MAPE

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NEWMAN COLLEGE with MAPE

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*page 13:*The author and affiliation
should read: **Dr Andy Pierson
Expressive Software Projects**
Centre: **Music Activity Sheets
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MAPE

MAPE matters

Rhona Dick
Editor

It cannot have escaped your attention that ICT is high on the educational agenda at the moment. The National Grid for Learning, UK Net Year, and similar initiatives promise an exciting future, one to which I hope we can, individually and collectively, respond with renewed enthusiasm. Implementation of these policies is not going to be without its problems. Finance will be a major issue for many schools (isn't it always?), and careful consideration will have to be given to the management of resources. It will no longer be possible to adopt an ostrich-like stance in the face of major changes. In the following pages you will find several refer ences to the National Grid for Learning, even though, at present, its structure is still some-what nebulous, and there are questions that remain unanswered. MAPE has responded to the original NGfL paper, drawing attention to some of the points that we believe need further consideration. In particular MAPE is con-cerned that the content of the grid will need to be tailored to meet the needs of its various audiences, teachers, parents, primary, secon-dary and tertiary students as well as life-long learners. And what of editorial control? Who will supervise the quality? Those of us who experience the joys and frustrations of the Internet will know that there is so much of educational value available, interspersed with what can best be described as a waste of cyberspace, at least in educational terms. To be of maximum value to learners, teachers must not only have the equipment, preferably at home, to use the NGfL, but a more precious commodity, time, to become familiar with it, and to appreciate its potential. Les Watson summarises the NGfL thus:

> '. . . the idea of a National Grid for Learning which makes effective use of ICT, par-ticularly the 'C' part, is a good one. How-ever it will need significant investment if it is to become a reality and cannot be achieved on the cheap. No grid is better than a poor one. A grid which excludes primary schools and primary school teachers, and has little in the way of useful quality resources will be of no use and will certainly not change society. Education, education, education requires investment, investment, investment.'

*   *   *

In *MICRO-SCOPE 50* I commented that perhaps it was time for a change. Observant members will have noticed that *something* is happening, but the metamorphosis is far from complete. Adaptations to meet the needs of the present and the challenges of the future cannot take place overnight. If you have strong feelings about the future of this publication, what it should or should not contain, please do let me know.

The 11th Resource Conference & Exhibition – 21st November 1997

Rhona Dick
Editor

The 11th Resource Conference & Exhibition took place at Doncaster on Friday 21st November 1997. Once again MAPE was represented. It was good to see so many old friends, and to meet new ones.

The Keynote Address – 'A view from the centre: Government priorities for the next four years'

This was delivered by Tim Tarrant, Head of Technology in Schools team, Education and Training Technology Division, DfEE. In his address Mr. Tarrant attempted to clarify the government's proposals for the future of Education with special reference to ICT.

He began by identifying the sources of information from which statistics are drawn. Among others these included a survey of IT in schools in 1996, to which about 600 schools responded, the most recently available Ofsted annual report, information from SCAA, QCA and companies such as Research Machines.

The bad news is
- that about 40% of computers in schools are more than five years old;
- only 50% of teachers have attended more than one short INSET course;
- standards in ICT are weaker than in any other subject;
- the UK is still ahead of other countries but only just.

The good news is
- schools can take the credit for good work, not the government;
- where schools do meet the requirements of the National Curriculum they do it well;
- our best is the best there is;
- the UK is still ahead in the use of ICT and its availability;
- ICT is now written into teacher and head teacher training;
- a major initiative is now in place to make things even better.

Mr Tarrant continued by summarising the Stevenson Report, which had been commissioned by the Labour Party prior to the General Election, and the contents of which had influenced the Labour Party Manifesto. Dennis Stevenson is still involved in dialogue with both the DfEE and the Prime Minister, as well as having undertaken a recent review of NCET. His continued involvement, according to Mr Tarrant, suggests that the government is still committed to improving ICT in British schools. The main points of the Labour Party Manifesto, as they apply to ICT are as follows:

- BT/Cable to link schools to the Internet;
- National Grid for Learning;
- Lottery funding to be made available for teacher training;
- Software quality grading;
- All pupils will not only have an email address, but will actively use it;
- Implementation of the main points of the Stevenson Report.

The government white paper *Excellence in Schools* published by HMSO is a key document which gives further evidence of the government's commitment to the development of quality ICT in British schools. In summary:

- Education is at the heart of government.
- Education is for the many not the few.
- It is about standards not structures.
- The main priorities are literacy and numeracy – ICT has a large part to play here.
- There will be targets and development plans.
- There will be a network of specialist schools, 'beacon' or 'laboratory' schools. This was a strategy started by the previous government, and supported by the present Labour government.
- There will be a clear national strategy for ICT.
- Schools will be linked to the National Grid for Learning.
- There will be Research and Development into schools of the future.
- There will be better INSET for ICT, literacy and numeracy.
- There will be a General Teaching Council.
- After-hours homework centres will be set up in schools.
- There will be a reduced level of unauthorised absence; pupils apparently do not 'bunk off' technology lessons!

The timescale

By 2000 Institutions should have a comprehensive CIT (sic) policy in place;
there will be intranets within schools and institutions;
there will be greater connectivity between different sectors.

By 2006 All pupils will have portable computers.

The role of Oftel

Because BT controls a large part of the telecommunications network in this country there was some concern that they may have an unfair advantage over smaller providers. Oftel has been working on a policy to ensure that BT does not monopolise the provision of linkage to schools. The proposal is that from next Spring BT would offer schools an ISDN 2 line with 10 hours access per day for the cost of £790 per annum, or an ordinary line with the same access for £445 per annum + £100 connection charge. It was felt that this would not be anticompetitive, and would have the advantage of ensuring that schools would know in advance what the cost would be.

The National Grid for Learning

This is a way of finding and using on-line teaching and learning materials by means of a mosaic of inter-connecting networks.

How will it work?

- There will be consultation.
- Targets will be agreed and publicised.
- The Secretary of State for Education and Employment will issue a challenge to industry, at BETT, to involve themselves in the project.
- There will be incentives to develop software.
- Costs will be levered down.
- The level of competence will be levered up.
- There will be linkage with new initiatives.
- There will be independent guidance.

