

# fun school

## Instructions and Parent/Teacher Guide

- ▶ Atari ST
- ▶ Amiga
- ▶ PC
- ▶ Commodore 64
- ▶ Amstrad CPC/PCW
- ▶ Spectrum
- ▶ BBC Micro

for the 5s to 7s

# fun school 3

**WELCOME** to the Fun School 3 package for children of five to seven years of age. Following the outstanding success of Fun School 2 we are proud to present six brand new games that will delight, entertain and, most of all, educate your children in a wide range of skills using guidelines laid down by the National Curriculum.

Fun School 3 is all about learning, so until your children are sure of a game's objectives and the keys to be used, it is vital that they receive supervision whenever a new program is loaded. This will greatly reduce the possibility of frustration and tears at a later date. In fact you will be surprised by the speed at which children will understand the ideas behind each program.

It is important that young users are taught the ground rules at an early stage:

- ▶ No poking little fingers, or Ghost Busters' proton packs, into sockets and disc drive openings.
- ▶ Soft drinks, sticky buns and the like are a no-no.

Children of any one age group can have widely differing abilities. Fun School 3 has been designed to cater for as wide an ability range as possible within its 5 to 7 years target group. On the lower levels some games can be operated quite comfortably by a child under the age of five, while others may still prove taxing to an eight-year-old, especially at the higher levels.

This manual gives simple instructions for each game. These are intended to be read by the child, with help from an adult if necessary. Towards the end are separate parent/teacher notes that highlight each game's objectives and make suggestions for adult involvement in the learning process.

All the Fun School 3 games can be loaded easily from the menu screen using the **Spacebar** followed by **Return**, thus eliminating the need for typed commands. This easy-access method of program selection will allow children to switch between games without adult assistance, playing each one for as long as their concentration span allows. You will probably find that their favourite choice of program changes over a period of time as they acquire new skills.

Each program always begins at the lowest level of difficulty and, in most cases, will progress to higher levels in response to the child's achievement. But, by pressing the **Levels** key (see below), the game can be moved immediately to the next level.

A wide range of impressive sound effects not only make the games more fun to play, but also serve to distinguish between right and wrong answers.

# the keys

For the purpose of these instructions, all references to pressing the **Return** key refer to the **Enter** key on the Spectrum and Amstrad CPC464.

Unless otherwise stated, an instruction to **Select** an option means either:

- ▶ Use the **mouse** to position the pointer over an option and click the **left button**.
- ▶ Use the **Move** key(s) to position the pointer over an option and press **Confirm**.

The following table shows the functions of the main keys used in Fun School 3, across a range of computers. The keys perform the same function in each game:

	Confirm	Menu	Levels
Amiga	Return	Esc	F10
BBC	Return	Esc	F9
C64	Return	Run/Stop	F1
CPC464/6128	Enter/Return	Esc+Esc	Keypad9/F9
PC	Return	Esc	F10
Amstrad PCW	Return	Alt+Stop	Paste
Spectrum	Enter	Sym shift Q	Sym shift 0
ST	Return	Esc	F10

The **Move** keys vary between games and computers and they will be indicated within the program notes.

# the programs

## Journey

Freddie Frog is going on a journey. Can you help him find his way? The words at the bottom of the picture tell you where you have to guide him.

On all versions use the following keys to move him:

Key	Action
F	Go forwards
B	Go backwards
L	Turn left
R	Turn right

When Freddie arrives at his destination there is a happy sound and the words tell you where he wants to go next.

Sometimes Freddie has to visit a place that you can't see on the screen. You'll then see some roads leading off the screen. Follow these and you will see a new area of the map.

Keep exploring and you'll find the place where Freddie has to go.

## Collect

### Move Freddie

Amiga	BBC	C64	CPC	PC	PCW	Spectrum	ST
Arrows	Arrows	Z,X,K,M	Arrows	Arrows	Arrows	Arrows	Arrows

Freddie Frog's pond is full of numbers and symbols. He is a very neat frog and wants to tidy them away. The only way he can do this is to turn them into sums. Can you help him?

To tidy the pond, you must help Freddie pick up the numbers and symbols in the right order to form a sum. Move Freddie from log to log and use the **Spacebar** to pick up the number or symbol from the log he is sitting on.

Suppose that you see the numbers 1, 10, 9 and the symbols + and = on some logs. You may be able to work out that the correct sum is:

$$1 + 9 = 10$$

First move Freddie to the number 1 and press the **Spacebar**. Then move him to + and so on until you have finished the sum. If you get the sum right Freddie will jump around his tidy pond showing you how happy he is!

On levels 3 and 4, there is another problem: An extra number, that you don't need in the sum, has floated onto the pond. You must now decide which numbers to use and which one to leave out.

If, for example, the pond now contains 23, 12, 10, 35, + and =, these will fit together to give you the sum:

$$12 + 23 = 35$$

You just ignore the number that does not fit into the sum, collecting the numbers and symbols as usual.

On the top two levels (5 and 6), there are two extra numbers which makes your job, and Freddie's, just that little bit more difficult! If at any time you make a mistake press the **Delete** key (← on the Amiga) to start again.

## Toyshop

### Move pointer

Amiga	BBC	C64	CPC	PC	PCW	Spectrum	ST
Mouse	Arrows	Space	Arrows	Arrows	Space	Space	Mouse

You're visiting a toy shop and need to put some toys into a sack. To pick up a toy just **Select** it. Hold the toy over the sack, press **Confirm** and the toy will fall into the sack.

On the Amiga and ST versions only, if you make a mistake and pick up the wrong toy, you can cancel your choice by clicking the left mouse button.

On the versions using the **Spacebar** to move, the toy will automatically drop into the sack once you have selected it. You can not return it to the shelf should you choose wrongly.

Also on the Amiga, ST and PCW versions, if you have put any toys into the sack and decide that some of them should not be there, you can return all the toys to the shelves. Click the **right mouse button** on the Amiga/ST; press the **E** key on the PCW.

The way you decide which toy to pick up depends on the level the game is on:

#### On level 1:

Find the toy that matches the words at the bottom of the screen. If you are right, there is a happy sound and the shopkeeper rises from behind his counter and smiles. If you are wrong, there is a sad sound and the shopkeeper will frown.

#### On level 2:

The price of each toy is shown beneath it on the shelf. The words ask you to choose a toy that costs a number of pounds. Find a toy at that price, pick it up and put it in the sack just as you did in the first game.

#### On level 3:

You must think about how much you could buy if you had a certain amount of money. Imagine that you have been given a certain number of pounds to spend and must buy some toys that come exactly to that amount of money. You should decide which toys you could buy for the money and put them into the sack. As you drop them into the sack the cash register will add their prices together.

Once you have spent all the money, if the toys add up to the right amount, the shopkeeper will tell you: *That's right*. If you should spend too much, you'll be told: *That's wrong*.

### On levels 4 and 5:

The same as level 3, but the prices include pennies as well as pounds.

## Electricity

### Move pointer

Amiga	BBC	C64	CPC	PC	PCW	Spectrum	ST
Mouse	Arrows	Space	Space	Space	Space	Space	Mouse

Electricity moves around circuits. It can only flow through certain types of materials, called conductors. Other materials, which do not let electricity flow through them, are called insulators.

