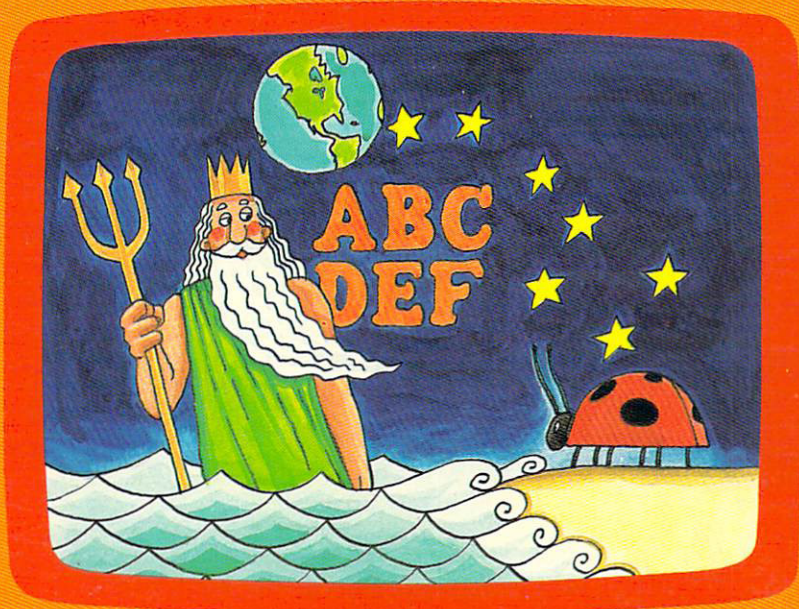


VIC GAMES FOR KIDS

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

A **COMPUTE!** Books Publication

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VIC GAMES FOR KIDS

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A Word to Parents

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*:

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A.J. Smith, who left his sickbed to find us the star charts for "Stargazer."

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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 Datassette 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 I 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.



Level
1

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 DIMRT(3),NT%(16,1,1):RT(0)=2:RT(1)=-44:RT(2)=-
2:RT(3)=44:POKE36879,31:PRINT"{CLR}"
110 M=4*(PEEK(36866)AND(128))+64*(PEEK(36869)AND12
0):C=37888+4*(PEEK(36866)AND128)
120 FORX=0TO4:POKE36874+X,0:NEXTX
200 FORW=0TO1:X=0
210 READY,Z:NT%(X,W,0)=Y:NT%(X,W,1)=Z:X=X+1:IFY<>0
THEN210
220 NEXTW
300 PRINT"{CLR}{RED}{DOWN}{6 SPACES}{RVS}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, ORUSE {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:GOSUB9500
360 GETX$:IFX$=""THEN360
370 GOSUB9000:FORW=1TO25:GOSUB8500:POKEM+X,81:POKE
C+X,2:NEXTW
380 GOSUB8500:POKEM+X,86:POKEC+X,4
390 R1=INT(X/22):C1=X-(R1*22):TI$="000000":AC=0
400 C2=C1:R2=R1
410 GOSUB8000:IFC1=C2ANDR1=R2THEN410
420 IFC2<0THENC2=0
430 IFC2>21THENC2=21
440 IFR2<0THENR2=0
450 IFR2>22THENR2=22
460 X=PEEK(M+(R2*22)+C2)
470 IFX<>32ANDX<>81THEN400
480 OD=(R1*22)+C1:ND=(R2*22)+C2:IFX=81THEN600
500 POKEM+OD,32:POKEC+OD,1:POKEM+ND,86:POKEC+ND,4
510 C1=C2:R1=R2:GOTO410
600 POKE36878,15:FORY=200TO215:POKE36876,Y:NEXTY:P
OKE36876,0
610 POKE36878,0:POKEM+ND,86:POKEC+ND,4
620 POKEM+OD,32:POKEC+OD,1
640 C1=C2:R1=R2:AC=AC+1
650 IFAC>24THENGOTO800
660 Y=PEEK(36879)-1:IFY<26THENY=31
670 POKE36879,Y
680 GOTO410
```

Level 1

```
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=I
NT(TI/60):X=INT(W/60)
830 Y=W-(X*60):X$=STR$(X):Y$=RIGHT$(X$,1)+".":IFY<
10THENY=Y+100
840 X$=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:POKEX,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):POKEX,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 DATA175,2,175,2,175,2,147,2,159,2,159,2,147,
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: 1

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 DIMDI$(5),DI%(5,2),S%(11,1)
60 A$="{RVS}{22 SPACES}{OFF}":B$="{RVS}{3 SPACES}
  {OFF}{7 SPACES}{RVS}{2 SPACES}{OFF}{7 SPACES}
  {RVS}{3 SPACES}{OFF}"
100 POKE36879,24:FORX=0TO5:READX$:DI$(X)=X$:NEXTX:
  CT$="{CYN}{PUR}{GRN}{BLU}{YEL}"
110 FORX=0TO5:FORY=0TO2:READZ:DI%(X,Y)=Z:NEXTY,X:H
  S=0
120 PRINT"{PUR}{CLR}{DOWN}{4 SPACES}{RVS}COUNT THE
  SPOTS":PRINT"{DOWN}EACH GAME CONSISTS OF TEN
  {SPACE}ROLLS OF THE DICE.";
130 PRINT"{DOWN}THE PLAYER MUST COUNT THE NUMBER O
  F SPOTS ON{RVS}BOTH{OFF} DICE AND ENTER"
140 PRINT"THAT NUMBER.{2 SPACES}ONE{5 SPACES}POINT
  IS RECEIVED FOR EACH CORRECT ANSWER."
150 PRINT"{DOWN}{6 SPACES}{RVS}GOOD LUCK!{OFF}"
160 POKE36878,15
170 READX,Y:IFX<0THEN190
180 POKE36876,X:FORZ=0TOY:NEXTZ:POKE36876,0:FORZ=0
  TO20:NEXTZ:GOTO170
190 POKE36878,0:X=RND(-TI)
200 PRINT"{BLK}{2 DOWN}(HIT ANY KEY TO START)"
210 GETX$:IFX$=""THEN210
220 FORX=0TO11:READY,Z:S%(X,0)=Y:S%(X,1)=Z:NEXTX
300 S=0:FORX=0TO9
310 D1=INT(RND(1)*6)+1:D2=INT(RND(1)*6)+1
320 Y=INT(RND(1)*5)+1:X$=MID$(CT$,Y,1)
330 PRINT"{CLR}";X$;:FORY=0TO3:PRINTA$;:NEXTY:FORY
  =0TO8:PRINTB$;:NEXTY:FORY=0TO3:PRINTA$;:NEXTY
340 Z$="{BLK}{HOME}{5 DOWN}":FORY=0TO2:X$=DI$(DI%(
  D1-1,Y)):Y$=DI$(DI%(D2-1,Y))
350 PRINTZ$;"{3 RIGHT}";X$;"{2 RIGHT}";Y$;"
  {SHIFT-SPACE}":Z$=Z$+"{3 DOWN}":NEXTY
360 INPUT"{7 DOWN} HOW MANY";X$:Y=VAL(X$):IFY=(D1+
  D2)THEN400
370 POKE36879,8:PRINT"{CLR}":POKE36878,15:POKE3687
  4,140:FORZ=1TO500:NEXTZ
380 POKE36879,24:POKE36878,0:POKE36874,0:GOTO500
400 S=S+1:POKE36878,15:FORY=25TO31
410 POKE36879,Y:POKE36877,8*Y:FORZ=1TO100:NEXTZ,Y
420 POKE36878,0:POKE36879,24:POKE36877,0
500 NEXTX
600 Z=0:IFS>HSTHENHS=S:Z=1
610 PRINT"{PUR}{CLR}{DOWN}{6 SPACES}{RVS}GAME OVER
  !{OFF}{DOWN}"
620 PRINT"{2 DOWN} YOUR SCORE =" ;S
630 PRINT"{2 DOWN} HIGH SCORE =" ;HS
```


Level 1

```
640 IFZ=1THENPRINT"{2 DOWN} YOU SET A NEW HIGH!"
650 POKE36878,15:FORX=0TO11
660 POKE36876,S%(X,0):FORY=0TOS%(X,1):NEXTY:POKE36
876,0
670 NEXTX
680 POKE36878,0
690 PRINT"{BLK}{3 DOWN}{2 SPACES}PRESS {RVS}Y{OFF}
    TO REPLAY"
700 PRINT"{2 DOWN}{2 SPACES}PRESS {RVS}N{OFF} TO Q
    UIT"
710 GETX$:IFX$=""THEN710
720 IFX$="Y"THEN300
730 IFX$<>"N"THEN710
740 POKE36879,27:PRINT"{CLR}"
750 END
2000 DATA"{5 SPACES}","{2 SPACES}Q{2 SPACES}","Q
    {4 SPACES}Q","Q{3 SPACES}Q","Q Q
    Q"
2010 DATA0,1,0,2,0,3,2,1,3,4,0,4,4,1,4,5,0,5
2020 DATA201,300,207,300,195,300,135,300,175,600,-
    1,-1
2030 DATA147,175,0,20,147,175,0,20,147,175,159,100
    ,170,200,170,100,159,100
2040 DATA169,100,175,100,183,200
```

Level

1

Counting Game

Skill Area: Mathematics

Level: I, II

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.

Counting Game

```

100 DIMNT%(4,10,1),W1$(18),W2$(7):PRINT"{CLR}"
110 POKE36879,170:FORX=0TO4:FORY=0TO10:FORZ=0TO1
120 READW:NT%(X,Y,Z)=W:NEXTZ,Y,X
130 FORX=0TO18:READX$:W1$(X)=X$:NEXTX
140 FORX=0TO7:READX$:W2$(X)=X$:NEXTX:G$="Q[*]ASZ
X":C$="{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 RECOGNI
ZE THE{6 SPACES}NUMBERS FROM 1 TO 99."
220 PRINT"{DOWN}EACH NUMBER PICKED IS SHOWN REPRES
ENTED AS{2 SPACES}A WORD VALUE AND AS A"
230 PRINT"NUMBER OF OBJECTS.{4 SPACES}YOU MUST ENT
ER THE{4 SPACES}NUMBER REPRESENTED."
240 PRINT"{DOWN}A GAME CAN CONSIST OF FROM 1 TO 50
0{9 SPACES}QUESTIONS."
250 X=INT(RND(1)*5):GOSUB8000
260 PRINT"{2 DOWN}(HIT ANY KEY TO START)"
270 GETX$:IFX$=""THEN270
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$="":INPUTX$
320 RG=VAL(X$):IFRG<10ORRG>99THEN300
400 PRINT"{CLR}{DOWN}HOW MANY QUESTIONS{4 SPACES}S
HOULD BE ASKED IN{4 SPACES}THIS GAME?"
410 PRINT"(ENTER A VALUE 1-500){4 DOWN}"
420 X$="":INPUTX$
430 NQ=VAL(X$):IFNQ<1ORNQ>500THEN400
440 NC=0
500 FORLC=1TONQ:PN=INT(RND(1)*RG)+1
510 IFPN<20T?HENX$=W1$(PN-1):GOTO550
520 X=INT(PN/10):Y=PN-(X*10):X$=W2$(X-2)
530 IFY=0THEN550
540 X$=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 FORX=1TOPN:PRINTY$;:NEXTX:PRINT"{BLK} "
630 INPUT"{2 DOWN} HOW MANY";X$
640 X=VAL(X$):IFX=PNTHEN700
650 POKE36879,8:POKE36878,15:POKE36874,150:FORX=1T
O400:NEXTX:PRINT"{CLR}"
660 POKE36874,0:POKE36878,0:POKE36879,170
670 GOTO800
700 X=INT(RND(1)*5):GOSUB8000

```

Level 1

```
710 NC=NC+1
800 NEXTLC
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 GETX$:IFX$=""THEN960
970 IFX$="Y"THEN300
980 IFX$<>"N"THEN960
990 POKE36879,27:PRINT"{CLR}":END
8000 POKE36878,15:W=INT(RND(1)*3):FOR Y=0 TO 10
8010 POKE36874+W,NT%(X,Y,0):FOR Z=0 TO (NT%(X,Y,1)*10
0):NEXT Z
8020 POKE36874+W,0:NEXT Y:POKE36878,0:RETURN
9000 DATA 191,2,207,2,207,2,207,2,209,1,215,2,219,2
,225,1,223,2,0,1,0,1
9010 DATA 147,2,175,2,183,2,191,2,175,2,175,1,191,2
,201,2,201,2,183,4,0,1
9020 DATA 175,2,183,2,191,2,175,2,175,2,183,2,191,2
,175,2,191,2,195,2,201,4
9030 DATA 159,2,163,2,175,2,159,2,163,2,175,2,159,2
,163,2,175,2,183,2,147,2
9040 DATA 135,2,135,2,135,2,147,1,159,2,159,2,147,1
,159,2,163,1,175,4,0,1
9200 DATA ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, N
INE, TEN
9210 DATA ELEVEN, TWELVE, THIRTEEN, FOURTEEN, FIFTEEN, S
IXTEEN, SEVENTEEN, EIGHTEEN, NINETEEN
9220 DATA TWENTY, THIRTY, FORTY, FIFTY, SIXTY, SEVENTY, E
IGHTY, 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.

Level

1

Get the Treasure

```
100 POKE36879,30:PRINT"{CLR}{BLK}"
110 S1=(4*(PEEK(36866)AND128)+64*(PEEK(36869)AND128))+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:ER=0
240 PRINT"{CLR}{RVS}{BLU}** GET THE TREASURE **
{OFF}{BLK}{2 DOWN}CCCCCCCCCCCCCCCCCCCC";
250 PRINT"{16 DOWN}CCCCCCCCCCCCCCCCCCCC";
300 FORY=0TO9:GOSUB2000:POKES1+X,FT(Y,0):POKEC1+X,FT(Y,1):NEXTY
310 GOSUB2000:POKES1+X,42:POKEC1+X,0:J1=INT(X/22):K1=X-(J1*22)
320 TIS="000000"
400 FORX=0TO9
410 PRINT"{HOME}{2 DOWN}FIND --- ":POKES1-35,FT(X,0):POKEC1-35,FT(X,1)
420 J2=J1:K2=K1:POKE37154,127:IF((PEEK(37152)AND128)=0)<>0THENK2=K2+1
430 POKE37154,255:Y=PEEK(37137):IF((YAND4)=0)<>0THENENJ2=J2-1
440 IF-((YAND8)=0)<>0THENJ2=J2+1
450 IF((YAND16)=0)<>0THENK2=K2-1
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 POKES1+(J1*22)+K1,32:POKEC1+(J1*22)+K1,1:POKES1+(J2*22)+K2,42:POKEC1+(J2*22)+K2,0
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:NEXTZ
620 POKE36878,0:POKE36874,0:GOTO420
700 POKES1+(J2*22)+K2,42:POKEC1+(J2*22)+K2,0:POKES1+(J1*22)+K1,32:POKEC1+(J1*22)+K1,1
```

```

710 POKES2+(X*2),Y:POKEC2+(X*2),Z:POKE36878,15:FOR
Y=175TO225:POKE36875,Y:FORZ=1TO10
720 NEXTZ,Y:POKE36878,0:POKE36875,0:J1=J2:K1=K2:NE
XTX
800 PRINT"{CLR}{DOWN}{RVS}{2 SPACES}G A M E
{4 SPACES}O V E R{2 SPACES}{OFF}";
810 PRINT"{2 DOWN} TOTAL ERRORS{2 SPACES}=";ER
820 PRINT"{2 DOWN} TOTAL SECONDS =" ;INT(TI/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 GOSUB3000
840 GETX$:IFX$=""THEN840
850 IFX$="Y"THEN200
860 IFX$<>"N"THEN840
870 PRINT"{CLR}":POKE36879,27:END
1000 PRINT"{CLR}{DOWN}{RVS}** GET THE TREASURE **
{OFF}":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}WIN!";
1050 GOSUB3000:PRINT"{DOWN}{3 SPACES}(PRESS ANY KE
Y)";
1060 GETX$:IFX$=""THEN1060
1070 RETURN
2000 X=INT(RND(1)*352):Z=PEEK(S1+X)
2010 IFZ<>32THEN2000
2020 RETURN
3000 POKE36878,15:FORX=0TO11:POKE36876,NT%(X,0)
3010 FORY=1TO(NT%(X,1)*100):NEXTY
3020 POKE36876,0:NEXTX:POKE36878,0:RETURN
10000 DATA1,83,160,90,65,88,81,95,105,102
10010 DATA0,2,6,5,6,7
10020 DATA175,2,175,2,175,2,147,2,159,2,159,2
10030 DATA147,4,191,2,191,2,183,2,183,2,175,4

```

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 DIMCC$(9,2),NT$(13,1)
```

```
110 POKE36879,27: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
CTURE{OFF}"
140 PRINT"{DOWN}USE THE JOYSTICK TO{3 SPACES}ERASE
THE SCREEN AND{2 SPACES}UNCOVER THE HIDDEN"
150 PRINT"PICTURE."
160 PRINT"{DOWN}STOP DOING THE CURRENTPICTURE BY P
RESSING{3 SPACES}THE FIRE BUTTON ON THE";
165 PRINT"JOYSTICK, OR BY{7 SPACES}UNCOVERING THE
{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)
: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,
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
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=C2ANDR1=R2THEN300
405 POKEM+(C1*22)+R1,CV:POKEC+(C1*22)+R1,PC
410 C1=C2:R1=R2:CV=PEEK(M+(C1*22)+R1):IFCV<128THEN
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
RY=0TONT%(X,1)*100
1005 NEXTY: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
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

```

Level

1

```

4010 ONKGOTO4100,4300,4500,4700
4100 PRINT"{CLR}{DOWN} TULIPS AND WINDMILLS
      {2 DOWN}"
4110 PRINTSPC(10);"[E+]"
4120 PRINTSPC(10);"[E+]"
4130 PRINTSPC(10);"[E+]"
4140 PRINTSPC(9);"U[E+]I"
4150 PRINTSPC(6);"[E4 +]+[E4 +]"
4160 PRINTSPC(9);"G[E+]H"
4170 PRINTSPC(9);"G[E+]H"
4180 PRINTSPC(9);"G[E+]H"
4190 PRINTSPC(9);"G[E+]H"
4200 PRINTSPC(9);"G H"
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
      -N{SHIFT-SPACE}M-N"
4230 PRINT"[E22 U]";
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);"*{4 SPACES}*"
4370 PRINT"{4 SPACES}V"
4380 PRINT"{4 SPACES}[E+]"
4390 PRINT"{4 SPACES}[E+]{2 SPACES}+[6 SPACES]_"
4400 PRINT"{4 SPACES}[E+]{2 SPACES}[E+]
      {2 SPACES}X{3 SPACES}[E+]"
4410 PRINT"{4 SPACES}[E+]{2 SPACES}[E+]
      {2 SPACES}[E+]{3 SPACES}[E+]{4 SPACES}V "
4420 PRINT" A{2 SPACES}[E+]{2 SPACES}[E+]
      {2 SPACES}[E+]{3 SPACES}[E+]{4 SPACES}[E+]
      "
4430 PRINT" [E+] [E2 +]{2 SPACES}[E+]{2 SPACES}
      [E2 +]{2 SHIFT-SPACE}[E2 +]{2 SPACES}
      [E2 +]"
4440 PRINT" [E5 +] [E2 +] [E6 +] [E4 +]"
4450 PRINT" [E20 +]"
4460 PRINT"[E22 U]";
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}."

```

```

4520 PRINT"{2 SPACES}.{2 SPACES}. {2 SPACES}.
      {2 SPACES}.{2 SPACES}. . ."
4530 PRINT" . .{2 SPACES}.{2 SPACES}.[+] . .
      {2 SPACES}. ."
4540 PRINT".{3 SPACES}.{3 SPACES}[5 +]{3 SPACES}
      .{2 SPACES}."
4550 PRINT"{2 SPACES}.{2 SPACES}. [7 +] .
      {2 SPACES}. ."
4560 PRINT".{3 SPACES}.{2 SPACES}_-{5 SPACES}_-
      {2 SPACES}.{2 SPACES}."
4570 PRINT"{2 SPACES}.{3 SPACES}[S][W] Q Q [Q][S]
      {SPACE}.{2 SPACES}."
4580 PRINT".{3 SPACES}.{2 SPACES}_-{2 SPACES}[Z]
      {2 SPACES}_- . ."
4590 PRINT" .{3 SPACES}. - J*K -{2 SPACES}. ."
4600 PRINT"{2 SPACES}. .{2 SPACES}[J*****K].
      {2 SPACES}. ."
4610 PRINT".{2 SPACES}.{2 SPACES}.{2 SPACES}_- = .
      {SPACE}.{2 SPACES}."
4620 PRINT" .{2 SPACES}.{2 SPACES}U*K J*I. ."
4630 PRINT"{2 SPACES}.{2 SPACES}. _-{5 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}NNNNNNNNNNNNNM"
4720 PRINT"{3 SPACES}NNNNNNNNNNNN[2 SHIFT-SPACE]M"
4730 PRINT"{3 SPACES}[J][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][J][7 SPACES][+]
      {2 SPACES}[J][2 SPACES][L]"
4800 PRINT"{3 SPACES}[J][J][7 SPACES][+]
      {2 SPACES}[J][2 SPACES][L]"
4810 PRINT"{3 SPACES}[15 Y]"

```

Level

1

```
4820 PRINT"{2 DOWN}DO YOU LIVE IN A HOUSE{DOWN}
      {6 SPACES}LIKE THIS?"
4830 GOTO250
8000 POKE37154,127:IF(PEEK(37152)AND128)>0THENR2=R
      2-1
8010 POKE37154,255
8020 J1=PEEK(37137):IF(J1AND8)>0THENC2=C2-1
8030 IF(J1AND16)>0THENR2=R2+1
8040 IF(J1AND4)>0THENC2=C2+1
8050 IF(J1AND32)<1THENJF=1
8060 RETURN
9000 DATA41,2,3,41,2,5,41,2,7
9010 DATA73,4,3,73,4,7
9020 DATA105,6,3,105,6,5,105,6,7,121,7,2,121,7,4
9100 DATA147,1,147,1,183,1,183,1,191,1,191,1,183,2
      ,175,1
9110 DATA183,1,167,1,147,1,159,1,143,1,147,4
```

Level
2

Games for Early Readers



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 double 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 middle 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 DIMHT(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 FORX=0TO3:READZ:CT(X)=Z:NEXTX:FORX=0TO9:READZ:
ST(X)=Z:NEXTX
140 FORX=0TO20:READY:NT%(X)=Y:NEXTX:GOSUB8000
200 PRINT"{CLR}{DOWN}ENTER SKILL LEVEL:":PRINT"
{DOWN}{2 SPACES}{RVS}1{OFF} - BEGINNING{DOWN}"
:PRINT"{6 SPACES}TO"
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 FORX=1TONP:S%(X-1)=0:NEXTX:FORX=1TO(SL*20):POK
ECB+X-1,0:NEXTX
270 FORX=1TOSL:FORY=0TO9:FORZ=1TO2
280 GOSUB1000:POKECB+R1,ST(Y):POKECB+R1+(SL*20),CT
(X-1):NEXTZ,Y,X
```


Level 2

```
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
400 FORW=1TONP:FORX=1TO2:PRINT"{HOME}{DOWN} PLAYER
#{3 SPACES}{3 LEFT}";W:PRINT"{DOWN} SQUARE #"
;X"
410 GOSUB2000:Y=((R-1)*10)+(C-1):Z=PEEK(CB+Y)
430 HT(X-1,0)=Z:HT(X-1,1)=PEEK(CB+Y+(SL*20)):HT(X-
1,2)=Y
440 Y=((R-1)*44)+((C-1)*2)+112:HT(X-1,3)=Y
450 POKESM+HT(X-1,3),HT(X-1,0):POKESM+CO+HT(X-1,3)
,HT(X-1,1)
455 IF(PEEK(37137)AND32)=0THEN455
456 POKESM+HT(X-1,3),160:POKESM+CO+HT(X-1,3),4
457 NEXTX
470 IFHT(0,0)=HT(1,0)ANDHT(0,1)=HT(1,1)ANDHT(0,3)<
>HT(1,3)THEN475
473 GOTO600
475 FORX=0TO1
480 POKESM+HT(X,3),32:POKESM+CO+HT(X,3),1:NEXTX
485 POKECB+HT(0,2),0:POKECB+HT(1,2),0
490 POKE36878,15:FORY=175TO225:POKE36875,Y:NEXTY:P
OKE36878,0:POKE36875,0
500 S%(W-1)=(S%(W-1))+1
510 M%=M%+1:IFM%=(SL*10)THEN700
600 NEXTW
610 GOTO400
700 PRINT"{CLR}{BLK}{7 SPACES}{RVS}SCORES{OFF}
{3 DOWN}"
710 FORX=1TONP:PRINT"PLAYER #";X;"=";S%(X-1);:PRIN
T"{DOWN}":NEXTX
720 GOSUB4000
740 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}O"
750 GETX$:IFX$=""THEN750
760 IFX$="Y"THEN200
770 IFX$<>"N"THEN750
780 END
800 POKE36878,15:FORX=0TO20:POKE36875,NT%(X):FORY=
1TO100:NEXTY
810 POKE36875,0:NEXTX:POKE36878,0:RETURN
1000 W=0
1010 R1=INT(RND(1)*(SL*20)):IFPEEK(CB+R1)=0THENRET
URN
1020 W=W+1:IFW<5THEN1010
1030 R1=0
```

Level 2

```
1040 IFPEEK(CB+R1)=0THENRETURN
1050 R1=R1+1:GOTO1040
2000 IF(PEEK(37137)AND32)=0THEN2200
2010 Z=AP:POKE37154,127:IF(PEEK(37152)AND128)=0THE
NZ=Z+1
2020 POKE37154,255:Y=PEEK(37137):IF(YAND8)=0THENZ=
Z+22
2030 IF(YAND16)=0THENZ=Z-1
2040 IF(YAND4)=0THENZ=Z-22
2050 IFAP=ZORZ<132ORZ>505THEN2000
2060 IFPEEK(SM+Z)=160THEN2000
2070 POKESM+AP,32:POKESM+CO+AP,1:POKESM+Z,30:POKES
M+CO+Z,0
2080 AP=Z:GOTO2000
2200 IFPEEK(SM+AP-22)<>160THEN2000
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 GOSUB800
4020 GETX$:IFX$=""THEN4020
4030 RETURN
8000 PRINT"{CLR}{BLK}{DOWN}{RVS}{3 SPACES}** MATCH
MAKER **{3 SPACES}{OFF}";
8100 PRINT"{DOWN}A MEMORY GAME FOR 1 TO8 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, ANDEXPOSE IT WITH THE"
8150 PRINT"FIRE BUTON.{2 DOWN}":GOSUB4000:RETURN
9000 DATA0,7,6,5,65,42,81,83,86,87,78,90,95,105
9010 DATA175,191,191,195,175,183,191,183,175,163,1
35,135
9020 DATA159,163,175,183,175,163,175,135,135
```

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

Level 2

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}NOTECRAFT
ER{OFF}"
120 PRINT"{2 DOWN}THIS GAME TESTS BOTH{2 SPACES}YO
UR MEMORY AND YOUR{2 SPACES}EAR FOR MUSIC."
130 PRINT"{DOWN}THE COMPUTER WILL PICKA NOTE AND P
LAY IT.{3 SPACES}THE COMPUTER WILL";
140 PRINT" THENPICK A NOTE FOR YOU{3 SPACES}AND PL
AY IT."
150 PRINT"{DOWN}YOU MUST RAISE OR{5 SPACES}LOWER T
HE PITCH OF{4 SPACES}YOUR NOTE UNTIL IT"
160 PRINT"MATCHES THE NOTE THE{2 SPACES}COMPUTER P
ICKED."
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 Y
OUR 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):IFX=64THEN400
410 IFX=0THENPN=PN-1:GOTO500
420 IFX=56THENPN=PN-5:GOTO500
430 IFX=1THENPN=PN-15:GOTO500
440 IFX=2THEN700
450 IFX=3THENPN=PN+1:GOTO500
460 IFX=59THENPN=PN+5:GOTO500
470 IFX=4THENPN=PN+15:GOTO500
480 GOTO400
500 IFPN<128THENPN=128
610 IFPN>250THENPN=250
620 POKEVN,PN:FORX=1TO300:NEXTX:POKEVN,0:GOTO400
700 POKE36879,27:IFPN<>CNTHEN800
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 M
USICIAN!!"
740 FORX=251TO27STEP-16:POKE36879,X:POKE36876,180:
FORZ=1TO100:NEXTZ
750 POKE36876,0:NEXTX:GOTO900
800 PRINT"{CLR}{DOWN}COMPUTER'S NOTE---":POKEVN,CN
:FORX=1TO3000:NEXTX:POKEVN,0:FORX=1TO100:NEXTX
810 PRINT"{2 DOWN}NOW YOUR NOTE---":POKEVN,PN:FORX
=1TO3000:NEXTX:POKEVN,0
820 IFPN<CNTHENX=CN-PN:GOTO840
830 X=PN-CN
840 Y=100-INT(X*3):IFY<1THENY=1
850 PRINT"{2 DOWN}YOUR SCORE IS";Y;"{LEFT}%"
860 X=INT((100-Y)/10):IFX<0THENX=0
870 IFX>5THEN900
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$=""THEN910
920 IFX$="Y"THEN200
930 IFX$<>"N"THEN910
940 END

```

Level

2

```
950 READX,Y:IFX<0THENRETURN
960 POKE36876,X:FORZ=1TOY*110:NEXTZ:POKE36876,0:GO
    TO950
1000 DATA201,2,191,2,183,2,175,2,191,2,0,.3,183,1,
    195,2,0,.3
1010 DATA191,2,183,2,191,2,159,2,183,2,0,.3,191,1,
    159,2,0,.3,183,2,167,2,159,2
1020 DATA147,2,183,2,0,.5,191,1,201,2,0,.3,183,2,1
    83,2,191,2,201,2
1030 DATA0,.3,191,2,207,2,201,2,183,4,-1,-1
1500 DATA"EXCELLENT","VERY GOOD","GOOD","ABOVE AVE
    RAGE"
1510 DATA"NORMAL","NOT BAD"
```

Personal Story

Skill Area: Language Arts

Level: II

Memory: Unexpanded 5K VIC

Equipment required: None

Modification: Yes

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.

Level 2

- 10050 The child's birthday. Enter a month and date, for example, MAY 3RD.
- 10060 The child's street address.
- 10070 The child's city of residence.
- 10080 The first name of a good friend of the child.
- 10090 The child's phone number.
- 10100 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 DIMNT%(14,1,3):PRINT"{CLR}"
110 FORX=0TO3:Y=0
120 READW,Z:NT%(Y,0,X)=W:NT%(Y,1,X)=Z:Y=Y+1:IFW<>0
    THEN120
130 NEXTX:C$="{BLK}{RED}{CYN}{PUR}{GRN}{BLU}{YEL}"
140 POKE36879,250:READN1$,N2$,SX$,PR$,AG$,BD$,AD$,
    CT$,F1$,PO$,FT$
150 X$=N1$+"{SHIFT-SPACE}"+N2$
160 IFLEN(X$)>20THEN180
170 Y$="{SHIFT-SPACE}"+X$:X$=Y$+"{SHIFT-SPACE}":GO
    TO160
180 PRINT"{BLK}{CLR}{3 DOWN}{2 SPACES}THIS IS YOUR
    LIFE!":PRINTSPC(7);"{3 DOWN}STARRING{3 DOWN}"
    :PRINTX$:X=0:GOSUB8000
190 PRINT"{HOME}";:FORY=0TO504:X=INT(RND(1)*7)+1:X
    $=MID$(C$,X,1)
200 PRINTX$;"S";:NEXTY
210 POKE36879,206: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
    $;"{BLK}!"
290 GOSUB7900:GOSUB7800
```


Level 2

```
300 POKE36879,253:PRINT"{CLR}{BLK}{DOWN}";N1$;" LI
VES IN":PRINT"{DOWN}A NICE HOUSE AT":PRINT"
{DOWN}";AD$
310 PRINT"{DOWN}IN ";CT$;". "
315 PRINT"{BLU}{2 DOWN}{5 SPACES}RRRRRRRRR"
320 PRINT"{4 SPACES}NMMMMMMMMMM"
330 PRINT"{3 SPACES}N{2 SPACES}MMMMMMMMMM"
340 PRINT"{2 SPACES}Y***+*****T"
345 PRINT"{2 SPACES}Y{3 SPACES}-{9 SPACES}T"
350 PRINT"{2 SPACES}Y{3 SPACES}- {BLK}{2 +}
{2 SPACES}{+}{BLU}{3 SPACES}T"
360 PRINT"{2 SPACES}Y{3 SPACES}-{BLK}{2 +}
{2 SPACES}{+}{BLU}{3 SPACES}T"
370 PRINT"{2 SPACES}Y{3 SPACES}-{5 SPACES}{BLK}
{+}{BLU}{3 SPACES}T"
380 PRINT"EEEEEEEEEEEEEEEEEEEE{BLK}":PRINTAD$
390 GOSUB7900:GOSUB7800
400 POKE36879,254:PRINT"{CLR}{BLK}{DOWN}";N1$;" HA
S A":PRINT"{DOWN}GOOD FRIEND NAMED":PRINT"
{DOWN}";F1$;". "
410 PRINT"{2 DOWN}THINKING ABOUT GOOD":PRINT"
{DOWN}FRIENDS MAKES":PRINT"{DOWN}";N1$;" SMILE
"
420 PRINT"{RED}"
430 PRINT"{3 SPACES}{O} {O}{DOWN}"
440 PRINT"{3 SPACES}Q{SHIFT-SPACE}Q{2 SPACES}";F1$
450 PRINT"{4 SPACES}-{4 SPACES}MAKES"
460 PRINT"{4 SPACES}+{3 SPACES}";N1$
480 PRINT"{2 SPACES}J**K{2 SPACES}SMILE!"
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$:P
RINT"{DOWN}IS BUSY, ";N1$:PRINT"{DOWN}WILL PLA
Y WITH A"
720 PRINT"{DOWN}FAVORITE TOY LIKE A":PRINT"{DOWN}"
;FT$;". "
730 PRINT"{DOWN}":FORX=1TO9:PRINT"{RED}{5 SPACES}
{RVS}{11 SPACES}{OFF}":NEXTX
740 PRINT"{BLK}{HOME}{14 DOWN}{6 RIGHT}TOY CHEST
{BLK}"
```

Level

2

```
750 GOSUB7900:GOSUB7800
800 POKE36879,26:PRINT"{CLR}{BLK}{DOWN}GOOD FRIEND
S AND FUN":PRINT"TOYS MAKE EVERY DAY"
810 PRINT"SEEM LIKE CHRISTMAS":PRINT"AT THE ";N2$:
PRINT"HOUSE.{2 DOWN}{GRN}"
820 PRINTSPC(10);"{YEL}Z"
830 PRINTSPC(9);"{GRN}{RVS}{£ [*]"
840 PRINTSPC(8);"{RVS}{£{3 SPACES}{*}"
850 PRINTSPC(8);"{RVS}{5 SPACES}"
860 PRINTSPC(7);"{RVS}{£{5 SPACES}{*}"
870 PRINTSPC(7);"{RVS}{7 SPACES}"
875 PRINTSPC(7);"{RVS}{7 SPACES}"
880 PRINTSPC(6);"{RVS}{£{7 SPACES}{*}{BLK}"
885 PRINTSPC(10);"- "
890 PRINTSPC(10);"- "
900 PRINTSPC(10);"- "
910 X=3:GOSUB8000:GOSUB7800
920 POKE36879,24:PRINT"{CLR}":FORX=1TO62:Y=INT(RND
(1)*7)+1
930 X$=MID$(C$,Y,1):PRINTX$;"THE END ";:NEXTX
940 POKE36878,15:FORX=251TO27STEP-16
950 POKE36879,X:Y=X:IFY<128THENY=128+(128-X)
960 POKE36876,Y:FORZ=1TO100:NEXTZ,X
970 POKE36878,0:POKE36876,0:PRINT"{CLR}{BLU}":END
7800 PRINT"{HOME}{22 DOWN}{3 SPACES}(PRESS ANY KEY
)";
7810 GETX$:IFX$=""THEN7810
7820 PRINT"{HOME}";:FORY=1TO22:X=INT(RND(1)*7)+1:X
$=MID$(C$,X,1)
7830 PRINTX$;"{RVS}{22 SPACES}{OFF}";:FORZ=1TO40:N
EXTZ,Y:RETURN
7900 X=INT(RND(1)*3)
8000 POKE36878,15:Y=0
8010 POKE36875,NT%(Y,0,X):FORZ=1TO(NT%(Y,1,X)*110)
:NEXTZ:Z=PEEK(36875):POKE36875,0
8020 IFZ>0THENY=Y+1:GOTO8010
8030 RETURN
9000 DATA135,2,135,2,175,2,175,2,183,2,183,2,175,4
,163,2
9010 DATA163,2,159,2,159,2,147,2,147,2,135,4,0,0
9020 DATA183,2,195,4,183,2,163,2,159,2,163,2,175,2
,175,2,159,2,135,4,0,0
9030 DATA201,2,207,2,215,2,215,2,215,2,215,2,207,2
,201,2,191,2,201,2,215,8,0,0
9040 DATA195,2,195,2,195,2,209,2,209,2,209,2,207,2
,209,2,215,2,219,2,221,2
9050 DATA215,2,219,2,0,0
10000 DATA"JIMMY"
10010 DATA"SMITH"
```

Level 2

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"

Level 2

Spelling Bee

Skill Area: Language Arts

Level: II, III, IV

Memory: Unexpanded 5K VIC

Equipment required: None

Modification: Yes (modification may require additional memory)

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. If

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$(NW%-1),WIS$(19)
120 S1=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND128)
    ):S2=37888+4*(PEEK(36866)AND128)
130 FORX=0TO11:READZ:NT%(X)=Z:NEXTX
140 PRINT"{CLR}{BLK}{DOWN}{RVS}{5 SPACES}SPELLING
    {SPACE}BEE{5 SPACES}{OFF}";
150 PRINT"{2 DOWN}THE COMPUTER WILL PICKA WORD AND
    SHOW YOU"
160 PRINT"THE NUMBER OF LETTERS IT CONTAINS."
170 PRINT"{2 DOWN}YOU MUST GUESS THE{4 SPACES}WORD
    BY SELECTING ONE LETTER AT A TIME."
180 PRINT"{2 DOWN}IF YOU PICK MORE THAN 11 INCORRE
    CT LETTERS, THE SPELLING BEE WILL"
190 PRINT"DISAPPEAR."
200 PRINT"{2 DOWN}(HIT ANY KEY TO START)";:GOSUB25
    00
210 GETX$:IFX$=""THEN210
220 PRINT"{CLR}{2 DOWN}ENTER SKILL LEVEL:"
230 PRINT"{2 DOWN}{2 SPACES}{RVS}1{OFF} BEGINNER":
    PRINT"{2 DOWN}{2 SPACES}{RVS}2{OFF} INTERMEDIA
    TE"
240 PRINT"{2 DOWN}{2 SPACES}{RVS}3{OFF} ADVANCED"
250 GETP$:IFP$=""THEN250
260 IFP$<"1"ORP$>"3"THEN250
270 X=(VAL(P$)-1)*NW%:IFX=0THEN290
280 FORY=1TOX:READX$:NEXTY
290 FORX=1TONW%:READX$:WT$(X-1)=X$:NEXTX:WU=0
300 WU=WU+1
310 X=INT(RND(1)*NW%):WOS=WT$(X):IFWOS=""THEN310
320 WT$(X)="$":LW%=LEN(WOS)
330 FORX=0TOLW%-1

```

Level 2