Action

The government will provide £50m support for schools through the LEAs. In turn the LEAs are expected to match this figure. Mr Tarrant termed this 'Son (or daughter) of GEST'

There will be Lottery funding, amounting to some £200m devoted to the training of 450,000 teachers. This proposed funding is subject to parliamentary approval.

NCET has been commissioned to develop a model of the Grid, which will be launched at BETT.

1998 will be UK Net Year, a partnership between industry and government.

The Targets

By the end of

1998 The Grid should be up and running.

1999 Trainee teachers should be ICT literate in order to qualify.

2002 All serving teachers should be confident in teaching with ICT.

2002 All schools and colleges should be connected; 75% teachers and 50% of pupils should be regular users of email.

2002 Most school leavers should have a good understanding of ICT.

2002 The UK should be a centre of excellence in ICT networked learning services.

2002 General administrative communications should cease to be paper based. Although the DfEE puts its email address on all correspondence now, it receives relatively few replies this way.

Lottery Funding

The Secretary of State for Culture, Media and Sport has proposed The People's Lottery, subject to parliamentary approval:

- This is not government money;
- This funding will be available from 1999, one year after the launch of the NGL.
- 450000 teachers across the whole of the UK will benefit. It is proposed that the training will enable teachers to use ICT competently and confidently to deliver the NC within their own subjects.
- Training will be linked to the TTA's NC for ITT in ICT.
- Training will be based upon needs-assessment and development plans.
- Training vouchers will be made available to schools to ensure that the money is spent on training.
- Potential trainers will bid against outcomes. They must have a proven track record in education and ICT training. The government will be looking for innovative ideas, not traditional methods of delivery, as available funding will be insufficient to allow teachers to go on four week courses.
- It will be linked to the NGL. Schools will be expected to develop education plans for ICT.

The future plans

Beyond 1999 the future is not certain, however, it does seem that the commitment to use Lottery funding (subject to parliamentary approval) is firm.
   From 2000 it is proposed that:

- Lottery funding will continue;
- NGL developments will continue;
- any NC revisions will be implemented;
- ICT will be embedded in ITT;
- ICT will be regarded as an essential skill for teachers;
- ICT will be used to enthuse the quality of a lesson;
- the UK will still be leading the world in the effective use of ICT in education.

Some of the challenges

- The scheme must be coherent, involving all relevant agencies. There must be links to other education policies, for example the National Literacy Strategy.
- It must be non-destructive. Where good practice already exists this must be supported and strengthened, not destroyed by government policies.
- There must be sustainability. The provision of Lottery funding is finite. A means must be found to continue the initiative without the financial support of Lottery money.
- It must raise the quality of teaching and learning.

Will we surf the National Learning Grid?

Moira Monteith
School of Education, Sheffield Hallam University

'Surfing' is an unfamiliar metaphor to most of us. Are we meant to float along, not really able to fish or probe deeply in the sea of information? Is there a big wave somewhere which we have to crest or else fall off into the water? Translating this metaphor into experience can be both exhilarating and dampening. I begin by describing our experience using computer conferencing, e-mail and accessing the Internet with a group of teachers in primary schools. We were able to go ahead with this project by a grant from BT which meant that nine schools could have a second telephone line put in, buy a modem and have their phone bills paid for that second line. This is not too dissimilar from the access being planned as a first stage by the government through LEAs. Probably the equipment will be superior and the phone costs lower.

Access to the Internet

Project teachers were able to look at the information resources on the Internet via the World Wide Web (WWW) in the computer rooms at Sheffield Hallam University. Like most first-timers (and no-one has been using this resource for very long) they were exhilarated with the ease of access. We were all surprised to find how long we had been sitting in front of a computer without noticing where the time had gone. We looked at NASA, National Council for Educational Technology (NCET) and OFSTED pages and were rather horribly fascinated to find all the School Reports at the last address. However, on the second session (and again, this is part of a general learning experience, I think) people were more frustrated than exhilarated. Access in itself was not enough. They began to ask themselves what they wanted to gain from the WWW. Some of the addresses they had found in newspapers and magazines did not appear to work, and some of the searches took a very long time. No doubt they were thinking of the potential phone bills as well. But as the months have gone by, the schools are much clearer as to what they hope to gain, and have shared their knowledge with each other. Many of the teachers taking part now have access to the Internet via their home computers. Sharrow N/I School has the grand record of six staff in this position, and they started with none.

Computer conferencing

This is a slightly different use of electronic communication. It includes an e-mail facility but also provides space for discussions and resources. The discussions can range from academic seminars and those focused on curriculum development to a

'café' or 'staffroom' area where people have more social chats. At Sheffield Hallam we use the FirstClass computer conferencing system which is extremely easy and friendly to use (and has been used extensively at the Open University). We hope during the next year to have all our partnership schools linked up with the university in this way, and with help from the Sheffield LEA that will mean all Sheffield schools. Staff in the schools can contact each other as well as us, and mentors in the schools can discuss teaching experience sessions with students and tutors. In addition, we shall be able to share good practice and resources, such as weather projects.

There are two other benefits of FirstClass which we find particularly helpful. Firstly it can be used on a variety of computers which do not have to be particularly powerful, as long as they can be used for Internet access. Secondly, users can download the FirstClass software from the Internet (or take a disc from us with FirstClass on) and can use a suitable computer virtually anywhere and still use their password to get into our conferences. We have had students try this out successfully from Newcastle and Karachi.

In the initial BT project we have focused especially on literacy and discussed useful reading activities that students can use with pupils during their time in school. Here are some quotations from the conference that we have labelled 'School Based Tasks'.

Jeff Wilkinson (tutor): Your brainstorming ideas seem to be going down very well, Andy. Above all, I think it's important initially to think about your writing purpose.

Andy (student): The reading record was helpful to get out of the children some of the things inside their heads about writing. It also highlighted areas that they thought they were competent in and their practice showed differently.

All students, tutors and teacher mentors can access, read and add to this dialogue if they wish. *Jaquie*, another student, joined in from her school placement:

Jaquie: I redid the reading conference format that the university supplied. I focused on simple orientation and knowledge of books, i.e. that print carries message, that the message reads from left to right. I also did a section on first and last letter/word recognition and knowledge of keywords. It is very similar to the university format, it is just directed towards the earlier stages of reading a bit more than the more advanced stages. Is this OK?

Her university tutor, Jackie Marsh, responded: You have adapted it in a way that suits your needs very well, teaching with bilingual reception children.