To make electricity flow around a circuit there must be no gaps in it. This also means that any switches in the circuit must be closed. We can normally find out if a circuit works by trying to light a bulb or ring a bell.

In this game you must examine various circuits to see if they will work. If there is anything wrong with a circuit you will be able to mend it so that electricity can flow through it.

When the game has loaded **Select** the word *KEY* on the top right of the screen and you will see a new picture. This displays the 11 blocks, or connectors, that you will come across in the game. If you **Select** *OK* the key will disappear. You can have another look at this whenever you wish by selecting *KEY* again.

Now look at the circuit on the screen. Will it work?

- ▶ Are all the switches closed?
- ▶ Are there any gaps? (Remember: Electricity cannot flow through gaps).
- ▶ Are there any insulators in the circuit? (Electricity can only flow through conductors).

A question on the screen asks you: *Will this work?* **Select** either *YES* or *NO*.

You will then be asked to *Select a new item* to replace an existing connector with one you think will repair the circuit. You can change anything in the circuit except the battery. **Select** the item you want from the row of connectors at the bottom of the screen.

Now **Select** the connector in the circuit that you want to replace and the new item you have chosen will be swapped for it. You can replace any other connectors in exactly the same way. Once you think the circuit will work, **Select** *YES* when you see the question: *Will this work?*

If you have trouble in making a circuit work, remember you can always look at the key. As a last resort, **Select** *DON'T KNOW* and the part of the circuit that needs to be changed will flash.

# Funtext

## Move pointer

Amiga	BBC	C64	CPC	PC	PCW	Spectrum	ST
Mouse	Arrows	Space	Space	Arrows	Arrows	Space	Mouse

Funtext is a game that involves you in *searching* for information. You can use the information that you collect to answer questions or to enter a challenge to beat the computer.

Searching for information is a bit like playing the part of a detective. The facts you need are somewhere in the file, but where? Like any good detective you must use all the clues available to succeed. Funtext can be easy to use if you find the clues.

When the program is loaded, initially there is no information in it. The first thing you must do is choose which *file* you are going to use in the game. Funtext files are a bit like books - each one deals with a different subject. To choose a file, **Select Load Pages** from the six options on the opening menu. The computer will then check that you really want to do this. Type in **Y** to carry on and load a file. If you were to enter **N**, the title screen would reappear.

On the disc version, once you have typed **Y** a list of Funtext files will appear. There are six to choose from in the Fun School 3 package. To load a file just **Select** it from the list. Tape users must enter the filename.

On this occasion, load the file called *First*. When the file has loaded you will see the title screen again. Apart from *Load Pages* there are five other options on this screen. Let's concentrate on two of them now:

## Start Game

You can either just look at a file for information, or answer questions on it. If you want to try answering some questions, check that the last statement on the page says: *Questions On*. If you don't want to answer questions, but prefer just to look at the file, **Select** this option. It will then change to: *Questions Off*. For the time being, turn the last statement to *Questions Off* and then **Select Start Game**.

## First

You are now looking at the first page of this file. It has been written a little like this manual: If you read each page carefully you will soon learn how to use this program. Have a closer look at this page. It is divided into three areas.

The small strip at the top tells you which page you are now looking at: On the far right you will see *Page: 100*, your present page number. This strip is also used to move to another page in the file. On the left is a small flashing cursor.

Type in a page number and the number will appear where the cursor is. As soon as you have finished typing in the number, you will immediately see the new page.

The next part of the screen contains information. At the moment you are looking at a *menu*. As it is the first menu in the file, it is called the *Main Menu*. Menus are like the contents pages in books: Contents pages help to guide you around books, menus help to guide you around Funtext. This menu shows you what is contained on three other pages: 200, 300 and 400. You'll be looking at each of these in a few minutes.

The final part of the screen is where you will eventually see Funtext questions and be able to type in your answers.

Now let's start to examine the file. First of all, type in the number 200. (There is no need to press **Return**). Page 200 is another menu. It is called a *sub-menu*. Everything in this list is about using the files. Turn to page 210 by typing in the numbers. Again there is no need to press **Return**.

A single Funtext page is often enough for all of the information about one topic or idea. Sometimes it does not all fit onto one page, then you will be told to turn to another page. Page 210 starts to tell you about moving between pages. Once you have read this, do as it says and type in 211. You will then need to move to 212 and finally 213. If you followed the instruction on page 213 you will be back at page 200. Now have a look at 220 which tells you about menus. After you have looked at 221 and 222, you will be told to go back to 200 again. Now look at the last entry on this sub-menu, page 230. Read it and follow the instructions.

You should now be back at page 100, the main menu. This file is deliberately guiding you around the menus. Normally, files do not do this - just remember the advice on page 230 and you won't go too far wrong!

Now read page 300. Again, follow all the instructions. After you have looked at page 305, you should find your way back to the main menu.

Finally, turn to page 400. This is the sort of sub-menu that you will come across in most Funtext files. This time, there are no instructions, you just have to pick which page to look at and then remember to either go back to this sub-menu or the main menu. Have a look at pages 410, 420 and 430.

You have now seen all of the pages in *First*. All the other files in Fun School 3 are much larger than this (the smallest is 31 pages long).

Now, let's return to Funtext's title screen. To do this press the **Menu** key.

## Answering Questions

You now know how to move between pages in Funtext. Now, how about using these pages to help you answer some questions?

First of all, you must tell the computer that you want to see the questions. **Select Questions Off** and the words will change to *Questions On*. Now you're



ready! **Select Start Game** and you're back in the file.

When you see page 100 you will notice a question at the bottom of the screen that wasn't there before. At the moment, there are five possible questions that could appear on the screen. It might be this one (let's use it as an example anyway):

*Page 400 is a what?*

To answer this question, you have to search for the answer in the file. At the moment you are looking at page 100, the main menu. One line of it says:

*400 A Simple Example*

Let's have a look at page 400. There it is, on the top:

*THIS IS A SUB MENU*

So, as page 400 is a sub menu, the answer is *sub menu*.

To enter the answer, first press **Return**. You will see that the flashing cursor has moved from the top of the screen to the bottom. When it is here, the computer is ready for your answer. (If you pressed **Return** by mistake and you didn't really want to answer the question, press it again and the cursor will go back to the top of the screen).

If this is your question, carefully type in the answer. In this case:

**sub menu**

and press **Return** again. If the answer is correct, you'll be told *That's right*. If you are wrong, a message will tell you so and you will then be given the right answer.

At the moment you are looking at Level 1 questions. Try to answer them (there are only five in *First*). Don't forget, you'll need to search for the answers. Each time you answer a question correctly, the computer waits a few seconds before showing you the next one. If you want to speed things up, press any key and the next question will be shown straightaway. When you have managed to enter five correct answers you will see the message *All Questions Answered*.

There are three levels of Funtext questions. To change to Level 2, press the **Levels** key. This is a little bit harder. Again, there are only five questions in *First*.

Let's look at a Level 2 question, then you can try the rest for yourself:

*To answer a question you must first ??? the file.*

That's not quite so easy! Look at the main menu, are there any clues here?

Page 300 might help, that's about searching for answers. Go to 300, the information continues onto 301, then 302 and, there it is....

Finally, if you wish to, you could have a go at the hardest questions, those on Level 3. To do this, press the **Levels** key again.