```
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:N
EXTX:GOTO700
560 IFLC%<=LW%THEN400
570 GOSUB4000:WI%=WI%+1:GOTO700
700 IFWU=NW%THENPRINT"{CLR}{RED}{2 DOWN}":GOTO750
710 PRINT"{CLR}{RED}{DOWN}{4 SPACES}{RVS}ANOTHER W
ORD ?{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"{3 DOWN} # CORRECT =" ;WI%
760 PRINT"{2 DOWN} # MISSED{2 SPACES}=" ;LO%
770 GOSUB2500:POKE36879,27
780 END
1000 PRINT"{CLR}{BLK}{DOWN}{5 SPACES}SPELLING BEE
{2 DOWN}"
1010 PRINTSPC(11);"[+][E-]"
1020 PRINTSPC(11);"[2 +]"
1030 PRINTSPC(7);"{BLK}M[E@]{2 SPACES}{BLK}
[2 +]"
1040 PRINTSPC(9);"{BLK}M [+][E-][M]"
1050 PRINTSPC(9);"{RVS}[E]{YEL} {BLK} {YEL}[*]
{OFF}{BLK}NN"
1060 PRINTSPC(7);"C{RVS}{YEL} {BLK} {YEL} {BLK}
{YEL} {BLK}{OFF}Q"
1070 PRINTSPC(9);"[*]{RVS}{YEL} {BLK} {YEL}{OFF}
[E]{BLK}MM"
1080 PRINTSPC(9);"N [+][E-]{BLK}[M]"
1090 PRINTSPC(7);"N[T]{2 SPACES}[2 +]"
1100 PRINTSPC(11);"[2 +]"
1110 PRINTSPC(11);"[+][E-]"
1500 PRINT"{3 DOWN}{BLK}*****";
1510 PRINT"ENTER A LETTER:";
1520 X=(LW%-1)*2
1530 FORY=0TOXSTEP2
1540 POKES1+375+Y,121:POKES2+375+Y,6:NEXTY
1550 RETURN
2000 FORX=0TOLW%:IFWI$(X)="$"THEN2020
2010 Y=ASC(WI$(X)):POKES1+375+(X*2),Y-64
```

Level 2

```
2020 NEXTX
2030 POKE36878,15:FORX=200TO150STEP-5:POKE36874,X
2040 FORY=1TO50:NEXTY,X:POKE36878,0:POKE36874,0:RE
TURN
2500 POKE36878,15:FORX=0TO11:POKE36876,NT%(X):FORY
=1TO150:NEXTY:POKE36876,0
2510 NEXTX:POKE36878,0:RETURN
3000 PRINT"{HOME}{2 DOWN}":FORY=0TOBC%:PRINT" ":NE
XTY:PRINT"{17 SPACES}"
3010 POKE36878,15:POKE36874,130:POKE36879,14:FORY=
1TO200:NEXTY
3020 POKE36879,30:POKE36878,0:POKE36874,0
3030 POKES1+OF%,X-64:POKES2+OF%,0:OF%=OF%+1
3040 RETURN
4000 POKE36878,15:Y=130:FORX=254TO30STEP-16:POKE36
879,X:POKE36876,Y
4010 FORZ=1TO70:NEXTZ:Y=Y+7:NEXTX
4020 POKE36876,0:POKE36878,0:RETURN
5000 DATA163,163,183,195,183,163,175,191,163,175,1
63,163
6000 DATABOY,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 DATALEARN,LARGE,LUNCH,PURPLE,HORSE
7040 DATALAST,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,PRESI
DENT
8020 DATANOTEBOOK,ENGINE,ASLEEP,LANGUAGE,VEGETABLE
8030 DATACOMPANY,TOMORROW,SCREAM,MINUTE,KNIVES
8040 DATAIMPOSSIBLE,BACON,FROZEN,NEEDLE,CAMERA
8050 DATACARDBOARD,BAREFOOT,BEAUTY,IMPORTANT,ANNOU
NCE
8060 DATAGARBAGE,ALARM,FARMER,SNEEZE,GENERAL
8070 DATASPOON,WEIGHT,CONTAIN,FAMILY,MYSELF
```

Level 2

Spend Your Allowance

Skill Area: Mathematics

Level: II, III, IV

Memory: At least 8K expansion required

Equipment required: None

Modification: Yes

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 ALLOWAN
    CE {OFF}";
160 PRINT"{DOWN}YOUR PARENTS GIVE YOU $10.00 ALLOW
    ANCE PER{2 SPACES}MONTH."
170 PRINT"{DOWN}YOUR ALLOWANCE MAY BE RAISED OR LO
    WERED{5 SPACES}DEPENDING ON HOW"
175 PRINT"WISELY YOU SPEND IT."
```

Level 2

```
180 PRINT"{DOWN}UNEXPECTED THINGS CAN SOMETIMES HA
PPEN WHICHWILL INCREASE OR"
190 PRINT"DECREASE THE MONEY YOUHAVE."
200 PRINT"{DOWN}A GAME CONSISTS OF 12 MONTHS, WITH
FOUR{5 SPACES}SPENDING DECISIONS PERMONTH."
210 FORX=0TO12:FORY=0TO1:READZ:ST$(X,Y)=Z:NEXTY,X
220 GOSUB1000:FORX=0TO11:READX$:MT$(X)=X$:NEXTX:GO
SUB1000
300 CB=0:AA=1000:IQ=0
310 RESTORE
320 READX$:IFX$<>"$"THEN320
330 FORX=0TO99:FORY=0TO2:READX$:BT$(X,Y)=X$:NEXTY,
X
340 FORX=0TO29:FORY=0TO2:READX$:CT$(X,Y)=X$:NEXTY,
X
400 FORL1=0TO11:GOSUB900:IQ=0
410 FORL2=0TO3
420 IFL2=0THEN500
430 IFRND(1)>.10THEN500
440 X=INT(RND(1)*30):X$=CT$(X,0):IFX$="."THEN440
450 PRINT"{CLR}":CT$(X,0)="":POKE36878,15:FORY=25
2TO28STEP-16:POKE36879,Y:Z=Y:IFZ<128THENZ=255-Z
460 POKE36875,Z:FORZ=1TO80:NEXTZ,Y:POKE36878,0:POK
E36875,0
470 Y=VAL(CT$(X,1)):Z=VAL(CT$(X,2)):PRINT"{HOME}
{3 DOWN}";X$;".":X$=STR$(Y)
480 GOSUB1200:IFZ<0THENPRINT"{3 DOWN}YOU SPEND ";X
$
485 IFZ>0THENPRINT"{3 DOWN}YOU MAKE ";X$
490 CB=CB+(Y*Z):GOSUB1000
500 FORX=0TO2
510 Y=INT(RND(1)*100):IFBT$(Y,0)="."THEN510
520 RT(X)=Y:NEXTX
530 IFRT(0)=RT(1)ORRT(0)=RT(2)ORRT(1)=RT(2)THEN500
540 PRINT"{CLR}{DOWN} ";MT$(L1):PRINT"{DOWN} DECIS
ION #";L2+1:PRINT"{DOWN} ON WHICH ITEM LISTED"
550 PRINT" BELOW WOULD YOU{7 SPACES}SPEND YOUR ALL
OWANCE?{DOWN}"
560 FORZ=1TO3:X$=STR$(Z):Y$=RIGHT$(X$,1):PRINT"
{DOWN}{RVS}";Y$;"{OFF} ";BT$(RT(Z-1),0)
570 X$=BT$(RT(Z-1),1):GOSUB1200:PRINT"{2 SPACES}CO
ST = ";X$:NEXTZ
580 PRINT"{2 DOWN}{4 SPACES}ENTER {RVS}1{OFF}
{RVS}2{OFF} OR {RVS}3{OFF}";
590 GETX$:IFX$=" "THEN590
600 X=VAL(X$):IFX<1ORX>3THEN590
610 Y=VAL(BT$(RT(X-1),1)):CB=CB-Y:Y=VAL(BT$(RT(X-1
),2)):IQ=IQ+Y
```

Level 2

```
620 BT$(RT(X-1),0)="."
630 NEXTL2
700 NEXTL1
800 PRINT"{CLR}{DOWN}{6 SPACES}{RVS}GAME OVER!
{OFF}":X$=STR$(CB):GOSUB1200
810 PRINT"{2 DOWN}YOUR TOTAL AMOUNT OF{2 SPACES}CA
SH IS ";X$:X$=STR$(AA):GOSUB1200
820 PRINT"{DOWN}YOUR CURRENT MONTHLY{2 SPACES}ALLO
WANCE IS{SHIFT-SPACE}";X$:GOSUB1100
830 PRINT"{3 DOWN} ENTER REPLAY OPTION:{DOWN}"
840 PRINT"{DOWN} {RVS}1{OFF} START GAME OVER":PRIN
T"{DOWN} {RVS}2{OFF} CONTINUE GAME":PRINT"
{DOWN} {RVS}3{OFF} END GAME"
850 GETX$: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
RY=1TO20:NEXTY,X
930 POKE36878,0:POKE36876,0
940 PRINT"{2 DOWN}BECAUSE OF YOUR WISE{2 SPACES}SP
ENDING HABITS, YOUR PARENTS HAVE RAISED"
950 PRINT"YOUR ALLOWANCE BY $1{2 SPACES}PER MONTH.
"
960 X$=STR$(CB):GOSUB1200:PRINT"{2 DOWN}OLD BALANC
E=";X$:X$=STR$(AA):GOSUB1200
965 PRINT"{DOWN}ALLOWANCE{3 SPACES}=";X$:CB=CB+AA
970 X$=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,ST$(X,0):FO
RY=0TO(ST$(X,1)*100)
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$,1):G
OTO1280
1220 Y$=LEFT$(X$,1)+"$0."+RIGHT$(X$,2):GOTO1280
1230 X=X-3:Y$=LEFT$(X$,1)+"$"+MID$(X$,2,X)+". "+RIG
HT$(X$,2)
1280 X$=Y$:IFLEN(X$)>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:NEXTY,X
2030 POKE36878,0:POKE36876,0
2040 PRINT"{2 DOWN}UNWISE SPENDING HAS{3 SPACES}CA
USED YOUR PARENTS TOWER YOUR ALLOWANCE"
2050 PRINT"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,JUL
Y,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",30
0,1
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",20
0,2
3230 DATA"HOT FUDGE SUNDAE",150,2,"PET GOLDFISH",1
75,2
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,"WOLFMAN MODEL",200,2
3290 DATA"DRACULA FANGS",100,2,"TATTOO KIT",150,2
3300 DATA"WATER PISTOL",150,2,"PET HAMSTER",150,2
3310 DATAHARMONICA,100,3,"HULA HOOP",75,3
3320 DATA"ROLLER SKATES",300,3,"CHAMPION YO-YO",20
0,3
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",30
0,3

3360 DATA "ICE CREAM CONE", 75, 3, "BUBBLE STUFF", 50, 3
 3370 DATABANJO, 400, 3, "CAP GUN", 200, 3
 3380 DATAFOOTBALL, 300, 3, "CATCHER'S MITT", 400, 3
 3390 DATA "BASEBALL BAT", 250, 3, "BUG COLLECTION", 200, 3
 3400 DATA "CAMPING TENT", 350, 3, "CANTEEN", 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 DATAKITE, 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 DATADictionary, 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 DATADOMINOES, 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 "KITTY 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 BASEBALLGLOVE TO YOUR FRIEND{2 SPACES}TOMMY", 400, 1
 4030 DATA "YOU MOW YOUR{10 SPACES}NEIGHBOR'S LAWN TO GETEXTRA MONEY", 300, 1
 4040 DATA "MOM PAYS YOU FOR DOINGAN 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 FROMA 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}LEMONAIDE STAND",500,1
- 4110 DATA"YOU LOSE A TOOTH AND{2 SPACES}THE TOOTH {SPACE}FAIRY LEAVESYOU 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 FORA WHOLE WEEK AND DAD{2 SPACES}REWARDS YOU",300,1
- 4150 DATA"YOUR BICYCLE TIRE POPSAND YOU HAVE TO BUY A NEW ONE",250,-1
- 4160 DATA"YOU JOIN A SECRET CLUBAND 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 HAVETO 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 BACKA 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 {6 SPACES}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 {SPACE}WASH THE{3 SPACES}DOG FOR YOU",300,-1
- 4290 DATA"DAD MAKES YOU PAY PARTOF THE DOCTOR BILL TO GET A BEAN OUT OF YOUREAR",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

Level 2

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

```
100 TS=50
110 DIMWT$(TS-1),R$(20)
120 POKE36879,254
130 M=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND128)
    +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 COMPU
    TER WILL SHOWYOU A SCRAMBLED WORD."
210 PRINT"YOU MUST UNSCRAMBLE ITAND ENTER THE CORR
    ECT WORD."
220 PRINT"{DOWN}+5 POINTS FOR EACH{7 SPACES}CORREC
    T WORD."
230 PRINT"{DOWN}-1 POINT FOR AN{10 SPACES}INCORREC
    T 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 GETX$:IFX$=""THEN270
300 PRINT"{CLR}{DOWN}ENTER SKILL LEVEL ---"
310 PRINT"{2 DOWN} {RVS}1{OFF}{SHIFT-SPACE}- BEGIN
    NER":PRINT"{5 SPACES}4 LETTERS"
320 PRINT"{2 DOWN} {RVS}2{OFF} - INTERMEDIATE":PRI
    NT"{5 SPACES}5-6 LETTERS"
330 PRINT"{2 DOWN} {RVS}3{OFF}{SHIFT-SPACE}- ADVAN
    CED":PRINT"{5 SPACES}7-9 LETTERS"
335 PRINT"{2 DOWN}(ENTER 1, 2 OR 3)"
340 GETX$:IFX$=""THEN340
350 IFX$<"1"ORX$>"3"THEN340
360 SK=VAL(X$):RESTORE:IFSK=1THEN380
370 X=(SK-1)*TS:FORX=1TOX:READX$:NEXTX
380 FORX=1TOTX:READX$:WT$(X-1)=X$:NEXTX
390 SC=0:WC=1:TL$="000200":TI$="000000"
500 X=INT(RND(1)*TS):UW$=WT$(X):IFUW$="$"THEN500
```



```

510 WT$(X)="$"
520 X=LEN(UW$):FORY=1TOX:R$(Y)=0:NEXTY:FORY=1TOX
530 Z=INT(RND(1)*X)+1:IFR$(Z)<>0THEN530
540 R$(Z)=Y:NEXTY:SW$="":FORY=1TOX:SW$=SW$+MID$(UW
$,R$(Y),1):NEXTY
550 IFSW$=UW$THEN520
560 X$=MID$(TI$,3,2)+". "+MID$(TI$,5,2)
565 IFTL$<TI$THEN700
570 PRINT"{CLR}{DOWN} WORD #";WC:PRINT"{DOWN} TIME
=";X$:PRINT"{3 DOWN} ";SW$
600 GOSUB8000
605 IFSW$="Q"THEN650
610 IFSW$<>UW$THENGOSUB7000:SC=SC-1:GOTO600
620 PRINT"{CLR}":POKE36878,15:Y=150:FORX=126TO254S
TEP16
630 POKE36879,X:POKE36876,Y:Y=Y+5:FORZ=1TO50:NEXTZ
,X:POKE36878,0:POKE36876,0
640 SC=SC+5
650 WC=WC+1:IFWC<(TS+1)THEN500
700 IFSC<0THENSC=0
710 PRINT"{CLR}{DOWN}{6 SPACES}{RVS}GAME{2 SPACES}
OVER{OFF}":PRINT"{3 DOWN} SCORE =";SC
720 PRINT"{3 DOWN} PLAY AGAIN? ({RVS}Y{OFF} OR
{RVS}N{OFF})"
730 GETX$:IFX$=""THEN730
740 IFX$="Y"THEN300
750 IFX$<>"N"THEN730
760 END
7000 POKE36878,15:POKE36874,150:FORZ=1TO400:NEXTZ:
POKE36878,0:POKE36874,0:RETURN
8000 SW$="":FORX=0TO19:POKEM+X,32:POKEC+X,0:NEXTX:
POKEM,160
8010 GETX$:IFTL$<TI$THEN700
8020 Y$=MID$(TI$,3,2)+". "+MID$(TI$,5,2):PRINT"
{HOME}{3 DOWN}{8 RIGHT}";Y$
8025 IFX$=""THEN8010
8030 X=ASC(X$)
8040 IFX=133THENPRINT"{6 DOWN} ";UW$:FORX=1TO900:N
EXTX:PRINT"{CLR}":SW$="Q":RETURN
8045 IFX=13THENRETURN
8050 IFX=20THEN8100
8055 IFX<65ORX>90THEN8010
8060 Z=LEN(SW$):POKEM+Z,X-64:POKEM+Z+1,160:SW$=SW$
+X$:GOTO8010
8100 Z=LEN(SW$):IFZ=0THEN8010
8110 POKEM+Z,32:POKEM+Z-1,160:X$=LEFT$(SW$,Z-1):SW
$=X$:GOTO8010
9000 DATATALK,FOUR,BEST,BLUE,WARM,SOAP,FOOT,PILL,W
ORK,YELL

```

Level

2

- 9010 DATAEVEN, GATE, HELP, HOUR, JOKE, WORD, GIRL, MOON, NICE, DISH
- 9020 DATAJULY, JUNE, BOOK, HIDE, BOYS, TREE, CORN, GONE, QUIT, EASY
- 9030 DATAGOLD, 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, VIOLET, 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 DATAGUMBALL, LUBRICATE, BATHROOM, CLOTHES, WASHING
- 9300 DATA LAUNDRY, DRAWER, ASPARAGUS, OATMEAL, PENGUIN

Level
3

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 soupbowl, 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.

Level 3

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 soupbowl, 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 soupbowl, 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(36
866)AND128)+64*(PEEK(36869)AND128)+3
110 CO=(37888+4*(PEEK(36866)AND128))-LP+3:CP=LP+46
0
120 DIML%(25,2),W$(7):X=RND(-TI)
130 PRINT "{BLU} {2 SPACES} {RVS}* ALPHABET {2 SPACES}
SOUP *{OFF}":PRINT "{DOWN}16 RANDOM LETTERS AND
THEIR POINT VALUES"
140 PRINT "WILL BE PRINTED."
150 PRINT "{DOWN}BUILD WORDS OF 2 OR {3 SPACES}MORE
{SPACE}LETTERS EACH."
160 PRINT "{DOWN}END A ROUND EARLY BY {2 SPACES}USIN
G ALL 16 LETTERS {2 SPACES}OR BY PRESSING {RVS}
F1 {OFF}."
170 PRINT "{DOWN}CANCEL A WORD BY USING '@' FOLLOWED
BY THE {3 SPACES}WORD."
180 PRINT "{DOWN}SCORE IS BASED ON WORDLENGTH AND L
ETTER {5 SPACES}VALUES."
185 GOSUB7000
190 PRINT "{DOWN} {3 SPACES} (PRESS ANY KEY)";
200 FORW=0TO25:READX,Y,Z:L%(W,0)=X:L%(W,1)=Y:L%(W,
2)=Z:NEXTW
210 GETX$: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$<"1"ORRL$>"4"THEN230
250 TL$="000"+RL$+"00"
300 POKE36879,25:WC=0:LC=0:PRINT"{CLR}":FORW=0TO25
310 FORX=1TOL%(W,1):POKECB+LC,L%(W,0):LC=LC+1:NEXT
    X,W
320 FORX=0TO7:W$(X)="":NEXTX
330 FORX=0TO15
340 Y=INT(RND(1)*LC):Z=PEEK(CB+Y):IFZ=0THEN340
350 POKECB+Y,0:POKELP+X,Z:POKELP+X+CO,0:W=L%(Z-1,2
    )+48
360 POKELP+X+22,W:POKELP+X+22+CO,3:NEXTX
370 POKECP-1,62:POKECP-1+CO,4:TI$="000000"
400 WB$="":LE=0:D%=0
410 IFTI$>TL$THEN800
415 J$=MID$(TI$,3,2)+". "+MID$(TI$,5,2)
416 PRINT"{HOME}{22 DOWN}";SPC(8);J$;
420 GETX$:IFX$=""THEN410
430 X=ASC(X$):IFX=13THEN600
435 IFX=133THEN800
437 IFX=20THEN1700
440 IFX$="@ "ANDL%=0ANDD%=0ANDWC>0THEND%=1:GOTO500
450 IFX<65ORX>90THENGOSUB1800:GOTO410
455 IFD%=1THEN490
460 W=0
465 IFPEEK(LP+W)=(X-64)THEN480
470 W=W+1:IFW<16THEN465
475 GOSUB1800:GOTO410
480 POKELP+W,32:POKELP+W+CO,1:POKELP+W+22,32:POKEL
    P+W+22+CO,1
490 WB$=WB$+X$
500 POKECP+LE,X-64:POKECP+LE+CO,4:LE=LE+1:IFLE<17T
    HEN410
600 X=LEN(WB$):IFX<2THENGOSUB1800:GOTO410
610 IFD%<>1THEN700
620 W=0
625 IFWB$=W$(W)THEN640
630 W=W+1:IFW<8THEN625
635 GOSUB1800:GOTO750
640 W$(W)="":X$="":FORY=1TO(W*2)+4:X$=X$+"{DOWN}"
    :NEXTY:PRINT"{HOME}";X$;"{20 SPACES}"
650 WC=WC-1:FORY=1TOX:Z=0
660 IFPEEK(LP+Z)=32THEN680
670 Z=Z+1:GOTO660
680 X$=MID$(WB$,Y,1):W=ASC(X$)-64:POKELP+Z,W:POKEL
    P+Z+CO,0

```

Level 3

```
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}{DOWN}WORD - SCORE
":PRINT"-----"
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$;" -";S
850 W=W+S:X=X+1:IFX<8THEN815
900 PRINT"{DOWN}TOTAL SCORE =";W
930 PRINT"{DOWN}AGAIN? {RVS}Y{OFF}/{RVS}N{OFF}/
{RVS}R{OFF}=NEW TIME";
940 GETX$: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+W)=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$="":D%=0:GOTO410
1770 X$=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
```


Level
3

8000 DATA1,9,1,2,2,3,3,2,3,4,4,2,5,12,1,6,2,4,7,3,
2,8,2,4,9,9,1
8010 DATA10,1,8,11,1,5,12,4,1,13,2,3,14,6,1,15,8,1
,16,2,3,17,1,9,18,6,1
8020 DATA19,4,1,20,6,1,21,4,1,22,2,4,23,2,4,24,1,8
,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 back Dad his \$15.

Lawn Mower

```

100 POKE36879,250:PRINT"{CLR}"
110 DIMM$(4),ST%(20,1)
120 FORX=0TO20:FORY=0TO1:READZ:ST%(X,Y)=Z:NEXTY,X
130 FORX=0TO4:READX$:MT$(X)=X$:NEXTX
150 PRINT"{CLR}{BLK}{DOWN}{RVS}{6 SPACES}LAWN MOWER
R{6 SPACES}{OFF}";
160 PRINT"{DOWN}DAD LOANS YOU $15 SO{2 SPACES}YOU
{SPACE}CAN RUN A LAWN{4 SPACES}MOWING SERVICE
{SPACE}DURING"
170 PRINT"THE SUMMER.{2 SPACES}AT THE{3 SPACES}END
OF SUMMER YOU MUSTPAY DAD BACK THE $15."
180 PRINT"{2 DOWN}YOU GET $5 FOR EACH{3 SPACES}LAW
N YOU MOW, BUT YOU MUST DEDUCT EXPENSES
{2 SPACES}SUCH AS:"
190 PRINT"{2 DOWN}GAS FOR THE MOWER{5 SPACES}OIL F
OR THE MOWER{5 SPACES}LAWN AND LEAF BAGS"
200 PRINT"MOWER SHARPENING"
210 GOSUB1000:GOSUB1100
220 PRINT"{CLR}{DOWN}IF YOU RUN OUT OF{5 SPACES}SU
PPLIES IN THE MIDDLEOF A MONTH, OR IF YOUR";
230 PRINT"MOWER GETS DULL FROM{2 SPACES}LACK OF SH
ARPENING,{3 SPACES}YOU LOSE YOUR INCOME"
240 PRINT"FOR THE REST OF THAT{2 SPACES}MONTH."
250 PRINT"{2 DOWN}THE OBJECT OF THE GAMEIS TO BUY
{SPACE}YOUR{8 SPACES}SUPPLIES WISELY SO"
260 PRINT"THAT YOU CAN EARN AS{2 SPACES}MUCH AS PO
SSIBLE{6 SPACES}DURING THE SUMMER."
270 GOSUB1100
300 MO=1500:GA=0:OA=0:BA=0:SA=0
310 FORL1=0TO4:LM=0:MM=0
320 X=INT(RND(1)*71)+80:D1$="GAS":D2$="GALLON":GOS
UB1200
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":GOSU
    B1200
360 IFY=0THEN380
370 OA=OA+(Y*100):MO=MO-(X*Y)
380 X=INT(RND(1)*151)+200:D1$="LAWN BAGS":D2$="DOZ
    EN":GOSUB1200
390 IFY=0THEN410
400 BA=BA+(Y*12):MO=MO-(X*Y)
410 X=INT(RND(1)*201)+400:GOSUB1300: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 GETX$:IFX$=""THEN440
450 IFX$="N"THEN500
460 IFX$<>"Y"THEN440
470 MO=MO-X
480 X=INT(RND(1)*21)+20:SA=SA+X
500 GC=INT(RND(1)*51)+20:OC=INT(RND(1)*31)+10
510 BC=INT(RND(1)*4)+1
520 IFMO<0THENGCGC*2:OC=OC*2:BC=BC*2
530 X=1:IF(GA-GC)<0THEN700
540 X=2:IF(OA-OC)<0THEN700
550 X=3:IF(BA-BC)<0THEN700
560 X=4:IF(SA-1)<0THEN700
570 GA=GA-GC:OA=OA-OC:BA=BA-BC:SA=SA-1
580 LM=LM+1:MM=MM+500
600 PRINT"{CLR}{DOWN}"MT$(L1):PRINT"{DOWN}LAWN #";
    LM
610 X=MM:GOSUB1300:PRINT"{DOWN}MONEY MADE =";X$
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 FORX=3TO15STEP3:GOSUB660:NEXTX
650 FORX=15TO0STEP-3:GOSUB660:NEXTX:GOTO500
660 POKE36878,X:POKE36875,140:POKE36877,130
670 POKE36874,170:FORY=1TO100:NEXTY
675 POKE36874,140:FORY=1TO100:NEXTY
680 IFX=0THENPOKE36877,0:POKE36874,0:POKE36875,0
690 RETURN
700 PRINT"{CLR}":POKE36878,15:POKE36874,140:FORY=1
    TO600:NEXTY:POKE36878,0:POKE36874,0
720 ONXGOTO730,740,750,760
730 PRINT"{2 DOWN}OUT OF GAS!":GOTO770
740 PRINT"{2 DOWN}OUT OF OIL!":GOTO770
```

```

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:NEXTL1
800 PRINT"{CLR}{2 DOWN}{5 SPACES}SUMMER OVER!":X=M
O:GOSUB1300:PRINT"{3 DOWN}CASH ON HAND =";X$
810 X=1500:GOSUB1300:PRINT"{DOWN}LESS LOAN
{4 SPACES}=";X$
820 MO=MO-1500:X=MO:GOSUB1300:PRINT"{DOWN}NEW BALA
NCE{2 SPACES}=";X$:GOSUB1000
830 PRINT"{3 DOWN}{3 SPACES}REPLAY? ({RVS}Y{OFF} O
R {RVS}N{OFF})"
840 GETX$:IFX$=""THEN840
850 IFX$="Y"THEN300
860 IFX$<>"N"THEN840
870 POKE36879,27:PRINT"{CLR}":END
1000 POKE36878,15:FORX=0TO20:POKE36876,ST$(X,0):FO
RY=1TO(ST$(X,1)*100):NEXTY
1010 POKE36876,0:NEXTX:POKE36878,0:RETURN
1100 PRINT"{HOME}{22 DOWN}{3 SPACES}(PRESS ANY KEY
)";
1110 GETX$:IFX$=""THEN1110
1120 RETURN
1200 PRINT"{CLR}{DOWN}MONTH = ";MT$(L1):GOSUB1300
1210 PRINT"{2 DOWN}ITEM = ";D1$:PRINT"{2 DOWN}COST
=";X$: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)+"$0.0"+RIGHT$(X$,1):G
OTO1370
1320 IFZ<4THENX$=LEFT$(X$,1)+"$0."+RIGHT$(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
3010 DATA225,2,195,2,195,2,207,2,215,2,215,2,215,2
,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	vitamin C	niacin
protein	thiamin	calcium
vitamin A	riboflavin	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 DIMNT%(16,1),CT%(2,7,1),HT(18,8),VT(8),DT$(8),
    GT$(4)
110 FORX=0TO16:FORY=0TO1
120 READZ:NT%(X,Y)=Z:NEXTY,X
130 POKE36879,190
200 PRINTCHR$(147);"{DOWN}{BLK}{RVS}{5 SPACES}PLAN
    A MENU{6 SPACES}{OFF}";
210 PRINT"{DOWN}YOU WILL BE SHOWN A{3 SPACES}NUMBE
    R OF FOODS FROM 6DIFFERENT FOOD GROUPS.";
220 PRINT"{DOWN}YOU MAY SELECT AS MANYITEMS AS YOU
    WANT FROMEACH GROUP."
230 PRINT"{DOWN}IF DESIRED, YOU MAY{3 SPACES}BYPAS
    S A GROUP AND NOTPICK ANYTHING FROM IT.";
240 PRINT"{DOWN}WHEN YOUR MENU IS{5 SPACES}COMPLET
    E, IT WILL BE{2 SPACES}ANALYZED FOR ITS"
250 PRINT"NUTRITIONAL VALUE."
260 GOSUB1000
270 FORX=0TO2:FORY=0TO7:FORW=0TO1
280 READZ:CT%(X,Y,W)=Z:NEXTW,Y,X
290 FORX=0TO8:READX$:DT$(X)=X$:NEXTX
300 FORX=0TO4:READX$:GT$(X)=X$:NEXTX
310 PRINT"{2 DOWN}{3 SPACES}(PRESS ANY KEY)"
320 GETX$:IFX$=""THEN320
330 RESTORE
340 READX$:IFX$<>"$"THEN340
400 REM **MAIN LOOP**
410 FORX=0TO8:VT(X)=0:NEXTX
420 PRINTCHR$(147);"{2 DOWN}{2 SPACES}YOUR SEX?"
430 PRINT"{DOWN}{2 SPACES}{RVS}M{OFF}=MALE {RVS}F
    {OFF}=FEMALE{DOWN}"
440 S$="":POKE198,0:INPUTS$
450 IFS$<>"M"ANDS$<>"F"THEN440
460 PRINT"{3 DOWN}{2 SPACES}YOUR AGE IN YEARS?
    {DOWN}"

```

Level

3

```

470 X$="":POKE198,0:INPUTX$
480 X=VAL(X$):IFX<1THENX=1
490 IFX>99THENX=99
500 IFX<10THENY=0:S$="X"
510 IFS$="M"THENY=1
520 IFS$="F"THENY=2
530 Z=0
540 IFX<=CT%(Y,Z,0)THEN560
550 Z=Z+1:GOTO540
560 CL%=CT%(Y,Z,1)
600 PRINTCHR$(147);:READX$
610 IFX$="$$$"THEN800
620 PRINT"{DOWN}{RVS}";X$;"{OFF}{DOWN}";:X=0
630 READX$:IFX$="$$"THEN700
640 S$=CHR$(X+65)
650 PRINT"{RVS}";S$;"{OFF}-";X$
660 FORY=0TO8:READZ:HT(X,Y)=Z:NEXTY
670 X=X+1:GOTO630
700 PRINT"{RVS}Z{OFF}-(NEXT CATEGORY)";
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 FORZ=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}SIMIL
      AR TO THE ONE{4 SPACES}SPECIFIED WOULD FILL"
810 PRINT"THESE NUTRITIONAL{5 SPACES}NEEDS:{DOWN}"
820 Y=0:FORX=0TO8
830 X$=DT$(X)
840 IFLEN(X$)<10THENX$=X$+"{SHIFT-SPACE}":GOTO840
850 Z=VT(X)*3:IFX=0THENZ=(Z*100)/CL%:W=Z
855 IFX>0ANDZ>=100THENY=Y+1
860 GOSUB1100:PRINT" ";X$;" -";S$
870 NEXTX
880 X=ABS(W-100):Y=Y-INT(X/20):Y=INT(Y/2):IFY<0THE
      NY=0
890 IFY>4THENY=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

```



```

960 X=INT(Z/3500):IFX<1THENX=1
970 GOSUB1200
980 PRINT"{2 DOWN}ANOTHER MENU? ({RVS}Y{OFF} OR
{RVS}N{OFF})";
985 GETX$:IFX$=""THEN985
990 IFX$="Y"THEN330
995 IFX$<>"N"THEN985
999 GOSUB1000:PRINTCHR$(147):POKE36879,27:END
1000 POKE36878,15:FORX=0TO16:POKE36875,NT%(X,0)
1010 FORY=1TO100*NT%(X,1):NEXTY
1020 POKE36875,0:NEXTX
1030 POKE36878,0
1040 SM=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND12
0)
1050 RETURN
1100 S$=STR$(INT(Z))+"% "
1110 IFLEN(S$)>=7THENRETURN
1120 S$="{SHIFT-SPACE}"+S$:GOTO1110
1200 PRINTCHR$(147);"{3 DOWN}FOLLOWING A MENU LIKE
THE ONE JUST SHOWN"
1210 PRINT"WOULD CAUSE YOU TO"
1215 IFX<0THENPRINT"KEEP YOUR SAME WEIGHT LEVEL.":
GOTO1240
1220 PRINTX$;X;"POUNDS PER"
1230 PRINT"WEEK."
1240 RETURN
3000 DATA191,2,183,2,175,4,191,2,183,2,175,4,175,2
,175,2,175,2,175,2
3010 DATA183,2,183,2,183,2,183,2,191,2,183,2,175,4
3100 DATA1,1100,2,1250,3,1400,5,1600,7,2000,9,2200
,0,0,0,0
3110 DATA1,2500,13,2700,17,3000,21,2800,34,2800,5
4,2600,99,2400,0,0
3120 DATA1,2250,13,2300,15,2400,17,2300,21,2000,3
4,2000,54,1850,99,1700
3200 DATACALORIES,PROTEIN,"VITAMIN A","VITAMIN C",
"THIAMIN","RIBOFLAVIN"
3210 DATANIACIN,CALCIUM,IRON
3300 DATAFAIR,AVERAGE,GOOD,"VERY GOOD",EXCELLENT
3400 DATA"$"
4000 DATA"{5 SPACES}MAIN COURSES{5 SPACES}"
4010 DATA"REFRIED BEANS",142,14,0,0,0,0,0,0,.5,3
4020 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

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Level 3

4090 DATA"BREADED PERCH",193,36,0,0,6,5,8,3,6
4100 DATA"PORK CHOP",308,46,0,0,55,14,25,.9,15
4110 DATA"T-BONE STEAK",212,64,.4,0,5,13,28,1.1,19
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",354,28,19,20,25,29,19,33,1
5
4180 DATA"CHICKEN SOUP",59,5,.9,0,1.3,1.2,4,.9,3
4190 DATA"SPAGHETTI & MEAT",332,29,32,37,17,18,20,
12,21
4200 DATA"BEEF TACO",216,38,7,7,7,11,15,17,14
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",13,1.1,1.7,28,.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"CELERY 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"BLACKEYE PEAS",134,15,9,35,25,8,9,3,14
4620 DATA"GREEN PEAS",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,.4,17,5,3,5,2,2
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"CORN FLAKES",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
5120 DATA"DINNER ROLL",156,8,0,0,13,7,9,2,7
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",101,2,5,20,4,4,4,1,4
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,.6,1.2,15,7,1.2,1,1.1.
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",64,15,5,3,5,19,1.4,22,3
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"TOMATO JUICE",26,1.7,19,32,4,2,5,.9,6
6100 DATA"BLACK COFFEE",2,0,0,0,0,0,3,.3,1.1
6110 DATA"COLA SOFT DRINK",96,0,0,0,0,0,0,0,0
6120 DATA"BEER",151,1.7,0,0,0,6,11,1.8,0
6130 DATA"WATER",0,0,0,0,0,0,0,0,0
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 "SALTED PEANUTS", 211, 14, 0, 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

Level 3

Cassiopeia	Eridanus	Libra	Scorpius
Cepheus	Gemini	Orion	Serpens
Cetus	Hercules	Pegasus	Taurus
Corona Borealis	Hydra	Perseus	Ursa Major
Cygnus	Leo	Pisces	Ursa Minor
Draco	Lepus	Sagittarius	Virgo

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 constellation 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 number 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$="{22 SPACES}"
130 FORX=0TO13:FORY=0TO1:READZ:NT$(X,Y)=Z:NEXTY,X:
X=RND(0)
140 PRINT"{BLK}{RVS}{6 SPACES}STARGAZER!{6 SPACES}
{OFF}";
150 PRINT"{DOWN}YOU WILL BE ASKED TO{2 SPACES}NAME
CONSTELLATIONS INTHE NIGHT SKY."
160 PRINT"{DOWN}THE SKY DIRECTION AND OPTIMUM VIEW
ING MONTH WILL ALSO BE PROVIDED.";
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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 GOSUB1000
210 CB=828:M=4*(PEEK(36866)AND128)+64*(PEEK(36869)
    AND120)
220 FORX=0TONS-1
230 FORY=0TO3:READX$:CT$(X,Y)=X$:NEXTY
240 Y=0
250 READZ:ST$(X,Y)=Z:Y=Y+1:IFZ>0THEN250
260 NEXTX
270 PRINT"{3 SPACES}(PRESS ANY KEY)";
280 GETX$:IFX$=""THEN280
300 S%=0:FORX=1TONS:POKECB+X,0:NEXTX
310 FORX=1TONS:GOSUB2000:POKECB+Z,X:NEXTX
320 POKE36879,24
400 FORLC=1TONS
410 CI=PEEK(CB+LC)-1
415 PRINTCHR$(147);"{BLK}{22 DOWN}";SPC(6);"SCORE
    {SPACE}=";S%;
420 PRINT"{HOME}";:FORX=1TO13
430 PRINT"{BLU}{RVS}{22 SPACES}{OFF}";:NEXTX
440 X$=CT$(CI,1):X=22-LEN(X$)-LEN(CT$(CI,2))
450 FORY=1TOX:X$=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=0THEN510
500 POKEM+Y,174:X=X+1:GOTO490
510 PRINT"{2 DOWN}{BLK}{2 SPACES}CONSTELLATION?
    {DOWN}"
520 X=10:GOSUB3000
530 IFX$="Q"THEN600
535 IFX$="END"THEN610
540 PRINT"{HOME}{15 DOWN}";CT$(CI,3);"."
550 X=2:GOSUB3000
560 IFX$="Q"THEN600
565 IFX$="END"THEN610
570 PRINT"{BLU}{HOME}{15 DOWN}{2 SPACES}";CT$(CI,0)
580 FORX=1TO3000:NEXTX
600 NEXTLC
610 POKE36879,254
620 PRINTCHR$(147);"{RED}{DOWN}{6 SPACES}{RVS}GAME
    OVER!{OFF}"

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Level

3