A little later on Lynn Ley, the headteacher of the school Jaquie is working in, left a message in the same conference:

You have made an accurate assessment of Bill's reading skills. You now need to make an assessment of which key words he actually knows. You can do this by making a running record. . . . Have you seen the list of the 100 most common words the school uses for reference? This will be useful to you when developing a programme for Bill.

So far we have not been able to allow pupils themselves to access FirstClass but we expect that this will happen in the near future.

WWW pages

We looked at various schools whom we know had pages up and then constructed our own. It is surprisingly easy now that many software packages allow us just to type in what we wish to say rather than having to learn to write it up in a particular

Fig. 1. *A screen showing the resources put up by our Environmental staff – both students and staff in schools may access and copy them.*

language form, that of HTML. *Netscape Gold* (a version of the *Netscape* browser which allows you to search the WWW) and *Pagemaker* Version 6 allow you this facility as do other programs, so you merely have to look for the one which is most familiar and appropriate for your use. Many Internet Service Providers will not only grant you space but also give you instructions as to how to design and create your page. We found that the main problem is the same as it ever was – what to put on the page. Is it to be like another prospectus? How much can you put on one page? Who is the information for? How can children's work be included? The answer seems to be that you will need a number of pages, all linked to each other. You will also need to have a thorough discussion with colleagues as to what information you put up. I think we were all dissatisfied with our first versions but until you start the process you don't really know what you can or cannot do in the space of a couple of screens' worth of material.

National Grid for Learning

As you probably know from the consultation document and allied publicity, the NLG will combine many of the features discussed earlier, computer conferencing as well as finding information on the WWW. However, the information will be directed towards learners and teachers of all ages so the hassle of searching should be much diminished – unless you're searching for your own interests, of course.

The prototype grid will appear in January 1998. One of the first virtual areas will be a teachers' centre, supported by the NCET, where teachers (and governors, parents, whoever is interested) will be able to find and exchange ideas about teaching and learning at every age phase. Children's work can be displayed plus up-to-date lists of useful web addresses. Soon cyberspace will become a much more familiar place for all of us where we will stake out our home pages as our claim in the virtual territory. MAPE will be helping to chart that territory.

A tale of two cultures

Roger Keeling

This article aims to compare computer usage in primary education between British and Romanian schools. The Romanians, whilst using RM 186 machines, have adopted a very different organisational approach and in the process throw some interesting challenges back to British schools.

The British background.

Since the early days of computers in primary schools we have advocated one model of provision to ensure equal access to all pupils. This is based upon distributing the resources around the school – the one per classroom syndrome. The logic is eminently sound; all teachers should develop confidence in the use of IT and hence integrate IT into the teaching of all subjects. We have spent over ten years promoting this philosophy with very mixed results. Often when I visit schools I see computers under-utilised, switched off or sent to stand in the corridor on their own! Had the technology stood still we may have used resources more successfully as the 'ring of confidence' expanded. However, the IN-SET requirements of teachers have never kept pace with technological advances, creating a feeling of perpetual inadequacy. Thankfully the technology has moved on from the

early days of the BBC and 480Z and we now have children using the same computers as found in both the commercial and industrial worlds. They have access to multimedia machines, both at home and school, and, if the promises of politicians materialise, also to the Internet and the National Grid for Learning. Those teachers who are immersed in this technology on a daily basis will admit to having to run to keep up with developments; what chance the average primary teacher who is trying to cope with all ten subjects of the National Curriculum (and RE)?

Distributing resources around the school is predicated on a number of assumptions:

a) expertise is shared amongst all the staff
b) commitment and enthusiasm towards IT is shared amongst all the staff
c) classrooms provide secure environments in which to store computers overnight
d) a regular and safe power supply is available in all classrooms
e) classrooms are organised on a group basis

In the case of British primary schools, the last two points may be true for most. The first three are more questionable, yet the concept of distributed resources is still the most popular organisational model. Perhaps it is time to rethink this policy.

The Romanian experience

The same assumptions are applicable if resources were to be distributed throughout classrooms in Romanian primary schools (7–14 years), although in Romania the validity all of these statements is questionable. Electricity supply is very unreliable and primary classrooms are organised in 'rows'. Classrooms are not particularly secure and many teachers are only beginning to take the first tentative steps in using IT to support their teaching.

The Romanian experience is only three years old and came about when an educational charity EOS (Educating for an Open Society) – formerly The Romanian Trust – started shipping unwanted Nimbus 186 computers (generally networks) out to Bucharest. But what has been the response of the schools who have received these networks, and how does this compare with the British counterpart?

- schools recognise that initially each school will have to develop a small group of dedicated teachers who will master the software and develop curriculum ideas
- schools recognise that, from the point of view of security and regularity of electricity supply, one room will need to be specially prepared to house the equipment (rewired and made secure)
- schools recognise that it is not possible to impose British style teaching on the Romanian culture – the 'rows' remain. In fact in one school we worked in, the micros were on tables in rows. We pointed out that all the trailing leads spelt out a disaster waiting to happen – it was like picking your way through a minefield. When we returned on a subsequent visit the tables had been moved around the perimeter of the room, making for a much safer working environment.

The consequence of these strategies, by default rather than sound educational principles, is that primary schools in Romania are running networks (with the teachers also acting as network managers, despite very limited experience). This system was established in September 1994. When I next went out at Easter 1995, half expecting the project to have collapsed through lack of curriculum support, ancient hardware and the difficulty of sustaining motivation, I was pleasantly surprised – all the hardware was doggedly refusing to die. The teachers' enthusiasm hadn't waned at all, they had found software hidden on the network servers that we didn't even know existed – and they had developed curriculum ideas around these programs. Perhaps when you haven't got easy access to IT resources you really value those that you do have. The enthusiasm and perseverance of the teachers is admirable. Romania is a country of paradoxes, but the teachers are justifiably proud of the educational achievement of their pupils. From what I saw of 9/10 year olds they leave us standing in terms of attainment in maths and foreign languages. We can learn a great deal from them.

But above all I had to get my mind round the principle of primary schools running networks. If these schools can manage networks with minimal support, then why isn't it be done more over here (I know, before you write in, that some primary schools are running networks successfully – see last term's Micro-scope)? The Romanian teachers bring groups of children (normally a whole class or half a class) to the computer room to learn mathematics, English and in some cases Pascal! The system works well – because with a network there is a uniformity of approach (across the 12 or so machines on the network). I am sure it wouldn't work if these schools just became a dumping ground for any ex UK machines (BBCs, Amigas, 480Zs all in one school). We have standardised on Nimbus 186 networks with an upgrade path to 286s and 386s.