## Challenge

Challenge is a Funtext game which you can play against the computer. In this game, you try to answer as many questions as possible in a time limit which you choose yourself.

**Select** *Challenge* and you will see another screen with a number of time periods between 1 and 10 minutes. **Select** the time period in which you *think* you can answer all the questions in *First*. After you have chosen your time limit, the game starts as normal. You will see the questions and can answer them just as before.

As soon as you have worked through all the Level 1 questions, press the **Levels** key to go to Level 2. If you have time, you might be able to progress to Level 3.

Once time is up, a message will appear on the screen and tell you how many questions you have managed to answer correctly.

## Other Files

Five other files are included in Fun School 3. These are about transport, animals, the weather and dinosaurs. The fifth one turns Funtext into a game based on a Travel Agent's shop.

Have a look at one of these files (*Animals* and *Transport* are the best ones to start with). If you should get stuck, ask your parents or your teacher.

## Time

### Move pointer

Amiga	BBC	C64	CPC	PC	PCW	Spectrum	ST
R button or Space	Arrows	Space	Space	Space	Space	Space	R button or Space

Let's tell the time. There is a large clock on the screen. Can you tell what time it says? If you can, you will be able to match the time on the clock to the numbers and words on the bottom of the screen. If you can't tell what time the clock says, it is worth having a guess. If your guess is wrong the computer will tell you the correct time.

On the left of the screen are four sets of words and, on the right, the numbers 1 to 12. Simply **Select** the correct set of words then **Select** the correct number.

Suppose that the little hand is on the 2 and that the big hand is on the 12. The time is 2 o'clock. First **Select** *o'clock* then **Select** the number 2.

Two new squares will then appear: One says *yes* and the other says *no*. If you think you have got the correct answer **Select** *yes*. If you have made a mistake **Select** *no* and you can try again.

Each time you have answered a question, Freddie Frog will tell you to press the **Spacebar**. After you have done this, you will see a new time on the clock to try.

If you get an answer right the bell will move down towards Freddie. If you get it wrong it moves away. When it reaches the bottom, he rings the bell and the fun begins!

## notes for parents and teachers

Fun School 3 has been designed to take full account of the new National Curriculum. This outlines much of the core material which will now be taught in schools. The lowest level of study is called Key Stage 1 and is intended for children below the age of 7. Material in Key Stage 2 is designed for children between the ages of 7 and 11.

The programs which make up this package are directed towards many aspects of Key Stage 1 (including topics covered in Mathematics, Science, English and Information Technology). Furthermore, as it is fully accepted that some children will be able to cover material in Key Stage 1 more rapidly than others, certain elements of Key Stage 2 are introduced in these programs. It is naturally expected that the skills covered in Fun School 3 will be reinforced in other ways (a number of suggestions, or further ideas are given in this manual).

Fun School 3 is a highly versatile package. Because all the games can be played on a number of levels it lends itself to a wide age and ability range. Children under five may find Time an easy program to master. They could certainly become familiar with matching the numbers on the bottom of the screen to those on the clock, even though they may not yet be able to come to terms with such concepts as *quarter to* or *quarter past*. With adult assistance, such children may also be able to tackle the very lowest levels of Toyshop and Journey.

The higher levels of some of the games may reflect the work covered in the classroom of older children and can be used to revise such material.

By its very nature, Funtext is an extremely adaptable program. It comes complete with six files aimed at children between the ages of 5 and 7, five of which each take a theme of the National Curriculum. Some of the files have been made deliberately taxing, crossing between Key Stages 1 and 2. You can also produce your own files which will supplement more formal classroom studies.

Some important words of advice: Children achieve most when they are able to learn at their own pace. Learning should be fun. Do not expect too much from any child. Give praise where it is due and try not to be critical of what may appear to be silly mistakes.

## **Journey**

Journey is a game which provides 5 to 7 year olds with an introduction to two important National Curriculum ideas: Control and The Use of Maps.

Freddie Frog's orientation and direction of movement Forwards, Backwards, Left and Right are controlled with letter keys, rather than the cursor keys.

In this way, the children are made to think about rotation and relative movement. Pressing **F** will not always move Freddie up the screen, his direction will depend upon previous use of **L** and **R**. Similarly, pressing **R** once may make Freddie turn right, but pressing it three times will make him, effectively, turn left.

Journey has been designed to introduce control using similar ideas to those used in the Logo programming language. It therefore provides an excellent introduction to this language – a program called Robot Draw, which uses similar principles, appears in the Over 7s package of Fun School 3.

On levels 1 and 2, maps cover only a single screen. As with any detailed map only a small area can be shown by a single sheet (in this case a screen). At higher levels the scope of the maps is extended by linking them across two or four screens. The building that the children are looking for may not be on the first screen so you must encourage them to explore beyond the initial area.

## **Further Ideas**

You can use the program to encourage recognition of the words which represent the eight locations visited:

- ▶ Point out the words at the bottom of the screen and ask the children to read them aloud before taking Freddie Frog on his next journey.
- ▶ The children could draw a picture of each of the locations visited and label it with the words from the screen.
- ▶ While using the game, encourage the children to make up a story of Freddie's journey around the screen. Try to get them to think of reasons why Freddie should be going to the Post Office, the Sweet Shop, or elsewhere. When they have done this within the game, help them to write a brief and simple version of their story on paper. A picture added to the story will, of course, help to bring it to life.

Journey offers a wealth of possibilities which introduce mapping, control and the Logo programming language:

- ▶ When first using the game, younger children especially should be asked to think about the relative movement of Freddie around the screen. They may find it easy to turn him to the right or left when he is pointing up the screen, but this is complicated when he is already pointing in a different direction. To simplify matters you (or the child) could produce a picture representing the on-screen map. Use a small model to represent Freddie. When he is moved on the screen, also move the model on the picture. The picture can be moved to any orientation so that it appears that Freddie is always pointing forwards. It will then be easy to see from the picture which way he has to turn next. In this way, the picture could be used to predict Freddie's on-screen movement.
- ▶ Once the children have become proficient at moving Freddie around the screen, ask them to map, descriptively, his movement from one location to another. Each of his jumps can be counted to give the distance (there is no need to give his jumps units, but they could be described as 1 metre each). Assist the children in writing down the route taken, along the following lines:  
**Forward 5, Right, Forward 2, Left** and so on.

Afterwards, help the children to produce a simple line diagram showing Freddie's movement. (You could use 2 cm for one *jump unit*). The children could later add all the roads available on the screen as well as the relative positions of the buildings.

Using this method, not only will the children become used to the concept of mapping, they will also be producing Logo-type statements and examining the relative effects of these statements.

- ▶ The larger areas covered by levels 3 and 4 involves the use of multiple screens. Encourage the children to produce a single picture or map for, initially, two linked (level 3) screens and then four linked (level 4) screens. Naturally, the ideas given above in respect of mapping and Logo can be extended to include multiple screens.
- ▶ Ask the children to think about a journey that they could take. (Keep it simple: For example from one room in the house to another, or from a friend's house to their own). Ask them if they can map this journey using the Logo-type statements used in the game. In this case, each pace could be a unit. So walking forward 10 paces could be written as *Forward 10*. After mapping the route verbally, encourage the children to draw a scale diagram of the route taken.
- ▶ The children could use Logo-type statements to try to control the movement of a friend between two points. In such a game, they can only use the four statements used in the program along with numbers for the number of paces.