```
630 PRINT"{3 DOWN}TOTAL POINTS{2 SPACES}=";S%
635 X=LC-1:IFX<1THENX=1
640 X=INT((S%*100)/(X*10))
650 PRINT"{DOWN}TOTAL SCORE{2 RIGHT} =" ;X;"{LEFT}%
"
660 PRINT"{3 DOWN}PLAY AGAIN? ({RVS}Y{OFF} OR
  {RVS}N{OFF})"
670 GETX$:IFX$=""THEN670
680 IFX$="Y"THEN300
690 IFX$<>"N"THEN670
700 GOSUB1000
710 POKE36879,27:PRINTCHR$(147):END
1000 POKE36878,15:FORX=0TO13:POKE36876,NT$(X,0)
1010 FORY=1TONT$(X,1)*100:NEXTY:POKE36876,0:NEXTX
1020 POKE36878,0:RETURN
2000 Y=0
2010 Z=INT(RND(1)*NS)+1:IFPEEK(CB+Z)=0THENRETURN
2020 Y=Y+1:IFY<9THEN2010
2030 FORZ=1TONS:IFPEEK(CB+Z)=0THENRETURN
2040 NEXTZ:RETURN
3000 X$="":POKE198,0:INPUTX$
3010 IFX$=CT$(CI,0)THEN3100
3015 IFX$="END"THENRETURN
3020 POKE36879,8:POKE36878,15:POKE36874,150
3030 FORY=1TO500:NEXTY
3040 PRINT"{HOME}{{13 DOWN}";C$;C$;C$;C$;C$;C$;C$;C
  $;
3050 POKE36879,24:POKE36878,0:POKE36874,0:RETURN
3100 X$="Q":S%=S%+X
3110 POKE36878,15:Y=140:FORX=248TO248STEP-16
3120 POKE36879,X:POKE36876,Y:FORZ=1TO50:NEXTZ
3130 Y=Y+5:NEXTX
3140 POKE36878,0:POKE36876,0:RETURN
9000 DATA147,2,147,2,183,2,183,2,191,2,191,2,183,4
  ,175,2,183,2
9010 DATA167,2,147,2,159,2,143,2,147,8
9100 DATACEPHEUS,JUNE,NORTH
9110 DATA"THE PULSATING STARS,{2 SPACES}OR CEPHEID
  S, FIND{5 SPACES}THEIR PROTOTYPE HERE"
9120 DATA55,94,81,165,170,0
9130 DATACASSIOPEIA,JUNE,NORTH
9140 DATA"TYCHO BRAHE OBSERVED ANOVA HERE IN 1572"
9150 DATA71,59,162,98,166,0
9160 DATABOOTES,JUNE,SOUTH
9170 DATA"IT WAS ERRONEOUSLY{4 SPACES}CALLED 'ORIO
  N' IN{5 SPACES}AMOS 5:8"
9180 DATA8,34,95,122,142,211,231,235,0
9190 DATALIBRA,JUNE,SOUTH
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9200 DATA"ITS STARS WERE ONCE{3 SPACES}KNOWN AS SC
ORPIO'S{4 SPACES}CLAWS"
9210 DATA9,73,101,209,0
9220 DATADRACO,JUNE,NORTH
9230 DATA"ITS BODY WINDS BETWEEN THE BIG AND THE LI
TTLEDIPPERS"
9240 DATA9,20,33,41,43,50,64,78,113,123,133,210,23
6,256,0
9250 DATA"URSA MAJOR",SEPTEMBER,NORTH
9260 DATA"THE BIG DIPPER IS{5 SPACES}'BEARLY' HALF
OF THIS CONSTELLATION"
9270 DATA1,3,48,72,97,116,123,140,148,165,159,227,
232,246,0
9280 DATA"URSA MINOR",JUNE,NORTH
9290 DATA"THE NORTH STAR IS THE TIP OF ITS TAIL"
9300 DATA10,53,56,99,166,208,250,0
9310 DATACYGNUS,JUNE,EAST
9320 DATA"THE NORTHERN CROSS{4 SPACES}FORMS THIS B
IRD'S NECK AND BODY"
9330 DATA5,26,72,133,137,145,150,204,248,0
9340 DATAHERCULES,JUNE,EAST
9350 DATA"HE KNEELS ON THE HEAD OF THE DRAGON HE
{6 SPACES}KILLED"
9360 DATA4,51,65,76,82,120,139,155,189,203,238,0
9370 DATA"CORONA BOREALIS",JUNE,EAST
9380 DATA"BACCHUS GAVE ARIADNE{2 SPACES}THIS WREAT
H OF GEMS"
9390 DATA73,80,125,139,186,188,169,0
9400 DATASCORPIUS,JULY,SOUTH
9410 DATA"ANTARES IS ONE REASON IT SHINES SO BRIGH
TLY"
9420 DATA16,18,41,82,87,102,123,129,163,164,166,18
4,188,205,232,250,253,0
9430 DATAHYDRA,JUNE,WEST
9440 DATA"THE MAINSAIL' STAR{3 SPACES}GROUP RIDES
ON THIS{3 SPACES}SERPENT'S BACK"
9450 DATA1,22,71,52,97,121,190,126,172,196,219,240
,263,0
9460 DATALEO,JUNE,WEST
9470 DATA"ITS MANE IS FORMED BY 'THE SICKLE' STAR
{5 SPACES}GROUP"
9480 DATA3,48,28,119,121,145,167,180,185,206,250,0
9490 DATASAGITTARIUS,JULY,SOUTH
9500 DATA"THE CENTAUR LOOKS MORE LIKE A TEAPOT IN T
HE{2 SPACES}SKY"
9510 DATA33,50,52,92,100,124,137,187,0
9520 DATAAQUARIUS,SEPTEMBER,SOUTH
9530 DATA"THE WATER FROM HIS JAR FEEDS THE 'SOUTHER
N{3 SPACES}FISH'"

Level

3

9540 DATA3,5,26,49,29,98,112,147,179,199,222,0
9550 DATAVIRGO,JULY,WEST
9560 DATA"THE STAR SPICA IS A{3 SPACES}STALK OF GR
AIN IN HER HAND"
9570 DATA31,40,81,94,124,192,239,0
9580 DATASERPENS,SEPTEMBER,WEST
9590 DATA"IT IS AESCULAPIUS'{4 SPACES}SNAKE, THE S
YMBOL OF{2 SPACES}MEDICINE"
9600 DATA4,47,112,158,204,207,208,254,191,216,214,
172,150,152,153,131,0
9610 DATAPISCES,SEPTEMBER,EAST
9620 DATA"THE TAILS OF THESE{4 SPACES}FISHES ARE B
OUND BY{3 SPACES}RIBBON"
9630 DATA16,18,36,60,58,69,79,81,91,93,116,143,161
,164,206,207,250,0
9640 DATACAPRICORNUS,SEPTEMBER,SOUTH
9650 DATA"THIS 'SEA GOAT' MAY BEPAN IN DISGUISE"
9660 DATA81,82,94,95,103,163,187,210,0
9670 DATATAURUS,OCTOBER,EAST
9680 DATA"THE PLEIADES FORM THE APEX OF ITS SHOULD
ER"
9690 DATA30,105,117,119,126,134,142,144,161,163,19
2,201,0
9700 DATAAQUILA,OCTOBER,WEST
9710 DATA"JUPITER IN DISGUISE{3 SPACES}(THE EAGLE)
FORMS THE TAIL OF SERPENS"
9720 DATA28,34,78,80,165,169,228,0
9730 DATAPERSEUS,NOVEMBER,EAST
9740 DATA"IT CONTAINS ALGOL, A{2 SPACES}VARIABLE S
TAR THAT IS REALLY TWO STARS"
9750 DATA2,26,71,75,77,116,162,185,208,189,210,0
9760 DATAORION,NOVEMBER,EAST
9770 DATA"BETELGEUSE AND RIGEL{2 SPACES}ARE FOUND
{SPACE}HERE"
9780 DATA51,53,99,103,121,143,135,157,159,160,212,0
9790 DATAGEMINI,NOVEMBER,EAST
9800 DATA"ITS MAJOR STARS ARE{3 SPACES}CASTOR AND
{SPACE}POLLUX"
9810 DATA60,94,103,182,189,192,236,0
9820 DATAARIES,OCTOBER,EAST
9830 DATA"ITS GOLDEN FLEECE WAS WORN BY JASON"
9840 DATA117,76,100,0
9850 DATACANCER,APRIL,WEST
9860 DATA"WHEN ITS CLUSTER{6 SPACES}PRAESEPE IS VI
SIBLE,{2 SPACES}RAIN IS FORETOLD"
9870 DATA73,82,120,145,0
9880 DATACETUS,DECEMBER,SOUTH
9890 DATA"DENEK KAITOS IS THE{3 SPACES}''SEA MONST
ER'S''{5 SPACES}MAJOR STAR"

9900 DATA1,3,47,71,140,99,145,208,237,131,0
 9910 DATAANDROMEDA,DECEMBER,SOUTH
 9920 DATA"IT FEATURES A SPIRAL{2 SPACES}THAT CAN B
 E SEEN ON{3 SPACES}MOONLESS NIGHTS"
 9930 DATA14,121,126,144,138,161,185,186,252,0
 9940 DATA"CANIS MAJOR",JANUARY,SOUTH
 9950 DATA"'SIRIUS' ASTRONOMY{4 SPACES}STUDENTS WIL
 L{9 SPACES}RECOGNIZE THIS"
 9960 DATA10,34,58,121,164,185,191,210,228,233,0
 9970 DATALEPUS,JANUARY,SOUTH
 9980 DATA"THIS RABBIT IS FLEEINGFROM ORION, 'THE
 {6 SPACES}HUNTER'"
 9990 DATA51,75,121,103,162,185,166,190,214,0
 10000 DATAERIDANUS,JANUARY,SOUTH
 10010 DATA"'THE RIVER' IS THOUGHTTO REPRESENT CHIN
 A'S{2 SPACES}RIVER PO"
 10020 DATA8,28,31,55,78,74,163,186,210,253,0
 10030 DATAPEGASUS,DECEMBER,SOUTH
 10040 DATA"THREE STARS OF THE{4 SPACES}'GREAT SQUA
 RE' FORM{3 SPACES}ITS TORSO"
 10050 DATA7,58,98,102,82,164,192,174,208,255,0

Level
3

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

Alaska

Arizona

Arkansas

California

Colorado

Connecticut

Delaware

Florida

Georgia

Hawaii

Idaho

Illinois

Indiana

Iowa

Kansas

Kentucky

Louisiana

Maine

Maryland

Massachusetts

Michigan

Minnesota

Mississippi

Missouri

Montana

Nebraska

Nevada

New Hampshire

New Jersey

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 FORW=1TOY:READX$:NEXTW
330 FORW=1TO5:READX$:QT$(W-1)=X$: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$="END"THEN600
440 POKE36879,24:POKE36878,15:POKE36874,180:FORV=1
    TO100:NEXTV
450 POKE36878,0:POKE36874,0:POKE36879,254
460 NEXTW:PRINT"{PUR}{2 DOWN} STATE=";QT$(4):S%=S%
-5

```

Level 3

```
470 FORW=1TO1500:NEXTW,X
480 GOTO600
500 S%=S%+(4-W):POKE36879,30:POKE36878,15:FORV=170
    TO220
510 POKE36875,V:NEXTV:POKE36878,0:POKE36875,0:POKE
    36879,254
520 NEXTX
600 PRINT"{BLK}{CLR}{DOWN}{6 SPACES}{RVS}TEST OVER
    1{OFF}"
610 PRINT"{3 DOWN} YOUR SCORE = ";S%
620 IFS%<0THENS%=0
625 X=X-1:IFX<1THENX=1
630 X=INT((S%*100)/(X*4))
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 IFX$="Y"THEN205
680 IFX$<>"N"THEN660
690 END
700 PRINT"{BLK}{CLR}{DOWN}{RVS}{2 SPACES}STATE OF
    {SPACE}THE UNION{2 SPACES}{OFF}";
705 PRINT"{DOWN}YOU WILL BE GIVEN UP{2 SPACES}TO 4
    QUESTIONS ABOUT{2 SPACES}EACH U.S. STATE.
    {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}={2 SPACES}4.":PRIN
    T" 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.";
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):IFPEEK(CB+Z)=0THENRETURN
820 W=W+1:IFW<9THEN810
830 Z=1
835 IFPEEK(CB+Z)=0THENRETURN
840 Z=Z+1:GOTO835
1000 DATA"JEFFERSON DAVIS BECAMEPRESIDENT OF THE
    {6 SPACES}CONFEDERACY HERE"
1010 DATA"THE SOUTH'S LARGEST{3 SPACES}STEEL PRODU
    CING STATE"
```

- 1020 DATA"IT'S FAMOUS FOR{7 SPACES}MAGNOLIAS, COTT
ON, ANDEARLY AEROSPACE{7 SPACES}RESEARCH"
- 1030 DATA"THE STATE CAPITAL IS{2 SPACES}MONTGOMERY
",ALABAMA
- 1040 DATA"THE HIGHEST PEAK IN{3 SPACES}NORTH AMERI
CA IS HERE"
- 1050 DATA"IT WAS ONCE KNOWN AS{2 SPACES}SEWARD'S I
CE BOX"
- 1060 DATA"IT HAS THE LARGEST{4 SPACES}AREA AND THE
SMALLEST POPULATION"
- 1070 DATA"THE STATE CAPITAL IS{2 SPACES}JUNEAU",AL
ASKA
- 1080 DATA"THE LAST MAINLAND{5 SPACES}STATE TO JOIN
THE{5 SPACES}UNION"
- 1090 DATA"ASTRONOMERS LIKE ITS{2 SPACES}DRY, CLEAR
AIR"
- 1100 DATA"THE HOME OF THE GRAND CANYON"
- 1110 DATA"THE STATE CAPITAL IS{2 SPACES}PHOENIX",A
RIZONA
- 1120 DATA"IT PRODUCES 90% OF{4 SPACES}AMERICA'S AL
UMINUM"
- 1130 DATA"IT WAS THE HOME OF{4 SPACES}HANGING JUDG
E PARKER"
- 1140 DATA"IT CONTAINS AMERICA'S ONLY DIAMOND MINE"
- 1150 DATA"THE STATE CAPITAL IS{2 SPACES}LITTLE ROC
K",ARKANSAS
- 1160 DATA"THE MOST POPULOUS OF{2 SPACES}THE STATES
"
- 1170 DATA"IT CONTAINS THE LOWEST ELEVATION IN NORTH
{4 SPACES}AMERICA"
- 1180 DATA"THERE WAS 'GOLD IN{4 SPACES}THEM THAR HI
LLS'"
- 1190 DATA"THE STATE CAPITAL IS{2 SPACES}SACRAMENTO
",CALIFORNIA
- 1200 DATA"THE STATE WITH THE{4 SPACES}HIGHEST OVER
ALL{7 SPACES}ELEVATION"
- 1210 DATA"IT PRODUCES 72% OF THE WORLD'S MOLYBDENUM
"
- 1220 DATA"ITS NAME MEANS{8 SPACES}'COLORED RED' IN
{6 SPACES}SPANISH"
- 1230 DATA"THE STATE CAPITAL IS{2 SPACES}DENVER",CO
LORADO
- 1240 DATA"IT WAS THE HOME OF{4 SPACES}NATHAN HALE"
- 1250 DATA"IT RECEIVED STATEHOOD IN 1788"
- 1260 DATA"IT IS FAMOUS FOR YALE UNIVERSITY"
- 1270 DATA"THE STATE CAPITAL IS{2 SPACES}HARTFORD",
CONNECTICUT
- 1280 DATA"THE FIRST STATE TO{4 SPACES}RATIFY THE
{12 SPACES}CONSTITUTION"

Level

3

- 1290 DATA"IT IS SOMETIMES CALLEDTHE 'CHEMICAL CAPI
TAL OF THE WORLD'"
- 1300 DATA"AMERICA'S SECOND{6 SPACES}SMALLEST STATE "
- 1310 DATA"THE STATE CAPITAL IS{2 SPACES}DOVER",DEL
AWARE
- 1320 DATA"ITS COASTLINE MEASURES1,350 MILES"
- 1330 DATA"THE SOUTHERNMOST OF{3 SPACES}THE CONTINE
NTAL U.S"
- 1340 DATA"THE HOME OF CAPE{6 SPACES}CANAVERAL"
- 1350 DATA"THE STATE CAPITAL IS{2 SPACES}TALLAHASSE
E",FLORIDA
- 1360 DATA"THE LAST OF THE 13{4 SPACES}COLONIES TO
{SPACE}BE{8 SPACES}SETTLED"
- 1370 DATA"HOME OF STONE MOUNTAINPARK"
- 1380 DATA"BIRTHPLACE OF UNCLE{3 SPACES}REMUS, SCAR
LETT O'HARAAND COCA-COLA"
- 1390 DATA"THE STATE CAPITAL IS{2 SPACES}ATLANTA",G
EORGIA
- 1400 DATA"THIS STATE WAS FORMED BY ERUPTING VOLCAN
OS"
- 1410 DATA"THE 50TH STATE TO JOINTHE UNION"
- 1420 DATA"WORLD WAR II STARTED{2 SPACES}FOR THE U.
S. WITH AN{2 SPACES}ATTACK HERE"
- 1430 DATA"THE STATE CAPITAL IS{2 SPACES}HONOLULU",
HAWAII
- 1440 DATA"IT LEADS IN PRODUCTIONOF SILVER AND COBA
LT"
- 1450 DATA"HOME OF THE NATION'S{2 SPACES}DEEPEST CA
NYON --{5 SPACES}HELLS CANYON"
- 1460 DATA"THE STATE CAPITAL IS{2 SPACES}BOISE"
- 1465 DATA"FAMOUS FOR ITS{8 SPACES}POTATOES",IDAHO
- 1470 DATA"THE LINCOLN-DOUGLAS{3 SPACES}DEBATES
{2 SPACES}WERE HELD{4 SPACES}HERE"
- 1480 DATA"IT IS HOME OF THE{5 SPACES}WORLD'S TALLE
ST{7 SPACES}BUILDING"
- 1490 DATA"THE STATE CAPITAL IS{2 SPACES}SPRINGFIEL
D"
- 1500 DATA"THE WINDY CITY IS PARTOF THIS GREAT LAKE
{4 SPACES}STATE",ILLINOIS
- 1510 DATA"THE SMALLEST OF THE{3 SPACES}'LOWER 48'
{SPACE}STATES WESTOF THE ALLEGHENIES"
- 1520 DATA"ITS LAKE MICHIGAN{5 SPACES}WATERFRONT IS
LINED{3 SPACES}WITH STEEL MILLS"
- 1530 DATA"IT IS THE HOME OF{5 SPACES}PURDUE UNIVER
SITY"
- 1540 DATA"THE STATE CAPITAL IS{2 SPACES}INDIANAPOL
IS",INDIANA
- 1550 DATA"THIS FARMING STATE{4 SPACES}PRODUCES 10%
OF{7 SPACES}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 GR
 EAT LAKE STATES"
 1580 DATA"THE STATE CAPITAL IS{2 SPACES}DES MOINES
 ", IOWA
 1590 DATA"IT PRODUCES MORE WHEATTHAN ANY OTHER STA
 TE"
 1600 DATA"IT HAD ITS OWN CIVIL{2 SPACES}WAR OVER S
 LAVERY IN{3 SPACES}1821"
 1610 DATA"LEAVENWORTH FEDERAL{3 SPACES}PENITENTIAR
 Y IS HERE"
 1620 DATA"THE STATE CAPITAL IS{2 SPACES}TOPEKA", KA
 NSAS
 1630 DATA"PRESIDENTS OF BOTH{4 SPACES}CIVIL WAR FA
 CTIONS{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 FAMOU
 S{3 SPACES}HORSE RACE"
 1660 DATA"MAMMOTH CAVE AND FORT KNOX ARE HERE", KEN
 TUCKY
 1670 DATA"IT CONTAINS THE{7 SPACES}NATION'S SECOND
 {7 SPACES}BUSIEST SEAPORT"
 1680 DATA"IT IS DIVIDED INTO{4 SPACES}PARISHES, AN
 D NOT{5 SPACES}COUNTIES"
 1690 DATA"THE STATE CAPITAL IS{2 SPACES}BATON ROUGE"
 1700 DATA"THE HOME OF CAJUNS, {3 SPACES}CRAWFISH AN
 D 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", M
 AINE
 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 WITC
 H TRIALS"
 1810 DATA"THE HOME OF HARVARD{3 SPACES}UNIVERSITY"
 1820 DATA"THE STATE CAPITAL IS{2 SPACES}BOSTON", MA
 SSACHUSETTS
 1830 DATA"IT IS COMPOSED OF TWO PENINSULAS, DIVIDE
 D BYTHE GREAT LAKES"

Level

3

- 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",M
ICHIGAN
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
{SPACE}THISSTATE"
1890 DATA"THE STATE CAPITAL IS{2 SPACES}ST. PAUL",
MINNESOTA
1900 DATA"ONLY VIRGINIA HAD MORECIVIL WAR BATTLES
{SPACE}THANTHIS STATE"
1910 DATA"DEVASTATED IN 1969 BY AMERICA'S MOST
{8 SPACES}POWERFUL HURRICANE"
1920 DATA"ITS NAME IS AN INDIAN WORD MEANING 'LARG
E{3 SPACES}RIVER' "
1930 DATA"THE STATE CAPITAL IS{2 SPACES}JACKSON",M
ISSISSIPPI
1940 DATA"IT RANKS FIRST IN THE NATION IN LEAD MIN
ING"
1950 DATA"IT WAS ADMITTED AS A{2 SPACES}SLAVE STAT
E WHEN MAINEJOINED AS A FREE{6 SPACES}STATE"
1960 DATA"IT IS THE 'GATEWAY TO THE WEST' "
1970 DATA"THE STATE CAPITAL IS{2 SPACES}JEFFERSON
{SPACE}CITY",MISSOURI
1980 DATA"IT IS THE MUSTARD SEEDCAPITAL OF THE U.S
"
1990 DATA"GLACIER NATIONAL PARK IS HERE"
2000 DATA"THE SITE OF CUSTER'S{2 SPACES}LAST STAND
"
2010 DATA"THE STATE CAPITAL IS{2 SPACES}HELENA",MO
NTANA
2020 DATA"THE BIRTHPLACE OF{5 SPACES}PRESIDENT GER
ALD FORD"
2030 DATA"THE PLATTE RIVER RUNS THE WIDTH OF THE
{6 SPACES}STATE"
2040 DATA"THE TRANSCONTINENTAL{2 SPACES}RAILROAD S
TARTED HERE IN 1865"
2050 DATA"THE STATE CAPITAL IS{2 SPACES}OMAHA",NEB
RASKA
2060 DATA"THE DRIEST STATE, WITHLESS THAN 3 INCHES
OF RAIN PER YEAR"
2070 DATA"THE SITE OF{11 SPACES}UNDERGROUND NUCLEA
R{3 SPACES}TESTS"
2080 DATA"THE STATE CAPITAL IS{2 SPACES}CARSON CIT
Y"
2090 DATA"IT IS THE GAMBLING{4 SPACES}CAPITAL OF T
HE U.S.",NEVADA

- 2100 DATA"IT SHARED A GOVERNOR{2 SPACES}WITH MASSA
CHUSETTS{4 SPACES}FROM 1699-1741"
- 2110 DATA"AS THE 9TH STATE TO{3 SPACES}RATIFY, IT
{SPACE}MADE THE{3 SPACES}CONSTITUTION LEGAL"
- 2120 DATA"PUBLIC PARK LANDS{5 SPACES}COMPRISE ONE-
FIFTH OF THIS STATE"
- 2130 DATA"THE STATE CAPITAL IS{2 SPACES}CONCORD", "
NEW HAMPSHIRE"
- 2140 DATA"ONE OF ITS CITIES WAS USED AS A PATTERN
{SPACE}FOR THE MONOPOLY BOARD"
- 2150 DATA"THE STATE CAPITAL IS{2 SPACES}TRENTON"
- 2160 DATA"THE HOME OF PRINCETON AND RUTGERS
{11 SPACES}UNIVERSITIES"
- 2170 DATA"THE SITE OF 'AMERICA'S OTHER LAS VEGAS',
"NEW JERSEY"
- 2180 DATA"IT LEADS THE NATION{3 SPACES}IN URANIUM
{SPACE}PRODUCTION"
- 2190 DATA"THE FIRST ATOMIC BOMB WAS PRODUCED AND
{6 SPACES}EXPLODED HERE"
- 2200 DATA"THE STATE CAPITAL IS{2 SPACES}SANTA FE"
- 2210 DATA"CARLSBAD CAVERNS IS{3 SPACES}ITS MAJOR T
OURIST{5 SPACES}ATTRACTION", "NEW MEXICO"
- 2220 DATA"ITS LARGEST CITY WAS{2 SPACES}THE FIRST
{SPACE}U.S.{8 SPACES}CAPITOL"
- 2230 DATA"IT LEADS THE NATION INMANUFACTURING"
- 2240 DATA"IT CONTAINS THE{7 SPACES}NATION'S LARGES
T CITY AND PORT"
- 2250 DATA"THE STATE CAPITAL IS{2 SPACES}ALBANY", "N
EW YORK"
- 2260 DATA"THE WRIGHT BROTHERS'{2 SPACES}FIRST PLAN
E FLEW HERE"
- 2270 DATA"HOME OF THE NEW{7 SPACES}WORLD'S 'LOST C
OLONY'"
- 2280 DATA"IT LEADS THE NATION INTOBACCO PRODUCTION
"
- 2290 DATA"THE STATE CAPITAL IS{2 SPACES}RALEIGH", "
NORTH CAROLINA"
- 2300 DATA"THE BIRTHPLACE OF{5 SPACES}ULYSSES GRANT
AND SIX OTHER PRESIDENTS"
- 2310 DATA"THE ABOLITIONIST{6 SPACES}MOVEMENT BEGAN
HERE"
- 2320 DATA"IT LEADS THE NATION INLIME PRODUCTION"
- 2330 DATA"THE STATE CAPITAL IS{2 SPACES}COLUMBUS",
OHIO
- 2340 DATA"90% OF THIS RURAL{5 SPACES}STATE IS DEVO
TED TO{3 SPACES}FARM LAND"
- 2350 DATA"HOME OF THE BADLANDS"
- 2360 DATA"SITE OF THE RED RIVER VALLEY"

Level

3

- 2370 DATA"THE STATE CAPITAL IS{2 SPACES}BISMARCK",
"NORTH DAKOTA"
- 2380 DATA"IT WAS THE BIRTHPLACE OF WILL ROGERS"
- 2390 DATA"IT WAS PART OF INDIAN TERRITORY DURING T
HE{2 SPACES}19TH CENTURY"
- 2400 DATA"INDIANS WANTED PART OF ITS LAND TO BECOME
THE STATE OF SEQUOYAH"
- 2410 DATA"THE STATE CAPITAL IS{2 SPACES}OKLAHOMA C
ITY",OKLAHOMA
- 2420 DATA"IN 1811 JOHN JACOB{4 SPACES}ASTOR FOUNDE
D A FUR{3 SPACES}DEPOT HERE"
- 2430 DATA"IT BOASTS THE NATION'S DEEPEST LAKE, CRAT
ER{2 SPACES}LAKE"
- 2440 DATA"IT LEADS THE NATION IN LUMBER PRODUCTION"
- 2450 DATA"THE STATE CAPITAL IS{2 SPACES}SALEM",ORE
GON
- 2460 DATA"BENJAMIN FRANKLIN IS{2 SPACES}ITS MOST F
AMOUS SON"
- 2470 DATA"IT IS THE HOME OF THE 1ST RADIO STATION
{SPACE}--{2 SPACES}KDKA"
- 2480 DATA"VALLEY FORGE AND{6 SPACES}GETTYSBURG ARE
BOTH IN THIS STATE"
- 2490 DATA"THE STATE CAPITAL IS{2 SPACES}HARRISBURG
",PENNSYLVANIA
- 2500 DATA"ROGER WILLIAMS STARTED THE STATE'S FIRST
{5 SPACES}SETTLEMENT IN 1636"
- 2510 DATA"IT WAS THE LAST OF THE ORIGINAL COLONIES
{SPACE}TO{2 SPACES}RATIFY THE{12 SPACES}CONST
ITUTION"
- 2520 DATA"IT IS THE NATION'S{4 SPACES}SMALLEST STA
TE, AND IT IS NOT AN ISLAND"
- 2530 DATA"THE STATE CAPITAL IS{2 SPACES}PROVIDENCE
", "RHODE ISLAND"
- 2540 DATA"THE CIVIL WAR STARTED HERE"
- 2550 DATA"IT WAS THE 1ST STATE{2 SPACES}TO SECEDE
{SPACE}FROM THE{4 SPACES}UNION"
- 2560 DATA"IT IS THE BIGGEST{5 SPACES}PEACH-PRODUCI
NG STATE EAST OF CALIFORNIA"
- 2570 DATA"THE STATE CAPITAL IS{2 SPACES}COLUMBIA",
"SOUTH CAROLINA"
- 2580 DATA"IT CONTAINS THE{7 SPACES}GEOGRAPHICAL CE
NTER OF THE U.S"
- 2590 DATA"IT LEADS THE NATION IN GOLD PRODUCTION"
- 2600 DATA"IT IS FAMOUS FOR MOUNT RUSHMORE"
- 2610 DATA"THE STATE CAPITAL IS{2 SPACES}PIERRE", "S
OUTH DAKOTA"
- 2620 DATA"IT LEADS THE NATION IN ZINC PRODUCTION"
- 2630 DATA"ANDREW JACKSON MADE{3 SPACES}HIS HOME HE
RE"

- 2640 DATA"IT IS THE MUSIC CENTEROF AMERICA"
 2650 DATA"THE STATE CAPITAL IS{2 SPACES}NASHVILLE"
 ,TENNESSEE
 2660 DATA"IT WAS AN INDEPENDENT COUNTRY FOR ALMOST
 A{2 SPACES}DECADE"
 2670 DATA"IT LEADS THE NATION INOIL, CATTLE AND CO
 TTONPRODUCTION"
 2680 DATA"THE BATTLE OF THE{5 SPACES}ALAMO WAS FOU
 GHT HERE"
 2690 DATA"THE STATE CAPITAL IS{2 SPACES}AUSTIN",TE
 XAS
 2700 DATA"IT CONTAINS THE{7 SPACES}NATION'S LARGES
 T OPEN PIT COPPER MINE"
 2710 DATA"ITS ORIGINAL NAME WAS DESERET"
 2720 DATA"BRIGHAM YOUNG LED THE FIRST MORMON SETTL
 ERS HERE"
 2730 DATA"THE STATE CAPITAL IS{2 SPACES}SALT LAKE
 {SPACE}CITY",UTAH
 2740 DATA"IT CLAIMS TWO U.S.{4 SPACES}PRESIDENTS,
 {SPACE}BUT ONE{3 SPACES}WAS PROBABLY BORN IN
 {2 SPACES}CANADA"
 2750 DATA"IT IS THE ONLY NEW{4 SPACES}ENGLAND STAT
 E WITHOUT AN OCEAN COASTLINE"
 2760 DATA"IT'S FAMOUS FOR THE{3 SPACES}PRODUCTION
 {SPACE}OF MAPLE{3 SPACES}SYRUP"
 2770 DATA"THE STATE CAPITAL IS{2 SPACES}MONTPELIER
 ",VERMONT
 2780 DATA"IT IS FAMOUS FOR COAL PRODUCTION"
 2790 DATA"HARPERS FERRY IS{6 SPACES}LOCATED HERE"
 2800 DATA"STONEWALL JACKSON WAS A NATIVE OF THIS
 {6 SPACES}STATE"
 2810 DATA"THE STATE CAPITAL IS{2 SPACES}CHARLESTON
 ", "WEST VIRGINIA"
 2820 DATA"IT HAS THE MILDEST{4 SPACES}CLIMATE OF A
 LL THE{4 SPACES}NORTHERN STATES"
 2830 DATA"IT LEADS THE NATION INAPPLE PRODUCTION"
 2840 DATA"IT CONTAINS THE ONLY{2 SPACES}ACTIVE VOL
 CANO IN THE CONTINENTAL U.S."
 2850 DATA"THE STATE CAPITAL IS{2 SPACES}OLYMPIA",W
 ASHINGTON
 2860 DATA"IT WAS THE HOME OF THEMMAIN CAPITAL OF TH
 E{3 SPACES}CONFEDERACY"
 2870 DATA"THE FIRST PERMANENT{3 SPACES}ENGLISH SET
 TLEMENT IN AMERICA WAS HERE"
 2880 DATA"IT IS THE BIRTHPLACE{2 SPACES}OF EIGHT P
 RESIDENTS"
 2890 DATA"THE STATE CAPITAL IS{2 SPACES}RICHMOND",
 VIRGINIA

Level

3

- 2900 DATA"IT WAS THE BOYHOOD{4 SPACES}HOME OF HARRY HOUDINI"
- 2910 DATA"IT LEADS THE NATION INBEER 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"ITS 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

Wise Shopper

Skill Area: Mathematics

Level: III, IV

Memory: Unexpanded 5K VIC

Equipment required: None

Modification: Yes

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.

Level 3

Wise Shopper

```
100 DIMP$(19,1):POKE36879,26:B1$="{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.";
130 PRINT"{DOWN}WHEN BUYING EACH ITEM YOU MAY CHOO
  SE BETWEENBRAND {RVS}A{OFF} AND BRAND {RVS}B
  {OFF}."
140 PRINT"{DOWN}YOU MUST SELECT THE{3 SPACES}BRAND
  WHICH IS THE{4 SPACES}BEST BARGAIN."
150 PRINT"{DOWN}DETERMINE THIS BY{5 SPACES}CALCULA
  TING THE UNIT{2 SPACES}COST PER OUNCE."
160 PRINT"{3 DOWN}(HIT ANY KEY TO START)":POKE368
  78,15
170 READX,Y:IFX<0THEN190
180 POKE36876,X:FORZ=1TO(Y*100):NEXTZ:POKE36876,0:
  GOTO170
190 GETX$:IFX$=""THEN190
200 EC=0:RC=0:XS=0:FORX=0TO19:READX$,Y$:P$(X,0)=X$
  :P$(X,1)=Y$:NEXTX
300 QA=INT(RND(1)*7)+3
310 QB=INT(RND(1)*7)+3:IFQA=QBTHEN310
320 PA=INT(RND(1)*11)+30:X=INT(RND(1)*5)+1:IFRND(1
  )>.5THENX=X*-1
330 PB=PA+X
340 X=INT(RND(1)*20):IFP$(X,0)="$"THEN340
350 X$=P$(X,0):Y$=P$(X,1):P$(X,0)="$"
360 X=INT(RND(1)*5)+1:Z$=MID$(C$,X,1)
400 PRINT"{CLR}";Z$;:FORX=1TO3:PRINTB1$;:NEXTX
410 FORX=1TO10:PRINTB2$;:NEXTX:FORX=1TO3:PRINTB1$;
  :NEXTX
420 PRINT"{BLK}{HOME}{6 DOWN}{8 RIGHT}";X$:PRINT"
  {DOWN}{8 RIGHT}";Y$
430 X=QA*PA:GOSUB8000
440 PRINT"{HOME}{17 DOWN}{RVS}A{OFF}";QA;"OUNCES F
  OR ";X$
450 X=QB*PB:GOSUB8000
460 PRINT"{DOWN}{RVS}B{OFF}";QB;"OUNCES FOR ";X$
470 PRINT"{2 DOWN}{5 SPACES}ENTER {RVS}A{OFF} OR
  {RVS}B{OFF}";
480 PRINT"{HOME}{7 RIGHT}{RVS}ITEM #";EC+RC+1;"
  {OFF}"
500 GETX$:IFX$=""THEN500
510 IFX$<>"A"ANDX$<>"B"THEN500
520 IFX$="B"ANDPB>PATHEN600
```



```

530 IFX$="A"ANDPA>PBTHEN600
540 GOTO700
600 POKE36878,15:POKE36874,140:POKE36879,8:FORX=1T
O300:NEXTX:POKE36878,0:POKE36874,0
610 POKE36879,26:EC=EC+1
620 GOTO790
700 POKE36878,15:FORX=106TO26STEP-16
710 POKE36879,X:POKE36875,180:FORZ=1TO50:NEXTZ:POK
E36875,0:NEXTX
720 POKE36878,0:RC=RC+1
730 IFX$="A"THENXS=XS+((PB-PA)*QA):GOTO790
740 XS=XS+((PA-PB)*QB)
790 IFRC+EC<10THEN300
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=0THEN900
860 X=XS:GOSUB8000
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$:IFX$=""THEN910
920 IFX$="N"THENPRINT"{CLR}":POKE36879,27:END
930 IFX$<>"Y"THEN910
940 RESTORE
950 READX:IFX<>-2THEN950
960 GOTO200
8000 Y$=STR$(X):X=LEN(Y$):ONXGOTO8010,8010,8020,80
30
8010 X$="$0.0"+RIGHT$(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
,183,4,179,1,183,1,183,2,179,1
9010 DATA183,1,195,2,183,1,195,1,187,4,175,2,-1,-2
9100 DATACORN,FLAKES,DISH,SOAP,CAKE,MIX,GINGER,SNA
PS,BREAD,CRUMBS
9110 DATARICE,"{SHIFT-SPACE}",BROWN,SUGAR,SUGAR,CU
BES,OAT,MEAL,CORN,MEAL
9120 DATACORN,CHIPS,POTATO,FLAKES,FUDGE,MIX,PIZZA,
MIX,FRUIT,BARS
9130 DATAPASTA," ",BAKING,SODA,BAKING,POWDER,WAFFL
E,MIX,RED,BEANS

```



Level
4

Advanced Games



Element Man

Skill Area: Science

Level: IV

Memory: At least 3K expansion required

Equipment required: None

Modification: Yes

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.

Level

4

Here are the names of the 103 chemical elements as they appear in Element Man:

actinium	erbium	mercury	samarium
aluminum	europium	molybdenum	scandium
americium	fermium	neodymium	selenium
antimony	florine	neon	silicon
argon	francium	neptunium	silver
arsenic	gadolinium	nickel	sodium
astatine	gallium	niobium	strontium
barium	germanium	nitrogen	sulfur
berkelium	gold	nobelium	tantalum
beryllium	hafnium	osmium	technetium
bismuth	helium	oxygen	tellurium
boron	holmium	palladium	terbium
bromine	hydrogen	phosphorous	thallium
cadmium	indium	platinum	thorium
calcium	iodine	plutonium	thulium
californium	iridium	polonium	tin
carbon	iron	potassium	titanium
cerium	krypton	praseodymium	tungsten
cesium	lanthanum	promethium	uranium
chlorine	lawrencium	protactinium	vanadium
chromium	lead	radium	xenon
cobalt	lithium	radon	ytterbium
copper	lutetium	rhenium	yttrium
curium	magnesium	rhodium	zinc
dysprosium	manganese	rubidium	zirconium
einsteinium	mendelevium	ruthenium	

Scoring

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)
120 S1=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND128)
    ):S2=37888+4*(PEEK(36866)AND128)
```