The lesson

Why, therefore, are there very few primary networks over here? Is it because we are wedded to the concept of using IT across the curriculum? Although this represents a crucial principle, and one to which I still subscribe, could it be achieved within the context of a network in a computer room? To many teachers it would solve the problem of how to manage the resources – how many times have we heard the cry 'one computer, 30 kids, what do I do?' Would centralising the resources help to develop children's IT capability more effectively than a policy of distributing machines around all classrooms? Perhaps it is time some schools took a radical look at the alternatives. We have developed sophisticated ideas about the design and function of educational software, but the management issue is still, in many schools, unresolved. And what of Integrated Learning Systems? If they prove to be successful the need for networks may be an external dictate. How do you share a CD-ROM resource among several users – without a network you don't! And if the Internet promises to be the powerful information source that it is advocated to be, several groups of pupils may need to access it simultaneously. These are the issues of the future; are these questions being addressed in your IT policy? The National Grid for Learning presents exciting opportunities; funding will be available for in-service education, all student teachers will need to be IT literate, all schools will be cabled etc. etc. Children now have access to a wealth of information but *not* if the connection is from just one point within the school; networks will become essential if we are to fully utilise the new technologies. Could a few teachers in a minority of Bucharest primary schools lead us to reconsider the most effective management strategy for utilising our own IT resources?

If you are running a network please write in to the editor of* Micro-Scope *about your experiences.

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. . . Is IT a subject?

Trevor Millum
Education Manager at RESOURCE and organizer of the Annual RESOURCE Conference

The starting point for this article (originally a lecture to the Welsh IT Conference before the C was put between the I and T) was a question which arose from taking a fresh look at the National Curriculum Programmes of Study.

I had been looking at the various requirements for information handling, measurement and control – and so on, trying to create in my mind – or even on paper – a framework which would help us to understand how all the parts related and as a result help us teach IT (or teach using IT) in an effective and harmonious way.

The question I asked was:

What is the organising principle behind the various elements of Information Technology in the National Curriculum?

The answer was not immediately obvious. I decided to go back a few stages and look in some depth at one or two principal components of the IT curriculum.

I began with information handling.

We are told, and its probably true, that we live in an information-rich culture, that we suffer from information overload or that there is an information explosion.

'Our survival depends on our ability to deal with the vast amount of information which bombards us every day', might go a typical pronouncement in a TV documentary.

According to Bryson in *Mother Tongue*, at the turn of the century words were being added to the English language at the rate of about 1000 a year. Now, The *New York Times* reckons, the increase is closer to 15,000 to 20,000 a year. Random House's *2nd Edition Unabridged Dictionary* of 1987 included over 50,000 words that had not been included 21 years earlier. New entries included preppy, quark, flexitime, chairperson, sunblock and the names of 800 new foods – tofu, pina colada, chapati, sushi, for example.

Our reaction might be one of panic – information overload!

But wait a minute – it depends how you look at it. Most of us can cope quite well with these extra words if we feel we need to. Our minds are already handling, using, discarding, deciding what's relevant. I still don't know what a pina colada is but I don't feel I need to know – until someone offers me one in the bar.

The kind of statement we hear about survival depending on coping with information also makes me wonder if this is anything new. Aren't all sensory perceptions 'information'? Hasn't life always consisted of dealing with information? The caveman/woman's need to handle information swiftly and correctly probably had more effect on his/her survival than my ability to cope with *News at Ten* or *Omnibus*.

One problem with the information with which we're overloaded is that a lot of it is junk – like the junk mail we get. So the kind of Information Handling we need to do has nothing to do with spreadsheets or databases. However, it does have a lot to do with the basic tools of Information Handling – i.e. discrimination and classification (which include knowing what's junk).

Let's leave that to one side for a moment and consider the other half of the phrase 'Information Handling'.

'Handling' is an interesting term.

It's a gentle term. Certainly it's a human, physical term. It's what do we do with babies; it's something we tend to do carefully. Like touching. But 'Information Touching' doesn't mean quite the same. Because there's no implication of doing anything with it. You touch and you leave something in the same situation. You handle and you leave it in a different situation. There's a sense of change, of movement. We could develop the idea further to embrace Information Stroking or Information Caressing – after all, we do talk about 'massaging the figures'.

At this point I picked up *Chambers Dictionary*. 'Hold, move about, feel freely, to make familiar by frequent touching, to manage . . . to deal with.' There we have it.

Now, we can deal with information in all manner of ways. We can put Mr Patten's Sex Education Guidelines (remember them?) straight in the bin. We can work out that we had £10 and spent £4.20 on a taxi and need £1.20 for a sandwich. That means we have £4.60 to spend at the bar. Sally is putting away paper, scissors, pens, glue in the different drawers in my classroom.

In all these situations, information is being handled, information is being dealt with.

So how does Data Handling relate to Information Handling?

'Data handling is the sorting and classifying of information in order to establish patterns and form conclusions. When information has been ordered it becomes data,' says Sue Senior in her book on the subject.

At what point does information become data? When a pupil is using a CD-Rom to look up an article in *The Times* of 1993 on endangered species in Australia – he or she is certainly Information Handling – but is it Data Handling? Certainly there is some information retrieval going on. But all that continuous prose – does it constitutes data? Or does it become data only when it's retrieved?

What Goes On in Information Handling?

Let's imagine an Information Handling activity at a very basic level: a classroom at Key Stage 1.

Here's a group of children doing a project on living things. You ask them to bring in fruit and veg – all sorts of things – and the group starts trying to organise them. How? – put the potato with the carrot – things that grow under the ground. . . . Which grow above the ground? What grows on the ground – a courgette? We don't know. What about peanuts? Not sure, we'll have to look it up somewhere.

Anyway, time to start our database. Shall it be on paper or on computer? Both! All right, let's think of three ways of sorting these items . . . Where it grows . . . good, . . . colour, and . . . yes Tim? Can you eat it raw!? Good. So we've got our database structure, our headings or fields.

Now, even before we ask the database any questions, what have we been up to?