The locations covered in Journey are: Castle, church, cottage, cinema, Post Office, sweet shop, toy shop and windmill.

There are four levels of difficulty:

<b>Level</b>	<b>Display</b>
1	Single screen, two to three buildings
2	Single screen, three to four buildings
3	Two screens, four buildings
4	Four screens, eight buildings

## Collect

Collect is a clever game that turns relatively simple sums into problems that require a good deal of thought: Which two numbers, when calculated with the mathematical symbols available, combine to give one of the other numbers on offer?

The problems on levels 1 and 2 require a simple rearrangement of the numbers and symbols on the screen. At first, some children may be a little overwhelmed by even this task. The apparent difficulty of the problem can be over-turned if, when the program is first used, you encourage the children to:

- ▶ Copy the numbers and symbols into an exercise book.
- ▶ Write the skeleton of the sum down using only the symbols:

$$\_ + \_ = \_ \text{ or } \_ - \_ = \_$$

- ▶ In the case of an addition sum, insert the largest number on the far right of the sum. The other two can be put in either side of the plus sign. For subtraction sums, insert the largest number on the far left. The remaining two numbers can be placed either side of the equals sign.

Once the sum has been constructed in an exercise book, this can be used to guide Freddie Frog around the pond. Having mastered this, you should then encourage the children to write down the two alternative ways of answering each question. For example, if 8, 2, 6, - and = appear on the screen these could be written as:

$$8 - 2 = 6 \text{ or } 8 - 6 = 2$$

By understanding that both are equally correct (Freddie Frog will accept either combination), the children will be well on the way to understanding the construction of simple sums.

Higher levels have been designed to become progressively more taxing. Not only do the numbers used in the sums become increasingly larger, but also superfluous numbers, which are not going to be used in the sums, are present.

Initially the children may find it difficult to solve problems on the higher levels mentally. If this is the case, try the following:

- ▶ Draw out a large *skeleton* sum on a sheet of A4 paper. Prepare a number of paper squares with sides of about 5 cm. Instruct the children to copy each number, as it appears on the screen, onto a square of paper. These squares can be placed onto the skeleton sum until the correct answer is arrived at. Before directing Freddie around the screen encourage the children to write the correct sum into their exercise books.

After children have become proficient at using the program with the aids suggested above, it is strongly suggested that you encourage them to try playing the game without such help. Not only will this help develop their mental arithmetic skills, but it will also take away any sense of the game being used as a *school exercise*.

Collect does not just involve dealing with numbers: Movement around the pond is hampered by the way that the logs are arranged. The maze-like layout requires logical thought to establish the correct route, plus manual dexterity to negotiate it.

There are six levels of difficulty in Collect:

<b>Level</b>	<b>Type of Sum</b>	<b>Number Range</b>	<b>Unused</b>
1	Addition	1 to 20	None
2	Subtraction	1 to 20	None
3	Addition	10 to 50	One
4	Subtraction	1 to 50	One
5	Addition	20 to 100	Two
6	Subtraction	1 to 100	Two

## Toyshop

Toyshop is a powerful educational tool that covers areas such as:

- ▶ Number and word recognition
- ▶ The concept of money
- ▶ Totalling prices to obtain a specified value
- ▶ Decimals when adding pounds and pence

The program has been constructed in such a way that it almost plays like three separate games. This in-built variety encourages children to play Toyshop for a longer period of time without becoming bored.

Certain special keys allow you to modify the game's operation:

- ▶ Pressing **P** lets you change the prices of the toys. This not only allows you to introduce a little variety, you can also use it to concentrate on fractions that the children may be having difficulty with. Note that the pence fraction of the price is always suppressed on levels 2 and 3. If you use this function you will be presented with each toy in turn and asked to enter a new price. These must be entered in multiples of 5p. After amending the price of all 12 toys you will be given the opportunity to save your data. If you are using disc-based software this will over-write the original data, so you are strongly urged to ensure that you use a back-up disc and not the original program disc as supplied with the package. Tape users are not offered this option simply because the time taken to sort out a tape and load the data is far longer than entering the prices.
- ▶ You can toggle a timer option on and off by pressing **T**. This allows you to introduce an element of competition into the game once the children have become proficient with its normal operation. The duration allowed in which to complete the game is specified by pressing either the **S**, **M**, or **F** keys, indicating slow, medium or fast. Approximate timings are 60, 45 and 20 seconds respectively.

## Further Ideas

Children as young as three will be able to use Toyshop at the lowest levels. Get them to recognise the words of the 12 items sold in the shop to give them a simple understanding of the concept of money. Older children, playing at higher levels, will develop a wider appreciation of the use of money.

### *On level 1:*

- ▶ Encourage the children to read the words as they appear on the bottom of the screen before picking the item.



- ▶ You could encourage them to draw a picture of each of the items used in the game. These could be labelled using the words from the screen. Alternatively, you could produce large, clear, flash cards for each of the words and ask the children to read the word from the card and place it onto the relevant picture.

### **On level 2:**

- ▶ Ask the children to examine the prices on the screen. Point out that £ means pound and that a price such as £2.00 means two pounds. Encourage the children to indicate which are the most and least expensive items on the screen. If it helps, use toy money (coins not notes) telling the children to show you how much each item costs using the money.

### **On level 3:**

- ▶ The simple addition/subtraction exercise involved in this level could be simplified by, again, using toy money. Present the children with an amount of money the same as that shown on the screen. Each time they select an item ask them to pay for it by giving you back the relevant amount. This idea could be extended to encourage the children to think of these operations as simple sums: For example: *You have started off with £6 and have spent £2, how much do you have left?* Progressing beyond this, you could get the children to write down simple shopping lists of the items that they collect in the game. The price should be written next to each item's name. These can then be added up to check the figures used on the screen.

### **On levels 4 and 5:**

- ▶ The ideas suggested for level 3 can continue to be used as the amounts used become progressively more difficult.
- ▶ Encourage the children to list each of the items on display in Toyshop. Then visit a local toy shop (or use a catalogue) to discover the actual prices of similar items. Have them write these down on their lists. These actual prices can then be entered using the P function described above. (This should be done by you!)
- ▶ Suggest that the children make a catalogue of the items for sale in Toyshop. This should include a picture of each item (either drawn or cut from a magazine or the like), the name of each item (along with, possibly, a brief description) and the prices. This catalogue can be added to, using the children's favourite toys.
- ▶ Children could play Toyshop for real. Their own toys could be labelled with prices written on large pieces of white cardboard and toy money used instead of real money. One child acts the part of the shopkeeper and others the customers.

The items used in Toyshop are: Ball, block, boat, car, doll, house, mask, pen, rocket, soldier, tank and teddy.

*There are five levels of difficulty, the nature of which has already been described in the playing instructions.*

## Electricity

The National Curriculum states that children in the 5 to 7 age group should be aware of the nature of electricity and the properties of electrical conductors. This may appear to be a pretty tall order, but within minutes of loading Electricity children will be spotting electrical faults with ease.

This program highlights the following properties of electricity:

- ▶ It flows around circuits
- ▶ Circuits must be completely devoid of gaps
- ▶ Electricity can flow through certain materials (conductors), but is prohibited from flowing through others (insulators).