Level 4

```

130 FORX=0TO15:READZ:NT%(X)=Z:NEXTX:FORX=1TONW%:RE
ADXS:WT$(X-1)=X$:NEXTX
140 PRINT"{CLR}{BLK}{DOWN}{RVS}{5 SPACES}ELEMENT
{2 SPACES}MAN{5 SPACES}{OFF}";
150 PRINT"{2 DOWN}THE COMPUTER WILL PICKA CHEMICAL
ELEMENT AND";
160 PRINT"SHOW YOU THE NUMBER OFLETTERS IT CONTAIN
S."
170 PRINT"{2 DOWN}YOU MUST GUESS THE{4 SPACES}ELEM
ENT BY SELECTING{2 SPACES}ONE LETTER AT A TIME
."
180 PRINT"{2 DOWN}IF YOU PICK MORE THAN 11 INCORRE
CT LETTERS, THE FORMIDABLE ELEMENT";
190 PRINT"MAN WILL APPEAR!!"
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,0: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$)
330 FORX=0TOLW%-1
340 WI$(X)=MID$(WO$,X+1,1):NEXTX
350 LC%=0:OF%=462:BC%=0:GOSUB1000:LW%=LW%-1
400 GETX$:IFX$=""THEN400
410 X=ASC(X$):IFX<65ORX>90THEN400
500 HI=0:FORY=0TOLW%:IFWI$(Y)<>X$THEN530
510 HI=1:WI$(Y)="$":POKES1+375+Y,X-64
520 LC%=LC%+1
530 NEXTY:IFHI=1THEN560
540 GOSUB3000:BC%=BC%+1
550 IFBC%>10THENGOSUB2000:LO%=LO%+1:FORX=1TO2000:N
EXTX:GOTO700
560 IFLC%<=LW%THEN400
570 GOSUB4000:WI%=WI%+1:GOTO700
700 PRINT"{CLR}{RED}{DOWN}{3 SPACES}{RVS}ANOTHER E
LEMENT?{OFF}":PRINT"{2 DOWN}{5 SPACES}ENTER
{RVS}Y{OFF} OR {RVS}N{OFF}"
720 GETX$:IFX$=""THEN720
730 IFX$="Y"THENNEXTLC:GOTO220
740 IFX$<>"N"THEN720
750 PRINT"{3 DOWN} # CORRECT =" ;WI%
760 PRINT"{2 DOWN} # MISSED{2 SPACES}=" ;LO%
770 GOSUB2500:POKE36879,27
780 END
800 Y=0
810 Z=INT(RND(1)*NW%)+1:IFPEEK(CB+Z)=0THENRETURN
820 Y=Y+1:IFY<10THEN810

```

Level 4

```
830 Z=1
840 IFPEEK(CB+Z)=0THENRETURN
850 Z=Z+1:GOTO840
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=0TOX
1540 POKES1+375+Y,45:POKES2+375+Y,6:NEXTY
1550 RETURN
2000 FORX=0TOLW%:IFWI$(X)="$"THEN2020
2010 Y=ASC(WI$(X)):POKES1+375+X,Y-64
2020 NEXTX
2030 POKE36878,15:FORX=200TO150STEP-5:POKE36874,X
2040 FORY=1TO50:NEXTY,X:POKE36878,0:POKE36874,0:RE
TURN
2500 POKE36878,15:FORX=0TO15:POKE36876,NT$(X):FORY
=1TO100:NEXTY:POKE36876,0
2510 NEXTX:POKE36878,0:RETURN
3000 PRINT"{BLU}";:ON(BC%+1)GOTO3010,3020,3030,304
0,3050,3060,3070,3080,3090,3100,3110,3120
3010 PRINT"{HOME}{3 DOWN}";SPC(9);"[_]V[_]":GO
TO3500
3020 PRINTSPC(8);"YQ*Q[G]":GOTO3500
3030 PRINTSPC(8);"< - >":GOTO3500
3040 PRINTSPC(8);"Y * [G]":GOTO3500
3050 PRINTSPC(9);"[T][+][T]":GOTO3500
3060 PRINTSPC(9);"[3 +]":GOTO3500
3070 PRINTSPC(7);"_ [2 +]{RVS}E{OFF}[2 +]I":GOT
O3500
3080 PRINTSPC(7);"_ {RVS}{3 SPACES}{OFF} _":GOTO35
00
3090 PRINTSPC(7);"[E] [3 +] [E]":GOTO3500
3100 PRINTSPC(9);"[+] [+]":GOTO3500
3110 PRINTSPC(8);"[£][+][+]££"
3500 POKE36878,15:POKE36874,130:POKE36879,14:FORY=
1TO200:NEXTY
3510 POKE36879,26:POKE36878,0:POKE36874,0
3520 POKES1+OF%,X-64:POKES2+OF%,0:OF%=OF%+1
3530 RETURN
4000 POKE36878,15:Y=130:FORX=254TO30STEP-16:POKE36
879,X:POKE36876,Y
4010 FORZ=1TO70:NEXTZ:Y=Y+7:NEXTX
4020 POKE36876,0:POKE36878,0:RETURN
5000 DATA215,212,215,219,223,225,223,219,215,212,2
07,209,201,215,207,195
10000 DATAACTINIUM,ALUMINUM,AMERICIUM,ANTIMONY,ARG
ON
```


Level
4

- 10010 DATAARSENIC, ASTATINE, BARIUM, BERKELIUM, BERYLLIUM
- 10020 DATABISMUTH, BORON, BROMINE, CADMIUM, CALCIUM
- 10030 DATACALIFORNIUM, CARBON, CERIUM, CESIUM, CHLORINE
- 10040 DATACHROMIUM, COBALT, COPPER, CURIUM, DYSPROSIUM
- 10050 DATAEINSTEINIUM, ERBIUM, EUROPIUM, FERMIUM, FLUORINE
- 10060 DATAFRANCIUM, GADOLINIUM, GALLIUM, GERMANIUM, GOLD
- 10070 DATAHAFNIUM, HELIUM, HOLMIUM, HYDROGEN, INDIUM
- 10080 DATAIODINE, IRIDIUM, IRON, KRYPTON, LANTHANUM
- 10090 DATALAWRENCIUM, LEAD, LITHIUM, LUTETIUM, MAGNESIUM
- 10100 DATAMANGANESE, MENDELEVIUM, MERCURY, MOLYBDENUM, NEODYMIUM
- 10110 DATANEON, NEPTUNIUM, NICKEL, NIOBIUM, NITROGEN
- 10120 DATANOBELIUM, OSMIUM, OXYGEN, PALLADIUM, PHOSPHORUS
- 10130 DATAPLATINUM, PLUTONIUM, POLONIUM, POTASSIUM, PRASEODYMIUM
- 10140 DATAPROMETHIUM, PROTACTINIUM, RADIUM, RADON, RHENIUM
- 10150 DATARHODIUM, RUBIDIUM, RUTHENIUM, SAMARIUM, SCANDIUM
- 10160 DATASELENIUM, SILICON, SILVER, SODIUM, STRONTIUM
- 10170 DATASULFUR, TANTALUM, TECHNETIUM, TELLURIUM, TERBIUM
- 10180 DATATHALLIUM, THORIUM, THULIUM, TIN, TITANIUM
- 10190 DATATUNGSTEN, URANIUM, VANADIUM, XENON, YTTERBIUM
- 10200 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 DIMC$(34),L$(27),A$(3,3),C$(3),L$(3):X=RND(-TI)
60 M=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND128):
   C=(37888+4*(PEEK(36866)AND128))-M
100 POKE36879,30:PRINT"{CLR}{BLK}{5 SPACES}{RVS}FO
   UR BY FOUR{OFF}"
110 PRINT"{DOWN}4 CATEGORIES AND 4{4 SPACES}LETTER
   S ARE SELECTED. ENTER A WORD WHICH"
120 PRINT"MATCHES EACH CATEGORY AND EACH LETTER.
   {6 SPACES}(* = ANY LETTER)"
140 PRINT"{DOWN}HIT {RVS}RETURN{OFF} TO SKIP A
   {2 SPACES}QUESTION AND RETURN TOIT LATER."
150 PRINT"{DOWN}TYPE {RVS}QUIT{OFF} TO END THE
   {2 SPACES}GAME BEFORE THE 4{5 SPACES}MINUTE TI
   ME LIMIT."
160 PRINT"{DOWN}SCORING IS BASED ON{3 SPACES}CORRE
   CT ANSWERS AND{3 SPACES}THE AMOUNT OF TIME
   {4 SPACES}USED."
170 PRINT"{DOWN}{3 SPACES}(PRESS ANY KEY)";
180 FORX=0TO34:READX$:C$(X)=X$:NEXTX:FORX=0TO27:RE
   ADX$:L$(X)=X$:NEXTX:HS=0

```

Level

4

```

190 GETX$:IFX$=""THEN190
200 FORX=0TO3
210 Y=INT(RND(1)*35):IFX=0THENC%(X)=Y:GOTO240
220 FORZ=0TOX-1:IFC%(Z)=YTHEN210
230 NEXTZ:C%(X)=Y
240 NEXTX
250 FORX=0TO3
260 Y=INT(RND(1)*28):IFX=0THENL%(X)=Y:GOTO290
270 FORZ=0TOX-1:IFL%(Z)=YTHEN260
280 NEXTZ:L%(X)=Y
290 NEXTX
300 FORX=0TO3:FORY=0TO3:A$(X,Y)="" :NEXTY,X:TI$="00
0000"
400 HC=0:FORX=0TO3:Y=0
410 FORZ=0TO3:IFA$(X,Z)=""THENY=1
420 NEXTZ:IFY=0THEN700
430 HC=1:PRINT"{CLR}{DOWN}";C$(C%(X))
440 FORY=0TO3:PRINT"{PUR}{3 DOWN}";L$(L%(Y)):NEXTY
450 X$="{BLK}{HOME}{5 DOWN}":FORY=0TO3:PRINTX$;"
{2 RIGHT}";A$(X,Y):X$=X$+"{4 DOWN}":NEXTY
500 FORY=0TO3:IFA$(X,Y)<>""THEN600
510 GOSUB7000
520 IFI$="QUIT"THEN800
530 IFL$(L%(Y))=""ANDLEN(I$)>0THEN550
540 IFLEN(I$)=0ORLEFT$(I$,1)<>L$(L%(Y))THEN600
550 A$(X,Y)=I$
600 NEXTY
700 NEXTX:IFHC=1THEN400
800 S=0:FORX=0TO3:W=0:FORY=0TO3
810 IFA$(X,Y)<>""THENW=W+1
820 NEXTY:S=S+(W*W):NEXTX
830 FORX=0TO3:W=0:FORY=0TO3
840 IFA$(Y,X)<>""THENW=W+1
850 NEXTY:S=S+(W*W):NEXTX:Y=0:IFS<16THEN870
860 Y=INT((240-(TI/60))/4):IFY<0THENY=0
870 S=S+Y:Z=0:IFS>HSTHENHS=S:Z=1
900 PRINT"{CLR}{DOWN}{6 SPACES}{RVS}GAME OVER!
{OFF}{DOWN}"
910 PRINT"{DOWN}YOUR SCORE =" ;S
920 PRINT"{DOWN}HIGH SCORE =" ;HS
930 IFZ=1THENPRINT"{DOWN}YOU SET A NEW HIGH!"
940 PRINT"{2 DOWN}ENTER REPLAY OPTION:"
950 PRINT"{2 DOWN}{2 SPACES}{RVS}E{OFF} END THE GA
ME"
960 PRINT"{DOWN}{2 SPACES}{RVS}S{OFF} REPLAY SAME
{SPACE}SETUP"
970 PRINT"{DOWN}{2 SPACES}{RVS}N{OFF} REPLAY NEW S
ETUP"
980 GETX$:IFX$=""THEN980

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```

990 IFX$="S"THEN300
1000 IFX$="N"THEN200
1010 IFX$<>"E"THEN980
1020 END
7000 I$="":J=112+(Y*88)+M:POKEJ,160:POKEJ+C,0
7010 GETX$:IFTI$>"000400"THEN800
7020 IFX$=""THEN7010
7030 L=ASC(X$):IFL<>20THEN7100
7040 IFLEN(I$)=0THEN7010
7050 X$=LEFT$(I$,LEN(I$)-1):I$=X$:POKEJ+LEN(I$),16
0:POKEJ+LEN(I$)+1,32
7060 POKEJ+C+LEN(I$),0:POKEJ+C+LEN(I$)+1,1:GOTO7010
0
7100 IFL=13THENPOKEJ+LEN(I$),32:POKEJ+C+LEN(I$),1:
RETURN
7150 IFL>63THENL=L-64
7160 POKEJ+LEN(I$),L:POKEJ+C+LEN(I$),0:I$=I$+X$
7170 POKEJ+LEN(I$),160:POKEJ+C+LEN(I$),0:GOTO7010
9000 DATA" NAMES OF U.S. CITIES", "NAMES OF U.S. STA
TES", "NAMES OF FRUITS"
9010 DATA" NAMES OF VEGETABLES", "FAMOUS SINGERS", "C
HEMICAL 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", "NAM
ES 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 O
F MOVIES"
9130 DATA" NAMES OF T.V. SHOWS"
9500 DATAA,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,R,S,T,U,V
,W,Y,Z,*,*,*,*

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Level 4

Heavenly Bodies

Skill Area: Science

Level: IV

Memory: At least 8K expansion required

Equipment required: None

Modification: Yes

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 NQ=100:S=4*(PEEK(36866)AND128)+64*(PEEK(36869)
AND128)
110 CB=828:POKE36879,30:X=RND(-TI)
120 PRINTCHR$(147);"{RED}{DOWN}{RVS}{3 SPACES}HEAV
ENLY{2 SPACES}BODIES{3 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 PLA
NET TO WHICH{3 SPACES}THAT FACT APPLIES."
160 PRINT"{DOWN}SCORING:"
```

Level 4

```
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$(147);"{RED}{3 DOWN}
{2 SPACES}(TEN SECOND DELAY)"
220 FORX=1TONQ
230 Y=0
240 Z=INT(RND(1)*NQ)+1:IFPEEK(CB+Z)=0THEN290
250 Y=Y+1:IFY<6THEN240
260 Z=1
270 IFPEEK(CB+Z)=0THEN290
280 Z=Z+1:GOTO270
290 POKECB+Z,X:NEXTX
300 FORX=1TONQ:Y=PEEK(CB+X)-1
310 RESTORE:IFY=0THEN330
320 FORZ=1TOY:READQ$,A$:NEXTZ
330 READQ$,A$
390 PRINTCHR$(147);"{RED}{22 DOWN}";SPC(6);"SCORE
{SPACE}=";S%;
400 PRINT"[HOME]{BLU}{RVS}***HEAVENLY{2 SPACES}BOD
IES***{OFF}";
405 FORZ=1TO8:PRINT"{RVS}{22 SPACES}{OFF}";:NEXTZ
410 PRINT"{BLK}{DOWN}ENTER YOUR ANSWER:"
420 PRINT"{BLK}{DOWN} M = MERCURY"
430 PRINT" V = VENUS"
440 PRINT" E = EARTH"
450 PRINT" A = MARS"
460 PRINT" J = JUPITER"
470 PRINT" S = SATURN"
480 PRINT" U = URANUS"
490 PRINT" N = NEPTUNE"
500 PRINT" P = PLUTO"
510 PRINT" X = PLANET X"
600 PRINT"{BLU}{RVS}{HOME}{3 DOWN}";Q$;". "
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 IFA$="A"THENY=4
700 IFA$="J"THENY=5
710 IFA$="S"THENY=6
720 IFA$="U"THENY=7
730 IFA$="N"THENY=8
740 IFA$="P"THENY=9
750 IFA$="X"THENY=10
760 Y=(Y*22)+243+S
770 POKE36878,15
780 FORZ=1TO6:POKE36876,175
790 FORW=YTOY+20:POKEW,PEEK(W)+128:NEXTW:FORW=1TO1
0:NEXTW
800 POKE36879,24:POKE36876,150:FORW=YTOY+20:POKEW,
PEEK(W)-128:NEXTW:POKE36876,0:NEXTZ
810 POKE36878,0:POKE36879,30:S%=S%-1:GOTO900
820 POKE36878,15:Z=150:FORY=110TO30STEP-16
830 POKE36879,Y:POKE36875,Z:Z=Z+10:FORW=1TO30:NEXT
W
840 POKE36875,0:NEXTY:POKE36878,0:S%=S%+10:QC=QC+1
900 NEXTX
910 PRINTCHR$(147);"{2 DOWN}{6 SPACES}{RVS}GAME OV
ER!{OFF}"
920 PRINT"{3 DOWN} # QUESTIONS =" ;QA
930 PRINT"{DOWN} # CORRECT{3 SPACES}=" ;QC
940 IFQA=0THENQA=1
950 X=INT((QC*100)/QA)
960 PRINT"{DOWN} % CORRECT{3 SPACES}=" ;X;"{LEFT}%"
970 PRINT"{3 DOWN}{3 SPACES}SCORE =" ;S%
980 PRINT"{3 DOWN} PLAY AGAIN? ({RVS}Y{OFF} OR
{RVS}N{OFF})"
990 GETX$:IFX$=""THEN990
1000 IFX$="Y"THEN200
1010 IFX$<>"N"THEN940
1020 POKE36879,27:PRINTCHR$(147):END
2000 DATA"THE SECOND-SMALLEST{3 SPACES}KNOWN PLANE
T, ITS{5 SPACES}DIAMETER IS 3100{6 SPACES}MIL
ES",M
2010 DATA"IT MOVES AROUND THE{3 SPACES}SUN AT 30 M
ILES PER{3 SPACES}SECOND",M
2020 DATA"IT CIRCLES THE SUN{4 SPACES}EVERY 88 'EA
RTH' DAYS",M
2030 DATA"IT TAKES 59 'EARTH'{3 SPACES}DAYS TO TUR
N ONCE ON{2 SPACES}ITS AXIS",M
2040 DATA"ITS SUN SIDE IS 800{3 SPACES}DEGREES FAH
RENHEIT",M
2050 DATA"THE SIDE AWAY FROM THESUN MAY BE ABOUT R
OOM TEMPERATURE",M
2060 DATA"IT MAY HAVE A THIN{4 SPACES}ATMOSPHERE O
F HYDROGENAND HELIUM",M

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- 2070 DATA"IT HAS A PERMANENT{4 SPACES}MAGNETIC FIELD DESPITEITS SLOW ROTATION",M
- 2080 DATA"IT IS APPROXIMATELY{3 SPACES}36 MILLION {SPACE}MILES FROM THE SUN",M
- 2090 DATA"IT IS THE NEAREST{5 SPACES}PLANET TO THE SUN",M
- 2100 DATA"IT IS USUALLY THE 2ND PLANET FROM THE SUN",V
- 2110 DATA"ITS APPROXIMATE{7 SPACES}DISTANCE FROM THE SUN IS 67 MILLION MILES",V
- 2120 DATA"ONCE EVERY 19 MONTHS, IT IS THE NEAREST {5 SPACES}PLANET TO THE SUN",V
- 2130 DATA"EXCEPT FOR THE SUN ANDOUR MOON, IT IS THE{3 SPACES}BRIGHTEST OBJECT IN{3 SPACES}THE SKY",V
- 2140 DATA"ITS BRIGHTNESS IS{5 SPACES}CAUSED BY ITS THICK,{2 SPACES}WHITE CLOUD COVER",V
- 2150 DATA"ITS ATMOSPHERE IS{5 SPACES}PROBABLY COMPOSED OF{2 SPACES}SULPHURIC ACID",V
- 2160 DATA"ITS SURFACE{11 SPACES}TEMPERATURE IS 600 {4 SPACES}DEGREES FAHRENHEIT",V
- 2170 DATA"ITS CARBON DIOXIDE{4 SPACES}ATMOSPHERE IS 100{5 SPACES}TIMES THE PRESSURE OF EARTH'S",V
- 2180 DATA"ITS DAY IS 117.4{6 SPACES}'EARTH' DAYS, {SPACE}AND ITS YEAR IS 225 DAYS",V
- 2190 DATA"IT HAS HIGH ALTITUDE{2 SPACES}WINDS OF 200 M.P.H",V
- 2200 DATA"IT IS THE 5TH LARGEST PLANET, ITS DIAMETER{2 SPACES}BEING ALMOST 8,000{4 SPACES}MILES",E
- 2210 DATA"ITS CORE IS THOUGHT TOBE A SOLID METALLIC{3 SPACES}AND MAGNETIC{10 SPACES}SUBSTANCE",E
- 2220 DATA"FOR EVERY 100-200 FEETBELOW ITS SURFACE, THETEMPERATURE INCREASES 1 DEGREE",E
- 2230 DATA"ITS ATMOSPHERE{8 SPACES}CONSISTS OF OXYGEN,{3 SPACES}HYDROGEN AND ARGON",E
- 2240 DATA"ITS ATMOSPHERE EXTENDS300,000 FEET ABOVE THEPLANET'S SURFACE",E
- 2250 DATA"THE AVERAGE DAY IS 23 HOURS, 56 MINUTES {SPACE}OF{2 SPACES}'EARTH' TIME",E
- 2260 DATA"ONE OF ITS OCEANS{5 SPACES}COVERS MORE THAN 125% OF ITS LAND MASS",E
- 2270 DATA"ITS MOST PREVALENT{4 SPACES}LIFE FORM IS INSECT",E
- 2280 DATA"IT IS THE THIRD PLANETFROM THE SUN",E
- 2290 DATA"WATER VAPOR ACCOUNTS{2 SPACES}FOR UP TO {SPACE}4% OF ITS{3 SPACES}ATMOSPHERIC VOLUME",E

Level

4

- 2300 DATA"IT IS THE 4TH PLANET{2 SPACES}FROM THE S
UN, AND THE 1ST PLANET BEYOND{5 SPACES}EARTH"
,A
- 2310 DATA"ITS YEAR IS 687{7 SPACES}'EARTH' DAYS LO
NG",A
- 2320 DATA"ITS DIAMETER IS 4,200 MILES",A
- 2330 DATA"ITS DAY IS 24 HOURS{3 SPACES}AND 37 MINU
TES LONG IN'EARTH' TIME",A
- 2340 DATA"ITS APPROXIMATE{7 SPACES}DISTANCE FROM T
HE SUN IS 141 MILLION MILES",A
- 2350 DATA"ITS CARBON DIOXIDE{4 SPACES}ATMOSPHERE I
S ONLY{4 SPACES}1-2% THE PRESSURE OF
{2 SPACES}EARTH'S",A
- 2360 DATA"MOST OF ITS SURFACE ISA DESERT OF REDDIS
H{3 SPACES}SAND AND ROCK",A
- 2370 DATA"ITS MYSTERIOUS{8 SPACES}'CANALS' MAY BE
{SPACE}GIANT CANYONS",A
- 2380 DATA"IT HAS TWO MOONS--{4 SPACES}DEIMOS AND P
HOBOS",A
- 2390 DATA"IT HAS A VOLCANIC{5 SPACES}SURFACE BUT W
AS ONCE{2 SPACES}PROBABLY COVERED WITH WATER"
,A
- 2400 DATA"ITS DIAMETER OF 88,000MILES MAKES IT THE
{4 SPACES}LARGEST OF THE KNOWN{2 SPACES}PLANE
TS",J
- 2410 DATA"ONE OF ITS DAYS IS{4 SPACES}ONLY 10 'EAR
TH' HOURS LONG",J
- 2420 DATA"ITS APPROXIMATE{7 SPACES}DISTANCE FROM T
HE SUN IS 480 MILLION MILES",J
- 2430 DATA"ITS YEAR IS NEARLY 12 'EARTH' YEARS LONG
",J
- 2440 DATA"NO KNOWN LIFE FORM{4 SPACES}COULD SURVIV
E ITS{5 SPACES}ATMOSPHERE OF{9 SPACES}METHANE
",J
- 2450 DATA"IT IS COVERED WITH{4 SPACES}CLOUDS OF AM
MONIA ICE CRYSTALS",J
- 2460 DATA"IT MAY BE A GASEOUS{3 SPACES}PLANET WITH
NO SOLID{2 SPACES}CORE",J
- 2470 DATA"IT HAS AT LEAST 16{4 SPACES}MOONS, 4 OF
{SPACE}WHICH ARE ALMOST MERCURY'S SIZE",J
- 2480 DATA"ITS MASS IS DOUBLE{4 SPACES}THAT OF ALL
{SPACE}THE OTHER PLANETS COMBINED",J
- 2490 DATA"ITS MOST FAMOUS MOONS ARE IO AND GANYMED
E",J
- 2500 DATA"IT IS LOCATED 1.8{5 SPACES}BILLION MILES
FROM THESUN",U
- 2510 DATA"ITS YEAR IS 84 'EARTH'YEARS LONG",U
- 2520 DATA"ITS DAY IS 15.5{7 SPACES}'EARTH' HOURS L
ONG",U

2530 DATA"ITS DIAMETER IS 32,000MILES",U
 2540 DATA"IT WAS DISCOVERED IN{2 SPACES}1781 BY SI
 R WILLIAM{3 SPACES}HERSCHEL",U
 2550 DATA"ITS NORTH POLE IS{5 SPACES}TILTED 98 DEG
 REES OFF A PERPENDICULAR{7 SPACES}ORBIT",U
 2560 DATA"IT HAS AT LEAST FIVE{2 SPACES}MOONS AND
 {SPACE}EIGHT RINGS ALONG ITS EQUATORIAL
 {2 SPACES}PLANE",U
 2570 DATA"ITS SURFACE IS{8 SPACES}PROBABLY ROCKY W
 ITH ANICY CRUST",U
 2580 DATA"ITS EXTREME TILT{6 SPACES}CAUSES 'SUMMER
 ' TO BE 42 'EARTH' YEARS LONG",U
 2590 DATA"IT WAS THE FIRST{6 SPACES}PLANET DISCOVE
 RED{5 SPACES}AFTER BODE'S THEORY",U
 2600 DATA"IT IS 900 MILLION{5 SPACES}MILES FROM TH
 E SUN--{2 SPACES}TWICE JUPITER'S{7 SPACES}DIS
 TANCE",S
 2610 DATA"ITS EQUATORIAL{8 SPACES}DIAMETER IS 71,0
 00{4 SPACES}MILES",S
 2620 DATA"ITS DAY IS 10 'EARTH' HOURS LONG",S
 2630 DATA"ITS ATMOSPHERE AND{4 SPACES}SURFACE RESE
 MBLA A{4 SPACES}COLDER VERSION OF{5 SPACES}JU
 PITER",S
 2640 DATA"OF ITS KNOWN 16 MOONS,SIX WERE DISCOVERE
 D{3 SPACES}AFTER 1979",S
 2650 DATA"ITS RINGS ARE 170,000 MILES IN DIAMETER"
 ,S
 2660 DATA"THE THICKNESS OF ITS{2 SPACES}RINGS IS O
 NLY 10{6 SPACES}MILES",S
 2670 DATA"ITS RINGS ARE COMPOSED OF MATERIAL THAT M
 AY{2 SPACES}BE A SHATTERED MOON",S
 2680 DATA"ITS YEAR IS 29.5{6 SPACES}'EARTH' YEARS
 {SPACE}LONG",S
 2690 DATA"ITS MOON TITAN IS{5 SPACES}UNIQUE BECAUS
 E IT HAS AN ATMOSPHERE",S
 2700 DATA"IT IS USUALLY CLOSER{2 SPACES}TO THE SUN
 THAN PLUTO",N
 2710 DATA"UNTIL 1989, IT WILL BE THE FARTHEST FROM
 {SPACE}THE SUN OF THE KNOWN{6 SPACES}PLANETS"
 ,N
 2720 DATA"ITS DISTANCE FROM THE SUN IS ABOUT 2.8
 {6 SPACES}BILLION MILES",N
 2730 DATA"ITS YEAR IS 165{7 SPACES}'EARTH' YEARS L
 ONG",N
 2740 DATA"IT HAS AT LEAST 3{5 SPACES}MOONS, THE LA
 RGEST OF WHICH IS TRITON",N
 2750 DATA"LIKE JUPITER, IT MAY{2 SPACES}PRODUCE HE
 AT{10 SPACES}INDEPENDENTLY OF THE{2 SPACES}SU
 N",N

Level

4

- 2760 DATA"ITS INCREASE IN{7 SPACES}BRIGHTNESS MAY
{SPACE}HINT{3 SPACES}HUGE SURFACE STORMS",N
- 2770 DATA"ITS DIAMETER IS ABOUT 30,000 MILES",N
- 2780 DATA"IT HAS A DAY OF 16{4 SPACES}'EARTH' HOUR
S",N
- 2790 DATA"IN 1846, ASTRONOMERS{2 SPACES}FOUND IT A
FTER LOOKINGLESS THAN 30 MINUTES",N
- 2800 DATA"IT IS USUALLY ABOUT{3 SPACES}5,900 BILLI
ON MILES{3 SPACES}FROM THE SUN",P
- 2810 DATA"ITS ERRATIC ORBIT MAY TEMPORARILY BRING
{SPACE}IT{2 SPACES}CLOSER TO THE SUN THANJUPI
TER",P
- 2820 DATA"IT TAKES 247.7 'EARTH'YEARS TO CIRCLE TH
E{3 SPACES}SUN",P
- 2830 DATA"ITS DAY IS 6.4 'EARTH'DAYS LONG",P
- 2840 DATA"USING MATHEMATICAL{4 SPACES}COMPUTATION,
IT WAS{3 SPACES}DISCOVERED IN 1930",P
- 2850 DATA"IT HAS AT LEAST ONE{3 SPACES}MOON, CHARO
N",P
- 2860 DATA"ITS DIAMETER IS ABOUT 1,500 MILES",P
- 2870 DATA"IT WAS DISCOVERED BY{2 SPACES}AMERICAN C
LYDE{8 SPACES}TOMBAUGH",P
- 2880 DATA"IT MAY HAVE ONCE BEEN A MOON OF NEPTUNE"
,P
- 2890 DATA"IT TAKES SUNLIGHT 5.5 HOURS TO REACH THI
S{3 SPACES}PLANET",P
- 2900 DATA"CLYDE TOMBAUGH WAS{4 SPACES}LOOKING FOR
{SPACE}THIS{6 SPACES}PLANET WHEN HE FOUND
{2 SPACES}PLUTO",X
- 2910 DATA"ITS MASS IS ESTIMATED AT 286 TIMES THAT
{SPACE}OF{2 SPACES}EARTH",X
- 2920 DATA"ITS YEAR IS ABOUT 464 'EARTH' YEARS",X
- 2930 DATA"BODE'S LAW ESTIMATES{2 SPACES}IT IS 7,17
2 MILLION{3 SPACES}MILES FROM THE SUN",X
- 2940 DATA"IT HAS A FAMILY OF 16 COMETS",X
- 2950 DATA"ITS ORBIT IS ESTIMATEDTO BE 120 DEGREES
{SPACE}OFF PERPENDICULAR",X
- 2960 DATA"ITS MASS IS THREE{5 SPACES}TIMES THAT OF
SATURN",X
- 2970 DATA"IT LIES IN THE SAME{3 SPACES}GENERAL DIR
ECTION AS{2 SPACES}CASSIOPEIA",X
- 2980 DATA"IT HAS NEVER BEEN SEENWITH THE NAKED EYE
, ORWITH A TELESCOPE",X
- 2990 DATA"IT HAS CAUSED NEPTUNE AND URANUS TO DEVI
ATE 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:

Level 4

Mother Earth 1

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

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+Z,X:NEXTX
300 FORX=1TONE:Y=PEEK(CB+X)-1
340 FORW=0TO3:RS(W)=0:NEXTW
```

Level

4

