU}’s in our programs. The only way the computer can tell the difference between direct and programmed cursor control is the quote mode.

Once you press the quote (the double quote, SHIFT-2), you are in the quote mode. If you type something and then try to
change it by moving the cursor left, you’ll only get a bunch of reverse-video lines. These are the symbols for cursor left. The only editing key that isn’t programmable is the DEL key; you can still use DEL to back up and edit the line. Once you type another quote, you are out of quote mode.

You also go into quote mode when you INSerT spaces into a line. In any case, the easiest way to get out of quote mode is to just press RETURN. You’ll then be out of quote mode and you can cursor up to the mistyped line and fix it.

Use the following table when entering cursor and color control keys:

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<th>Press:</th>
<th>See:</th>
<th>When You Read:</th>
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<th>See:</th>
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<td>5</td>
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<td>SHIFT</td>
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</table>
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