Children are expected to diagnose circuit faults and correct them. Such faults can be divided into two categories:

- ▶ **Gaps which stop the flow of electricity.** Broken wires and open switches can both be classified as gaps. Encourage the children to use the on-screen pointer to trace around the circuit looking for these.
- ▶ **Non-conductive materials.** Explain that electricity can only pass through certain materials which are called conductors. Things such as wood and plastic are insulators and will stop the flow of electricity.

## Further ideas

This program could form the basis of a simple project about electricity. If the children wish to carry out such a project you may consider using all the following ideas. If time does not allow for this, you may wish to select just a few:

- ▶ Ask the children to draw a line down the centre of a sheet of paper, forming two columns. The first column should be headed *Conductors* and the second *Insulators*. Under these headings, the children should list those conductors and insulators found in the program.
- ▶ Get them to work out what all the conductors have in common. The most appropriate answer is, of course, that they are all metals. Other answers may be just as valuable, and should be encouraged. These may include: They

are all shiny, they are all heavy, they get hot if you heat them, and so on. You could use such answers as these to help the children understand the differences between metals and non-metals, hence conductors and insulators.

- ▶ Once the differences between the two groups of materials is fully understood, you could encourage the children to add their own ideas to the list. You could explain that they are *predicting* which materials will and will not conduct electricity.
- ▶ Suggest that the children draw simple diagrams of the circuits in the game. An initial drawing should show the circuit fault(s). A second drawing could show the corrected circuit.
- ▶ Simple circuits can be set up cheaply and easily. All that you need is a battery, a small bulb with a screw-in connector, some lengths of different types of wires, a simple switch and some materials to act as insulators (the plastic casing to some thin wire, a wooden spill, a glass rod or thermometer and so on). To make circuits easier to construct you could buy some crocodile clips (the wire is screwed into one end and can then be clipped onto any material). All these materials are available from any ironmonger. Pre-made circuit boards are an expensive alternative. (These can be purchased from specialist electrical stores and some toy shops). The circuits can be used to check the faults and corrections as seen within the program. Furthermore, such circuits can be used to test the predictions as described above. This process is called *experimenting*.

The history of the discovery of electricity and the way that it is currently produced and used may form an interesting addition to the ideas suggested by the program. Here are just a few simple suggestions that the children may wish to consider:

- ▶ Try to find out who first discovered that electricity could flow along certain materials. His story is a fascinating one!
- ▶ What is a power station? How many different types of power station are there?
- ▶ How does electricity get from the power station to the home?
- ▶ How many different ways do we use electrical power?

The Electricity Council, London SW1, produces a wealth of free educational materials. All schools should have a copy of their current catalogue. Finally, The Science Museum, London SW7 not only has an excellent Electricity Gallery, but also produces free educational materials.

The following materials are used in Electricity:

**Conductors:** Brass, copper, steel.

**Insulators:** Glass, plastic, wood.

**Faults:** Off switch, gap.

**Indicators:** Light, bell.

*There are four levels of difficulty available. The size and complexity of the circuits increase as the child progresses through the levels.*

## Funtext

Funtext is a remarkably flexible educational tool. It has been deliberately designed to be as adaptable as possible. Among the roles that Funtext can take are:

- ▶ **Production of tailor-made files using Funtext's Editor.** Files can relate to any subject at all, and you can produce them with the specific abilities of the children in mind.
- ▶ **An educational resource.** Four of the six files included with Fun School 3 are comprehensively factual. They contain details about subjects as varied as Transport, Animals, Dinosaurs and The Weather. You can use each file as a self-contained unit or to form the basis for extended project work (see *Further Ideas*, below).
- ▶ **Quizzes.** The Questions/Game facilities will, probably, be the most widely used functions in this program. Existing questions will *aid* the learning process as children are encouraged to *search* for answers. You can introduce an element of competition using the *Challenge* option.

Funtext fulfils a number of National Curriculum objectives if you use it to its full potential. In Information Technology it meets these objectives by encouraging children to:

- ▶ Select and analyse information (Key Stage 1)
- ▶ Retrieve and modify information (Key Stages 1 and 2)
- ▶ Find stored information (Key Stage 2)

Aside from these, the files prepared for use with Funtext each respond to National Curriculum objectives in other areas.

## Creating and Editing Your Own Funtext Files

It is not difficult to create Funtext files. However you should spend some time

organising the information that you intend to include in any file as well as the routes that you will use to direct children around your file.

You have at your disposal 599 blank pages, starting at 100 and finishing at 699. In reality, any file will only occupy a small proportion of this. To make files easy to structure you should consider using page 100 as your main menu, and lead into sub-menus on pages 200, 300 and so on. Of course, you may find it more appropriate to use different pages as menus, but you must be sure that every page can be found!

The words printed on Funtext pages have deliberately been made large and therefore easy to read by young children. The price that has to be paid for this is a small text-holding capability. You can fit 32 characters on a line of Funtext. There are five lines to a page. Your use of English must therefore be highly conservative or you will soon run out of space.

To enter information **Select Edit Pages** from the title screen (on the Amiga and ST versions you can access all the functions on the title and edit screens by typing in their initial letter, so entering **E** will have the same effect; the exception to this is *Edit Password* on the edit screen, where you should enter **P**.)

You will then be asked for a password. This has been included to prevent overly inquisitive young people from wiping whole files using the editor. The password included as a default is **SCHOOL**. You may later change this if you wish.

The editor menu gives you seven options:

### **Edit Pages**

This option allows you to add pages or to amend existing pages. Editing always begins on page 100. With the flashing cursor against *Page:* on the top line you can move to any page number within the range 101 to 699.

If a page is blank, you can enter new text by moving the cursor into the information box using the down arrow or **Return** key. Simply type in the information that you wish that page to hold, pressing **Return** between each line.

Pressing **Return** while on the bottom line restores the cursor to the Page position. Using the up arrow will allow you to move between lines to this position.

Existing pages can be edited line by line. Use the down arrow key to take the cursor to the first line that you wish to change. Pressing **Return** will delete that line and take the cursor onto the next. Return the cursor to the blank line and retype. As an alternative, if you start to type on a line of text you will over-write the existing words.

On the Amiga and ST versions, if you should accidentally wipe a line of text, you can restore the original line by pressing the **UNDO** key.

When you are happy with a page, return the cursor to the Page Position and enter the number of the next page that you wish to edit.

Once you have completed an editing session, press the **Menu** key to return to the Edit Menu.

### **Load Pages**

This has an identical function to the same option on the title screen. Once a list of files appears either **Select** the appropriate name or type it in from the keyboard. Tape users should consult the section on *Using Tape to Load and Save Data* at the end of the manual.

### **Save Pages**

This facility allows you to save your files to disc or tape. (**Disc users note: You should use a blank, formatted disc for this purpose not your Fun School program disc.**) Type in an appropriate name for your file. Alternatively, you may wish to over-write an existing file, in which case you should **Select** it when the list of files appears on the screen. Tape users should also consult the section on *Using Tape to Load and Save Data*.

### **Clear Pages**

If you wish to write an entirely new file, you will not wish to have any information cluttering up any of your pages. By selecting *Clear Pages* you will be able to erase some, or all, of the existing pages from the computer's memory.

You will be asked for the numbers of the first and last pages to clear. If you wish to empty the whole file enter the numbers 100 and 699.