```

350 FORW=1TO4
360 V=INT(RND(1)*4):IFRS(V)<>0THEN360
370 RS(V)=W:NEXTW
400 FORW=0TO3
405 PRINTCHR$(147);"{BLK}{21 DOWN}";SPC(6);"SCORE
    {SPACE}=";S%;
410 PRINT"{HOME}{2 DOWN} QUESTIN #";W+1
420 X$=QT$(Y,RS(W)-1)
430 PRINT"{3 DOWN}";X$;".{3 DOWN}"
440 GOSUB900:IFX$="Q"THEN500
445 IFX$="END"THEN600
450 NEXTW
460 GOSUB2000:W=4
470 IFX$="Q"THEN500
475 IFX$="END"THEN600
480 PRINT"{RED}{2 DOWN}{2 SPACES}";QT$(Y,4):S%=S%-
    5
490 FORW=1TO2500:NEXTW,X:GOTO600
500 S%=S%+(5-W):POKE36879,30:POKE36878,15:FORV=170
    TO220
510 POKE36875,V:NEXTV:POKE36878,0:POKE36875,0:POKE
    36879,174
520 NEXTX
600 PRINT"{BLK}{CLR}{DOWN}{6 SPACES}{RVS}TEST OVER
    1{OFF}"
610 PRINT"{3 DOWN} YOUR SCORE = ";S%
620 IFS%<0THENS%=0
625 X=X-1:IFX<1THENX=1
630 X=INT((S%*100)/(X*5))
640 PRINT"{DOWN} YOUR GRADE = ";X;"{LEFT}%"
650 PRINT"{3 DOWN} PLAY AGAIN?":PRINT"{DOWN} ENTER
    {RVS}Y{OFF} OR {RVS}N{OFF}"
660 GETX$:IFX$=""THEN660
670 IFX$="Y"THEN205
680 IFX$<>"N"THEN660
690 POKE36879,27:PRINT"{CLR}":END
700 PRINTCHR$(147);:PRINT"{BLK}{DOWN}{RVS}
    {5 SPACES}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."
710 PRINT"{DOWN}POINTS WILL BE GIVEN{2 SPACES}DEPE
    NDING UPON HOW{4 SPACES}MANY QUESTIONS YOU
    {4 SPACES}NEED:{DOWN}"
715 PRINT" 1 QUESTION{2 SPACES}={2 SPACES}5.":PRIN
    T" 2 QUESTIONS = {2 SPACES}4."
720 PRINT" 3 QUESTIONS = {2 SPACES}3."
730 PRINT" 4 QUESTIONS = {2 SPACES}2.":PRINT" 5 QUE
    STIONS = {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 GETX$:IFX$=""THEN790
795 RETURN
800 W=0
810 Z=INT((RND(1)*NE)+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$=QT$(Y,4)THENX$="Q":RETURN
905 IFX$="END"THENRETURN
910 POKE36879,24:POKE36878,15:POKE36874,180:FORV=1 TO100:NEXTV
920 POKE36878,0:POKE36874,0:POKE36879,174:RETURN
1000 PRINTCHR$(147);"{2 DOWN}ENTER DESIRED CATEGOR Y{2 DOWN}":PRINT" {RVS}A{OFF} EUROPE"
1010 PRINT"{DOWN} {RVS}B{OFF} N. AFRICA/MID EAST":PRINT"{DOWN} {RVS}C{OFF} AFRICA"
1020 PRINT"{DOWN} {RVS}D{OFF} ASIA/THE PACIFIC":PRINT"{DOWN} {RVS}E{OFF} WESTERN HEMISPHERE"
1050 GETX$: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$:NEXTX:GOTO1080
1130 FORX=0TO4:READA$:QT$(NE,X)=A$:NEXTX: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:POKEMP+X1,0:NEXTX1
2060 FORX1=1TO3
2070 X2=INT(RND(1)*3):IFPEEK(MP+X2)<>0THEN2070
2080 POKE(MP+X2),X1:NEXTX1
2085 PRINTCHR$(147);"{BLK}{21 DOWN}";SPC(6);"SCORE =" ;S%;
2090 PRINT"{HOME}{2 DOWN} QUESTION # 5{3 DOWN}"
2100 PRINT"MULTIPLE CHOICE:{DOWN}"
2110 FORX1=0TO2
2120 X2=PEEK(MP+X1)
2130 PRINT"{DOWN}{2 SPACES}";MC$(X2-1)
2140 NEXTX1:PRINT"{DOWN}":GOSUB900:RETURN

```

Level

4

- 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"
- 3040 DATAA,"ONLY PART OF THIS{5 SPACES}DIVIDED COUNTRY IS{4 SPACES}RULED BY 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 FAMINEDECIMATED THE COUNTRY", IRELAND
- 3080 DATAA,"VIKINGS FROM HERE MAY HAVE BEATEN COLUMBUS{2 SPACES}TO AMERICA"
- 3090 DATA"ITS NORTH SEA PRODUCESTHE WORLD'S BIGGEST{3 SPACES}FISH CATCH"
- 3100 DATA"ONE THIRD OF THE{6 SPACES}POPULATION WORKS IN{3 SPACES}THE LUMBER INDUSTRY"
- 3110 DATA"THE CAPITAL OF THIS{3 SPACES}SCANDINAVIAN COUNTRY{2 SPACES}IS OSLO", NORWAY
- 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 ANDPRIVATE INDUSTRY"
- 3140 DATA"LAPLAND OCCUPIES THE{2 SPACES}FAR NORTH {SPACE}OF THIS{5 SPACES}COUNTRY", SWEDEN
- 3150 DATAA,"THIS NATION IS KNOWN{2 SPACES}FOR ITS {SPACE}FINE FURNITUREAND DAIRY PRODUCTS"
- 3160 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS COPENHAGEN"
- 3170 DATA"GREENLAND IS HELD BY{2 SPACES}THIS COUNTRY"
- 3180 DATA"DAIRY COOPERATIVES{4 SPACES}IMPROVE THE {SPACE}QUALITY OFITS DAIRY PRODUCTS", DENMARK
- 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 LOU
 IS{2 SPACES}PASTEUR"
 3420 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS P
 ARIS",FRANCE
 3430 DATAA,"IT WAS DIVIDED AMONG{2 SPACES}FOUR COU
 NTRIES AFTER{2 SPACES}WORLD WAR II"
 3440 DATA"THE USSR CONTROLS{5 SPACES}ONE-FOURTH OF
 ITS{5 SPACES}CITIZENS"
 3450 DATA"ITS MAJOR RIVERS ARE{2 SPACES}THE DANUBE
 THE ODER{2 SPACES}AND THE RHINE"
 3460 DATA"ITS TWO CAPITALS ARE{2 SPACES}BONN AND E
 AST BERLIN",GERMANY
 3470 DATAA,"IT IS DIVIDED INTO 22 STATES, KNOWN AS
 {6 SPACES}'CANTONS'"
 3480 DATA"ITS PEOPLE SPEAK{6 SPACES}FRENCH, GERMAN
 AND{4 SPACES}ITALIAN"
 3490 DATA"ITS NEUTRALITY MAKES{2 SPACES}IT A CENTE
 R OF{8 SPACES}DIPLOMACY"
 3500 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS B
 ERN",SWITZERLAND
 3510 DATAA,"IT WAS ONCE THE CENTEROF AN EASTERN
 {9 SPACES}EUROPEAN EMPIRE"
 3520 DATA"THE GEOGRAPHY OF THE{2 SPACES}LAND IS SI
 MILAR TO{4 SPACES}SWITZERLAND'S"
 3530 DATA"ADOLPH HITLER WAS BORNHERE AND LATER
 {8 SPACES}DEFEATED THE COUNTRY"
 3540 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS V
 IENNA",AUSTRIA
 3550 DATAA,"IT WAS RULER OF THE{3 SPACES}WORLD UNT
 IL DEFEATED{2 SPACES}BY GERMANY IN 500 A.D"
 3560 DATA"IT WAS THE CENTER OF{2 SPACES}THE RENAISSANCE--THE{2 SPACES}REBIRTH OF KNOWLEDGE"
 3570 DATA"ITS CITIES OF VENICE{2 SPACES}AND FLOREN
 CE ARE{6 SPACES}CENTERS OF ART"
 3580 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS R
 OME",ITALY
 3582 DATAA,"WESTERN CIVILIZATION{2 SPACES}DEVELOPE
 D FROM THIS{3 SPACES}NATION'S CULTURE"
 3584 DATA"IT IS SURROUNDED BY{3 SPACES}THE MEDITER
 RANEAN,{4 SPACES}ALGEAN AND IONIC SEAS"
 3590 DATA"POSSESSIONS OF THIS{3 SPACES}COUNTRY INC
 LUDE CRETE AND RHODES"
 3600 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS A
 THENS",GREECE
 3610 DATAA,"THE ROMANS KNEW IT AS CALEDONIA"
 3620 DATA"ITS CITY OF GLASGOW ISTHE CHIEF INDUSTRI
 AL{2 SPACES}CENTER OF BRITAIN"

Level

4

- 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 DATAA,"THE 1917 REVOLUTION{3 SPACES}CHANGED ITS FORM OF{3 SPACES}GOVERNMENT"
- 3660 DATA"THE COUNTRY IS A LARGEPLAIN DIVIDED BY THE{2 SPACES}URAL MOUNTAINS"
- 3670 DATA"ITS MAJOR PORTS ARE ONTHE SHORE OF THE BLACKSEA"
- 3680 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS MOSCOW",USSR
- 3970 DATAA,"IT COVERS MOST OF THE IBERIAN PENINSULA, BUTHAS NO MAJOR HARBORS"
- 3980 DATA"A MOORISH PALACE, THE ALHAMBRA, RESIDES {SPACE}IN{2 SPACES}ITS CITY OF GRENADE"
- 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
- 4050 DATAB,"THE BIBLICAL MOUNT{4 SPACES}ARARAT IS {SPACE}LOCATED IN{2 SPACES}THIS COUNTRY"
- 4060 DATA"IT CONTROLS THE ONLY{2 SPACES}WATERWAY BETWEEN THE{2 SPACES}MEDITERRANEAN AND THE BLACK SEA"
- 4070 DATA"THOUGH IT IS MOSLEM,{2 SPACES}MOST OF ITS TRADITIONSARE EUROPEAN"
- 4075 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS ANKARA",TURKEY
- 4120 DATAB,"ITS LAND FORMED THE{3 SPACES}ANCIENT COUNTRY OF{4 SPACES}PALESTINE"
- 4130 DATA"MORE THAN 85% OF ITS{2 SPACES}POPULATION IS JEWISH"
- 4140 DATA"WATERS FROM THE JORDANRIVER IRRIGATE ITS {4 SPACES}NEGEV DESERT"
- 4150 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS JERUSALEM",ISRAEL
- 4160 DATAB,"THIS FORMER OTTOMAN{3 SPACES}NATION WAS RULED BY{3 SPACES}FRANCE UNTIL 1945"
- 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 BAAATH{3 SPACES}PARTY SINCE 1963"
- 4190 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS DAMASCUS",SYRIA
- 4200 DATAB,"IT BROKE FROM SYRIA{3 SPACES}MAINLY FOR RELIGIOUS{2 SPACES}REASONS"
- 4210 DATA"BOTH CHRISTIANS AND{3 SPACES}MOSLEMS HAVE LEADERS{2 SPACES}IN THE GOVERNMENT"

- 4220 DATA"ITS LANGUAGES ARE{5 SPACES}ARABIC, FRENCH AND{4 SPACES}ARMENIAN"
- 4230 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS BEIRUT",LEBANON
- 4240 DATAB,"IT SHARES THE DEAD SEAWITH ITS ENEMY ISRAEL"
- 4250 DATA"IT IS HOME FOR MANY{3 SPACES}ARABS DISPLAYED BY THECREATION OF PALESTINE"
- 4260 DATA"ITS ONLY PORT IS ON{3 SPACES}THE AQABA GULF"
- 4270 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS AMMAN",JORDAN
- 4280 DATAB,"IN ANCIENT TIMES, IT{2 SPACES}WAS CALLED BY THE NAMEOF MESOPOTAMIA"
- 4290 DATA"THE TIGRIS AND{8 SPACES}EUPHRATES RIVERS MEET HERE"
- 4300 DATA"THE HANGING GARDENS OFBABYLON WERE LOCATED{2 SPACES}HERE"
- 4310 DATA"THE 'ARABIAN NIGHTS'{2 SPACES}IS SET IN {SPACE}ITS CAPITAL OF BAGHDAD",IRAQ
- 4320 DATAB,"RESIDENTS SPEAK MANY{2 SPACES}LANGUAGES, BUT THE{4 SPACES}OFFICIAL TONGUE IS {4 SPACES}FARSI"
- 4330 DATA"IT HAS THE WORLD'S 3RDLARGEST RESERVE OF {4 SPACES}CRUDE OIL"
- 4340 DATA"A 1979 REVOLUTION MADEAN ISLAMIC LEADER {2 SPACES}ITSRULER"
- 4350 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS TEHERAN",IRAN
- 4360 DATAB,"IT OCCUPIES ABOUT 80% OF THE ARABIAN {8 SPACES}PENINSULA"
- 4370 DATA"THE COUNTRY IS NAMED{2 SPACES}FOR ITS FOUNDER, IBN{2 SPACES}SAUD"
- 4380 DATA"THE MOSLEM SHRINES OF MECCA AND MEDINA ARE{2 SPACES}HERE"
- 4390 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS RIYADH", "SAUDI ARABIA"
- 4640 DATAB,"THE 1ST WORLD RULER ISTODAY AN UNDEVELOPED{2 SPACES}COUNTRY"
- 4650 DATA"THE MAIN POPULATION{3 SPACES}CENTERS ARE ON THE{4 SPACES}BANKS OF THE NILE{5 SPACES}RIVER"
- 4660 DATA"THE ASWAN DAM AND THE SUEZ CANAL ARE BOTH{3 SPACES}FOUND HERE"
- 4670 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS CAIRO", EGYPT
- 4680 DATAB,"FORMERLY RULED BY{5 SPACES}CARTHAGE, ROME, ITALY,BRITAIN AND FRANCE"

Level

4

- 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-SPEAKINGAFRICAN NATIONS, IT IS THE MOST DEMOCRATIC"
- 4910 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS DAKAR",SENEGAL
- 4960 DATAC,"IT IS THE MOST{8 SPACES}PROSPEROUS OF {SPACE}AFRICA'STROPICAL 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 IMPORTS20% OF ITS WORKERS"
- 4990 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS ABIDJAN", "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}FROMWHICH CHOCOLATE IS{4 SPACES}MADE"
- 5190 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS ACCRA",GHANA
- 5320 DATAC,"BLACK FREEDMEN FOUNDEDTHIS NATION IN 1822"
- 5330 DATA"IT IS THE OLDEST{6 SPACES}AFRICAN REPUBLIC"
- 5340 DATA"THE GOVERNMENT IS{5 SPACES}SIMILAR TO THAT OF THEUNITED STATES"
- 5350 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS MONROVIA",LIBERIA
- 5360 DATAC,"IT WAS ANCIENTLY KNOWNAS NUBIA"
- 5370 DATA"THE WHITE AND BLUE{4 SPACES}NILE RIVERS {SPACE}CONVERGE{2 SPACES}AT THE NATION'S {7 SPACES}CAPITAL"
- 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"

5420 DATA"EXCEPT FOR SIX YEARS, IT HAS NEVER BEEN
{5 SPACES}RULED BY A FOREIGN{4 SPACES}POWER"

5430 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS A
DDIS ABABA",ETHIOPIA

5480 DATAC,"TOURISTS HUNTING BIG{2 SPACES}GAME BUI
LT ITS LARGE{2 SPACES}TOURIST INDUSTRY"

5490 DATA"THE NILE'S SOURCE IS{2 SPACES}FOUND BETW
EEN THIS{4 SPACES}NATION AND UGANDA"

5500 DATA"IT WON INDEPENDENCE{3 SPACES}AFTER THE M
AU MAU{5 SPACES}UPRISING"

5510 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS N
AIROBI",KENYA

5560 DATAC,"BILHARZIASIS IS A{5 SPACES}COMMON DISE
ASE DUE TO THE LARGE AMOUNTS OF{2 SPACES}WATE
R"

5570 DATA"IT IS BORDERED BY{5 SPACES}LAKES VICTORI
A, EDWARDAND ALBERT"

5580 DATA"IDI AMIN EXPELLED{5 SPACES}45,000 UNDESI
RABLES{3 SPACES}FROM HERE IN 1972"

5590 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS K
AMPALA",UGANDA

5720 DATAC,"THOUGH MAINLY BLACK,{2 SPACES}IT ONLY
{SPACE}RECENTLY GOT{2 SPACES}A BLACK GOVERNME
NT"

5730 DATA"ITS MAIN GEOGRAPHIC{3 SPACES}FEATURE IS
{SPACE}VICTORIA{3 SPACES}FALLS"

5740 DATA"IT BECAME THE 154TH{3 SPACES}UNITED NATI
ONS MEMBER IN 1980"

5750 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS S
ALISBURY",ZIMBABWE

5880 DATAC,"ITS OFFICIAL TONGUES{2 SPACES}ARE ENGL
ISH AND{7 SPACES}AFRIKAANS"

5890 DATA"IT'S THE WORLD LEADER IN DIAMOND, GOLD A
ND{2 SPACES}URANIUM PRODUCTION"

5900 DATA"'APARTHEID' SUBJUGATESITS BLACK MAJORITY
TO THE WHITE MINORITY"

5910 DATA"ITS CAPITAL CITIES ARECAPE TOWN AND
{9 SPACES}BLOEMFONTEIN", "SOUTH AFRICA"

6000 DATAC,"IT WAS FORMERLY CALLEDSOUTH-WEST AFRIC
A"

6010 DATA"THE U.N. SEPARATED IT FROM SOUTH AFRICA
{SPACE}TO{2 SPACES}FREE IT FROM{10 SPACES}APA
RTHEID"

6020 DATA"IT HAS BEEN WITHOUT ANOFFICIAL FORM OF
{6 SPACES}GOVERNMENT SINCE 1968"

6030 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS W
INDHOEK",NAMIBIA

6040 DATAD,"IT'S THE 2ND LARGEST{2 SPACES}NATION I
N THE WORLD,{2 SPACES}BASED ON POPULATION"

Level 4

- 6050 DATA"IT IS THE LARGEST{5 SPACES}DEMOCRATIC CO
UNTRY IN THE ORIENT"
- 6060 DATA"THE TAJ MAHAL IS FOUNDWITHIN THIS FORMER
{4 SPACES}BRITISH POSSESSION"
- 6070 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS N
EW DELHI",INDIA
- 6120 DATAD,"IT WAS FOUNDED AS A{3 SPACES}RELIGIOUS
HAVEN FOR{3 SPACES}MOSLEMS"
- 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 I
SLAMABAD",PAKISTAN
- 6200 DATAD,"IT WAS CALLED 'THE{4 SPACES}HERMIT KIN
GDOM' DUE TOITS UNFRIENDLINESS"
- 6210 DATA"IT WAS FORMERLY CALLEDARIANA, BACTRIA AN
D{3 SPACES}KHORASAN"
- 6220 DATA"IT'S SURROUNDED BY{4 SPACES}IRAN, PAKIST
AN AND THEUSSR"
- 6230 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS K
ABUL",AFGHANISTAN
- 6240 DATAD,"20% OF THE WORLD'S{4 SPACES}PEOPLE--MO
RE THAN A{3 SPACES}BILLION--LIVE HERE"
- 6250 DATA"THE GREAT WALL WAS{4 SPACES}BUILT HERE T
O 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 P
EKING",CHINA
- 6280 DATAD,"THIS ISLAND IS ALSO{3 SPACES}KNOWN AS
{SPACE}FORMOSA"
- 6290 DATA"ASIANS HAVE USED THIS ISLAND AS A REFUGE
FORCENTURIES"
- 6300 DATA"CHINA CONSIDERS THIS{2 SPACES}ISLAND PAR
T OF THEIR{2 SPACES}COUNTRY"
- 6310 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS T
AIPEI",TAIWAN
- 6320 DATAD,"OKINAWA AND IWO JIMA{2 SPACES}ARE POSS
SESSIONS 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 T
OKYO",JAPAN
- 6360 DATAD,"THIS PENINSULAR NATIONHAS BEEN RULED B
Y{5 SPACES}CHINA, JAPAN AND THE{2 SPACES}USSR
"

- 6370 DATA"THE 38TH PARALLEL{5 SPACES}DIVIDES THIS
{SPACE}COUNTRY{2 SPACES}INTO TWO SECTIONS"
- 6380 DATA"THE NORTH SECTION DOESMANUFACTURING, WHI
LE{2 SPACES}THE SOUTH FARMS"
- 6390 DATA"IT HAS TWO CAPITALS-- PYONGYANG AND SEOU
L",KOREA
- 6480 DATAD,"WARS WITH VIETNAM AND THAILAND HAVE TA
KEN{3 SPACES}MOST OF ITS LAND"
- 6490 DATA"LAKE TONLE SAP{8 SPACES}PROVIDES THE FIS
H TO{2 SPACES}FEED THIS COUNTRY"
- 6500 DATA"90% OF THE POPULATION ARE DESCENDED FROM
THEKHMER EMPIRE"
- 6510 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS P
HNOM PENH",CAMBODIA
- 6520 DATAD,"A 22-YEAR DIVISION OF THIS COUNTRY END
ED IN 1976"
- 6530 DATA"THIS COUNTRY DEFEATED KUBLAI KHAN'S ARMI
ES{2 SPACES}IN 1288"
- 6540 DATA"THE U.S. FOUGHT HERE{2 SPACES}FROM 1956
{SPACE}TO 1973 IN ALOSING BATTLE WITH
{4 SPACES}RUSSIA"
- 6550 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS H
ANOI",VIETNAM
- 6640 DATAD,"THIS IS THE ONLY{6 SPACES}CONTINENT OC
CUPIED BY A SINGLE NATION"
- 6650 DATA"IT WAS SETTLED BY{5 SPACES}DEPORTED BRIT
ISH{6 SPACES}CRIMINALS"
- 6660 DATA"IT WAS ORIGINALLY{5 SPACES}PEOPLED BY AB
ORIGINES"
- 6670 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS C
ANBERRA",AUSTRALIA
- 6720 DATAE,"THE MAYAS, TOLTECS ANDAZTECS RULED HER
E"
- 6730 DATA"HERNANDO CORTEZ{7 SPACES}CONQUERED THE C
OUNTRY IN 1519"
- 6740 DATA"IT CLAIMED WHAT IS NOWTEXAS UNTIL 1836"
- 6750 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS M
EXICO CITY",MEXICO
- 6960 DATAE,"BALBOA FIRST SIGHTED{2 SPACES}THE PACI
FIC OCEAN FROMHERE"
- 6970 DATA"THE SHORTEST DISTANCE BETWEEN THE ATLANT
IC{2 SPACES}AND THE PACIFIC IS{4 SPACES}HERE"
- 6980 DATA"U.S. TROOPS WILL BE{3 SPACES}REMOVED FRO
M ITS CANALBY 1999"
- 6990 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS P
ANAMA",PANAMA
- 7040 DATAE,"COLUMBUS FIRST REACHEDSOUTH AMERICA HE
RE, IN1498"

Level

4

- 7050 DATA "PETROLEUM AND IRON ORE MAKE IT ONE OF THE {4 SPACES} RICHEST NATIONS IN {4 SPACES} THE AREA"
- 7060 DATA "THE WORLD'S HIGHEST {3 SPACES} WATERFALL, {SPACE} ANGEL {6 SPACES} FALLS, IS FOUND HERE"
- 7070 DATA "THE CAPITAL OF THIS {3 SPACES} NATION IS CARACAS", VENEZUELA
- 7120 DATAE, "THIS COMMUNIST NATION IS ONLY 90 MILES FROM FLORIDA"
- 7130 DATA "ITS CAPITAL IS THE {4 SPACES} LARGEST CITY IN THE {3 SPACES} WEST INDIES"
- 7140 DATA "ITS CHIEF EXPORTS ARE SUGAR AND FINE CIGARS"
- 7150 DATA "THE CAPITAL OF THIS {3 SPACES} NATION IS HAVANA", CUBA
- 7160 DATAE, "THIS LARGE NATION IS {2 SPACES} BIGGER THAN AMERICA'S 'LOWER 48'"
- 7170 DATA "THE AMAZON RIVER IS {3 SPACES} LOCATED HERE"
- 7180 DATA "THIS NATION IS LOCATED DUE SOUTH OF {10 SPACES} GREENLAND"
- 7190 DATA "THE CAPITAL OF THIS {3 SPACES} NATION IS BRASILIA", BRAZIL
- 7200 DATAE, "THE CORNERSTONE OF THE CAPITAL CITY CATHEDRAL WAS LAID BY PIZARRO"
- 7210 DATA "IT IS FAMOUS FOR THE {2 SPACES} ANDES MOUNTAINS AND {3 SPACES} FOR ITS LLAMAS"
- 7220 DATA "IT IS THE NUMBER ONE {2 SPACES} FISHING NATION OF THE WORLD"
- 7230 DATA "THE CAPITAL OF THIS {3 SPACES} NATION IS LIMA", PERU
- 7240 DATAE, "IT AND BOLIVIA ARE {5 SPACES} SOUTH AMERICA'S TWO {3 SPACES} LANDLOCKED NATIONS"
- 7250 DATA "IT LOST 60% OF ITS {4 SPACES} POPULATION IN THE WAR OF TRIPLE ALLIANCE"
- 7260 DATA "MUCH OF ITS LAND WAS {2 SPACES} WON FROM BOLIVIA IN THE CHACO WAR"
- 7270 DATA "THE CAPITAL OF THIS {3 SPACES} NATION IS ASUNCION", PARAGUAY
- 7280 DATAE, "IT PRODUCES 10% OF THE WORLD'S COPPER"
- 7290 DATA "IT PRODUCES HALF OF {3 SPACES} THE WORLD'S IODINE"
- 7300 DATA "IT SHARES THE ISLAND {2 SPACES} OF TIERRA {SPACE} DEL FUEGO {3 SPACES} WITH ARGENTINA"
- 7310 DATA "THE CAPITAL OF THIS {3 SPACES} NATION IS SANTIAGO", CHILE
- 7320 DATAE, "IT HAS LATIN AMERICA'S HIGHEST PER CAPITA {4 SPACES} INCOME"
- 7330 DATA "EUROPEANS MAKE UP 97% OF THIS COUNTRY'S {5 SPACES} POPULATION"

7340 DATA"ITS PAMPAS ARE SIMILARTO THE U.S. GRAIN
{5 SPACES}BELT"
7350 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS B
UENOS{6 SPACES}AIRES",ARGENTINA
7360 DATAE,"CHARUGA INDIANS LIVED HERE UNTIL THE S
PANISHARRIVED IN 1624"
7370 DATA"FLOODS AND DROUGHT{4 SPACES}RAISED ITS C
OST OF{4 SPACES}LIVING 1200% IN NINE
{2 SPACES}YEARS"
7380 DATA"IT IS BORDERED BY{5 SPACES}BRAZIL, ARGEN
TINA AND THE ATLANTIC OCEAN"
7390 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS M
ONTEVIDEO",URUGUAY
7400 DATAE,"IT WON INDEPENDENCE{3 SPACES}FROM GREA
T BRITAIN IN 1776"
7410 DATA"IT IS BORDERED BY{5 SPACES}CANADA, MEXIC
O AND TWOCEANS"
7420 DATA"THE MISSISSIPPI RIVER DIVIDES THE COUNTR
Y"
7430 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS W
ASHINGTON, D.C.", "UNITED STATES"
7440 DATAE,"IN LAND AREA, IT IS{3 SPACES}THE WORLD
'S SECOND{4 SPACES}LARGEST COUNTRY"
7450 DATA"MOST OF ITS PEOPLE{4 SPACES}LIVE NEAR TH
E U.S.{4 SPACES}BORDER"
7460 DATA"ITS FRENCH-SPEAKING{3 SPACES}PEOPLE HAVE
TRIED TO{2 SPACES}SECEDE FROM THE{7 SPACES}N
ATION"
7470 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS O
TTAWA", CANADA
9999 DATAZ

Mother Earth 2

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+Z,X:NEXTX
300 FORX=1TONE:Y=PEEK(CB+X)-1
340 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}{21 DOWN}";SPC(6);"SCORE
{SPACE}=";S%
410 PRINT"{HOME}{2 DOWN} QUESTION #";W+1
420 X%=QT\$(Y,RS(W)-1)
430 PRINT"{3 DOWN}";X%;".{3 DOWN}"
440 GOSUB900:IFX\$="Q"THEN500

Level

4

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445 IFX$="END"THEN600
450 NEXTW
460 GOSUB2000:W=4
470 IFX$="Q"THEN500
475 IFX$="END"THEN600
480 PRINT"{RED}{2 DOWN}{2 SPACES}";QT$(Y,4):S%=S%-
5
490 FORW=1TO2500:NEXTW,X:GOTO600
500 S%=S%+(5-W):POKE36879,30:POKE36878,15:FORV=170
TO220
510 POKE36875,V:NEXTV:POKE36878,0:POKE36875,0:POKE
36879,174
520 NEXTX
600 PRINT"{BLK}{CLR}{DOWN}{6 SPACES}{RVS}TEST OVER
!{OFF}"
610 PRINT"{3 DOWN} YOUR SCORE = ";S%
620 IFS%<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 IFX$="Y"THEN205
680 IFX$<>"N"THEN660
690 POKE36879,27:PRINT"{CLR}":END
700 PRINTCHR$(147);:PRINT"{BLK}{DOWN}{RVS}
{5 SPACES}MOTHER EARTH{5 SPACES}{OFF}";
705 PRINT"{DOWN}YOU WILL BE ASKED UP{2 SPACES}TO 5
QUESTIONS ABOUT{2 SPACES}SELECTED NATIONS OF"
706 PRINT"THE EARTH."
710 PRINT"{DOWN}POINTS WILL BE GIVEN{2 SPACES}DEPE
NDING UPON HOW{4 SPACES}MANY QUESTIONS YOU
{4 SPACES}NEED:{DOWN}"
715 PRINT" 1 QUESTION{2 SPACES}={2 SPACES}5.":PRIN
T" 2 QUESTIONS ={2 SPACES}4."
720 PRINT" 3 QUESTIONS ={2 SPACES}3."
730 PRINT" 4 QUESTIONS ={2 SPACES}2.":PRINT" 5 QUE
STIONS ={2 SPACES}1."
740 PRINT" ALL MISSED{2 SPACES}=-5."
750 PRINT"{DOWN}TYPE {RVS}END{OFF} TO END EARLY.";
785 PRINT"{DOWN}{3 SPACES}(PRESS ANY KEY)";
790 GETX$:IFX$=""THEN790
795 RETURN
800 W=0
810 Z=INT((RND(1)*NE)+1):IFPEEK(CB+Z)=0THENRETURN
820 W=W+1:IFW<9THEN810
830 Z=1
835 IFPEEK(CB+Z)=0THENRETURN
840 Z=Z+1:GOTO835
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900 X$="":POKE198,0:INPUTX$:IFX$=QT$(Y,4)THENX$="Q
":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 CATEGOR
Y{2 DOWN}":PRINT" {RVS}A{OFF} EUROPE"
1010 PRINT"{DOWN} {RVS}B{OFF} N. AFRICA/MID EAST":
PRINT"{DOWN} {RVS}C{OFF} AFRICA"
1020 PRINT"{DOWN} {RVS}D{OFF} ASIA/THE PACIFIC":PR
INT"{DOWN} {RVS}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$THEN1130
1120 FORX=1TO5:READA$:NEXTX:GOTO1080
1130 FORX=0TO4:READA$:QT$(NE,X)=A$:NEXTX:NE=NE+1:G
OTO1080
2000 MC$(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$(X2,4)
2050 FORX1=0TO2:POKEMP+X1,0:NEXTX1
2060 FORX1=1TO3
2070 X2=INT(RND(1)*3):IFPEEK(MP+X2)<>0THEN2070
2080 POKE(MP+X2),X1:NEXTX1
2085 PRINTCHR$(147);"{BLK}{21 DOWN}";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 NEXTX1:PRINT"{DOWN}":GOSUB900:RETURN
3000 DATAA,"THE CITY OF REYKJAVIK BORDERS THE ARCT
IC{4 SPACES}CIRCLE"
3010 DATA"IT WAS A TERRITORY OF DENMARK UNTIL 1944
"
3020 DATA"THE WATER IN THE HOMESIS HEATED BY GEYSE
RS"
3030 DATA"THIS ISLAND HAS A{5 SPACES}VOLCANO AND E
UROPE'S{2 SPACES}LARGEST GLACIER",ICELAND
3270 DATAA,""GOD MADE THE EARTH,{2 SPACES}BUT THE
{SPACE}DUTCH MADE THECOUNTRY"
3280 DATA"A COMMON NAME FOR THISCOUNTRY MEANS 'HOL
LOW LAND'"

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Level

4

- 3290 DATA"ITS WINDMILLS PUMP{4 SPACES}WATER BACK I
NTO THE{3 SPACES}SEA"
- 3300 DATA"ITS CAPITAL IS A MAJORDIAMOND CENTER", "T
HE NETHERLANDS"
- 3310 DATAA, "THE ARDENNES PLATEAU{2 SPACES}IS A CEN
TER OF ZINC{3 SPACES}AND COAL PRODUCTION"
- 3320 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS B
RUSSELS"
- 3330 DATA"THE CONGO (ZAIRE) USED TO BE A COLONY OF
{SPACE}THISCOUNTRY"
- 3340 DATA"ITS LANGUAGE IS A{5 SPACES}MIXTURE OF FL
EMISH AND FRENCH", BELGIUM
- 3350 DATAA, "THOUGH SMALL IN SIZE, IT PRODUCES A LO
T OF{2 SPACES}STEEL"
- 3360 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS L
UXEMBOURG"
- 3370 DATA"IT IS RULED BY A GRANDDUKE AND A PRIME
{6 SPACES}MINISTER"
- 3380 DATA"IT LOST TO GERMANY IN BOTH WORLD WARS", L
UXEMBOURG
- 3690 DATAA, "THE LACK OF NATURAL{3 SPACES}BOUNDARIE
S MAKES ITS{2 SPACES}SHAPE CHANGE OFTEN"
- 3700 DATA"IT HAS BEEN OVERRUN BY AUSTRIA, PRUSSIA A
ND{2 SPACES}RUSSIA"
- 3710 DATA"GERMANY INVADED THIS{2 SPACES}COUNTRY TO
START WORLDWAR II"
- 3720 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS W
ARSAW", POLAND
- 3730 DATAA, "IT IS DIVIDED INTO{4 SPACES}THREE REGI
ONS, ONE OF WHICH IS BOHEMIA"
- 3740 DATA"IT HAS HAD RESTRICTED FREEDOM SINCE RUSS
IA{2 SPACES}INVADED IT IN 1968"
- 3750 DATA"IT CONTAINS THE ELBE{2 SPACES}RIVER AND
{SPACE}THE{9 SPACES}CARPATHIAN MOUNTAINS"
- 3760 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS P
RAGUE", CZECHOSLOVAKIA
- 3770 DATAA, "IT WAS RULED BY TURKS AND OTHER INVADE
RS{4 SPACES}UNTIL 1867"
- 3780 DATA"ITS FIRST KING ALSO{3 SPACES}WAS CO-RULE
R OF{7 SPACES}AUSTRIA"
- 3790 DATA"THE COUNTRY WAS{7 SPACES}OVERRUN BY RUSS
IA IN{2 SPACES}1956"
- 3800 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS B
UDAPEST", HUNGARY
- 3810 DATAA, "ITS PLOESTI OIL FIELDS ARE AMONG THE RI
CHEST IN EUROPE"
- 3820 DATA"COMMUNISTS TOOK OVER{2 SPACES}THIS NATIO
N IN 1947"
- 3830 DATA"AGAINST SOVIET WISHES, IT REMAINS FRIENDL
Y TO WESTERN NATIONS"

- 3840 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS B
UCHAREST", RUMANIA
- 3850 DATAA,"IT OCCUPIES THE{7 SPACES}EASTERN PART
{SPACE}OF THE{3 SPACES}BALKAN PENINSULA"
- 3860 DATA"ITS MANY MOUNTAINS{4 SPACES}CAUSE IT TO
{SPACE}HAVE VERY LITTLE ARABLE LAND"
- 3870 DATA"ONE OF ITS IMPORTANT{2 SPACES}EXPORTS IS
ROSE OIL{3 SPACES}FOR PERFUME"
- 3880 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS S
OFIA", BULGARIA
- 3890 DATAA,"ITS NAME MEANS 'LAND{2 SPACES}OF THE S
OUTHERN{7 SPACES}SLAVS'"
- 3900 DATA"ITS LANGUAGES INCLUDE SLOVENIAN, MACEDON
IAN AND SERBO-CROATIAN"
- 3910 DATA"ITS RULER, TITO, KEPT THIS COMMUNIST COU
NTRYSEPARATE FROM RUSSIA"
- 3920 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS B
ELGRADE", YUGOSLAVIA
- 3930 DATAA,"THOUGH A SOVIET{7 SPACES}SATELLITE, IT
USUALLY SIDES WITH CHINA"
- 3940 DATA"ITS CHIEF PRODUCTS AREMARKETED MAINLY BY
{4 SPACES}CHINA"
- 3950 DATA"IT WAS RULED BY THE{3 SPACES}TURKS FOR O
VER 400{4 SPACES}YEARS"
- 3960 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS T
IRANA", ALBANIA
- 4010 DATAA,"MOZAMBIQUE AND ANGOLA WERE FORMERLY RU
LED BYTHIS COUNTRY"
- 4020 DATA"MADEIRA AND THE AZORESARE BOTH RULED BY
{SPACE}THISCOUNTRY"
- 4030 DATA"THE COUNTRY IS DIVIDEDBY THE TAGUS RIVER
"
- 4040 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS L
ISBON", PORTUGAL
- 4080 DATAB,"THIS MEDITERRANEAN{4 SPACES}ISLAND WAS
CONTROLLED BY BRITAIN UNTIL 1960"
- 4090 DATA"BOTH GREECE AND TURKEYHAVE FOUGHT FOR
{7 SPACES}CONTROL OF THIS{7 SPACES}COUNTRY"
- 4100 DATA"THE CONSTITUTION CALLSFOR BOTH GREEK AND
{4 SPACES}TURKISH LEADERS"
- 4110 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS N
ICOSIA", CYPRUS
- 4400 DATAB,"THIS IS ONE OF THE FEWMID-EAST NATIONS
WITH ENOUGH RAINFALL FOR{3 SPACES}FARMING"
- 4410 DATA"IT WAS ONCE PART OF{3 SPACES}SHEBA, WHOS
E QUEEN{4 SPACES}ACHIEVED BIBLICAL{5 SPACES}F
AME"
- 4420 DATA"MANY OF ITS PEOPLE ARESUPPORTED BY OIL-R
ICH RELATIVES IN OTHER{4 SPACES}NATIONS"

Level

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- 4430 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS S ANAA",YEMEN
- 4440 DATAB,"ITS CAPITAL SUPPLIED{2 SPACES}INCENSE, SILK AND{5 SPACES}SPICES IN BIBLICAL {4 SPACES}TIMES"
- 4450 DATA"IT CONTROLS THE{7 SPACES}ISLANDS OF SOCO TRA,{3 SPACES}KAMARAN AND PERIM"
- 4460 DATA"ITS BIGGEST ASSET IS{2 SPACES}THE GULF O F ADEN{6 SPACES}SEAPORT"
- 4470 DATA"THE CAPITAL AND ONLY{2 SPACES}MAJOR CITY IS ADEN","SOUTH YEMEN"
- 4480 DATAB,"IT OCCUPIES THE{7 SPACES}EASTERN CORNE R OF THE ARABIAN PENINSULA"
- 4490 DATA"IT RULED ZANZIBAR{5 SPACES}UNTIL THE 186 1 BRITISHINTERVENTION"
- 4500 DATA"IT IS RULED BY A{6 SPACES}SULTAN"
- 4510 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS M USKAT",OMAN
- 4520 DATAB,"IT WAS FORMED FROM 3{2 SPACES}BRITISH {SPACE}SHEIKDOMS AND THE 7 TRUCIAL STATES"
- 4530 DATA"ITS OIL INCOME GIVES{2 SPACES}IT ONE OF {SPACE}THE HIGHEST PER CAPITA INCOMES IN THE {SPACE}WORLD"
- 4540 DATA"QATAR SECEDED FROM THEFEDERATION IN 1971 "
- 4550 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS A BU DHABI","U. ARAB EMIRATES"
- 4560 DATAB,"ITS LACK OF SKILLED{3 SPACES}LABOR RES TRICTS ITS{3 SPACES}PER CAPITA INCOME TO {2 SPACES}\$18,000"
- 4570 DATA"IT BECAME INDEPENDENT OF THE UNITED ARAB {4 SPACES}EMIRATES IN 1971"
- 4580 DATA"IT WAS CONQUERED BY{3 SPACES}BAHRAIN, TU RKEY AND{3 SPACES}GREAT BRITAIN"
- 4590 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS D OHA",QATAR
- 4600 DATAB,"THOUGH A SMALL NATION,IT RANKS 7TH IN {SPACE}THE{3 SPACES}WORLD IN OIL PRODUCED"
- 4610 DATA"IT IS BORDERED BY{5 SPACES}IRAQ, SAUDI A RABIA,{3 SPACES}AND THE PERSIAN GULF"
- 4620 DATA"IT HAS BEEN RULED BY{2 SPACES}THE AL-SAB AH DYNASTY{2 SPACES}SINCE 1759"
- 4630 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS K UWAIT",KUWAIT
- 4720 DATAB,"IT IS LOCATED BETWEEN LIBYA AND ALGERI A"
- 4730 DATA"THANKS TO FRENCH{6 SPACES}CONTROL, IT HA S GOOD{2 SPACES}PORTS AND RAILROADS"

- 4740 DATA"THE ANCIENT POWER OF{2 SPACES}CARTHAGE W
AS LOCATED{2 SPACES}HERE"
- 4750 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS T
UNIS",TUNISIA
- 4760 DATAB,"IT WAS PART OF THE{4 SPACES}FRENCH NAT
ION, NOT A{2 SPACES}COLONY"
- 4770 DATA"25% OF THE POPULATION SPEAKS BERBER
{9 SPACES}DIALECTS"
- 4780 DATA"IT IS BORDERED BY{5 SPACES}TUNISIA, LIBY
A AND{4 SPACES}MOROCCO"
- 4790 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS A
LGIERS",ALGERIA
- 4800 DATAB,"ITS CITY OF TANGIER IS ONE OF THE WORLD
'S{4 SPACES}GREAT FREE PORTS"
- 4810 DATA"ITS MOST FAMOUS CITIES ARE CASABLANCA AND
{4 SPACES}MARRAKECH"
- 4820 DATA"ITS PORTS WERE ONCE{3 SPACES}RULED BY SP
AIN BUT THE COUNTRY WAS RULED BY{2 SPACES}FRAN
CE"
- 4830 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS R
ABAT",MOROCCO
- 4840 DATAC,"LOCATED SOUTH OF{6 SPACES}MOROCCO, THI
S STATE IS PEOPLED WITH NOMADS"
- 4850 DATA"IT ANNEXED THE SOUTH{2 SPACES}PART OF TH
E SPANISH{3 SPACES}SAHARA IN 1976"
- 4860 DATA"IN 1980, IT GAVE ITS{2 SPACES}SHARE OF T
HE SPANISH{2 SPACES}SAHARA TO MOROCCO"
- 4870 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS N
OUAKHOTT",MAURITANIA
- 4920 DATAC,"GUINEA-BISSAU ACHIEVED INDEPENDENCE FRO
M THIS NATION IN 1976"
- 4930 DATA"IT CONTAINS UP TO HALF OF THE WORLD'S
{8 SPACES}BAUXITE"
- 4940 DATA"IT BROKE FROM FRANCE, THEN BECAME COMMUN
IST TO GET RUSSIAN AID"
- 4950 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS C
ONAKRY",GUINEA
- 5000 DATAC,"ITS ECONOMY HAS BEEN{2 SPACES}HELPED B
Y THE CALCIUM PHOSPHATE INDUSTRY"
- 5010 DATA"ITS POPULATION IS MADE UP OF BANTU AND
{7 SPACES}HAMITIC TRIBES"
- 5020 DATA"THIS FRENCH TERRITORY WAS LOST BY THE
{7 SPACES}GERMANS IN WORLD WAR{2 SPACES}II"
- 5030 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS L
OME",TOGO
- 5040 DATAC,"THE COUNTRY WAS KNOWN AS DAHOMEY UNTIL
1975"
- 5050 DATA"THE FORMER KINGDOM OF ABOMEY BECAME A
{7 SPACES}SOCIALIST STATE IN{4 SPACES}1974"

Level

4

- 5060 DATA"THE PORT OF COTONOU IS ITS GREATEST ASSET
"
- 5070 DATA"IT HAS TWO CAPITALS --PORTO-NOVO AND
{8 SPACES}COTONOU", BENIN
- 5080 DATA, "IT WAS CONTROLLED BY{2 SPACES}BOTH THE
FRENCH AND{3 SPACES}THE BRITISH UNTIL
{5 SPACES}1960"
- 5090 DATA"ITS OFFICIAL LANGUAGES ARE FRENCH AND
{8 SPACES}ENGLISH"
- 5100 DATA"HALF OF ITS BRITISH{3 SPACES}SECTOR WAS
{SPACE}ANNEXED TO NIGERIA IN 1961"
- 5110 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS Y
AOUNDE", CAMEROON
- 5120 DATA, "THE ALBERT SCHWEITZER LAMBARENE HOSPIT
AL IS LOCATED HERE"
- 5130 DATA"MUCH OF ITS WEALTH HAS COME FROM ITS HARD
WOODFORESTS"
- 5140 DATA"HUGE DEPOSITS OF{6 SPACES}URANIUM AND MA
NGANESE HAVE BEEN FOUND HERE"
- 5150 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS L
IBREVILLE", GABON
- 5240 DATA, "BRITAIN ESTABLISHED{3 SPACES}ITS CAPIT
AL AS A FREE SLAVE SANCTUARY"
- 5250 DATA"MORE THAN 60,000{6 SPACES}DESCENDANTS OF
SLAVES (CREOLES) LIVE HERE"
- 5260 DATA"IT IS LOCATED ON THE{2 SPACES}ATLANTIC,
{SPACE}BETWEEN{5 SPACES}LIBERIA AND GUINEA"
- 5270 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS F
REETOWN", "SIERRA LEONE"
- 5280 DATA, "IT BECAME BRITAIN'S{3 SPACES}FIRST AFR
ICAN{9 SPACES}POSSESSION IN 1588"
- 5290 DATA"IT IS SURROUNDED BY{3 SPACES}SENEGAL ON
{SPACE}THREE{6 SPACES}SIDES"
- 5300 DATA"ITS CROPS OF PEANUTS{2 SPACES}AND RICE A
RE GROWN{4 SPACES}ALONG THE GAMBIA{6 SPACES}R
IVER"
- 5310 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS B
ANJUL", "THE GAMBIA"
- 5440 DATA, "IT IS LOCATED ON THE{2 SPACES}EASTERN
{SPACE}HORN OF{7 SPACES}AFRICA"
- 5450 DATA"MANY OF ITS NOMAD{5 SPACES}PEOPLE LIVE O
UTSIDE{3 SPACES}THE COUNTRY'S BORDERS"
- 5460 DATA"A SMALL AREA IS STILL CONTROLLED BY THE
{5 SPACES}FRENCH"
- 5470 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS M
OGADISHU", SOMALIA
- 5520 DATA, "IT WAS CREATED WHEN{3 SPACES}TANGANYIK
A AND{8 SPACES}ZANZIBAR MERGED"

5530 DATA "MOUNT KILIMANJARO IS{2 SPACES}LOCATED IN
THIS{7 SPACES}NATION"
5540 DATA "ITS ISLAND OF ZANZIBAR WAS ONCE THE CENTE
R OF ARAB SLAVE TRADING"
5550 DATA "THIS NATION'S CAPITAL IS DAR-ES-SALAAM",
TANZANIA
5600 DATAC, "ITS PREVIOUS NAME WAS THE BELGIAN CONG
O"
5610 DATA "ONE OF THE WORLD'S{4 SPACES}LARGEST RIVE
RS, THE{3 SPACES}ZAIRE, IS HERE"
5620 DATA "TWO-THIRDS OF THE{5 SPACES}WORLD'S COBAL
T COMES{2 SPACES}FROM HERE"
5630 DATA "THE CAPITAL OF THIS{3 SPACES}NATION IS K
INSHASA", ZAIRE
5640 DATAC, "IT SHARES THE NAME OF AFRICA'S SECOND
{7 SPACES}LARGEST RIVER"
5650 DATA "THOUGH A FRENCH{7 SPACES}SPEAKING COUNTR
Y, IT{2 SPACES}IS A SOCIALIST NATION"
5660 DATA "IT CONSISTS OF A STRIP OF LAND BETWEEN GA
BON AND ZAIRE"
5670 DATA "THE CAPITAL OF THIS{3 SPACES}NATION IS B
RAZZAVILLE", CONGO
5680 DATAC, "IT WAS CALLED NORTHERN RHODESIA UNTIL I
TS{4 SPACES}INDEPENDENCE IN 1964"
5690 DATA "IT GOT INDEPENDENCE{3 SPACES}FROM BRITAI
N ALONG{4 SPACES}WITH RHODESIA AND{5 SPACES}M
ALAWI"
5700 DATA "IT IS THE WORLD'S{5 SPACES}FOURTH LARGES
T COPPER PRODUCER"
5710 DATA "THE CAPITAL OF THIS{3 SPACES}NATION IS L
USAKA", ZAMBIA
5760 DATAC, "ITS MAIN GEOGRAPHICAL FEATURE IS THE Z
AMBEZIRIVER"
5770 DATA "IT WAS CONTROLLED BY{2 SPACES}PORTUGAL F
ROM 1505 TO 1975"
5780 DATA "ITS NEW MAOIST LEADERS HAVE CLOSED PRIVAT
E{3 SPACES}SCHOOLS"
5790 DATA "THE CAPITAL OF THIS{3 SPACES}NATION IS M
APUTO", MOZAMBIQUE
5800 DATAC, "A PORTUGUESE COLONY{3 SPACES}UNTIL 197
5, IT'S 12{3 SPACES}TIMES THE SIZE OF
{5 SPACES}PORTUGAL"
5810 DATA "IT WAS UNCOLONIZED{4 SPACES}UNTIL 400,00
0{9 SPACES}PORTUGUESE MOVED THERE RECENTLY"
5820 DATA "ITS MARXIST GOVERNMENT WAS ESTABLISHED WI
TH{2 SPACES}HELP FROM THE USSR AND CUBA"
5830 DATA "THE CAPITAL OF THIS{3 SPACES}NATION IS L
UANDA", ANGOLA

Level

4

- 5840 DATAC, "THIS INDIAN ISLAND{4 SPACES}NATION IS
{SPACE}THE SIZE OF TEXAS"
- 5850 DATA"IT SUPPLIES 80% OF THEWORLD'S VANILLA"
- 5860 DATA"THE NATION'S PEOPLE{3 SPACES}ARE OF INDO
NESIAN{5 SPACES}DESCENT"
- 5870 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS
{13 SPACES}ANTANANARIVO",MADAGASCAR
- 5920 DATAC, "IT WAS A BRITISH{6 SPACES}PROTECTORATE
KNOWN AS BECHUANALAND UNTIL{4 SPACES}1966"
- 5930 DATA"AFRICA'S BUSHMEN MAKE THEIR HOME HERE"
- 5940 DATA"IT WAS CREATED BY THE BRITISH TO PROTECT
THETRIBESMEN FROM THEIR{2 SPACES}ENEMIES"
- 5950 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS G
ABORONE",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 PROTEC
TED IT FROM SOUTH AFRICA"
- 5990 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS M
ASERU",LESOTHO
- 6080 DATAD, "IT WAS FORMERLY KNOWN AS EAST PAKISTAN
"
- 6090 DATA"THE MOUTH OF THE{6 SPACES}GANGES RIVER I
S FOUND HERE"
- 6100 DATA"IT IS ALMOST ENTIRELY SURROUNDED BY INDI
A"
- 6110 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS D
ACCA",BANGLADESH
- 6160 DATAD, "IN RECENT HISTORY,{4 SPACES}THIS COUNT
RY WAS KNOWNAS CEYLON"
- 6170 DATA"IT WAS ONCE CALLED{4 SPACES}SERENDIP, TH
E ROOT{4 SPACES}WORD OF 'SERENDIPITY'"
- 6180 DATA"IT IS AN ISLAND OFF{3 SPACES}THE SOUTHER
N TIP OF{3 SPACES}INDIA"
- 6190 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS C
OLUMBO", "SRI LANKA"
- 6400 DATAD, "THE IRAWADDY RIVER CANBE NAVIGATED FOR
900{2 SPACES}MILES IN THIS COUNTRY"
- 6410 DATA"CONQUERED BY BRITAIN{2 SPACES}THREE TIME
S, IT WAS{3 SPACES}RULED BY THEM UNTIL
{3 SPACES}1937"
- 6420 DATA"ITS CHIEF RESOURCES{3 SPACES}ARE RUBIES
{SPACE}AND{8 SPACES}TEAKWOOD"
- 6430 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS R
ANGOON",BURMA
- 6440 DATAD, "EACH MAN HERE MUST BE A BUDDHIST MONK
{SPACE}FOR{3 SPACES}PART OF HIS LIFE"

- 6450 DATA"IT WAS FORMERLY CALLEDSIAM"
- 6460 DATA"NO EUROPEAN COUNTRY{3 SPACES}HAS EVER CO
NTROLLED{3 SPACES}THIS SOUTHEAST ASIAN
{2 SPACES}COUNTRY"
- 6470 DATA"ITS CAPITAL OF BANGKOKHAS MORE CANALS TH
AN{2 SPACES}VENICE",THAILAND
- 6560 DATAD,"THIS ARCHIPELAGO{6 SPACES}EXTENDS INTO
BOTH THE INDIAN AND PACIFIC{4 SPACES}OCEANS"
- 6570 DATA"THE CHIEF OF ITS{6 SPACES}13,000 ISLANDS
IS{5 SPACES}JAVA"
- 6580 DATA"THE ISLAND OF JAVA{4 SPACES}CONTAINS 1,5
00 PERSONSPER SQUARE MILE"
- 6590 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS J
AKARTA",INDONESIA
- 6600 DATAD,"THE SPANISH FOUNDED{3 SPACES}ITS MAIN
{SPACE}CITY, AND ITSCURRENCY IS THE PESO"
- 6610 DATA"ITS ISLANDS BEAR THE{2 SPACES}NAME OF KI
NG PHILIP IIOF SPAIN"
- 6620 DATA"ITS MAIN LANGUAGES AREFILIPINO, ENGLISH
{SPACE}AND SPANISH"
- 6630 DATA"ITS CAPITAL IS QUEZON CITY AND ITS CHIEF
{4 SPACES}CITY IS MANILA",PHILIPPINES
- 6680 DATAD,"CAPTAIN COOK CLAIMED{2 SPACES}THIS ISL
AND GROUP FOR BRITAIN IN 1769"
- 6690 DATA"IT WAS SETTLED FIRST{2 SPACES}BY MAORIS
{SPACE}AND THEN BY THE BRITISH"
- 6700 DATA"IT CONSISTS OF THE{4 SPACES}SOUTHERNMOST
ISLANDS{2 SPACES}OF POLYNESIA"
- 6710 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS W
ELLINGTON", "NEW ZEALAND"
- 6760 DATAE,"THE NATION OF BELIZE{2 SPACES}IS CLAIM
ED BY THIS{4 SPACES}COUNTRY"
- 6770 DATA"IT IS LOCATED BETWEEN MEXICO AND HONDURA
S"
- 6780 DATA"IT HAS THE LARGEST{4 SPACES}POPULATION O
F ALL THE CENTRAL AMERICAN{6 SPACES}NATIONS"
- 6790 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS G
UATEMALA{3 SPACES}CITY",GUATEMALA
- 6800 DATAE,"COLUMBUS ARRIVED HERE ON HIS FINAL VOY
AGE IN1502"
- 6810 DATA"ITS LANGUAGES ARE{5 SPACES}ENGLISH AND S
PANISH,{2 SPACES}AND 90% OF ITS PEOPLE ARE ME
STIZO"
- 6820 DATA"IT IS BORDERED BY{5 SPACES}GUATEMALA, NI
CARAGUA{2 SPACES}AND EL SALVADOR"
- 6830 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS T
EGUCIGALPA",HONDURAS
- 6840 DATAE,"IT'S CENTRAL AMERICA'SSMALLEST NATION"

Level

4

- 6850 DATA"IT'S THE ONLY CENTRAL AMERICAN COUNTRY WITH NO SEACOAST"
- 6860 DATA"ITS WORKERS IN{8 SPACES}HONDURAS HAVE CAUSED{2 SPACES}PROBLEMS WITH THAT{4 SPACES}COUNTRY"
- 6870 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS SAN AN{9 SPACES}SALVADOR", "EL SALVADOR"
- 6880 DATAE, "IT HAS THE LARGEST{4 SPACES}LAND MASS {SPACE}OF ALL THE{2 SPACES}CENTRAL AMERICAN {6 SPACES}NATIONS"
- 6890 DATA"THE U.S. WANTS AN{5 SPACES}ATLANTIC-TO-PACIFIC{3 SPACES}CANAL TO BE BUILT{5 SPACES}HERE"
- 6900 DATA"IT IS BETWEEN HONDURASAND CENTRAL AMERICA"
- 6910 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS MANAGUA", NICARAGUA
- 6920 DATAE, "ITS 90% LITERACY RATE IS THE HIGHEST IN{5 SPACES}CENTRAL AMERICA"
- 6930 DATA"ITS STANDARD OF LIVINGIS HIGHEST OF ANY {5 SPACES}CENTRAL AMERICAN{6 SPACES}NATION"
- 6940 DATA"ITS ECONOMY IS BASED{2 SPACES}MAINLY ON {SPACE}SMALL{7 SPACES}INDEPENDENT FARMS"
- 6950 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS SAN JOSE", "COSTA RICA"
- 7000 DATAE, "THESE 3 NORTH COAST{3 SPACES}COUNTRIES ARE FORMER{2 SPACES}BRITISH COLONIES"
- 7010 DATA"THEY ARE COMPOSED OF{2 SPACES}FRENCH GUIANA, SURINAMAND GUYANA"
- 7020 DATA"ONE OF THESE 3 NATIONSUSED TO BE A FRENCH{3 SPACES}PRISON COLONY"
- 7030 DATA"ITS CAPITALS ARE{6 SPACES}GEORGETOWN, CAYENNE, {2 SPACES}AND PARAMARIBO", "THE GUIANAS"
- 7080 DATAE, "IT IS THE ONLY SOUTH{2 SPACES}AMERICAN COUNTRY WITH ATLANTIC AND PACIFIC{2 SPACES}COASTS"
- 7090 DATA"ONLY BRAZIL PRODUCES{2 SPACES}MORE COFFEE THAN THIS COUNTRY"
- 7100 DATA"IT PRODUCES 95% OF THEWORLD'S EMERALDS"
- 7110 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS BOGOTA", COLOMBIA
- 7120 DATAE, "IT OCCUPIES THE WEST{2 SPACES}HALF OF {SPACE}THE ISLAND OF HISPANIOLA"
- 7130 DATA"ITS CHIEF EXPORTS ARE RUM AND MOLASSES, {SPACE}AND IT IS POPULAR WITH{4 SPACES}TOURISTS"
- 7140 DATA"ITS CITIZENS ARE{6 SPACES}DESCENDED FROM AFRICANSLAVES"

7150 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS
 {13 SPACES}PORT-AU-PRINCE",HAITI
 7160 DATAE,"IT SHARES THE ISLAND{2 SPACES}OF HISPA
 NIOLA WITH{4 SPACES}HAITI"
 7170 DATA"COLUMBUS'S ASHES ARE{2 SPACES}HERE"
 7180 DATA"IT BOASTS THE WORLD'S LARGEST SUGAR MILL"
 7190 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS S
 ANTO{7 SPACES}DOMINGO","DOMINICAN REPUBLIC"
 7200 DATAE,"IF THE U.S. EVER ADDS ANOTHER STATE, T
 HIS{3 SPACES}WILL BE IT"
 7210 DATA"IT SENDS A NON-VOTING REPRESENTATIVE TO
 {SPACE}THE U.S. CONGRESS"
 7220 DATA"ITS CITIZENS ARE ALSO CITIZENS OF THE U.
 S"
 7230 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS S
 AN JUAN","PUERTO RICO"
 7240 DATAE,"IT IS SELF-GOVERNING, THOUGH UNDER BRI
 TISH{2 SPACES}CONTROL"
 7250 DATA"THE ARAWAK INDIANS WHOLIVED HERE WERE KI
 LLED BY SPAIN"
 7260 DATA"IT SPEAKS ENGLISH, BUTTIES ITSELF WITH C
 UBA AND RUSSIA"
 7270 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS K
 INGSTON",JAMAICA
 7280 DATAE,"THEY ARE A GROUP OF{3 SPACES}700 ISLAN
 DS EAST OF{3 SPACES}FLORIDA"
 7290 DATA"COLUMBUS FIRST REACHEDTHE NEW WORLD HERE
 "
 7300 DATA"THEIR INCOME COMES{4 SPACES}FROM TOURISM
 , RUM,{4 SPACES}DRUGS AND BANKING"
 7310 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS N
 ASSAU",BAHAMAS
 7320 DATAE,"ITS NAME IS SPANISH{3 SPACES}FOR 'EQUA
 TOR'"
 7330 DATA"IT IS THE WORLD'S{5 SPACES}LARGEST PRODU
 CER OF{3 SPACES}BANANAS"
 7340 DATA"ITS THE WORLD'S MAIN{2 SPACES}PRODUCER O
 F BALSAL{5 SPACES}WOOD"
 7350 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS Q
 UITO",ECUADOR
 7360 DATAE,"ONLY MALAYSIA PRODUCESMORE TIN THAN TH
 IS{4 SPACES}COUNTRY"
 7370 DATA"THE ANDES MOUNTAINS{3 SPACES}FORM ITS WE
 STERN{6 SPACES}BORDER"
 7380 DATA"CHILE CAPTURED THIS{3 SPACES}COUNTRY'S P
 ACIFIC{5 SPACES}COAST"
 7390 DATA"THE CAPITAL OF THIS{3 SPACES}NATION IS L
 A PAZ",BOLIVIA
 9999 DATAZ

Level

4

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

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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=1TOY:READX$:NEXTW
330 FORW=1TO5:READX$: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=1
    TO150: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