We've done lots of observation, lots of communicating (some good arguing – what colour is an apple?), some recording – jottings at first, now more careful database entries; we've been sorting (physically – putting that carrot next to that potato) and we've been classifying. . . .

All this asking of questions; all this planning how to organise our material: such a wealth of intellectual activity even before you retrieve any information or interrogate any database!

Then we start asking some more questions – and on the way, finding out which questions are useful and which are silly. What colour? What place? Are all underground fruits and vegetables white or orange? (Are they?)

We start interpreting, predicting, hypothesising and evaluating.

And if we conclude, for example, that it's true about underground vegetables, what happens next? *The most important questions often cannot be answered by the database.* Those questions often start with 'why?' So off you go to find out, to look for the books, to ask the far-mer or the horticulturist. The database is only one stage on the trail of learning, but it's an important and focusing stage, a focus for all those activities and skills I've mentioned. And as we continue with our investigation we do other things; we encourage a respect for evidence, for open-mindedness, for curiosity – and for accuracy – quite a large slice of the skills we need to develop!

Interestingly, the information you get out at the end of your data handling may well be the least important part!

We can be certain, therefore, that information handling is basic to learning. When we learn to handle information we are learning how to learn, we are learning about the nature of things and the nature of thought. Information Handling, we could argue, is far more basic to learning and living than any of the other strands of IT.

So what?

I began by asking, 'What is the organizing principle behind the various elements of Information Technology in the National Curriculum?'

So, placing a new emphasis on information handling provides us with a view of the other elements of IT in the curriculum which might make a more coherent structure. It might form the foundation upon which other areas of IT can be built.

However, before we construct too complex an edifice on that foundation, let's look – briefly – at another, different element of IT: modelling, which is still a cause of much bewilderment in many schools.

It would be possible to take a view of the IT curriculum which places modelling at its heart. The more modelling is analysed, the more it seems to be a process that goes on in all areas of IT – and indeed in all areas of learning.

The more we take a process view of IT activities, rather than seeing things from the point of view of product, the more our assumptions about different areas of IT activity begin to blur. A spreadsheet is a tool for managing information but is also a powerful way of modelling numerical processes. A word processor provides a way of modelling our thoughts and control technology offers an ideal modelling environment. . . . Whenever we are learning, we construct models – if only in our heads.

Modelling, then, begins to take on a central and strategic role in relation to other IT activities – and this begins to suggest another possible way of organising the elements of IT into a coherent whole.

Information handling as a foundation . . . Modelling as a central core . . . perhaps Communicating Information as a defining principle? If there are a number of possible and contradictory ways of viewing IT as a distinct subject, what does this suggest?

At present the IT Programmes of Study don't reveal any underlying coherence. This is not surprising when we think how the original NC Orders were put together and the history of their pruning and rearrangement into the current document. There was little enough time for Dearing to come up with a way of organising what had to be covered, without worrying about an underlying philosophy.

So, if no such underpinning rationale exists, is it (a) because the authors of the National Curriculum (given the pressures of time) couldn't agree on one or couldn't conceive of one? or (b) because there isn't a coherent philosophy to be had?

Let's examine that second possibility. Why should there be such a unifying and logically consistent framework for IT? Is it not perhaps the case that IT in the National Curriculum (and, as a result, IT as it is organised in schools) is a hold-all into which a disparate number of items have been put because they seem on the surface to be similar?

Why should there be a rationale linking all the things we do under the heading of IT? In spite of nods towards others elements, IT has come to mean 'that which is done with computers'. But from controlling your washer to the database in the motor parts depot, what links them? That there is a certain kind of technology involved as a key element in each? Is that enough? Is that sufficient to give birth to a new area of the curriculum?

Is there really anything more in common between control technology and word processing than there is between, say, PE, biology and human geography? Or between any areas of learning which make use of print?

To what extent, then, is IT a subject at all?

I think most of us are still unsure about the answer to that question.

With that in mind, let me raise a related issue. I wonder what the balance is between, on the one hand, using IT to communicate information using text, graphics and so on — and on the other hand 'showing sensitivity to audience' or 'becoming discerning in the use of IT' or 'assessing the value of IT in their working practices.' How many teachers or schools could put their hands on their hearts and say that their pupils had been learning how to (and were able to) assess the value of IT in their working practices?

At KS3 do we concentrate on teaching pupils to be 'critical users of IT, understanding the limitations of IT tools . . . enabling them to compare the effectiveness of IT tools and information sources with other methods of working . . .?' or do we concentrate more on making sure they can use a word processor and DTP package, that someone is doing spreadsheets in maths and that at least there's one Science teacher who isn't afraid of sensing? It may be hard to do the latter — but the former is even harder — and harder to assess.

The reason we tend to concentrate more on the concrete and practical is because we are unsure about the overall nature of the subject. If there was a more clearly developed philosophy of IT we would feel more able to deal with the more abstract, theoretical side.

So, then, is IT a subject? Is it anything more than a disparate, vaguely linked set of tools put together in the same nice tool box because they're all new and (fairly) shiny. (Put in the same toolbox and given to someone to use because it was feared that if the tools were simply distributed amongst the other workers, they wouldn't be used — or they'd get broken?)

I think IT is more than this. But we need to examine what it really is rather than have other people tell us what it is. When the next National Curriculum review comes round, as it will, we need to be prepared. We need to know what we think and why we think it. We may decide that it is time for a wholesale recasting of the so-called IT strands.

Perhaps we do say that Control and Measurement have no place in a cross-curricular concept of IT and should be subsumed into science and technology in the way that balances and microscopes are.

Perhaps we then take Information Handling (and Communicating Information) and look at them anew as truly underpinning the whole curriculum. And we make up our minds what we do with modelling. . . .

We are still in the early days of IT as a subject or a discipline — or whatever we call it — and it's up to us to clarify our thinking and begin to establish a firm, rational foundation for its development and for the development of real learning over the next century.

In doing this, we will raise, not diminish, the importance of IT. Not only that, the stage may be set for a more imaginative rethinking of our teaching and learning. An environment where information handling, learning about learning, thinking skills — all form a central core of the curriculum and within which IT has a central role.

Developing a Shakespeare trail

Marian Parkes, Chris Hopkins and Janice Staines

This trail was developed as part of NCET's 'Starting from the Environment'.