It is often also a wise precaution to use this option before loading a new file to edit.

### **Questions**

This allows you to edit existing questions or create new ones to accompany your files.

The program allows you to create a total of 30 questions, equally divided between the three available levels of difficulty.

It would be logical to have easy questions on Level 1 and difficult ones on Level 3. You could however use the levels as an alternative way of grouping specific types of question together in one level.

The questions editor is divided into three windows: The top window indicates the number and level of the question to be edited, the middle one the current question and answer, while the bottom window is reserved for typing in a new question and answer. Use the following keys to change the number and level of each question:

	Change the number		Change the level	
Amiga	+	-	/	*
BBC	+	-	/	*
C64	+	-	/	*
CPC464/6128	+	-	/	*
PC	+	-	/	*
Amstrad PCW	+	-	Paste	Cut
Spectrum	S/shift K	S/shift J	S/shift B	S/shift V
ST	+	-	/	*

The top two lines in the bottom window are reserved for the question, the bottom line for the answer. You may enter alternative answers if you wish so long as each alternative is separated by commas (spaces between alternatives are not required). The appearance of a question and answer set on the screen should agree with the following examples:

**Where do honey bees live?**  
Hives

**Which wind strength is called gale force?**  
eight,8

Notice how commas have been used in the second example to separate (equally correct) alternatives.

Once you have finished entering your new questions and answers, return to the edit menu by pressing the **Menu** key. If you now save the current file, the questions will also be saved.

### **Edit Password – disc users only**

You can enter a new password to replace the existing one on your Fun School program disc. Once a new password is requested, you can enter up to eight characters. This will be saved to disc and must be re-entered each time that you attempt to use the editor. Should you forget this password, you can check the contents of the file Funtext.pw.

### **Printing Pages**

Before selecting this option, check that the printer is on-line and loaded with paper. You will be asked for the numbers of the start and end pages. You can print the whole file on continuous feed paper but if you are loading single sheets you will be limited to printing about six pages at a time.

## Description of Files

A full description of each file in Fun School 3 is given below. These descriptions are included to enable you to rapidly find any information in the Funtext files and therefore assist children who may be experiencing difficulty. The filenames vary slightly on the different versions.

After completing *First*, as described earlier in this manual, you should encourage the children to attempt either *Animals* or *Transport*, which are the easiest of the remaining files.

Each file contains 30 questions, 10 for each level of difficulty. Children should, with practice, be able to locate the answers to level 1 questions with ease. Level 2 questions are a little more obscure and may require more extensive searches. You should persuade children not to attempt level 3 questions until they have read and fully understood the whole file, as in many cases information from a number of pages may need to be found.

### *Animals*

This considers animals within five major families within the Animal Kingdom. The menu on page 100 lists only two pages: Groups in the Animal Kingdom (110) and The Main Menu (120). The characteristics which allow animals to be classified into their respective groups can be found on pages 111 - 115. The remainder of the file is structured as follows:

200 Mammals:	210 Apes	220 Bats	230 Cats	240 Elephants	250 Whales
300 Birds:	310 Eagles	320 Owls	330 Parrots	340 Ostriches	350 Swans
400 Reptiles:	410 Snakes	420 Lizards	430 Crocodiles	440 Tortoises	450 Chameleons
500 Fish:	510 Angler fish	520 Catfish	530 Flying fish	540 Stickleback	550 Shark
600 Insects:	610 Ants	620 Butterflies	630 Beetles	640 Bees	650 Flies

### *Transport*

This deals with transportation past and present. The main menu can be found on page 100. There are six topics listed here along with their relevant sub-menu page numbers. The whole file is structured as follows:



200	210	220	230	240	250
Trains:	Steam	Diesel	Underground	High speed	Monorail
300	310	320	330	340	350
Boats:	Liners	Ferries	Tugs	Hovercraft	Submarines
400	410	420	430	440	450
Aircraft:	Airliners	Helicopters	Gliders	Airships	Balloons
500	510	520	530	540	550
Road:	Cars	Buses	Lorries	Motorcycles	Trams

600: Early Transport:

610 - 650 deal with the earliest forms of different types of transport:

610	620	630	640	650
First trains	Stage coaches	First cars	Earliest bikes	Sailing ships

660: Transport into Space is considered on pages 670 - 690:

670	675	680	685	690
First rockets	First men in space	Apollo	Space shuttles	Voyager

Questions on the final topic in this file are confined to Level 3.

### ***Weather***

This is a complex file containing some 68 pages. Because of its length it contains numerous sub-menus to help the children find their way around. The structure is, therefore, slightly different to those files listed above:

The main menu (page 100) lists the five main areas of this file:

200	300	400	500	600
Wind	Clouds	Rain, Sleet, Snow	Forecasting	Weather problems

Each of these topics is dealt with in a different way:

- ▶ A description of the wind is given on page 210. This is followed by a brief description of the Beaufort Scale (220). This section includes three further sub-menus (230 - 232) which direct children to 12 descriptions, one for each wind strength described by the Beaufort Scale (240 - 252).

► Page 300 is a sub-menu which lists three further sub-menus:

310

What are Clouds? This section provides descriptions of clouds and cloud formations as well as the relationship between clouds and certain types of environment. The pages included are:

311	312	313
Inside a cloud	How a cloud is formed	When clouds form

314	315
Deserts and clouds	Cloudy places

320

Different Types of Clouds. This will help children to classify clouds into one of the three main types. Page 321 includes a brief description of each cloud type. The remaining pages discuss their effects:

321	322	323	324
Descriptions	Cirrus	Cumulus	Stratus

330

Clouds and Predicting the Weather. The consequences of the appearance of each type of cloud are briefly described.

331	332	333	334
Cirrus	Cumulus	Stratus	Halos around the moon

400

Directs children to information on Rain, Sleet, Snow and other forms of precipitation:

410	420	430	440	450
Rain	Sleet	Snow	Hail	Thunder and lightning

500

Like page 300 a sub-menu which leads to three further sub-menus:

510

Old Rhymes and Sayings. Various pieces of folklore associated with the weather are described:

511 - 512      513      514      515  
Weather rhymes    Berries on trees    More old sayings    Seaweed

520  
Lists five ways of measuring the weather, all of which children could carry out for themselves (see *Further Ideas*):

521      522      523      524      525  
Thermometers    Barometers    Anemometers    Weather vanes    Rainfall

530  
Considers various modern methods of weather forecasting and includes descriptions of why the weather is forecast and the people who carry out this job:

531      532      533  
Meteorologists    Why Forecast?    Weather stations

534      535  
Satellites      Computers

600  
The final sub-menu and describes some weather problems:

610      620      630      640      650  
Fog      Floods      Drought      Hurricanes      Tornadoes

## **Dinosaur**

Considers a subject that is a constant source of fascination for children of all ages. Although the file is structured along similar lines to *Animals* and *Transport*, in a number of cases information runs over several pages rather than being confined to a single page (points where this occurs are noted within the file). In addition, three extra sub-menus are used to accommodate all the necessary information. The main menu (page 100) directs children to five sub-menus:

200  
Discovery menu. This section deals with basic dinosaur facts and provides some advice to children who might wish to study the subject further:

210      220      230      240  
What Were Dinosaurs?    Dinosaur remains    Times    Why did they die?