```

Level

4

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480 GOTO600
500 S%=S%+(4-W):POKE36879,30:POKE36878,15:FORV=170
    TO240
510 POKE36875,V:NEXTV:POKE36878,0:POKE36875,0:POKE
    36879,27
520 NEXTX
600 PRINT"{BLK}{CLR}{DOWN}{7 SPACES}{RVS}FINISHED
    {OFF}"
610 PRINT"{3 DOWN}YOUR SCORE = ";S%
620 IFS%<0THENS%=0
625 X=X-1:IFX<1THENX=1
630 X=INT((S%*100)/(X*4))
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 IFX$="Y"THEN205
680 IFX$<>"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}={2 SPACES}4.":PRIN
    T" 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.:"
785 PRINT"{2 DOWN}{3 SPACES}(PRESS ANY KEY)"
790 GETX$:IFX$=""THEN790
795 RETURN
800 W=0
810 Z=INT((RND(1)*NP)+1):IFPEEK(CB+Z)=0THENRETURN
820 W=W+1:IFW<10THEN810
830 Z=1
835 IFPEEK(CB+Z)=0THENRETURN
840 Z=Z+1:GOTO835
1000 DATA"SERVED FROM 1789 TO1797"
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 BEDEFEATED FOR
{10 SPACES}REELECTION"
- 1040 DATA"WAS THE FIRST TO{3 SPACES}?LIVE IN THE WH
ITE{5 SPACES}HOUSE"
- 1050 DATA"ERRONEOUSLY SAID ONHIS DEATHBED,
{9 SPACES}'JEFFERSON STILL{6 SPACES}LIVES'"
- 1055 DATA"SERVED FROM 1797 TO1801"
- 1060 DATA"J ADAMS", "WAS THE SECOND{5 SPACES}PRESID
ENT BORN IN{5 SPACES}VIRGINIA"
- 1070 DATA"BEAT CHARLES{7 SPACES}PINCKNEY IN A
{9 SPACES}REELECTION"
- 1075 DATA"DIED ON AMERICA'S{2 SPACES}50TH ANNIVERS
ARY"
- 1080 DATA"SERVED FROM 1801 TO1809", "T JEFFERSON"
- 1090 DATA"WAS CALLED THE{5 SPACES}'FATHER OF THE
{8 SPACES}CONSTITUTION'"
- 1100 DATA"HAD BOTH OF HIS{4 SPACES}VICE-PRESIDENTS
DIE INOFFICE"
- 1110 DATA"DECIDED TO ENTER{3 SPACES}THE WAR OF 181
2", "SERVED FROM 1809 TO1817", "J MADISON"
- 1120 DATA"WAS A STUDENT OF{3 SPACES}THOMAS JEFFERS
ON"
- 1130 DATA"WAS BOTH SECRETARY OF STATE AND SECRETAR
YOF WAR"
- 1140 DATA"WAS THE FOURTH{5 SPACES}PRESIDENT BORN I
N{5 SPACES}VIRGINIA"
- 1150 DATA"SERVED FROM 1817 TO1825", "J MONROE"
- 1160 DATA"WAS SECRETARY TO{3 SPACES}RUSSIA'S U.S.
{SPACE}MINISTERAT AGE 14"
- 1170 DATA"WON HIS OFFICE{5 SPACES}THANKS TO HENRY
{SPACE}CLAY"
- 1180 DATA"PUBLISHED POETRY", "SERVED FROM 1825 TO18
29", "Q ADAMS"
- 1190 DATA"WAS THE 1ST TO{5 SPACES}EXPERIENCE AN AS
SASSI-NATION ATTEMPT"
- 1200 DATA"WAS THE HERO OF THEBATTLE OF NEW ORLEANS
"
- 1210 DATA"WAS OUR 7TH PRESI- DENT", "WAS NICKNAMED
{SPACE}'OLD HICKORY'", "A JACKSON"
- 1220 DATA"RAN TWICE AS A{5 SPACES}DEMOCRAT, AND ON
CE AS A 'FREE SOIL' CAND-{3 SPACES}IDATE"
- 1230 DATA"LOST POPULARITY DUE TOTHE DEPRESSION OF
{SPACE}1837"
- 1240 DATA"WAS VICE-PRESIDENT UNDER ANDREW JACKSON"
- 1250 DATA"WAS OUR 8TH PRES-{2 SPACES}IDENT, AND SE
RVED FROM1837 TO 1841", "M VAN BUREN"
- 1260 DATA"WAS THE OLDEST MAN EVER TO BE SWORN IN A
SPRESIDENT, EXCEPT FOR REAGAN"

Level

4

- 1270 DATA"DIED FROM A COLD{3 SPACES}CAUGHT DURING
{SPACE}HIS{5 SPACES}INAUGURAL ADDRESS"
- 1280 DATA"WAS THE FIRST TO{3 SPACES}DIE IN OFFICE"
- 1290 DATA"WAS OUR 9TH PRES-{2 SPACES}IDENT, AND SE
RVED FOR ONLY 31 DAYS", "W HARRISON"
- 1300 DATA"HAD THE NICKNAME INOFFICE OF 'OLD VETO'
- 1310 DATA"WAS THE 1ST PRES-{2 SPACES}IDENT IN DANG
ER OF{4 SPACES}IMPEACHMENT"
- 1320 DATA"WAS THE 1ST PRES-{2 SPACES}IDENT TO TAKE
OFFICE{2 SPACES}AFTER A PRESIDENT'S
{3 SPACES}DEATH"
- 1330 DATA"WAS OUR 10TH PRES- IDENT, AND SERVED FRO
M1841 TO 1845", "J TYLER"
- 1340 DATA"BEAT HENRY CLAY BY 38,000 VOTES"
- 1350 DATA"ANNEXED TEXAS AND{2 SPACES}OREGON TO THE
U.S"
- 1360 DATA"HAD GEORGE DALLAS{2 SPACES}AS HIS VICE-P
RESIDENT"
- 1370 DATA"WAS OUR 11TH PRES- IDENT, AND SERVED FRO
M1845 TO 1849", "J POLK"
- 1380 DATA"HAD THE NICKNAME OF 'OLD ROUGH AND READY'
"
- 1390 DATA"WAS A 2ND COUSIN OFJAMES MADISON"
- 1400 DATA"DIED FROM EATING{3 SPACES}TOO MANY CHERR
IES"
- 1410 DATA"WAS OUR 12TH PRES- IDENT, AND SERVED FRO
M1849 TO 1850", "Z TAYLOR"
- 1420 DATA"BEGAN HIS CAREER ASAN APPRENTICE WOOL-
{3 SPACES}CARDER"
- 1430 DATA"SERVED AS MEDIATOR IN A GUANO DISPUTE"
- 1440 DATA"SERVED AS VICE-{4 SPACES}PRESIDENT TO ZA
CHARY{2 SPACES}TAYLOR"
- 1450 DATA"WAS OUR 13TH PRES- IDENT, AND SERVED FRO
M1850 TO 1853", "M FILLMORE"
- 1460 DATA"WAS A BRIGADIER{4 SPACES}GENERAL IN THE
{SPACE}MEXICANWAR"
- 1470 DATA"WAS THE YOUNGEST{3 SPACES}U.S. SENATOR A
T AGE{3 SPACES}33"
- 1480 DATA"HAD WILLIAM R. KINGAS HIS VICE-PRESIDENT
"
- 1490 DATA"WAS OUR 14TH PRES- IDENT, AND SERVED FRO
M1853 TO 1857", "F PIERCE"
- 1500 DATA"WAS AGAINST FREEINGTHE SLAVES BECAUSE
{4 SPACES}THEY WOULD TAKE OVER{2 SPACES}THE S
OUTH"
- 1510 DATA"TRIED 3 TIMES{6 SPACES}BEFORE FINALLY BE
ING{2 SPACES}NOMINATED AS{10 SPACES}PRESIDENT
"

- 1520 DATA"WAS OUR 15TH PRES- IDENT, AND SERVED FRO
M1857 TO 1861"
- 1530 DATA"WAS OUR ONLY{7 SPACES}BACHELOR PRESIDENT
", "J BUCHANAN"
- 1540 DATA"BEAT STEPHEN{7 SPACES}DOUGLAS IN A FAMOU
S{3 SPACES}SENATORIAL RACE"
- 1550 DATA"WAS THE 1ST PRES-{2 SPACES}IDENT TO BE A
SSASS-{3 SPACES}INATED"
- 1560 DATA"WAS OUR 16TH PRES- IDENT, AND SERVED FRO
M1861 TO 1865"
- 1570 DATA"WAS KNOWN AS THE{3 SPACES}'GREAT EMANCIP
ATOR'", "A LINCOLN"
- 1580 DATA"WAS A SOUTHERN{5 SPACES}SENATOR WHO REMA
INED{2 SPACES}LOYAL TO THE NORTH IN THE CIVIL
WAR"
- 1590 DATA"WAS OUR 17TH PRES- IDENT, AND SERVED FRO
M1865 TO 1869"
- 1600 DATA"WAS VICE-PRESIDENT UNDER LINCOLN"
- 1610 DATA"WAS IMPEACHED AND{2 SPACES}ACQUITTED", "A
JOHNSON"
- 1620 DATA"WAS A TEETOTALER,{2 SPACES}BUT SMOKED 20
CIGARS{2 SPACES}EACH DAY"
- 1630 DATA"WAS HELPED TO{6 SPACES}ELECTION BY THE N
EWLY FREED SLAVES"
- 1640 DATA"WAS KNOWN AS{7 SPACES}AMERICA'S GREATEST
WARHERO"
- 1650 DATA"WAS OUR 18TH PRES- IDENT, AND SERVED FRO
M1869 TO 1877", "U GRANT"
- 1660 DATA"HAD A WIFE WITH THENICKNAME OF
{11 SPACES}'LEMONADE LUCY'"
- 1670 DATA"WON THE PRESIDENCY WITH 250,000 VOTES
{4 SPACES}LESS THAN HIS{9 SPACES}OPPONENT"
- 1680 DATA"WON THE PRESIDENCY BY 1 ELECTORAL VOTE"
- 1690 DATA"WAS OUR 19TH PRES- IDENT, AND SERVED FRO
M1877 TO 1881", "R HAYES"
- 1700 DATA"WAS A FORMER LAY{3 SPACES}MINISTER AND
{10 SPACES}EVANGELIST"
- 1710 DATA"WAS OPPOSED TO WAR OR SLAVERY BECAUSE OF
HIS RELIGION"
- 1720 DATA"WAS THE 2ND PRES-{2 SPACES}IDENT TO BE A
SSASS-{3 SPACES}INATED"
- 1730 DATA"WAS OUR 20TH PRES- IDENT, AND SERVED
{5 SPACES}DURING 1881", "J GARFIELD"
- 1740 DATA"WAS FROM VERMONT,{2 SPACES}BUT MAY HAVE
{SPACE}BEEN BORNIN CANADA"
- 1750 DATA"HAD NO VICE-{7 SPACES}PRESIDENT"
- 1760 DATA"WAS VICE-PRESIDENT TO JOHN GARFIELD"
- 1770 DATA"WAS OUR 21ST PRES- IDENT, AND SERVED FRO
M1881 TO 1885", "C ARTHUR"

Level

4

- 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 PRES- IDENT, AND SERVED FRO
M 1889 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 PRES- IDENT, AND SERVED FRO
M 1897 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 PRES- IDENT, AND SERVED FRO
M 1901 TO 1909"
- 1920 DATA"WAS THE FOUNDER OF THE NATIONAL PARK
{5 SPACES}SYSTEM"
- 1930 DATA"ORGANIZED THE{6 SPACES}'ROUGH RIDERS'", "
T 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
REME COURT AFTER BEING{5 SPACES}PRESIDENT"
- 1960 DATA"WAS OUR 27TH PRES- IDENT, AND SERVED FRO
M 1909 TO 1913"
- 1970 DATA"WAS OUR FATTEST{4 SPACES}PRESIDENT, WEIG
HING{3 SPACES}325 POUNDS WHEN{7 SPACES}ELECTE
D"
- 1980 DATA"W TAFT"
- 1985 DATA"CALLED RACIAL{6 SPACES}SEGREGATION 'NOT
{6 SPACES}HUMILIATING BUT A{5 SPACES}BENEFIT'
"
- 1990 DATA"USED THE REELECTIONS LOGAN 'HE KEPT US OU
TOF WAR'"
- 2000 DATA"WAS OUR 28TH PRES- IDENT, AND SERVED FRO
M 1913 TO 1921"

2010 DATA"IS OFTEN ASSOCIATEDWITH THE LEAGUE OF
{4 SPACES}NATIONS", "W WILSON"
 2020 DATA"SAID 'I AM NOT FIT FOR THIS OFFICE AND
{3 SPACES}NEVER SHOULD HAVE BEENHERE'"
 2030 DATA"WAS OUR 29TH PRES- IDENT, AND SERVED FRO
M1921 TO 1923"
 2040 DATA"DIED AMIDST{8 SPACES}CORRUPTION AND MAY
{4 SPACES}HAVE BEEN POISONED"
 2050 DATA"WAS LINKED WITH THETEAPOT DOME SCANDAL",
"W HARDING"
 2060 DATA"WAS FAMOUS FOR{5 SPACES}BREAKING BOSTON'
S{5 SPACES}POLICE STRIKE"
 2070 DATA"WAS OUR 30TH PRES- IDENT, AND SERVED FRO
M1923 TO 1929"
 2080 DATA"WAS 'WEANED ON A{3 SPACES}PICKLE,' ACCOR
DING TO ALICE LONGWORTH"
 2090 DATA"WAS KNOWN AS{7 SPACES}'SILENT CAL'", "C C
OOLIDGE"
 2100 DATA"LATER WORKED UNDER PRESIDENTS TRUMAN AND
EISENHOWER"
 2110 DATA"WAS A MINING{7 SPACES}ENGINEER BEFORE EN
TER-ING POLITICS"
 2120 DATA"WAS OUR 31ST PRES- IDENT, AND SERVED FRO
M1929 TO 1933"
 2130 DATA"LOST HIS REELECTIONBID BECAUSE OF THE
{4 SPACES}GREAT DEPRESSION", "H HOOVER"
 2140 DATA"WAS OUR 32ND PRES- IDENT, 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 WO
RLD{2 SPACES}WAR II"
 2170 DATA"SERVED BEFORE PRES-IDENTS 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 PRES- IDENT, AND SERVED FRO
M1945 TO 1953"
 2200 DATA"WAS A HABERDASHER{2 SPACES}BEFORE ENTERI
NG{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 FORWEST POINT"
 2240 DATA"WAS OUR 34TH PRES- IDENT, AND SERVED FRO
M1953 TO 1961"
 2250 DATA"WAS THE ONLY PRES- IDENT TO BE A 5-STAR
{2 SPACES}GENERAL", "D EISENHOWER"

Level

4

- 2260 DATA"LIVED A SHORTER{4 SPACES}LIFE THAN ANY O
THER{3 SPACES}PRESIDENT"
- 2270 DATA"WAS THE YOUNGEST{3 SPACES}MAN EVER ELECT
ED PRES-IDENT"
- 2280 DATA"MAY HAVE BEEN{6 SPACES}ELECTED BECAUSE H
E{4 SPACES}LOOKED GOOD ON T.V"
- 2290 DATA"WAS OUR 35TH PRES- IDENT, AND SERVED FRO
M1961 TO 1963", "J KENNEDY"
- 2300 DATA"BECAME SENATE{6 SPACES}DEMOCRAT LEADER D
URINGHIS 1ST SENATE TERM"
- 2310 DATA"WAS PRESIDENT{6 SPACES}DURING THE VIETNA
M WARESCALATION"
- 2320 DATA"WAS OUR 36TH PRES- IDENT, AND SERVED FRO
M1963 TO 1969"
- 2330 DATA"WAS KNOWN FOR THE{2 SPACES}'GREAT SOCIET
Y'", "L JOHNSON"
- 2340 DATA"WAS PRESIDENT WHEN THE VOTING AGE WAS
{4 SPACES}LOWERED TO 18"
- 2350 DATA"WAS PRESIDENT WHEN MAN SET FOOT ON THE
{3 SPACES}MOON"
- 2360 DATA"WAS OUR 37TH PRES- IDENT, AND SERVED FRO
M1969 TO 1974"
- 2370 DATA"WAS THE ONLY PRES- IDENT TO RESIGN IN TH
EMIDDLE OF A TERM", "R NIXON"
- 2380 DATA"WAS BORN WITH THE{2 SPACES}NAME OF LESLI
E LYNCH{2 SPACES}KING, JR"
- 2390 DATA"WAS NEVER ELECTED{2 SPACES}PRESIDENT OR
{2 SPACES}VICE-{3 SPACES}PRESIDENT"
- 2400 DATA"WAS A MALE MODEL{3 SPACES}AND FOOTBALL P
LAYER{3 SPACES}BEFORE ENTERING{7 SPACES}POLIT
ICS"
- 2410 DATA"WAS OUR 38TH PRES- IDENT, AND SERVED FRO
M1974 TO 1977", "G FORD"
- 2420 DATA"MAY HAVE LOST HIS{2 SPACES}REELECTION DU
E TO{5 SPACES}PROBLEMS IN THE MIDDLEEAST"
- 2430 DATA"WAS PRESIDENT{6 SPACES}DURING THE IRAN
{7 SPACES}HOSTAGE CRISIS"
- 2440 DATA"WAS OUR 39TH PRES- IDENT, AND SERVED FRO
M1977 TO 1981"
- 2450 DATA"WAS A FORMER PEANUTFARMER, AND HAD A
{5 SPACES}BROTHER NAMED BILLY", "J CARTER"
- 2460 DATA"STARTED HIS CAREER AS AN ILLINOIS LIFE-
{2 SPACES}GUARD"
- 2470 DATA"WAS THE 1ST PRES-{2 SPACES}IDENT TO HAVE
BEEN{4 SPACES}DIVORCED"
- 2480 DATA"RAN ON A PLATFORM{2 SPACES}OF 'NEW FEDER
ALISM'"
- 2490 DATA"WAS OUR 40TH PRES- IDENT, AND TOOK OFFIC
EIN 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	Adolph Hitler
Ethan Allen	Edward Jenner
Thomas Aquinas	John Paul Jones
Attila the Hun	Carl Jung
Aristotle	Martin Luther King
Benedict Arnold	Robert E. Lee
Clara Barton	Nikolai Lenin
Ludwig van Beethoven	Louis XIV
Alexander Graham Bell	Martin Luther
Napoleon Bonaparte	Guglielmo Marconi
John Wilkes Booth	Karl Marx
Johannes Brahms	Wolfgang Mozart
Caligula	Benito Mussolini
John Calvin	Sir Isaac Newton
George Washington Carver	Friedrich Nietzsche
Catherine II	Florence Nightingale
Frederic Chopin	Louis Pasteur
Cleopatra	Eva Peron
Marie Curie	Pablo Picasso
Benjamin Disraeli	Plato
Mary Baker Eddy	Grigori Rasputin
Thomas Edison	Rembrandt van Rijn
Albert Einstein	Peter Paul Rubens
Enrico Fermi	Socrates
Henry Ford	Petr Tchaikovsky
Benjamin Franklin	Mao Tse-Tung
Sigmund Freud	Vincent van Gogh
Mohandas Gandhi	Pancho Villa
Paul Gauguin	Booker T. Washington
Johan van Goethe	Duke of Wellington
Alexander Hamilton	Brigham Young
King Henry VIII	

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

```

100 NS=63:CB=828:POKE36879,254:DIMQT$(24,3)
200 GOSUB700
205 GOSUB1000:S%=0:FORX=1TONE:POKECB+X,0:NEXTX
210 FORX=1TONE:GOSUB800:POKECB+Z,X:NEXTX
300 FORX=1TONE:Y=PEEK(CB+X)-1
340 FORW=0TO2:RS(W)=0:NEXTW
350 FORW=1TO3
360 V=INT(RND(1)*3):IFRS(V)<>0THEN360
370 RS(V)=W:NEXTW
400 FORW=0TO2
405 PRINTCHR$(147);"{BLK}{21 DOWN}";SPC(6);"SCORE
{SPACE}=";S%;
410 PRINT"{HOME}{2 DOWN} QUESTION #";W+1
420 X$=QT$(Y,RS(W))
430 PRINT"{3 DOWN}";X$;".{3 DOWN}"
440 GOSUB900:IFX$="Q"THEN500
445 IFX$="END"THEN600
450 NEXTW
480 PRINT"{PUR}{2 DOWN}";QT$(Y,0):S%=S%-3
490 FORW=1TO2500:NEXTW,X:GOTO600
500 S%=S%+(3-W):POKE36879,30:POKE36878,15:FORV=170
TO220
510 POKE36875,V:NEXTV:POKE36878,0:POKE36875,0:POKE
36879,254
520 NEXTX
600 PRINT"{BLK}{CLR}{DOWN}{6 SPACES}{RVS}TEST OVER
1{OFF}"
610 PRINT"{3 DOWN} YOUR SCORE = ";S%
620 IFS%<0THENS%=0
625 X=X-1:IFX<1THENX=1
630 X=INT((S%*100)/(X*3))
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 IFX$="Y"THEN205
680 IFX$<>"N"THEN660
690 POKE36879,27:PRINT"{CLR}":END
700 PRINT"{BLK}{CLR}{DOWN}{RVS}{2 SPACES}MOVERS AN
D SHAKERS{2 SPACES}{OFF}";
705 PRINT"{DOWN}YOU WILL BE ASKED UP{2 SPACES}TO 3
QUESTIONS ABOUT{2 SPACES}SELECTED FAMOUS"

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Level

4

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706 PRINT"PEOPLE."
710 PRINT"{DOWN}POINTS WILL BE GIVEN{2 SPACES}DEPE
NDING UPON HOW{4 SPACES}MANY QUESTIONS YOU
{4 SPACES}NEED:{DOWN}"
715 PRINT" 1 QUESTION{2 SPACES}={2 SPACES}3.":PRIN
T" 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.";
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)=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$=QT$(Y,0)THENX$="
":RETURN
905 IFX$="END"THENRETURN
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}A{OFF} WORLD LEADERS"
1010 PRINT"{DOWN} {RVS}B{OFF} ARTISTS & THINKERS":
PRINT"{DOWN} {RVS}C{OFF} FAMOUS WOMEN"
1020 PRINT"{DOWN} {RVS}D{OFF} AMERICAN HEROES":PRI
NT"{DOWN} {RVS}E{OFF} VILLAINS &{SHIFT-SPACE}
OUTLAWS"
1030 PRINT"{DOWN} {RVS}F{OFF} SCIENTISTS":PRINT"
{DOWN} {RVS}G{OFF} RELIGIOUS LEADERS"

1040 PRINT"{DOWN} {RVS}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:G
OTO1080
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"