They say that if you stand long enough in Stratford-upon-Avon you will meet everyone you know. I guess this is because, like Piccadilly Circus, it is one of the most visited tourist sites in the country. Stratford is obviously world famous as the home of Shakespeare and, as such, is the perfect place to try and develop a 'Shakespeare Trail' for the children to follow.

One thing to remember is that Shakespeare has many associations with places outside Stratford itself. His mother's house (Mary Arden) and Anne Hathaway's cottage are both three or four miles outside the town, and these would be worth including in the trail. We decided to start at Charlecote Park. The house there was built and owned by Sir Thomas Lucy and it is said that, as a young man, Shakespeare was caught poaching deer in the park there. He was taken before Sir Thomas but was let off with a stiff warning. Indeed, Shakespeare and Sir Thomas later became friends. Shakespeare obviously remembered the incident and he included a caricature of Sir Thomas as 'Justice Shallow' in The Merry Wives of Windsor.

Inside the house at Charlecote there is some evidence of this friendship, there is a bust of Shakespeare in The Great Hall wielding a quill pen, and the magnificent library contains copies of his plays.

The most notable association with Shakespeare, though, is 'Shakespeare's Garden' which has been planted beside the Orangery. This is a long border containing herbs, flowers and bushes which are referenced in his plays These plants would make an interesting data handling exercise. You might make a collection of the leaves or flowers from the plants and encourage the children to sort them into a binary tree using *Branch Tree* or *Sorting Game*. This type of activity will encourage them to spot similarities and differences between the plants and to begin to frame useful questions which will help to distinguish between them.

Another idea might be to collect the data onto a 'flat file' database like *Grass, Junior Pinpoint* or

Clipboard. The children will need to decide what sort of things they want to record about the plants and then to decide on the headings or field names for the database. For example, they may decide that they want to collect the information under the following headings:

Name – this would be the common name, but the children might also decide to find the Latin name too.

Type – whether it is a herb, bush, flower etc.

Play – the name of Shakespeare's play in which it is mentioned

Character – this might be the character in the play who mentions the plant.

In addition, the children might want to reference the passage from the play where the plant is mentioned. This might be handled more appropriately on something like a free text database such as *Junior Pinpoint* which will allow keywords to be attached to the references to enable them to be retrieved.

Moving on from Charlecote we went to Stratford-upon-Avon. An obvious starting point for the trail would be the theatres, but we decided to look round for other references. There are a number of hotel, restaurant or shop names which could be referenced in a trail, and again these could be collected onto a database. In addition, the children could use a graphics or desktop publishing package to design hotel, inn or shop signs in an appropriate style for the character mentioned, or the play from which the character comes. Following a visit to the theatre all sorts of ephemera (posters, tickets, programmes etc.) could be designed to advertise various Shakespearean plays.

Another way of handling the 'Shakespeare Trail' might be to encourage the children to design their own trail for visitors to the town and give them some constraints to work with. For example, the visitors might be a family consisting of Mother, Father, Daughter aged 15 and Son aged 9. The trail would need to include things which will be of interest to all the family. Other constraints may be that the trail can only include places that are free of charge, or that the family have only a limited time, say half-an-hour, to complete the trail.

Places that we spotted that might be included on trails of this nature are:

- a plaque on the wall of the Arden Hotel which says that the foundations of Brook House, owned by William's father, John are contained within the garden of the hotel.
- the Great Garden of New House, where Shakespeare lived at the end of his life.
- the Mulberry trees in the garden which are, supposedly, cuttings from a tree which Shakespeare had in the garden when he lived there. Indeed, the smaller tree was planted by Dame Peggy Ashcroft to commemorate the first Shakespeare Festival in Stratford, organised by David Garrick in 1769.
- the sundial in the garden which has the famous quote from 'As You Like It' written on the base – 'All the world's a stage and all the men and women merely players'.
- the foundations of New House which can still be seen by the Museum and the plaque says that he bought the house in 1597 for £60.
- Shakespeare's birthplace itself, although you have to pay to go round the house.
- Holy Trinity Church where Shakespeare is buried.
- The Shakespeare Experience, an exhibition which again you have to pay to visit.
- regular 'Shakespeare's Stratford' bus tours with running commentary, which also cost money.
- a monument in the gardens by the canal which shows Shakespeare seated atop a pillar with quotes from his plays around the base. This monument is surrounded by four of Shakespeare's characters – Hamlet, Falstaff, Prince Hal and Lady Macbeth.
- the cedar of Lebanon tree in the grounds of the Alveston Manor Hotel was the site for the very first performance of Midsummer Night's Dream.

This list is by no means exclusive and there will be lots of other references which sharp-eyed children will be able to include in their trails.

Using a talking word processor to improve reading skills

Fiona Sanderson
Cluster teacher, Northumberland

The project

This is based on the Acceleread Accelewrite project by Vivienne Clifford and Martin Miles, sometimes known as the Somerset Project, as it was piloted there. That project was on a 1–1 basis with five sessions a week, but for my school this was financially impossible, so we adapted it as detailed below.

Aims

The project is designed to improve children's short term memory, word recognition skills, and awareness of patterns in reading and spelling.

Hardware and software

This can be done on any computer with a word processor which will read back the words and sentences. I used an Apple Mac – initially a Classic with a 14" screen and black and white text – but this did not matter to the children. The software was *Intellitalk* by Intellitool. We used Primary Cheynes font as this most closely resembled the writing style used in school. This font was also used on all the work cards.

Group size

I worked with groups of four or five children with similar reading ages. Each child had his/her own computer with a set of headphones. Although these cut out some of the background noise, the children were still very aware of their neighbours' problems, while sorting out their own!! Each session lasted for about 20 minutes, although first sessions took longer as computer folders had to be set up and some children were not familiar with saving and printing procedures. The children worked with me for two sessions a week over half a term.

Modifications

I changed some aspects of the project to suit the children I was working with. The Somerset project is based on the children looking at a sentence containing words with a common phonic blend, memorising the sentence and writing it on their sheet on screen, for example:

> Shout out loud.
> Count the trout.
> I found the sound.
> The mouse is in the house.

I adapted it by putting single words on cards for the children to write out first. If there was waiting time for the next card to be passed on to them, they then thought of two words of their own with the same sound, listed down the centre of the screen.

Dean Clarke	9th May 1997
mail	nail
saint	paint
snail	rain
train	
mail	
trail	

They then wrote out three sentences from my cards, and added a made up sentence of their own, using at least one word from the list.