250

Finding Out More (this extends over pages 251, 252 and 253)

300

On The Land. The majority of dinosaurs were land animals. Seventeen pages of information survey these animals.

310 - 312

Plant eaters

320 - 322

Hunters

330 - 332

Plodders

340 - 342

Athletes

350

This leads to a further sub-menu:

351

Tallest

352

Longest neck

353

Smallest

354

Fastest

355

Oldest

400

In The Air. This section describes the earliest birds and other flying animals:

410

Ancestors of birds

420

Archaeopteryx

430

Other flying animals

440

Rhamphorhynchus

450

Pterodactylus

500

In The Oceans. Describes sea-based dinosaurs and other animals:

510

Ocean reptiles

520

Deep sea swimmers

530

Surface swimmers

540

Leapers

550

Turtles

600

This section contains a number of dinosaur facts. The main objectives here are to make children aware that dinosaurs were not the only animals that walked the earth in their time and to make them appreciate the time span involved when dinosaurs lived on earth. This section, especially the references to time, may be a particularly difficult one for children to follow. You may need to give them considerable help in coming to terms with it (also see *Further Ideas*, below). Only three pages are listed here, two of which are sub-menus:

610

Time Scales, a sub-menu, leading to:

611

Dinosaurs v Man

612

Approximate times

613

A comparison

620

Was It A Dinosaur? This single page invites children to consider the differences between dinosaurs and other pre-historic animals.

630

Animals of the Dinosaur world, a sub-menu leading to:

631

Mammals

632

Snakes

633

Other animals

### **Travel**

This is unlike any of the other Funtext files in Fun School 3. It acts to give children a *feel* for the use of viewdata systems in the real world. *Travel* simulates a travel agent's viewdata system. Such a system has information organised in a highly structured manner. This is reflected in this file, where similar pages across the file have virtually identical structures.

The main menu lists five countries:

200

France

300

Spain

400

Greece

500

Italy

600

USA

The above pages each lead to five pages, the final two digits of which are identical in each case:

-10

Flight Times

-20

Flight Prices

-30

Hotels

-40

Packages

-50

Special offers

So, for example, flight times for France are listed on 210.

For each country, three towns or cities have been selected as final locations. Flight times, Hotels and Packages are themselves sub-menus which direct the children to details of their chosen location.

Hotels contains only *names* of Hotels and not their prices. These are not listed separately, for such prices children must examine the entries under Packages.

Some questions in *Travel* require answers which involve money. The £ sign on the keyboard has been disabled in this program - typing \$ will lead to a £ sign appearing on the screen.

### Further Ideas

Upon first loading, Funtext may appear to be a complex and demanding program. It aims to introduce an Information Technology tool (viewdata) to young children. This tool presents a number of files that may be used to supplement project work at school or form the basis for new projects at home.

Funtext's reliance on the use of language may, with younger children, be somewhat of a hurdle. If you offer such children your patient assistance, helping them to read the large words on the screen display, you will be surprised by the motivation that this program will provide in advancing their reading skills.

The following ideas can be applied to any of the Funtext files except *Travel*. Not only will they extend the use of each file, they will also serve to further encourage the development of the children's reading skills:

- ▶ There are numerous colourful text books available on each of the subjects covered by the Funtext files. You could purchase these for as little as a few pounds each, or borrow them from your local library. You may suggest that children use such books in conjunction with Funtext. They could use the pictures to enhance the information given on the screen. In addition, you might encourage them to look out for identical words which occur in a book and on the screen display.
- ▶ Funtext files can be used as the basis of project work (suggestions for each file are given below). After choosing a favourite subject from among the files, suggest that children copy some facts from the screen onto paper. These statements could then be illustrated using either drawings or pictures cut from magazines.
- ▶ Older children may be able to extend the scope of their projects beyond the contents of a particular file. In such cases, you might help them to write their own Funtext pages (see *Creating New Files*, later).

There are a number of ideas that can be extended to individual files:

### Animals

- ▶ Ask the children to examine the description of each of the animal groups (pages 111 to 115). Have them try to list, on paper, some animals that fit into each group, other than those mentioned in the file. Colourful textbooks and wildlife magazines could be a great help here. Point out to the children that they are classifying each animal. After producing their lists, help them to

produce a brief description of each of their animals which could later be used in their own Funtext file.

- ▶ The file lists only five groups of animals. Ask the children to think about the missing groups – what are they, how many examples of each group can they think of? Again, any work produced can be used later in a Funtext file.
- ▶ Encourage children to discuss with you similar and different properties of the members of each of the five groups listed in the file. You could encourage them, for example, to use the file to answer questions such as:
  - How do these animals move?
  - How are they protected from the cold?
  - How do they give birth to their young?
  - How do they breath?

### **Transport**

This file ideally lends itself as the starting point for a project (as described above) either on transport as a whole or any of the individual topics considered in the file. With this file in particular, you should encourage children to extend their knowledge of the subject using books and other materials. Such information could later be used to produce a second Funtext transport file.

- ▶ Encourage children to consider what fuel is (or was) used by each of the types of transport listed. They could then think about the speed at which different forms of transport can (or could) travel.
- ▶ Many older forms of transportation have been replaced by other methods. You could suggest that the children produce a simple, illustrated wall chart showing how types of vehicles (for example aeroplanes) have changed with time. Such a wall chart could start on the left with the early days of the chosen form of transport, the far right being modern day forms.

### **Weather**

This file can support a wide range of activities. Here are some suggestions:

- ▶ Encourage the children to examine the section of the file which deals with the Beaufort Scale. Each wind strength could be illustrated by a small picture. As an alternative, encourage them to write a simple poem where each line (or pair of lines) describes the effects of a different wind strength.
- ▶ Using cotton wool, strips of coloured paper, glue and some paints suggest that the children make models of each of the three cloud types described in the file. They could produce a label for each model giving the names of the clouds and the sort of weather that each produces. This information can be copied from the screen.

- ▶ Have the children look at the old rhymes and sayings as listed in the file (pages 511 to 515). Can they find out any more? How many of them are true? Encourage them to look out for these weather signs and see if the weather does alter in a way suggested by these pieces of folklore. If they visit the seaside, let them collect some seaweed and hang it up outside. Does it change its appearance before a storm?
- ▶ Five weather measuring instruments are listed in the file (page 521 to 525). The children could collect these and set up their own weather monitoring station. You may have to buy a simple thermometer and barometer but a simple anemometer and weather vane can be made cheaply and easily from materials such as strips of wood and yoghurt pots. Rainfall can be collected in a jam jar or similar. The children should monitor their weather station on a daily basis (at the same time each day) making a note of:
  - Temperature
  - Air pressure
  - Wind speed (number of turns of the anemometer in a minute)
  - Wind direction
  - Rainfall over the previous 24 hours.

These could each be used to form a daily record on paper or transferred to a computer database (an introductory database is included in the Fun School 3 Over 7s package). The children could look for trends in the weather (for example: Is it colder when the wind comes from the north. Does low air pressure usually mean bad weather?) Using these trends, they could try to predict the weather for the next day. (The truly adventurous may wish to produce weather maps and symbols like those used on television and give class or family Weather Forecasts).