```

- 3010 DATA"HE WAS THE FATHER OF{2 SPACES}PSYCHOANALYSIS, BORN{2 SPACES}IN 1856"
- 3020 DATA"HIS BOOKS WERE BURNED BY THE NAZIS, WHO {5 SPACES}CALLED THEM 'JEWISH{3 SPACES}PORNOGRAPHY'"
- 3030 DATA"HE COINED THE TERMS{3 SPACES}ID, EGO, AND SUPEREGO"
- 3040 DATAB,"CARL JUNG"
- 3050 DATA"BORN IN 1875, HE{6 SPACES}CREATED ANALYTICAL{4 SPACES}PSYCHOLOGY"
- 3060 DATA"HE WAS KNOWN AS 'THE{2 SPACES}SAGE OF ZURICH'"
- 3070 DATA"HE BELIEVED ALL PEOPLEWERE INTROVERTS OR {4 SPACES}EXTROVERTS"
- 3080 DATACF,"MARIE CURIE"
- 3090 DATA"SHE AND HER HUSBAND{3 SPACES}DISCOVERED {SPACE}POLONIUM{3 SPACES}AND RADIUM"
- 3100 DATA"SHE WAS THE FIRST{5 SPACES}WOMAN TO RECEIVE THE{2 SPACES}NOBEL PRIZE"
- 3110 DATA"BORN IN 1867, SHE DIEDOF LEUKEMIA CAUSED BY WORKING WITH RADIUM"
- 3120 DATAF,"ALBERT EINSTEIN"
- 3130 DATA"BORN IN 1879, HE WAS{2 SPACES}CONSIDERED RETARDED BYHIS PARENTS"
- 3140 DATA"HE DEVELOPED THE{6 SPACES}'THEORY OF {12 SPACES}RELATIVITY'"
- 3150 DATA"ONE OF HISTORY'S{6 SPACES}GREATEST THINKERS, HE REVOLUTIONIZED{8 SPACES}PHYSICS"
- 3160 DATAF,"GUGLIELMO MARCONI"
- 3170 DATA"HIS ATTIC IN ITALY WASTHE WORLD'S FIRST {5 SPACES}RADIO STATION"
- 3180 DATA"BORN IN 1874, HE HAD{2 SPACES}INVENTED A WIRELESS{3 SPACES}TRANSMITTER BY THE AGE OF 21"
- 3190 DATA"HIS INVENTION SHOWED{2 SPACES}ITS IMPORTANCE WHEN{3 SPACES}THE TITANIC SANK"
- 3200 DATAF,"SIR ISAAC NEWTON"
- 3210 DATA"BORN IN 1642, HE WAS{2 SPACES}THE DISCOVERER OF{5 SPACES}GRAVITY"
- 3220 DATA"HE WAS A BRITISH{6 SPACES}MATHEMATICIAN {SPACE}AND{5 SPACES}ASTRONOMER"
- 3230 DATA"HIS CONCEPT OF AN{5 SPACES}ORDERLY UNIVERSE{6 SPACES}INFLUENCED MEN FOR{4 SPACES}CENTURIES"
- 3240 DATAB,"KARL MARX"
- 3250 DATA"THOUGH DESCENDED FROM RABBIS, HE CALLED {5 SPACES}RELIGION 'THE OPIUM OFTHE MASSES'"

Level**4**

- 3260 DATA"HE WROTE 'DAS KAPITAL'AND NEW YORK DAILY
{4 SPACES}TRIBUNE EDITORIALS"
- 3270 DATA"HE WROTE 'THE{9 SPACES}COMMUNIST MANIFES
TO'{2 SPACES}WHILE LIVING IN PARIS"
- 3280 DATAB,"FRIEDRICH NIETZSCHE"
- 3290 DATA"THOUGH ASSOCIATED WITHNAZISM, HE HATED T
HE{2 SPACES}NAZI IDEAL"
- 3300 DATA"THE FATHER OF THE{5 SPACES}'SUPERMAN' TH
EORY, HE WAS INSANE FOR MOST OFHIS LIFE"
- 3310 DATA"HIS GREATEST WORK WAS 'THUS SPAKE
{11 SPACES}ZARATHUSTRA'"
- 3320 DATADF,"ALEXANDER GRAHAM BELL"
- 3330 DATA"HE WAS THE INVENTOR OFTHE TELEPHONE"
- 3340 DATA"HE TAUGHT HELEN KELLERTO SPEAK"
- 3350 DATA"HIS FATHER INVENTED{3 SPACES}'VISIBLE SP
EECH'{6 SPACES}COMMUNICATION FOR THE DEAF"
- 3360 DATAF,"ENRICO FERMI"
- 3370 DATA"HE STUDIED THE EFFECT OF SLOW NEUTRONS O
N{3 SPACES}NUCLEAR REACTIONS"
- 3380 DATA"SOME CONSIDER HIM TO{2 SPACES}BE THE FAT
HER OF THE{2 SPACES}ATOMIC BOMB"
- 3390 DATA"HE ACHIEVED THE FIRST SELF-SUSTAINING
{7 SPACES}NUCLEAR REACTION"
- 3400 DATAF,"EDWARD JENNER"
- 3410 DATA"HE DEVELOPED{10 SPACES}VACCINATIONS"
- 3420 DATA"HE HELPED TO ERADICATESMALLPOX"
- 3430 DATA"HIS STUDIES OF THE{4 SPACES}CUCKOO HAVE
{SPACE}BENEFITED ORNITHOLOGY"
- 3440 DATAD,"ROBERT E. LEE"
- 3450 DATA"HE OPPOSED SLAVERY ANDWAR, BUT LED THE
{6 SPACES}CONFEDERATE ARMY"
- 3460 DATA"HIS APPOMATTOX{8 SPACES}SURRENDER ENDED
{SPACE}THE{3 SPACES}CIVIL WAR"
- 3470 DATA"HE WAS ASKED BY ABE{3 SPACES}LINCOLN TO
{SPACE}LEAD THE{3 SPACES}UNION ARMY"
- 3480 DATAF,"LOUIS PASTEUR"
- 3490 DATA"HE PROVED DISEASE IS{2 SPACES}CAUSED BY
{SPACE}BACTERIA"
- 3500 DATA"HIS FERMENTATION WORK SAVED FRANCE'S BEE
R{3 SPACES}AND SILK INDUSTRIES"
- 3510 DATA"HE INVENTED{11 SPACES}PASTEURIZATION"
- 3520 DATAB,"PAUL GAUGIN"
- 3530 DATA"VAN GOGH LIVED WITH{3 SPACES}HIM IN FRAN
CE'S{7 SPACES}'YELLOW HOUSE'"
- 3540 DATA"HE IS FAMOUS FOR HIS{2 SPACES}PAINTINGS
{SPACE}OF PRIMITIVEPOLYNESIAN LIFE"
- 3550 DATA"HE LEFT HIS FAMILY TO END HIS LIFE IN TH
E{3 SPACES}SOUTH SEAS"
- 3560 DATAB,"VINCENT VAN GOGH"

- 3570 DATA "THE POTATO EATERS" {3 SPACES} IS ONE OF HIS MOST {4 SPACES} FAMOUS WORKS"
- 3580 DATA "ONLY ONE OF HIS {7 SPACES} PAINTINGS SOLD {SPACE} DURING HIS LIFETIME"
- 3590 DATA "HE CUT OFF HIS EAR FOR JEALOUSY OF GAUGUIN"
- 3600 DATAB, "PABLO PICASSO"
- 3610 DATA "HIS FATHER STOPPED {4 SPACES} PAINTING WHEN HE SAW {2 SPACES} HIS SON'S TALENT"
- 3620 DATA "HE SIGNED HIS ART WITH HIS MOTHER'S MAIDEN {3 SPACES} NAME"
- 3630 DATA "HE FOUNDED THE CUBIST MOVEMENT IN ART"
- 3640 DATAB, "REMBRANDT VAN RIJN"
- 3650 DATA "THE NIGHT WATCH" IS {2 SPACES} HIS MOST FAMOUS {7 SPACES} PAINTING"
- 3660 DATA "HE WAS A FAMOUS DUTCH PORTRAIT PAINTER"
- 3670 DATA "HIS PAINTINGS ARE {5 SPACES} UNEXCELLED IN THEIR {3 SPACES} TREATMENT OF LIGHT"
- 3680 DATAB, "JOHANNES BRAHMS"
- 3690 DATA "HE BEGAN HIS CAREER {3 SPACES} PLAYING PIANO IN {6 SPACES} RED-LIGHT DISTRICT {4 SPACES} BAR"
- 3700 DATA "WHILE IN AUSTRIA, HE {2 SPACES} COMPOSED THE 'GERMAN {2 SPACES} REQUIEM'"
- 3710 DATA "HIS MOST FAMOUS WORK {2 SPACES} IS A LULLABY"
- 3720 DATAB, "FREDERIC CHOPIN"
- 3730 DATA "HE WAS POLAND'S {7 SPACES} MUSICAL PRODIGY"
- 3740 DATA "HIS 'DEATH MARCH' IS A FAMILIAR REFRAIN OF {3 SPACES} DOOM"
- 3750 DATA "HIS MUSIC INFLUENCED {2 SPACES} LISZT, WAGNER AND {5 SPACES} DEBUSSY"
- 3760 DATAB, "WOLFGANG MOZART"
- 3770 DATA "HE WROTE MORE THAN 600 MUSICAL COMPOSITIONS"
- 3780 DATA "HIS 'DON GIOVANNI' IS CONSIDERED ONE OF {SPACE} THE MOST PERFECT OPERAS"
- 3790 DATA "HE BEGAN COMPOSING AT THE AGE OF 5 AND DIED WHEN HE WAS 35"
- 3800 DATAB, "PETR TCHAIKOVSKY"
- 3810 DATA "HE COMPOSED 'SWAN {5 SPACES} LAKE' AND 'THE {8 SPACES} NUTCRACKER'"
- 3820 DATA "THE 'PATHETIQUE' IS {3 SPACES} HIS SIXTH SYMPHONY"
- 3830 DATA "HE IS THE MOST FAMOUS RUSSIAN COMPOSER"
- 3840 DATAB, "CLEOPATRA"
- 3850 DATA "ALTHOUGH A GREEK, SHE WAS THE LAST QUEEN OF EGYPT"

Level

4

- 3860 DATA"SHE LOVED BOTH MARK{3 SPACES}ANTONY AND {SPACE}JULIUS{5 SPACES}CAESAR"
- 3870 DATA"SHE KILLED HERSELF{4 SPACES}RATHER THAN {SPACE}BE A{6 SPACES}ROMAN CAPTIVE"
- 3880 DATAB,"PETER PAUL RUBENS"
- 3890 DATA"HE INVENTED THE{7 SPACES}FLEMISH STYLE O F{6 SPACES}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 SPEARE'"
- 3940 DATA"HIS MOST FAMOUS WORK{2 SPACES}WAS THE DR AMA 'FAUST'"
- 3950 DATA"HE WROTE A NOVEL THAT CAUSED SUICIDES AL L{3 SPACES}OVER EUROPE"
- 3960 DATAA,"LOUIS XIV"
- 3970 DATA"HE WAS KNOWN AS THE{3 SPACES}'SUN KING'"
- 3980 DATA"HE BUILT A PALACE AT{2 SPACES}VERSAILLES BECAUSE HE HATED PARIS"
- 3990 DATA"HIS EXCESSIVE TAXES{3 SPACES}CAUSED THE {SPACE}FRENCH{5 SPACES}REVOLUTION"
- 4000 DATAA,"NAPOLEON BONAPARTE"
- 4010 DATA"HE WAS THE FIRST{6 SPACES}EMPEROR OF FRA NCE"
- 4020 DATA"HE WAS EXILED FROM{4 SPACES}FRANCE AFTER THE DUKE OF WELLINGTON DEFEATEDHIM"
- 4030 DATA"THE NATION OF FRANCE{2 SPACES}TRACES ITS ROOTS TO{3 SPACES}HIM"
- 4040 DATAA,"KING HENRY VIII"
- 4050 DATA"HIS COUNTRY ADOPTED A NEW RELIGION SO HE {4 SPACES}COULD GET DIVORCED"
- 4060 DATA"HE MARRIED SIX WIVES{2 SPACES}AND DIVORC ED OR KILLEDFOUR OF THEM"
- 4070 DATA"HE HELPED INTRODUCE{3 SPACES}THE RENAISS ANCE TO{4 SPACES}GREAT BRITAIN"
- 4080 DATAA,"BENITO MUSSOLINI"
- 4090 DATA"KNOWN AS 'IL DUCE', HEWAS DICTATOR OF IT ALY FOR 20 YEARS"
- 4100 DATA"HE WAS AN EXPELLED{4 SPACES}SOCIALIST WH O STARTED THE FACIST PARTY"
- 4110 DATA"HE SUPPORTED HITLER INWW II, BUT HIS COU NTRYFELL TO THE ALLIES"
- 4120 DATAAB,"MAO TSE-TUNG"
- 4130 DATA"HE AND KARL MARX WERE COMMUNISM'S LEADIN G{3 SPACES}PHILOSOPHERS"
- 4140 DATA"HE RULED A FOURTH OF{2 SPACES}THE EARTH' S PEOPLE FOR25 YEARS"

- 4150 DATA"HE ESTABLISHED THE{4 SPACES}PEOPLE'S REP
UBLIC OF{2 SPACES}CHINA IN 1949"
- 4160 DATAAC,"EVA PERON"
- 4170 DATA"SHE WAS PROBABLY THE{2 SPACES}MOST POWER
FUL WOMAN INARGENTINA'S HISTORY"
- 4180 DATA"THE 'SHIRTLESS ONES'{2 SPACES}CALLED HER
A SAINT FORHER SOCIAL PROGRAMS"
- 4190 DATA"A RADIO ACTRESS, SHE{2 SPACES}LATER BECA
ME LABOR{4 SPACES}MINISTER OF ARGENTINA"
- 4200 DATAD,"JOHN PAUL JONES"
- 4210 DATA"THIS SCOT WAS A NAVAL HERO DURING THE
{7 SPACES}REVOLUTIONARY WAR"
- 4220 DATA"HE SAID 'I HAVE NOT{3 SPACES}YET BEGUN T
O FIGHT' "
- 4230 DATA"LATER IN HIS LIFE HE{2 SPACES}BECAME AN
{SPACE}ADMIRAL IN{2 SPACES}THE RUSSIAN NAVY"
- 4240 DATAAC,"CATHERINE II"
- 4250 DATA"THIS RUSSIAN RULER WASA GERMAN PRINCESS,
{4 SPACES}EDUCATED IN FRANCE"
- 4260 DATA"SHE DEFEATED HER{6 SPACES}HUSBAND PETER
{SPACE}FOR THE RUSSIAN THRONE"
- 4270 DATA"SHE ADDED MORE THAN{3 SPACES}200,000 SQU
ARE MILES{2 SPACES}TO RUSSIA DURING HER
{2 SPACES}REIGN"
- 4280 DATAAB,"BENJAMIN DISRAELI"
- 4290 DATA"HE WROTE SEVERAL{6 SPACES}NOVELS BASED O
N HIS{3 SPACES}FRIENDS' SCANDALS"
- 4300 DATA"HE WAS THE FATHER OF{2 SPACES}THE CONSER
VATIVE PARTYIN GREAT BRITAIN"
- 4310 DATA"A JEWISH STATESMAN, HESERVED TWICE AS PR
IME MINISTER OF BRITAIN"
- 4320 DATAABG,"MOHANDAS GANDHI"
- 4330 DATA"HIS IDEA OF 'MILITANT NONVIOLENCE' LED T
O{3 SPACES}INDIA'S INDEPENDENCE"
- 4340 DATA"HE LIVED IN SOUTH{5 SPACES}AFRICA FOR 21
YEARS,{2 SPACES}LEADING THE INDIANS
{3 SPACES}THERE"
- 4350 DATA"HE WAS ASSASSINATED{3 SPACES}WHILE WORKI
NG FOR A{3 SPACES}HINDU-MUSLIM TRUCE"
- 4360 DATAAE,"ADOLPH HITLER"
- 4370 DATA"HE HEADED THE NATIONALSOCIALIST GERMAN
{6 SPACES}WORKERS' PARTY"
- 4380 DATA"HE WAS DICTATOR OF{4 SPACES}GERMANY FOR
{SPACE}13 FATEFULYEARS"
- 4390 DATA"MORE THAN 6 MILLION{3 SPACES}JEWS DIED U
NDER HIS{3 SPACES}ORDERS"
- 4400 DATAA,"NIKOLAI LENIN"
- 4410 DATA"HE WAS THE FIRST HEAD OF THE USSR AFTER
{SPACE}THE REVOLUTION"

Level

4

- 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 DATAE, "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 DATAA, "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 DATADF, "HENRY FORD"
- 4530 DATA "THIS SCHOOL DROPOUT{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 CG, "MARY BAKER EDDY"
- 4570 DATA "SHE FOUNDED THE{7 SPACES}CHRISTIAN SCIENCE{5 SPACES}CHURCH"
- 4580 DATA "HER BOOK WAS 'SCIENCE AND HEALTH WITH KEYS TO THE SCRIPTURES' "
- 4590 DATA "SHE FOUNDED THE{7 SPACES}'CHRISTIAN SCIENCE{4 SPACES}MONITOR' "
- 4600 DATA EG, "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 ATTRACTED THE{2 SPACES}CZARINA TO HIM"
- 4630 DATA "HIS NEGATIVE INFLUENCE MAY HAVE HELPED CAUSE THE RUSSIAN{11 SPACES}REVOLUTION"
- 4640 DATADG, "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 DATAG, "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, AN
D{3 SPACES}MARRIED ONE OF THEM"

4720 DATAD,"BOOKER T. WASHINGTON"

4730 DATA"THIS SON OF A SLAVE{3 SPACES}FOUNDED TUS
KEGEE{6 SPACES}INSTITUTE"

4740 DATA"HE STARTED THE{8 SPACES}NATIONAL NEGRO
{8 SPACES}BUSINESS LEAGUE IN{4 SPACES}1900"

4750 DATA"HE CHAMPIONED{9 SPACES}EDUCATION FOR BLA
CKS{2 SPACES}AND AMERICAN INDIANS"

4760 DATAAE,"ATтила THE HUN"

4770 DATA"HE WAS THE KING OF THEHUNS 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 O
F GOD'"

4800 DATAA,"ALEXANDER THE GREAT"

4810 DATA"AS KING OF MACEDONIA, HE CONQUERED THE
{6 SPACES}EASTERN WORLD IN THREEYEARS"

4820 DATA"HE SPREAD GREEK{7 SPACES}CIVILIZATION TH
ROUGH{2 SPACES}MOST OF THE WORLD"

4830 DATA"HIS DREAM WAS TO{6 SPACES}CONQUER THE WO
RLD AND THEN UNITE IT"

4840 DATAB,ARISTOTLE

4850 DATA"THIS GREEK SCIENTIST{2 SPACES}WAS EDUCAT
ED BY PLATO FOR 20 YEARS"

4860 DATA"HE IS CONSIDERED THE{2 SPACES}FATHER OF
{SPACE}PHYSICAL{4 SPACES}SCIENCE"

4870 DATA"HE FOUNDED THE SCIENCEOF DEDUCTIVE LOGIC
"

4880 DATAD,"ETHAN ALLEN"

4890 DATA"HE ORGANIZED THE GREENMOUNTAIN BOYS"

4900 DATA"HE HELPED BENEDICT{4 SPACES}ARNOLD CAPTU
RE FORT{3 SPACES}TICONDEROGA IN 1775"

4910 DATA"HE FOUGHT AGAINST{5 SPACES}CANADA IN THE
AMERICANREVOLUTION"

4920 DATAE,"BENEDICT ARNOLD"

4930 DATA"HE HELPED CAPTURE ST. JOHNS, QUEBEC, DUR
ING THE REVOLUTIONARY WAR"

4940 DATA"GEORGE WASHINGTON MADEHIM COMMANDER OF W
EST POINT"

4950 DATA"CAUGHT SPYING FOR THE BRITISH, HE WAS CA
LLEDAMERICA'S BIGGEST{5 SPACES}TRAITOR"

4960 DATACD,"CLARA BARTON"

4970 DATA"SHE FOUNDED THE{7 SPACES}AMERICAN RED CR
OSS{4 SPACES}SOCIETY"

Level

4

- 4980 DATA"SHE SEARCHED FOR{6 SPACES}MISSING SOLDIE
RS AFTERTHE CIVIL WAR"
- 4990 DATA"SHE AIDED VICTIMS OF{2 SPACES}THE JOHNST
OWN FLOOD{3 SPACES}AND THE BOER WAR"
- 5000 DATAE, "JOHN WILKES BOOTH"
- 5010 DATA"HE WAS ONE OF A FAMILYOF FAMOUS ACTORS"
- 5020 DATA"HE WANTED TO KIDNAP{3 SPACES}AND KILL TH
E PRESIDENTAND VICE-PRESIDENT"
- 5030 DATA"HE WAS SHOT FOR THE{3 SPACES}MURDER OF A
BRAHAM{5 .SPACES}LINCOLN"
- 5040 DATAD, "MARTIN LUTHER KING"
- 5050 DATA"THIS BAPTIST PREACHER WON THE NOBEL PEAC
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}DE
ATH"
- 5070 DATA"HE ORGANIZED THE{6 SPACES}SOUTHERN CHRIS
TIAN{4 SPACES}LEADERSHIP CONFERENCE"
- 5080 DATAG, "JOHN CALVIN"
- 5090 DATA"A FRENCH PROTESTANT, {2 SPACES}HIS ORIGIN
AL AVOCATIONWAS LAW"
- 5100 DATA"HIS BOOK MAINTAINED{3 SPACES}THAT ALL CH
RISTIAN{4 SPACES}DOCTRINE WAS FOUND IN SCRIPT
URE"
- 5110 DATA"HIS CREED FORMED THE{2 SPACES}CHURCH OF
{SPACE}SCOTLAND ANDOTHER 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 HORSEA 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 ANDTORTURE PEOPLE AT{5 SPACES}DIN
NER"
- 5160 DATADF, "GEORGE WASHINGTON CARVER"
- 5170 DATA"HE WAS RANSOMED FROM{2 SPACES}RACIST NIG
HT RIDERS{3 SPACES}FOR A \$300 HORSE"
- 5180 DATA"HE DEVELOPED MORE{5 SPACES}THAN 300 PROD
UCTS FROMPEANUTS"
- 5190 DATA"HE DEVELOPED MORE THAN115 PRODUCTS FROM
{5 SPACES}SWEET{3 SPACES}POTATOES"
- 5200 DATAB, SOCRATES
- 5210 DATA"HE WAS A SCULPTOR, {4 SPACES}BUT BECAME I
NTERESTED IN PHILOSOPHY"
- 5220 DATA"HE FOUNDED THE CYNIC{2 SPACES}AND STOIC
{SPACE}SCHOOLS OF{2 SPACES}PHILOSOPHY"

- 5230 DATA"HE WAS SENTENCED TO{3 SPACES}DEATH FOR C
ORRUPTING{2 SPACES}THE MORALS OF YOUTH"
- 5240 DATAB,PLATO
- 5250 DATA"'THE REPUBLIC' WAS HISGREATEST PHILOSOPH
ICALWORK"
- 5260 DATA"HIS ACADEMY MADE{6 SPACES}ATHENS THE
{12 SPACES}INTELLECTUAL CENTER OFGREECE"
- 5270 DATA"HE BELIEVED THAT GOD{2 SPACES}WAS THE AB
SOLUTE IDEA OF GOOD"
- 5280 DATAB,"LUDWIG VAN BEETHOVEN"
- 5290 DATA"MOZART SAID TO 'KEEP{2 SPACES}YOUR EYE O
N HIM'"
- 5300 DATA"HE WROTE THE NINTH{4 SPACES}SYMPHONY AFT
ER HE WAS DEAF"
- 5310 DATA"HE SURPASSED MOZART{3 SPACES}AND HAYDN I
N THE{6 SPACES}DEVELOPMENT OF THE{4 SPACES}SO
NATA"
- 5320 DATAC,"FLORENCE NIGHTINGALE"
- 5330 DATA"SHE WAS MOST FAMOUS ASA CRIMEAN WAR_NURS
E"
- 5340 DATA"HER SCHOOL OF NURSING WAS THE FIRST FORM
AL{2 SPACES}TRAINING FOR NURSES"
- 5350 DATA"SHE WAS CALLED 'THE{3 SPACES}LADY WITH T
HE LAMP'"
- 5360 DATABG,"THOMAS AQUINAS"
- 5370 DATA"HE WAS THE 'DUMB OX{3 SPACES}WHOSE BELLO
W FILLED{3 SPACES}THE WORLD'"
- 5380 DATA"HE TAUGHT THAT MAN{4 SPACES}LEARNED TRUT
H FROM{4 SPACES}BOTH FAITH AND HIS{4 SPACES}S
ENSES"
- 5390 DATA"HE ORGANIZED THE{6 SPACES}DOMINICAN SCHO
OL OF{3 SPACES}CATHOLIC FAITH"
- 5400 DATADF,"THOMAS EDISON"
- 5410 DATA"HE INVENTED OVER 1000 PRODUCTS, BUT HAD
{SPACE}VERYLITTLE SCHOOLING"
- 5420 DATA"HE INVENTED THE{7 SPACES}PHONOGRAPH AND
{SPACE}THE{4 SPACES}MOTION PICTURE{8 SPACES}M
ACHINE"
- 5430 DATA"HIS GREATEST INVENTIONWAS THE ELECTRIC L
IGHTBULB"
- 5440 DATABDF,"BENJAMIN FRANKLIN"
- 5450 DATA"HE WORKED AS A PRINTERAND PUBLISHED HIS
{SPACE}OWN ALMANAC"
- 5460 DATA"HE PERFORMED{10 SPACES}ELECTRICAL EXPERI
MENTSWITH KITES"
- 5470 DATA"HE STARTED THE POSTAL SERVICE IN THE 13
{5 SPACES}COLONIES"
- 5480 DATAD,"ALEXANDER HAMILTON"

Level

4

- 5490 DATA"HE WAS THE FIRST U.S. SECRETARY OF THE
{6 SPACES}TREASURY"
- 5500 DATA"HE ADVOCATED A U.S.{3 SPACES}GOVERNMENT
{SPACE}BASED ON{3 SPACES}PROPERTY AND WEALTH"
- 5510 DATA"HIS DOCTRINE OF{7 SPACES}'IMPLIED POWERS
' STILLINFLUENCES THE SUPREMECOURT"
- 5600 DATA"\$"

Skeleton

Skill Area: Science

Level: IV

Memory: Unexpanded 5K VIC

Equipment required: None

Modification: Yes

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
axillary nerve
axis
brachial plexus

carpal bones
cervical vertebrae
clavicle
coccyx

femur
fibula
frontal bone
humerus

Level 4

ilium	parietal bone	scapula
ischium	paroneal nerve	sciatic nerve
lumbar vertebrae	patella	sphenoid
lumbosacral plexus	phalanges	sternum
mandible	pubic symphysis	tarsal bones
mastoid process	pubis	temporal bone
maxilla	radial nerve	thoracic vertebrae
median nerve	radius	tibia
metacarpal bones	ribs	tibial nerve
metatarsal bones	sacroiliac joint	ulna
nasal bone	sacrum	ulnar nerve
occipital bone	saphenous nerve	zygomatic bone

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)AND128)
   :S2=37888+4*(PEEK(36866)AND128)
130 FORX=0TO19:READZ:NT%(X)=Z:NEXTX:FORX=1TONW%:RE
   ADX$:WT$(X-1)=X$:NEXTX
140 PRINT"{CLR}{BLK}{DOWN}{RVS}{7 SPACES}SKELETON
   {7 SPACES}{OFF}";
150 PRINT"{2 DOWN}THE COMPUTER WILL PICKTHE NAME O
   F A HUMAN"
160 PRINT"BONE, WHICH YOU MUST{2 SPACES}THEN GUESS
   ."
170 PRINT"{2 DOWN}DETERMINE THE BONE BY GUESSING O
   NE LETTER ATA TIME."
180 PRINT"{2 DOWN}IF YOU PICK MORE THAN 11 INCORRE
   CT LETTERS, A SKELETON WILL HANG"
190 PRINT"IN YOUR CLOSET!!"
200 PRINT"{DOWN} HIT ANY KEY TO START ";:GOSUB2500
205 PRINT"{2 SPACES}(TEN SECOND DELAY)";
210 GETX$:IFX$=""THEN210
220 FORX=1TONW%:POKECB+X,0:NEXTX
230 FORX=1TONW%:GOSUB800:POKECB+Z,X:NEXTX
300 FORLC=1TONW%
310 X=PEEK(CB+LC):WO$=WT$(X-1)
320 LW%=LEN(WO$)
330 SC=0:FORX=0TOLW%-1
```



```

340 WI$(X)=MID$(WO$,X+1,1):IFASC(WI$(X))=32THENSC=
    SC+1
345 NEXTX
350 LC%=0:OF%=462:BC%=0:GOSUB1000:LW%=LW%-1
400 GETX$:IFX$=""THEN400
410 X=ASC(X$):IFX<65ORX>90THEN400
500 HI=0:FORY=0TOLW%:IFWI$(Y)<>X$THEN530
510 HI=1:WI$(Y)="$":POKES1+375+Y,X-64
520 LC%=LC%+1
530 NEXTY:IFHI=1THEN560
540 GOSUB3000:BC%=BC%+1
550 IFBC%>10THENGOSUB2000:LO%=LO%+1:FORX=1TO2000:N
    EXT:GOTO700
560 IF(LC%+SC)<=LW%THEN400
570 GOSUB4000:WI%=WI%+1:GOTO700
700 PRINT"{CLR}{PUR}{DOWN}{4 SPACES}{RVS}ANOTHER B
    ONE ?{OFF}":PRINT"{2 DOWN}{5 SPACES}ENTER
    {RVS}Y{OFF} OR {RVS}N{OFF}"
720 GETX$:IFX$=""THEN720
730 IFX$="Y"THENNEXTLC:GOTO220
740 IFX$<>"N"THEN720
750 PRINT"{BLK}{3 DOWN} # CORRECT =";WI%
760 PRINT"{2 DOWN} # MISSED{2 SPACES}=";LO%
770 GOSUB2500:POKE36879,27
780 END
800 Y=0
810 Z=INT(RND(1)*NW%)+1:IFPEEK(CB+Z)=0THENRETURN
820 Y=Y+1:IFY<10THEN810
830 Z=1
840 IFPEEK(CB+Z)=0THENRETURN
850 Z=Z+1:GOTO840
1000 PRINT"{CLR}{BLK}{DOWN}{7 SPACES}SKELETON
    {2 DOWN}"
1110 PRINT"{12 DOWN}"
1500 PRINT"{DOWN}{BLK}*****";
1510 PRINT"ENTER A LETTER:";
1520 FORY=0TO(LW%-1):X=45:IFASC(WI$(Y))=32THENX=32
1540 POKES1+375+Y,X:IFX=45THENPOKES2+375+Y,6
1550 NEXTY:RETURN
2000 FORX=0TOLW%:IFWI$(X)="$"THEN2020
2010 Y=ASC(WI$(X)):IFY=32THEN2020
2015 POKES1+375+X,Y-64
2020 NEXTX
2030 POKE36878,15:FORX=200TO150STEP-5:POKE36874,X
2040 FORY=1TO50:NEXTY,X:POKE36879,254:POKE36878,0:
    POKE36874,0:RETURN
2500 POKE36878,15:FORX=0TO19:POKE36876,NT$(X):FORY
    =1TO100:NEXTY:POKE36876,0
2510 NEXTX:POKE36878,0:RETURN

```

Level 4

```

3000 PRINT"{BLK}";:ON(BC%+1)GOTO3010,3020,3030,304
0,3050,3060,3070,3080,3090,3100,3110,3120
3010 PRINT"{HOME}{3 DOWN}";SPC(9);"{RVS}£ [*]
{OFF}":GOTO3500
3020 PRINTSPC(9);"{RVS}Q Q{OFF}":GOTO3500
3030 PRINTSPC(9);"{RVS}- {OFF}":GOTO3500
3040 PRINTSPC(9);"{[*]{RVS} {OFF}£":GOTO3500
3050 PRINTSPC(5);"{RVS}[B]{OFF}{4 SPACES}{RVS}-
{OFF}{4 SPACES}[B]":GOTO3500
3060 PRINTSPC(6);"M{3 SPACES}-{3 SPACES}N":GOTO350
0
3070 PRINTSPC(7);"M[2 P][E][2 P]N":GOTO3500
3080 PRINTSPC(9);"*+*":GOTO3500
3090 PRINTSPC(9);"*+*":GOTO3500
3100 PRINTSPC(6);"NM{2 SPACES}+{2 SPACES}NM":GOTO3
500
3110 PRINTSPC(4);"MN{2 SPACES}M{RVS}Q Q{OFF}N
{2 SPACES}MN"
3500 POKE36878,15:POKE36874,130:POKE36879,14:FORY=
1TO200:NEXTY
3510 POKE36879,254:POKE36878,0:POKE36874,0
3520 POKES1+OF%,X-64:POKES2+OF%,0:OF%=OF%+1
3530 RETURN
4000 POKE36878,15:Y=130:FORX=254TO30STEP-16:POKE36
879,X:POKE36876,Y
4010 FORZ=1TO70:NEXTZ:Y=Y+7:NEXTX
4020 POKE36879,254:POKE36876,0:POKE36878,0:RETURN
5000 DATA135,175,183,183,175,163,147,163,147,163,1
35,135,163
5010 DATA183,195,183,195,175,147,135
7000 DATA"PARIETAL BONE",SPHENOID,"TEMPORAL BONE"
,"OCCIPITAL BONE","MASTOID PROCESS"
7010 DATACLAVICLE,HUMERUS,ULNA,RADIUS,"CARPAL BONES"
7020 DATA"METACARPAL BONES",PHALANGES,TIBIA,FIBULA
,"METATARSAL BONES"
7030 DATA"TARSAL BONES",PATELLA,FEMUR,"PUBIC SYMPH
YSIS",ISCHIUM
7040 DATAPUBIS,COCCYX,SACRUM,ILIUM,"LUMBAR VERTEBR
AE"
7050 DATARIBS,STERNUM,SCAPULA,"THORACIC VERTEBRAE"
,"CERVICAL VERTEBRAE"
7060 DATAMANDIBLE,MAXILLA,"ZYGOMATIC BONE","NASAL
{SPACE}BONE","FRONTAL BONE"
7070 DATA"BRACHIAL PLEXUS","SACROILIAC JOINT","LUM
BOSACRAL PLEXUS",AXIS,ATLAS
7080 DATA"ULNAR NERVE","RADIAL NERVE","SCIATIC NER
VE","SAPHENOUS NERVE"
7090 DATA"PARONEAL NERVE","TIBIAL NERVE","MEDIAN N
ERVE","AXILLARY NERVE"

```

Unicorn

Skill Area: Social Studies

Level: IV

Memory: At least 8K expansion required

Equipment required: None

Modification: Yes

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	Andromeda	Artemis	Circe
Aeneas	Aphrodite	Athena	Daedalus
Agamemnon	Apollo	Cassandra	Dionysus

Level 4

Echo	Mars	Pandora	Sisyphus
Hades	Medea	Pelops	Tantalus
Hecate	Medusa	Persephone	Theseus
Helen	Narcissus	Perseus	Zeus
Heracles	Odysseus	Phaeton	
Hermes	Oedipus	Poseidon	
Jason	Orpheus	Prometheus	

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