I felt this gave them ownership of the work and meant they could work at their own level. Some children were quite satisfied with a four word sentence, but Alice was never happy unless she had written a sentence which included every word from the list and still made sense!!

> The saint was in pain.
> The mail train will wait.
> Did you win on the treasure trail?
>
> The mail train was late for the party because of the rain.

The children saved their work in their computer folder then printed it out. This was the communication with their class teacher, who usually got them to read out their work before filing it in their classroom folder. Back in the classroom, they can add further to their work, or just leave it as it stands.

Other adaptations

This method of working could be used in different ways. It could be:

1. done with sets of words from a reading scheme.
2. carried out in the classroom in a cascade system.
3. used as Cloze procedure to insert the words into sentences.
4. sound patterns can be highlighted in colour on the computer, or in coloured pencil back in the classroom.

Evaluation

The children's reading ages were assessed before the first session using the Salford reading test and then at the end of the series of sessions. Those who seemed to make the most progress started with a reading age of about 7.5. They tended to be children for whom reading progress had come to a standstill and whose teachers felt they were underachieving. We found children with a lower reading age than this did not make as much progress.

Why it works

It is multi-sensory.
   It improves visual and auditory skills.
   Pupils are encouraged to self-correct. It is high in motivation.
   Structured materials give repetition and revision.
   Errors are dealt with in a non-threatening way.
Reading ages increased by anything from two months to more than a year during the project time.

Other successes

The children had an increase in self esteem, in motivation and enthusiasm for books. They were more confident in the classroom. IT skills were also improved although this was an extra to the project.

Let's make some more music

Dr. Andy Pierson
Affiliation?

We derive a great deal of pleasure from listening to music. Much of our social life revolves around listening to and responding to music in some way, by dancing to it for example. Music has the power to release our emotions and to direct our thoughts and this facet of music is used to effect in many ways such as the musical accompaniment to a film for example or to focus attention on a particular advert. As an art form it provides us with a universal language with which to communicate moods, feelings, ideas and even the intricacies of whole cultures. Music can also contribute to the teaching of the curriculum as a whole. Each historical period is full of a rich tapestry of songs and instruments that assist the understanding of the people and times of that period. Geographical trends are found in the songs of different cultures and countries giving insights into the terrain, commerce and industry of an area. Mathematical patterns are found in musical structures and forms and rhythms can be used to teach number skills. The way sound is formed and manipulated is important to the science curriculum. Not least, of course, is the development of language in sequencing, rhyme, vocabulary, etc. Given the importance of music, it is disappointing when it is found low down in the list of priorities for education in schools.

Music is too difficult

One of the problems associated with music in the classroom is the idea that participation in music is too difficult. Having listened to the stunning performance of an orchestra playing our favourite symphony we feel very inadequate for the task. The perception of professional musical performance is one of highly technical skills with the requirement of a working knowledge of an instrument and of some form of musical notation. The idea that active participation in music might be taking place in our own classroom is therefore out of the question. The support provided in different schools and authorities is vastly different. You may or may not have a music specialist in your school. If you do they may be encouraged to provide music for the whole school rather than encourage music to happen in each individual classroom. Any instrumental activity that does go on may well rely on private funding and will therefore tend to be for the minority who have an interest in instrumental skills.

Music is for everyone

There is no reason why music should not happen as a natural part of classroom activities with every teacher and pupil involved at some level. There are many techniques, ideas and guided schemes that enable even the most musically nervous person to be involved. However, even with the most supportive of schemes the fear of live performance using voice or instrument can leave us reluctant to get involved. Technology can play a key role here.

Access to music using the computer

We can use technology to build a supportive environment where both teacher and pupil can be given the freedom to experiment with music. The opportunity to succeed at manipulating musical sounds and structures can replace some of the perceptions of failure that may have occurred with the use of traditional instruments and notation. There are two key factors that are employed here: Firstly, the computer is taking on the technical aspects of music making. By playing the rhythms and sounds and handling the notation it is being the musical performer. Secondly, the computer is providing a musical sketch pad, a memory, a way of recording musical ideas that can be easily retrieved and modified. These factors play an important role for music education generally. By using technology in this way the pupils are able to concentrate on listening to musical sounds and structures and to make judgements and decisions based on what they hear. By changing the emphasis from performance of an instrument to listening and manipulating, pupils are able to explore composition techniques that might otherwise have been out of their reach. Musical structures can be played that would require years of training to reproduce on a traditional instrument. Instrument sounds can be used that would otherwise be out of reach of the normal primary classroom.

An orchestra at our fingertips

We have come along way since the early days of computer generated music. As the technology has grown we have seen a big improvement in sound quality with electronically generated sounds. We can have access to realistic instrumental sounds such as a trumpet, violin, sitar or steel drum. We can also make our own sounds from recordings or by manipulating synthesizer controls. The possible range of sounds is endless. Using these resources we can explore the effect of different sounds to conjure up moods and styles. For example, we can write a piece of music and play it using a brass sound. Then we can try using a string

sound and decide which best suits the composition. We might also experiment with a new sound, perhaps drawn from a recording of our own voice, as a contrasting instrument sound.

A world of styles and sounds

As well as exploring sounds we can use the technology to help explore style and structure. With the access to a full drum kit in a synthesizer we can produce exciting and stimulating rhythm patterns from presets on a keyboard or from phrases in a computer sequencer. Pupils find that they have access to the type of sounds and rhythms that they hear in the pop world. This same principle can be applied to the exploration of a wide range of styles from all parts of the world and periods of history. Using technology we can provide pupils with the opportunity to explore styles and sounds that they are not familiar with.

The effect on traditional music

What is really important here is not to see the technology as the only musical activity taking place, far from it. The technology needs to be used as one musical resource amongst many, as a stimulus for musical ideas that may be developed with or without the technology. Far from damaging traditional musical activities, our experience with using technology in the music classroom is that it encourages traditional musical activities. Having used technology to explore ideas and to learn musical skills of judgement and style, pupils are more confident in using traditional instruments with all the different excitement of acoustic sounds and live performance. Having experimented with the sounds and styles of a certain type of music such as Jazz or Blues using the supportive environment of the computer, the pupils are more able to use the understanding they have gained to reproduce those styles using other instruments and, of course, their voices.