### ***Dinosaur***

This file ideally lends itself as the starting point of a larger project as described above. Within the file, a number of ideas about gathering further information are listed (pages 250 - 253). Additionally:

- ▶ Encourage older children to examine the time scale (page 612). Using this information they could produce a large wall chart showing the relative times involved (they will need help in deciding upon a scale to use). On the chart should be marked the times mentioned in the file. The chart could be illustrated.
- ▶ Many animals of the dinosaur world have their modern counterparts alive today. For example, triceratops ate plants and used horns to defend itself,



much like the rhinoceros. Suggest that children try to look for the modern counterparts of dinosaurs. They could produce an interesting series of pictures using drawings or cut-outs from magazines.

### **Travel**

This is a complex file that attempts to simulate a travel agent's viewdata system. Its questions cannot be answered using previous knowledge, the pages have to be searched. The file introduces children to an important commercial use of Information Technology. In order to extend its use, you may wish to suggest some of the following:

- ▶ Using an atlas, encourage the children to estimate the distances between London and the 15 locations in the file. They could write these down on a sheet of paper and next to the distances write down the cost of flights to each location. Encourage them to consider if there is any simple relationship between the quoted cost and the distance (do longer flights always cost more than shorter ones?).
- ▶ Get hold of some airline timetables and holiday brochures. Children could compare the real costs of flights and holidays to those given in the file. With help, they may wish to amend the details in the file to include actual prices, times and hotels.
- ▶ Suggest that children go with you to a travel agent's shop and ask how their viewdata system works. (Don't go when they are busy! Children may receive the best response if they accompany you at a time when you are enquiring about your own holidays.)

### **Creating New Files**

Encourage the children to help produce new files to store their own information, or to adapt the existing ones. Although these can be designed by children, you should carefully check any new information before it is entered. At first, show the children how to enter information (following the instructions on editing files, above). After this you should supervise their editing sessions.

Before attempting to enter any information, you should remind the children of the following points:

- ▶ Each page must be short and concise
- ▶ Menus must link. You must be able to find pages using the menus
- ▶ Never, ever try to save a file to the Fun School 3 program disc or tape

If they do wish to create their own pages, examine with them how some of the files in this package were produced. These can be used as blue-prints for future work.

## Time

Time is a game that breathes excitement into acquiring the essential skills of time telling. The sonic and graphics extravaganza at the end of each level is guaranteed to hold the children's attention and keep them wanting just one more game.

No longer is learning to tell the time a laborious task for both adult and child.

### Further Ideas

Time lends itself to a potentially large age range. Younger children especially may benefit from additional adult help. Here are a few suggestions:

- ▶ Draw a large circle on a sheet of plain paper. Mark the points at which each of the numbers should appear on a clock face. Have the children copy the numbers from the screen, labelling each of these points. Then draw a large big hand pointing to 12. Draw a line between the points of 12 and 6 (this will divide morning from afternoon). Use a pencil or pen to represent the little hand. Rotate this between the various points on the clock face and ask the children to not only tell the time, but to say what usually happens at that time (seven o'clock is when we get up). After this the children could colour the two halves of the circle to make morning and afternoon stand out from each other.
- ▶ For this you will need numerous small, simplified clock faces (without the hands) drawn onto sheets of paper or an exercise book. As an alternative to drawing, you could use clock face rubber stamps available from some stationers and educational suppliers. When playing the game encourage the children to copy the time shown on the clock face to a drawing. Under this they could write the correct time before selecting the time on the program. If the answer is wrong, they should neatly cross out the first answer and copy the correct answer from the screen.
- ▶ As a slight variation on the above idea, the children could copy down the time from the screen in words. After collecting about 10 sets of times, they could use the pre-drawn clock faces to illustrate the times.
- ▶ Encourage them to invent a story (or even a poem) which starts: At seven o'clock I... This could progress through each hour of the day until bedtime.

There are three levels of difficulty:

<i>Level</i>	<i>Time covered</i>
1	Whole hours only
2	Whole and half hours
3	Whole, half and quarter hours

## Using Tape to Save and Load Data Files

If you are unsure of the correct procedure to successfully load or save a data file when using tape, first consult the manual that came with your computer.

### Loading Files

Unlike the disc version, the tape version of Fun School 3 does not list the files when you wish to load one. Instead you will be prompted to enter the name of the file.

### Saving Files

Once again Fun School 3 will not list the files already on the tape. You will be prompted to enter a filename under which to save your data.

In addition you might like to bear in mind the following words of advice:

- ▶ Never attempt to save data to the original Fun School tape.
- ▶ Always use good quality tape – either specially manufactured for holding computer data, or C30s. Avoid using C90 tapes as the thinner magnetic medium is not as reliable.
- ▶ Only save one data file on each tape but make many copies of the same file. This may seem rather extravagant but in the long run it will save you time and hassle.
- ▶ Always make sure the tape is wound on past the 'leader' section before commencing the recording. Many a data file has been lost due to this irritating moment of inattention.
- ▶ Label the tape clearly with the data filename and the date of the recording.

### Note for Commodore Amiga users

If you have an unexpanded A500 you'll find that the Amiga will need resetting after quitting from any of the games. This is due to the way that the Amiga uses its memory and can be solved by purchasing a memory expansion board which slots easily into the underside of your computer.

## Tape counter

For the convenience of tape users we have included the following chart to help you pinpoint the exact location of each game on your Fun School software. To use it, rewind each tape to the beginning and reset the counter on your cassette player to zero. As you come to the start of each program, make a note of the counter reading so that on a future occasion you can fast forward to it and load it directly.

<i>Program</i>	<i>Tape counter Position</i>	<i>Side A/B</i>	<i>data files</i>	<i>Tape counter Position</i>	<i>Side A/B</i>
Journey			First		
Collect			Animal		
Toyshop			Dino		
Electricity			Transp		
Time			Travel		
Funtext			Weather		

### Credits

**Project Management Team:** Chris Payne, Peter Lee and Richard Vanner. **Program Design:** Peter Davidson, Chris Payne, Bob Hamilton and Ian Cheshire. **Atari ST version:** Programmed in STOS Basic and compacted using STOS Squasher. **Programming:** Darren Ithell (Collect, Toyshop, Funtext, Journey), Bob Hamilton (Time) and William Cochrane (Electricity). **Amiga version:** Converted to AMOS by Peter Hickman and William Cochrane. **BBC version:** Converted by Steve Turnbull. **C64 version:** Converted by Mark Healey and Silicon Genetics. **CPC version:** Converted by Chris Price and Silicon Genetics. **PC version:** Converted by Stephen Nunn and William Cochrane. **PCW version:** Converted by Chris Sadler. **Spectrum version:** Converted by Mick Garlick, Martin King, Stephen Nunn, Christian Pennycate, and Neil Beresford. **Graphics:** Ian Cheshire, Darren Ithell, William Cochrane and Julian Mitchell. **Packaging Design:** Wendy Mellor. **Paste-up and typography:** EIS Design and Advertising Limited in Dewsbury. **Instructions:** Jon Revis, David Redpath and Alan McLachlan. **Testing:** Andrea Hamilton, Laura and Gail Blincow, Thomas and Rachel Quesnel, Pat and Kate Barratt, Lee, Robin and Beverley Meakin, Alex Blagg, Lee Fahy, Peter Lee, Lance Concannon, Nick Harper, Sally Mellor, Richard Vanner and the children at Bebington House School in Chislehurst.