```
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:N
EXTW
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$="Q" THEN 500
442 IFX$="END" THEN 600
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$="Q" THEN W=4: GOTO 500
475 IFX$="END" THEN 600
480 PRINT "{PUR}{2 DOWN} ANSWER="; AN$: S%=S%-5
490 FORW=1 TO 2500: NEXTW, X: GOTO 600
500 S%=S%+(5-W): POKE 36879, 30: POKE 36878, 15: FORV=170
TO 220
510 POKE 36875, V: NEXTV: POKE 36878, 0: POKE 36875, 0: POKE
36879, 254
520 NEXTX
600 PRINT "{BLK}{CLR}{DOWN}{6 SPACES}{RVS} TEST OVER
1{OFF}"
610 PRINT "{3 DOWN} YOUR SCORE = "; S%
620 IF S% < 0 THEN S%=0
625 X=X-1: IF X < 1 THEN X=1
630 X=INT((S%*100)/(X*5))
640 PRINT "{DOWN} YOUR GRADE = "; X; "{LEFT}%"
650 PRINT "{3 DOWN} PLAY AGAIN?": PRINT "{DOWN} ENTER
{RVS}Y{OFF} OR {RVS}N{OFF}"
660 GETX$: IFX$="" THEN 660
670 IFX$="Y" THEN 205
680 IFX$ <> "N" THEN 660
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"
706 PRINT "CHARACTERS."
710 PRINT "{DOWN} POINTS WILL BE GIVEN{2 SPACES} DEPE
NDING UPON HOW{4 SPACES} MANY QUESTIONS YOU
{4 SPACES} NEED: {DOWN}"
715 PRINT " 1 QUESTION{2 SPACES}={2 SPACES} 5.": PRIN
T " 2 QUESTIONS = {2 SPACES} 4."
720 PRINT " 3 QUESTIONS = {2 SPACES} 3.": PRINT " 4 QUE
STIONS = {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)";
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
TO100:NEXTV
920 POKE36878,0:POKE36874,0:POKE36879,254:RETURN
1000 DATA"SHE WAS THE GREEK{5 SPACES}GODDESS OF WI
TCHCRAFT"
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 DATAHECATE,ARTEMIS,MEDUSA,1
1050 DATA"SHE WAS THE WORLD'S{3 SPACES}MOST BEAUTI
FUL WOMAN"
1060 DATA"PARIS SEDUCED HER AWAYFROM 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 HELPEDROBBERS 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"
```

- 1170 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 DATAMARS,ZEUS,JASON,1
- 1200 DATA"HE INVENTED THE TROJANHORSE"
- 1210 DATA"HIS TRIP HOME FROM THE TROJAN WAR TOOK TWENTY YEARS"
- 1220 DATA"HE RECLAIMED HIS WIFE PENELOPE BY KILLING{3 SPACES}HER 100 SUITORS"
- 1230 DATA"THE ROMANS CALLED HIM ULYSSES"
- 1240 DATAHERMES,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 CHOOSING{3 SPACES}LOTS"
- 1290 DATAAGAMEMNON,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 BOLDER UPHILL"
- 1340 DATASISYPHUS,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 DATAHERACLES,TANTALUS,SISYPHUS,2
- 1400 DATA"AS THE GOD OF GODS, HE RULED 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 UNDERWORLD,{3 SPACES}BUT KEPT THE HEAVENS"
- 1430 DATA"HIS ROMAN NAME IS{5 SPACES}JUPITER"
- 1440 DATAPOSEIDON,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}WAS REPLACED WITH IVORY"

Level

4

- 1470 DATA"HE WAS RESTORED TO{4 SPACES}LIFE AND WON HIS BRIDEIN A CHARIOT RACE"
- 1480 DATA"HE WAS CURSED FOR{5 SPACES}CHEATING IN A CHARIOT RACE"
- 1490 DATAPELOPS,DAEDALUS,HERMES,1
- 1500 DATA"A TITAN, HIS NAME{5 SPACES}MEANS 'FORETH OUGHT' "
- 1510 DATA"HE CREATED MANKIND"
- 1520 DATA"HE STOLE FIRE FROM{4 SPACES}HEAVEN TO GIVE TO MAN"
- 1530 DATA"HE WAS CHAINED TO A{3 SPACES}MOUNTAIN FOR HIS{6 SPACES}THEFT, AND RESCUED BY HERCULES "
- 1540 DATAPHAETON,PROMETHEUS,PELOPS,2
- 1550 DATA"SHE WAS CREATED BY{4 SPACES}ZEUS TO THWART MAN"
- 1560 DATA"HER NAME MEANS 'GIFT{2 SPACES}OF ALL' BECAUSE SHE{3 SPACES}GOT GIFTS FROM ALL {4 SPACES}GODS"
- 1570 DATA"SHE MARRIED EPIMETHEUS-- CREATOR OF ANIMALS"
- 1580 DATA"BY OPENING A JAR, SHE UNLEASHED EVIL ON {SPACE}THE WORLD"
- 1590 DATAATHENA,ECHO,PANDORA,3
- 1600 DATA"HIS PRIDE ALMOST{6 SPACES}DESTROYED THE {SPACE}EARTH"
- 1610 DATA"HIS DREAM WAS TO BE{3 SPACES}RECOGNIZED {SPACE}AS APOLLO'SSON"
- 1620 DATA"HE DROVE THE CHARIOT{2 SPACES}OF THE SUN TOO NEAR{3 SPACES}THE{2 SPACES}EARTH"
- 1630 DATA"ZEUS KILLED HIM TO{4 SPACES}SAVE EARTH FROM THE{3 SPACES}BURNING SUN"
- 1640 DATAPHAETON,AENEAS,MARS,1
- 1650 DATA"KNOWN TO THE ROMANS ASPLUTO, HE WAS GOD {SPACE}OF{2 SPACES}THE UNDERWORLD"
- 1660 DATA"APHRODITE TOLD EROS TOSHOOT HIM WITH ARROWS SO HE WOULD KNOW LOVE"
- 1670 DATA"HE FELL IN LOVE WITH{2 SPACES}PERSEPHONE AND{8 SPACES}KIDNAPPED HER"
- 1680 DATA"AS LONG AS HE KEEPS{3 SPACES}PERSEPHONE, THE EARTH IS DARK AND COLD"
- 1690 DATAZEUS,HADES,MARS,2
- 1700 DATA"SHE WAS CAPTURED BY{3 SPACES}HADES TO BE HIS BRIDE"
- 1710 DATA"EATING POMEGRANATE{4 SPACES}SEEDS FORCED HER TO{3 SPACES}LIVE WITH HADES"
- 1720 DATA"HER MOTHER MADE EARTH BARREN UNTIL SHE WAS{2 SPACES}RECLAIMED"

- 1730 DATA"THE FOUR MONTHS SHE{3 SPACES}LIVES WITH
{SPACE}HADES ARE{2 SPACES}CALLED WINTER"
- 1740 DATACASSANDRA,ECHO,PERSEPHONE,3
- 1750 DATA"SHE ALWAYS HAD TO HAVETHE LAST WORD"
- 1760 DATA"SHE PROTECTED ZEUS{4 SPACES}FROM HERA BY
TRAPPING HER IN CONVERSATION"
- 1770 DATA"SHE WAS CURSED BY{5 SPACES}NEVER BEING A
BLE TO{3 SPACES}SPEAK FIRST"
- 1780 DATA"SHE WASTED AWAY TO{4 SPACES}NOTHING BUT
{SPACE}A VOICE{3 SPACES}FOR LOVE OF NARCISSUS"
- 1790 DATAECHO,ATHENA,HELEN,1
- 1800 DATA"HE LOVED NO MAN OR{4 SPACES}WOMAN"
- 1810 DATA"A WHITE FLOWER WITH A PURPLE` HEART BEARS
{4 SPACES}HIS NAME"
- 1820 DATA"HE BROKE THE HEART OF ECHO AND CAUSED HE
R{3 SPACES}END"
- 1830 DATA"HE FELL IN LOVE WITH{2 SPACES}HIS OWN RE
FLECTION"
- 1840 DATASISYPHUS,NARCISSUS,JASON,2
- 1850 DATA"HE WAS A POET AND A{3 SPACES}SINGER"
- 1860 DATA"HE LOVED ONLY EURYDICEAND SHE DIED"
- 1870 DATA"HE BEGGED HADES AND{3 SPACES}PERSEPHONE
{SPACE}TO GIVE HISBRIDE LIFE"
- 1880 DATA"HE LOST EURYDICE AGAINBECAUSE HE TURNED
{SPACE}TO{2 SPACES}LOOK BACK"
- 1890 DATAAGAMEMNON,DIONYSUS,ORPHEUS,3
- 1900 DATA"AN ORACLE PROPHESED{2 SPACES}HE WOULD K
ILL HIS{5 SPACES}GRANDFATHER"
- 1910 DATA"HIS GOAL WAS TO GET{3 SPACES}THE HEAD OF
MEDUSA"
- 1920 DATA"HE CUT OFF THE HEAD OFMEDUSA AND ESCAPED
{4 SPACES}UNHARMED"
- 1930 DATA"HERMES GAVE HIM MAGIC GIFTS TO HELP HIM
{SPACE}GET MEDUSA"
- 1940 DATAPERSEUS,PROMETHEUS,HERACLES,1
- 1950 DATA"SHE WAS ONE OF THREE{2 SPACES}UGLY SISTE
RS"
- 1960 DATA"SHE WAS THE ONLY ONE{2 SPACES}OF THREE S
ISTERS WHO{2 SPACES}COULD BE KILLED"
- 1970 DATA"PEOPLE WHO LOOKED UPONHER WERE TURNED TO
{4 SPACES}STONE"
- 1980 DATA"HER BLOOD DROPLETS ARENOW POISONOUS DESE
RT{2 SPACES}SNAKES"
- 1990 DATAMEDEA,MEDUSA,ATHENA,2
- 2000 DATA"SHE WAS THE DAUGHTER{2 SPACES}OF CASSIOP
EIA"
- 2010 DATA"SHE WAS CHAINED TO A{2 SPACES}ROCK BECAU
SE HER{6 SPACES}MOTHER WAS BEAUTIFUL
{2 SPACES}AND VAIN"

Level 4

- 2020 DATA"SHE WAS OFFERED AS A{2 SPACES}SACRIFICE
{SPACE}TO THE SEA{2 SPACES}GOD NEREUS"
- 2030 DATA"PERSEUS SAVED HER, AND SHE BECAME HIS BRI
DE"
- 2040 DATAATHENA,ARTEMIS,ANDROMEDA,3
- 2050 DATA"HIS NAME MEANT 'GLORY OF HERA,' BUT HERA
{4 SPACES}WANTED HIM KILLED"
- 2060 DATA"HE DID 12 IMPOSSIBLE{2 SPACES}TASKS TO P
LEASE KING{2 SPACES}EURYSTHEUS"
- 2070 DATA"CALLED HERCULES BY THE ROMANS, HE WENT TO
{4 SPACES}MOUNT OLYMPUS AFTER{3 SPACES}HIS DE
ATH"
- 2080 DATA"HE WAS KILLED BY THE{2 SPACES}BLOOD OF A
CENTAUR"
- 2090 DATAHERACLES,HADES,HERMES,1
- 3000 DATA"HE WAS RAISED BY A{4 SPACES}CENTAUR, CHI
RON"
- 3010 DATA"HE ORGANIZED A QUEST{2 SPACES}TO FIND TH
E GOLDEN{4 SPACES}FLEECE"
- 3020 DATA"HIS SHIP WAS THE ARGO AND HIS WARRIORS W
ERE ARGONAUTS"
- 3030 DATA"HE WON THE FLEECE, BUT NOT THE THRONE OF
{SPACE}HIS KINGDOM"
- 3040 DATAAENEAS,JASON,APOLLO,2
- 3050 DATA"HER POTION GOT JASON{2 SPACES}THE GOLDEN
FLEECE"
- 3060 DATA"SHE DELIVERED HER OWN BROTHER TO JASON T
O BE KILLED"
- 3070 DATA"SHE KILLED KING PELIAS TO HELP JASON BECO
ME{2 SPACES}KING"
- 3080 DATA"SHE KILLED JASON'S{4 SPACES}WIFE TO AVEN
GE HIS{4 SPACES}BETRAYAL"
- 3090 DATAMEDUSA,ARTEMIS,MEDEA,3
- 3100 DATA"HE WAS EARTH'S BEST{3 SPACES}ARCHITECT A
ND{9 SPACES}SCULPTOR"
- 3110 DATA"HE KILLED HIS NEPHEW{2 SPACES}BECAUSE TA
LUS HAD MORE TALENT THAN HE DID"
- 3120 DATA"THE MINOTAUR NOR ITS{2 SPACES}VICTIMS CO
ULD ESCAPE{2 SPACES}THE LABYRINTH HE MADE"
- 3130 DATA"HE MADE HUMAN WINGS,{2 SPACES}BUT HIS SO
N ICARUS{4 SPACES}FELL TO EARTH AND{5 SPACES}
DIED"
- 3140 DATADAEDALUS,THESEUS,PHAETON,1
- 3150 DATA"BECAUSE HIS FATHER{4 SPACES}TRIED TO KIL
L HIM, HIS NAME MEANS 'SWOLLEN{3 SPACES}FOOT'"
- 3160 DATA"HE UNKNOWINGLY KILLED HIS FATHER, AS AN
{5 SPACES}ORACLE PREDICTED"
- 3170 DATA"HE SOLVED THE RIDDLE{2 SPACES}OF THE SPH
INX AND{5 SPACES}MARRIED JOCASTA"

- 3180 DATA"HE BLINDED HIMSELF{4 SPACES}AFTER LEARNI
NG JOCASTAWAS HIS MOTHER"
- 3190 DATATHESEUS,OEDIPUS,APOLLO,2
- 3200 DATA"HE WANTED TO BE A HEROLIKE COUSIN HERACL
ES"
- 3210 DATA"MEDEA TRIED TO KILL{3 SPACES}HIM BEFORE
{SPACE}AEGUS NAMEDHIM AS SON AND HEIR"
- 3220 DATA"HE WAS CHOSEN AS A{4 SPACES}SACRIFICE TO
THE{6 SPACES}MINOTAUR"
- 3230 DATA"HE SLEW THE MINOTAUR{2 SPACES}AND ESCAPE
D THE{7 SPACES}LABYRINTH"
- 3240 DATASISYPHUS,PROMETHEUS,THESEUS,3
- 3250 DATA"HE WAS THE MOST FAMOUSGREEK WHO FOUGHT I
N{3 SPACES}THE TROJAN WAR"
- 3260 DATA"HE COULD NOT BE HURT{2 SPACES}BECAUSE HI
S MOTHER{4 SPACES}DIPPED HIM IN THE{5 SPACES}
RIVER STYX"
- 3270 DATA"HE KILLED THE TROJAN{2 SPACES}LEADER HEC
TOR AT THE{2 SPACES}SCAEAN GATE"
- 3280 DATA"HE WAS KILLED BY AN{3 SPACES}ARROW THAT
{SPACE}PIERCED HISVULNERABLE HEEL"
- 3290 DATAACHILLES,AGAMEMNON,AENEAS,1
- 3300 DATA"HE WAS A TROJAN PRINCEAND SON OF APHRODI
TE"
- 3310 DATA"HE KILLED TURNUS OVER THE LOVE OF LAVINIA"
- 3320 DATA"THE CAESARS TRACED{4 SPACES}THEIR ORIGIN
TO HIM"
- 3330 DATA"HE WAS THE ANCESTRAL{2 SPACES}HERO OF RO
ME"
- 3340 DATAMARS,AENEAS,HERMES,2
- 3350 DATA"HE WAS THE KING WHO{3 SPACES}LED THE ACH
AEANS IN{3 SPACES}THE TROJAN WAR"
- 3360 DATA"CLYTEMNESTRA, PRINCESSOF SPARTA, WAS HIS
{4 SPACES}FAITHLESS WIFE"
- 3370 DATA"HE SACRIFICED A WOMAN TO SAVE HIS FLEET
{SPACE}FROMA WINDSTORM"
- 3380 DATA"HE WAS KILLED BY THE{2 SPACES}LOVER OF C
LYTEMNESTRA"
- 3390 DATAAPOLLO,ACHILLES,AGAMEMNON,3
- 3400 DATA"SHE WAS THE GODDESS OFLOVE, CALLED VENUS
BY THE ROMANS"
- 3410 DATA"SHE WAS FATHERED BY{3 SPACES}OURANOS AFT
ER HIS{5 SPACES}CASTRATION"
- 3420 DATA"SHE WAS THE GODDESS OFINTELLECTUALISM AN
D{3 SPACES}ALSO OF THE SKY"
- 3430 DATA"SHE WAS HONORED AS THEMOTHER OF AENEAS"
- 3440 DATAAPHRODITE,ARTEMIS,ATHENA,1
- 3450 DATA"HE WAS THE GOD OF{5 SPACES}PROPHECY AND
{SPACE}LIGHT"

Level

4

- 3460 DATA"ARCHERS, PHYSICIANS,{2 SPACES}AND MUSICI
ANS CALLED{2 SPACES}HIM THEIR PATRON"
- 3470 DATA"AESCULAPIUS, GOD OF{3 SPACES}MEDICINE, W
AS HIS SON"
- 3480 DATA"HIS JOB WAS TO DRIVE{2 SPACES}THE CHARIO
T OF THE SUNACROSS THE SKY"
- 3490 DATAPERSEUS,APOLLO,DIONYSUS,2
- 3500 DATA"APOLLO'S TWIN, SHE WASGODDESS OF THE MOO
N{3 SPACES}AND OF BIRTH"
- 3510 DATA"HER ROMAN COUNTERPART WAS DIANA"
- 3520 DATA"SHE WAS GUARDIAN OF{3 SPACES}FORESTS AS
{SPACE}WELL AS OF WILD ANIMALS"
- 3530 DATA"BECAUSE HE CHALLENGED HER TO A DISCUS
{7 SPACES}-THROWING CONTEST,{4 SPACES}ORION D
IED"
- 3540 DATAATHENA,ANDROMEDA,ARTEMIS,3
- 3550 DATA"SHE WAS KNOWN TO ROME AS MINERVA, GODDES
S OFWAR AND WISDOM"
- 3560 DATA"SHE WAS FULLY ARMED{3 SPACES}FOR WAR AT
{SPACE}BIRTH"
- 3570 DATA"SHE WON ATHENS IN A{3 SPACES}CONTEST WIT
H POSEIDON"
- 3580 DATA"HER TEMPLE IS THE{5 SPACES}PARTHENON"
- 3590 DATAATHENA,APHRODITE,CASSANDRA,1
- 3600 DATA"APOLLO GAVE HER THE{3 SPACES}GIFT OF PRO
PHECY"
- 3610 DATA"SHE WAS CURSED THAT NOONE WOULD BELIEVE
{SPACE}HER PREDICTIONS"
- 3620 DATA"AGAMEMNON CAPTURED HERAFTER TROY FELL"
- 3630 DATA"SHE WAS MURDERED BY{3 SPACES}CLYTEMNESTR
A"
- 3640 DATA CIRCE,CASSANDRA,HECATE,2
- 3650 DATA"A FAMOUS SEER, SHE WASA DAUGHTER OF THE
{SPACE}SUN"
- 3660 DATA"SHE WAS BANISHED TO{3 SPACES}THE ISLE OF
AEAEA FOR KILLING HER HUSBAND"
- 3670 DATA"SHE RESTORED FRIENDS{2 SPACES}OF ODYSSEU
S WHO HAD{3 SPACES}BEEN TURNED INTO PIGS"
- 3680 DATA"LIVING WITH ODYSSEUS{2 SPACES}FOR A YEAR
, SHE HAD{3 SPACES}HIS SON"
- 3690 DATAHECATE,CASSANDRA,CIRCE,3
- 3700 DATA"THE GOD OF WINE, HE{3 SPACES}WAS CALLED
{SPACE}BACCHUS BY THE ROMANS"
- 3710 DATA"A PARTY ANIMAL, HIS{3 SPACES}ORGIES WERE
ATTENDED{2 SPACES}BY SATYRS AND NYMPHS"
- 3720 DATA"HIS SACRED ANIMALS{4 SPACES}WERE THE BUL
L, GOAT{3 SPACES}AND SERPENT"
- 3730 DATA"HE WAS WORSHIPPED AS AGOD OF DRUNKENNESS
ALLOVER THE KNOWN WORLD"
- 3740 DATADIONYSUS,ZEUS,HADES,1

**Just
For
Fun**

**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.

Just For Fun

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

```
100 DIMRT$(9):POKE36879,190:GOSUB5000
110 P1=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND128
):P2=37888+4*(PEEK(36866)AND128)
120 FORX=0TO9:READX$:RT$(X)=X$:NEXTX
150 GOSUB2000:PRINT"{CLR}":MC=0:UC=0:FORX=0TO22:PO
KEP1+(X*22),97:POKEP2+(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 POKEP1+Y+X,81:POKEP2+Y+X,2
210 FORZ=1TOSP%:NEXTZ:POKEP1+Y+X,32:POKEP2+Y+X,1
220 IFPEEK(197)=9OR(PEEK(37137)AND4)=0THEN600
230 IFPEEK(197)=33OR(PEEK(37137)AND8)=0THEN650
240 NEXTX:GOTO170
400 UC=UC+1:POKEP1+Y+X,86:POKEP2+Y+X,4:POKE36878,1
5:POKE36877,200
410 FORQ=1TO100:NEXTQ:POKE36878,0:POKE36877,0:IFUC
=TC%THEN3000
420 POKEP1+Y+X,32:POKEP2+Y+X,1:HC%=HC%+1:IFHC%=MW%
THEN170
430 GOTO200
500 PRINT"{CLR}{7 DOWN}{2 RIGHT}{RVS}STARBASE DEST
ROYED{OFF}"
510 POKE36878,15:FORX=250TO190STEP-5:POKE36879,X:P
OKE36876,X
520 FORY=1TO100:NEXTY,X:POKE36876,0:POKE36878,0
530 GOSUB6000:SP%=9999:GOTO3000
600 IFY<22THEN240
610 Y=Y-22:GOTO240
650 IFY>463THEN240
660 Y=Y+22:GOTO240
1000 Y=INT(RND(1)*23)
1010 Z=INT(RND(1)*12)+10
1020 POKEP1+(Y*22)+Z,42:POKEP2+(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=102ORA=42THEN1040
1080 POKEP1+Y,102:POKE P2+Y,6:NEXTX
1090 FORX=1TO1000:NEXTX:RETURN
```



```

2000 PRINT"{CLR}{DOWN}ENTER # OF ASTEROIDS
      {2 SPACES}(1 TO 100)"
2010 INPUTX$:TC%=VAL(X$):IFTC%<10RTC%>100THEN2010
2020 PRINT"{2 DOWN}ENTER MISSILE SPEED{3 SPACES}(1
      =FAST -TO- 9=SLOW)"
2030 INPUTX$:SP%=VAL(X$):IFSP%<10RSP%>9THEN2030
2040 PRINT"{2 DOWN}ENTER # OF WARHEADS{3 SPACES}(1
      TO 5 PER MISSILE)"
2050 INPUTX$:MW%=VAL(X$):IFMW%<10RMW%>5THEN2050
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<0THENX=0
3050 IFX>9THENX=9
3060 PRINT"{4 DOWN}YOUR RANK IS:{DOWN}":PRINTRT$(X
      )
3080 PRINT"{4 DOWN}PLAY AGAIN? ({RVS}Y{OFF} OR
      {RVS}N{OFF})"
3090 GETX$:IFX$=""THEN3090
3100 IFX$="Y"THEN150
3110 IFX$<>"N"THEN3090
3120 POKE36879,27:PRINT"{CLR}":END
5000 PRINT"{CLR}{BLK}{DOWN}{RVS}{4 SPACES}ASTEROID
      BLAST{4 SPACES}{OFF}";
5010 PRINT"{2 DOWN}YOU MUST SAVE YOUR{4 SPACES}SPA
      CE STATION FROM A{2 SPACES}GROUP OF ASTEROIDS
      "
5020 PRINT"THAT HAVE SURROUNDED{2 SPACES}IT."
5030 PRINT"{DOWN}THE COMPUTER FIRES{4 SPACES}MISSI
      LES FROM THE LEFTSIDE OF THE SCREEN."
5040 PRINT"{DOWN}YOU CAN CAUSE EACH{4 SPACES}MISSI
      LE TO CLIMB OR{3 SPACES}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
5070 PRINT"{CLR}{DOWN}YOU IF CAUSE A MISSILETO HIT
      YOUR SPACE{5 SPACES}STATION, THE GAME WILL";
5080 PRINT"BE OVER."
5090 PRINT"{DOWN}YOU CAN CONTROL THE{3 SPACES}DIFF
      ICULTY 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

```

Just For Fun

```
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,MAJO
R,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.

Just For Fun

Black Hole

```
100 DIMRT$(9):POKE36879,170:GOSUB5000
110 P1=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND128
):P2=37888+4*(PEEK(36866)AND128)
120 FORX=0TO9:READX$:RT$(X)=X$:NEXTX
150 GOSUB2000:PRINT"{CLR}":SD%=0
155 FORX=0TO22:POKEP1+(X*22),97:POKEP2+(X*22),0:NE
XTX
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,1
220 IFPEEK(197)=9OR(PEEK(37137)AND4)=0THEN600
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:POKE P2+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%<10RSP%>9THEN2030
2040 PRINT"{2 DOWN}ENTER # OF BLACK HOLES(25 TO 10
0)"
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-B
H%)/5):X=INT(X/10)
```

```

3040 IFX<0THENX=0
3050 IFX>9THENX=9
3060 PRINT"{4 DOWN}YOUR RANK IS:{DOWN}":PRINTRT$(X
)
3080 PRINT"{4 DOWN}PLAY AGAIN? ({RVS}Y{OFF} OR
{RVS}N{OFF})"
3090 GETX$:IFX$=""THEN3090
3100 IFX$="Y"THEN150
3110 IFX$<>"N"THEN3090
3120 POKE36879,27:PRINT"{CLR}":END
5000 PRINT"{CLR}{BLK}{DOWN}{RVS}{6 SPACES}BLACK HO
LE{6 SPACES}{OFF}";
5010 PRINT"{2 DOWN}YOU MUST PILOT A{6 SPACES}FLEET
OF STARSHIPS{4 SPACES}ACROSS SPACE, AVOIDING
";
5020 PRINT"THE BLACK HOLES."
5030 PRINT"{DOWN}EACH SHIP TRAVELS FROMTHE LEFT SI
DE OF THE{2 SPACES}SCREEN TO THE RIGHT."
5040 PRINT"{DOWN}YOU CAN CAUSE EACH{4 SPACES}SHIP
{SPACE}TO CLIMB OR DIVE BY USING THE"
5050 PRINT"JOYSTICK OR THE{7 SPACES}KEYBOARD:"
5060 PRINT"{DOWN}{2 SPACES}({RVS}W{OFF}=CLIMB
{3 SPACES}{RVS}Z{OFF}=DIVE)":GOSUB6000
5090 PRINT"{CLR}{DOWN}YOU CAN CONTROL THE
{3 SPACES}DIFFICULTY OF THE GAMEBY THREE FACT
ORS:"
5100 PRINT"{DOWN} + NUMBER OF STARSHIPS";:PRINT"
{DOWN} + STARSHIP SPEED"
5120 PRINT"{DOWN} + # OF BLACK HOLES"
5130 PRINT"{4 DOWN}LEGEND:":PRINT"{2 DOWN} {RED}Z
{BLK} - STARSHIP":PRINT"{DOWN} Q - BLACK HOLE
"
5150 GOSUB6000:RETURN
6000 PRINT"{HOME}{22 DOWN}{3 SPACES}(PRESS ANY KEY
)";
6010 GETX$:IFX$=""THEN6010
6020 RETURN
9000 DATA PRIVATE, SERGEANT, LIEUTENANT, CAPTAIN, MAJO
R, COLONEL
9010 DATA "* GENERAL", "*** 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}";
160 PRINT"{DOWN}AS YOU CRAWL THROUGH{2 SPACES}THE
    {SPACE}DIRT YOU MUST EAT ALGAE ({GRN}Q{RED}) A
    ND AVOID"
170 PRINT"SHARP PEBBLES ({BLU}Z{RED}).":PRINT"
    {DOWN}HITTING PEBBLES OR THEBORDER OF THE SCRE
    EN,"
180 PRINT"OR CROSSING A PREVIoustUNNEL WILL END TH
    E{3 SPACES}GAME."
190 PRINT"{DOWN}CONTROL DIRECTION WITHTHE 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:POKEC
    +X,5:NEXTY
270 H1=11:V1=11:POKEM+253,160:POKEC+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:
    POKE36878,0: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:FORX=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
```


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.

Just For Fun

- 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

```
100 PRINT "{CLR}":POKE36879,254
110 DIMDT%(3,1),BT%(3,3,1),BV(3),NT%(37,1):GOSUB200
120 S=4*(PEEK(36866)AND128)+64*(PEEK(36869)AND128)
130 C=(37888+4*(PEEK(36866)AND128))-S
200 PRINT "{CLR}{DOWN}ENTER SKILL LEVEL:"
210 PRINT "{3 DOWN}{2 SPACES}{RVS}1{OFF} BEGINNER":
PRINT "{2 DOWN}{4 SPACES}--TO--"
220 PRINT "{2 DOWN}{2 SPACES}{RVS}9{OFF} ADVANCED"
230 GETX$:IFX$=""THEN230
240 SK=VAL(X$):IFSK<1ORSK>9THEN230
250 POKE36879,25:P1=160:P2=7:PRINT "{CLR}":HI=0:BC=
0
260 FORW=0TO484STEP22:GOSUB3000:NEXTW
270 FORW=485TO504:GOSUB3000:NEXTW
280 FORW=505TO21STEP-22:GOSUB3000:NEXTW
290 FORW=20TO1STEP-1:GOSUB3000:NEXTW
300 FORY=1TOSK*2+5
310 W=INT(RND(1)*414)+46
320 IFPEEK(S+W-1)<>32ORPEEK(S+W)<>32ORPEEK(S+W+1)<
>32THEN310
325 IFPEEK(S+W+22)<>32ORPEEK(S+W-22)<>32THEN310
330 P1=BV(INT(RND(1)*4)):P2=4:GOSUB3000:NEXTY
340 NT=INT(SK*5+10):P1=65:P2=5:FORY=1TONT
350 W=INT(RND(1)*460)+23:IFPEEK(S+W)<>32THEN350
360 GOSUB3000:NEXTY
400 CP=S
410 IFCP=STHENI=22:X=1
420 IFCP=S+21THENI=-1:X=4
430 IFCP=S+484THENI=1:X=2
435 IFCP=S+505THENI=-22:X=3
440 POKECP,160:POKECP+C,7:CP=CP+I
450 POKECP,81:POKECP+C,2
455 IFPEEK(197)=39THEN900
460 IFPEEK(197)=32THEN500
470 FORZ=1TO(10-SK):IFPEEK(197)=32THEN500
480 NEXTZ:GOTO410
500 IFCP=SORCP=S+21ORCP=S+484ORCP=S+505THEN410
505 BC=BC+1:PK=7
510 I=DT%(X-1,0):CD=DT%(X-1,1)
```

```

520 Z=32:IFPK=7THENZ=160
530 POKECP,Z:POKECP+C,PK:PK=1
540 CP=CP+I:Y=PEEK(CP)
550 IFY=32THEN630
560 IFY=65THEN600
570 IFY=160THEN660
580 GOTO700
600 GOSUB4010:HI=HI+1
630 POKECP,81:POKECP+C,2:FORZ=1TO(20-SK):NEXTZ:IFH
I>=NTTHEN900
640 GOTO520
660 POKECP,81:POKECP+C,2:IFI=-22THENI=-1:X=4:GOTO4
10
670 IFI=22THENI=1:X=2:GOTO410
680 IFI=1THENI=-22:X=3:GOTO410
690 I=22:X=1:GOTO410
700 Z=9:FORW=0TO3:IFBV(W)=YTHENZ=W
710 NEXTW:IFZ>3THEN630
720 X=BT%(Z,CD-1,0):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<1THENX=1
955 IFHI<10THENX=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 EATINGALL 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 FORA HIGHER SCORE."
2060 PRINT"{2 DOWN}{3 SPACES}(PRESS ANY KEY)";

```

Just For Fun

```
2070 FORX=0TO3:FORY=0TO1:READZ:DT%(X,Y)=Z:NEXTY,X
2080 FORW=0TO3:FORX=0TO3:FORY=0TO1:READZ:BT%(W,X,Y
)=Z:NEXTY,X,W
2090 FORW=0TO3:READZ:BV(W)=Z:NEXTW
2100 FORW=0TO3:FORX=0TO1:READZ:NT%(W,X)=Z:NEXTX,W
:GOSUB5000
2110 GETX$:IFX$=""THEN2110
2120 RETURN
3000 POKES+W,P1:POKES+C+W,P2:RETURN
4010 V1=36877:V2=200:V3=50:GOTO4100
4020 V1=36876:V2=225:V3=50
4100 POKE36878,15:POKEV1,V2:FORZ=1TOV3:NEXTZ
4110 POKE36878,0:POKEV1,0:RETURN
5000 POKE36878,15:FORW=0TO3:POKE36875,NT%(W,0):FO
RY=1TO(NT%(W,1)*100):NEXTY
5010 POKE36875,0:NEXTW:POKE36878,0:RETURN
10000 DATA1,3,-22,1,-1,4,22,2
10010 DATA4,22,3,-1,2,-22,1,1
10020 DATA4,22,1,1,3,-1,2,-22
10030 DATA1,1,2,-22,3,-1,4,22
10040 DATA3,-1,2,-22,4,22,1,1
10050 DATA233,223,105,95
10100 DATA215,2,219,2,219,1,225,2,219,1,215,2,209,
1,207,2,219,2,219,2
10110 DATA219,2,225,2,223,2,219,2,215,2,219,2,209,
2,207,2,209,2,215,2
10120 DATA209,2,219,1,207,2,215,1,201,2,207,2,209,
2,215,2,219,2,223,2
10130 DATA225,2,215,1,215,2,219,2,209,2,207,1,195,
2,195,1
```

**Build
a
Quiz**

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 Q
UIZ{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 TOTEST YOURSEL
F 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$):ONXGOTO400,450,500
390 GOTO350
400 PRINT"(T/F)":O=88:L=66:GOSUB8000:GOSUB6500
410 PRINT"{8 DOWN} ENTER {RVS}T{OFF} OR {RVS}F
      {OFF}"
420 GETX$:IFX$=""THEN420
430 IFX$<>"T"ANDX$<>"F"THEN420
440 GOSUB6500:GOTO320
450 PRINT"(M.C.)":O=44:L=66:GOSUB8000:GOSUB6500:PR
      INT"{5 DOWN}A.":O=135:L=63:GOSUB8000
460 GOSUB6500:PRINT"{3 DOWN}B.":O=223:GOSUB8000:GO
      SUB6500:PRINT"{3 DOWN}C.":O=311:GOSUB8000
470 GOSUB6500:PRINT"{3 DOWN}D.":O=399:GOSUB8000:GO
      SUB6500
480 PRINT"{2 DOWN}{2 SPACES}(PRESS {RVS}A{OFF},
      {RVS}B{OFF},{RVS}C{OFF} OR {RVS}D{OFF})";
485 GETX$:IFX$=""THEN485
490 IFX$<"A"ORX$>"D"THEN485
495 GOSUB6500:GOTO320
500 PRINT"(COMP.)":O=66:L=69:GOSUB8000:GOSUB6500:P
      RINT"{7 DOWN}ENTER CORRECT ANSWER"
510 O=242:L=63:GOSUB8000:GOSUB6500:GOTO320
550 GOSUB6500:CLOSE9:GOTO200
700 GOSUB7500
730 OPEN9,DV,0,QN$:GOSUB6600
740 IFLEN(X$)>21THEN760
750 A$=" "+X$:X$=A$+" ":GOTO740
760 PRINT"{CLR}{2 DOWN}":FORX=1TO10:PRINTX$;:PRINT
      " ":NEXTX:GOSUB7000:FORX=1TO1000: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 GOSUB6600:PRINT"{DOWN}";X$
910 PRINT"{2 DOWN} ENTER {RVS}T{OFF} FOR TRUE"
920 PRINT"{2 DOWN} ENTER {RVS}F{OFF} FOR FALSE"
930 GOSUB6600
940 GETA$:IFA$=""THEN940
950 IFA$<>"T"ANDA$<>"F"THEN940
960 IFX$<>A$THEN1200
970 GOTO1300
1000 GOSUB6600:PRINT"{DOWN}";X$:GOSUB6600:PRINT"
{DOWN}A. ";X$:GOSUB6700
1010 GOSUB6600:PRINT"B. ";X$:GOSUB6700:GOSUB6600:P
RINT"C. ";X$:GOSUB6700
1020 GOSUB6600:PRINT"D. ";X$:GOSUB6700:GOSUB6600
1030 PRINT"{3 SPACES}ENTER {RVS}A{OFF},{RVS}B{OFF}
,{RVS}C{OFF} OR {RVS}D{OFF}";
1040 GETA$:IFA$=""THEN1040
1050 IFA$<"A"ORA$>"D"THEN1040
1060 IFX$<>A$THEN1200
1070 GOTO1300
1100 GOSUB6600
1110 PRINT"{DOWN}";X$:GOSUB6600
1120 INPUT"{3 DOWN}";A$
1130 IFX$<>A$THEN1200
1140 GOTO1300
1200 GOSUB7200:PRINT"{CLR}{DOWN} ANSWER = ";X$
1210 FORX=1TO1500:NEXTX:GOTO800
1300 CQ=CQ+1:GOSUB7000:GOTO800
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 IFNQ=0THENNQ=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$:IFX$=""THEN2080
2090 GOTO200
6500 PRINT#9,X$;Z$;:RETURN
6600 X$=""
6610 GET#9,QQ$
6620 IFQQ$=""THEN6610
6630 IFASC(QQ$)=13THENRETURN
6640 X$=X$+QQ$
6650 GOTO6610
6700 X=LEN(X$):IFX=19ORX=41ORX=63THENRETURN
6710 PRINT"{SHIFT-SPACE}":RETURN
```

Build A Quiz

```
7000 POKE36878,15:FORX=110TO190STEP16:POKE36879,X:
POKE36875,X+30:FORY=1TO100:NEXTY,X
7010 POKE36878,0:POKE36875,0:RETURN
7200 POKE36879,8:POKE36878,15:POKE36874,130:FORX=1
TO500:NEXTX
7210 POKE36879,190:POKE36878,0:POKE36874,0:RETURN
7500 PRINT"{CLR}{3 DOWN}{3 SPACES}ENTER QUIZ NAME:
":PRINT"{DOWN}{4 SPACES}(1-22 LETTERS)"
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 GETES$:IFES$=""THEN7550
7560 IFASC(ES$)<>13THEN7550
7570 RETURN
8000 X$="":POKEM+O,160:POKEC+O,0
8010 GETY$:IFY$=""THEN8010
8020 X=ASC(Y$):IFX=13THEN8150
8030 IFX=20THEN8100
8040 Y=LEN(X$):X$=X$+Y$:IFX>63THENX=X-64
8050 POKEM+O+Y,X:POKEC+O+Y,0:POKEM+O+Y+1,160:POKEC
+O+Y+1,0:IFLEN(X$)<LTHEN8010
8060 GOTO8150
8100 Y=LEN(X$):IFY<1THEN8010
8110 POKEM+O+Y,32:POKEC+O+Y,1:POKEM+O+Y-1,160:POKE
C+O+Y-1,0
8120 Y$=LEFT$(X$,Y-1):X$=Y$:GOTO8010
8150 Y=LEN(X$):POKEM+O+Y,32:POKEC+O+Y,1:RETURN
```



**Appendix
A**

Program Information



Program Information

Contents, by Age and Skill Level

Level 1 Games:

A-Maze-Ing
Count the Spots
Counting Game
Get the Treasure
Hidden Picture

Spelling Bee
Spend Your Allowance
State of the Union
Stargazer
Wise Shopper
Word Scramble

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 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

Level 3 Games:

Alphabet Soup
Asteroid Blast
Black Hole
Earthworms
Ladybug
Lawn Mower
Matchmaker
Notecrafter
Plan a Menu

Appendix

A

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

**Appendix
B**

Programmer's Notes



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.

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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
```

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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

Appendix B

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)=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$(17);"HE ";QT$(
RT%(W)-1);".";CHR$(17);CHR$(17);CHR$(17)
```

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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

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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

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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}STRANGLLED
TWO {SPACE}SERPENTSSSENT BY HERA"
3770 DATA"HE CLEANED THE STABLESOF AUGEAS"
3780 DATA"HE PERFORMED TWELVE{3 SPACES}LABORS
AS A PUNISHMENTFOR 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,

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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



**Appendix
C**

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 —

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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

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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:

When You Read:	Press:	See:	When You Read:	Press:	See:
{ CLEAR }	SHIFT CLR/HOME		{ GRN }	CTRL 6	
{ HOME }	CLR/HOME		{ BLU }	CTRL 7	
{ UP }	SHIFT ↑ CRSR ↓		{ YEL }	CTRL 8	
{ DOWN }	↑ CRSR ↓		{ F1 }	f1	
{ LEFT }	SHIFT ← CRSR →		{ F2 }	f2	
{ RIGHT }	← CRSR →		{ F3 }	f3	
{ RVS }	CTRL 9		{ F4 }	f4	
{ OFF }	CTRL 0		{ F5 }	f5	
{ BLK }	CTRL 1		{ F6 }	f6	
{ WHT }	CTRL 2		{ F7 }	f7	
{ RED }	CTRL 3		{ F8 }	f8	
{ CYN }	CTRL 4		←	←	
{ PUR }	CTRL 5		↑	SHIFT ↑	

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