IT equipment

There is a wide range of equipment that can be used to provide opportunities for sound and sound exploration. A simple tape recorder can be used very effectively to gather sounds from the environment which can then be played back in the classroom as starting points for composition. Musical keyboards come in a variety of shapes and sizes. They will have different quality and ranges of sounds as well as other effects and controls. Some keyboards have auto accompaniment facilities which can help to explore styles and form a basis for improvisation. Others will have opportunities to make your own patterns and even you own instruments. It may be possible to connect your computer to a musical keyboard, synthesizer or sound box. Many of these devices use a system called MIDI. This is a standard means of connecting electronic musical devices to

computers and is used to transmit musical information between the two. To use this you will generally need a MIDI interface in your computer and a MIDI connector in the musical keyboard, synthesizer or sound box. However, some sound boxes can now be connected to the computer using the built in serial port in the computer. A MIDI interface can take many shapes and forms. If it is only a MIDI interface then it will have at least a MIDI In and a MIDI Out connector which need to be connected to the MIDI Out and MIDI In of the musical keyboard. Some MIDI Interfaces are also multimedia Sound cards and can also provide some Synthesizer facilities of their own. If your computer can produce sounds generally then you may be able to expand the sounds produced by the computer with a MIDI Synthesizer that runs in software. This is often a cheaper option than adding or connecting MIDI hardware.

Software

Music software also covers a wide range. There are many programs that offer opportunities to write music using traditional staff notation. Notes can often be entered using a musical keyboard connected to the computer using a MIDI interface. They can also be entered using a mouse and easily changed both in pitch and tempo. The complexity of the notation offered varies with some programs designed to provide easy access to notation for Key Stages 1 and 2 and others which provide professional systems for producing high quality printing of notation as a teacher resource. There are also many other ways of handling musical data using the computer which have been developed into computer software, some of which use various forms of grid notation others which use graphical or textual representations for patterns and phrases. Another category of music software is training and teaching software. All music programs will be used to support learning about and information relating to music. However, some programs are specifically designed to teach about a particular area of the music curriculum. Alongside these we also have multimedia CD-ROMs which provide additional musical resources.

Criteria for choosing music IT resources

It is important when selecting the resources for implementing IT and Music to focus on three key criteria. Firstly that the resources support the implementation of the National Curriculum for the target Key Stage. Secondly, that the resources are well targeted at the age range that you want to use them with. Thirdly, that music technology should make music more accessible and act as a support to a wide range of musical activities. It should not become a technical burden that distracts from the musical activity itself otherwise it is in danger of adding to the complexity of live performance with something even more complex.

Music Activity Sheets

Based on ideas and materials by Melanie Pierson
Additional content from Ashley Compton, Bishop King Primary School, Lincoln

INTRODUCTION

These musical activities revolve around a journey. A journey through change and contrast – a journey through change and contrast in sound and music.

There are five activities. Each activity could take place on its own or you can use them as a progression through different aspects of sound and music and of IT and music.

The journey itself could be based on many different types of journey. It could be one of the following, for example:

A journey through time and history
A journey through different countries
A journey through different climates and terrains

For our activities we are going to imagine that you are lost in the middle of a forest and that you have to find your way home. This is going to involve you in a journey battling your way through the forest, squelching through a muddy river bed, climbing over a mountain, trudging through a snow storm and then finally running home across the park.

The important criteria when choosing a story line for these activities is to look for contrast. When working on the activities we are going to use contrast in rhythm, contrast in pitch, and contrast in sound.

ICT capability: Communicating and handling information.

Music capability: Use IT to explore and record sounds; control sounds; perform with others; compose; play pieces which have several parts; rehearse and present their own projects; use sounds to achieve an intended effect; refine and record their compositions.

Title: LET'S GO ON A JOURNEY (1): Collecting sounds

Activity: To discover different sounds and rhythms that go with walking, running, marching, etc.

Resources: Tape recorder and blank tape; shoes and boots; Wellington boots; working boots with steel caps; trainers for running; ordinary shoes for walking; soft shoes for walking quietly; a gravel path, puddle, mud . . .
This activity can take place inside or outside, but the opportunities for collecting sounds are increased if you can do this outside. A gravel path is particularly useful as the sound of walking, running, or marching on gravel is greater than doing the same on a smooth path.

What to do: You might start this activity with some pictures of boot and shoes.
What sounds will heavy boots make?
What sort of sounds do you associate with a policeman's boots?
Can you describe someone in running shoes?
Then try making some of these sounds using the boots and shoes available.
Now record some of these on the tape recorder.
Listen to the recordings.
List the different sounds recorded.
Listen to each one again and under the headings write down words that describe the sounds.
This activity can take place as a whole class activity or in small groups.
If you are working in small groups then you need to have someone who is familiar enough with operating a tape recorder. It works well if you start with the whole class and then let small groups tackle the categorising task with a final opportunity to compare words and descriptions of the sounds as a whole class again.
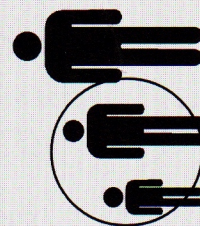
Music Activity Sheet 2

Title: **LET'S GO ON A JOURNEY (2): Exploring sounds**

Activity: Finding out how to use classroom instruments or everyday objects to create the different 'journey' sounds.
How can changes in pitch, rhythm and sound be used to create the different stages of our journey?

Resources: Tape recorder; musical keyboard; classroom instruments; computer

What to do: You first need to decide which of the list of sounds you want to explore.
The list could be about the type of shoes or the terrain or some other criteria.
It is best if these are drawn from the first activity so that we can refer to the recordings and categories that we have already made.
For this example we will use the following:

> Forest
> Mud
> Mountain
> Storm
> Home

There are lots of ways of making sounds and the different resources listed above can help to support this activity.
When looking for sounds like crunching on gravel, then the percussion instruments might help. When looking for atmospheric sounds like storm and rain, the keyboard might have some unusual sounds that suit.
When looking at how structure can be used, the computer with a program like *Notate* or *Compose* can help to explore fast and slow phrases, changes in tempo and use of different MIDI sounds.

Title: **LET'S GO ON A JOURNEY (3): Writing a short story**

Activity: Write a simple story about the journey, using just a few words and phrases.
Add sound effects to the story drawn from the ideas in the first two activities.

Resources: Pen and paper
Classroom instruments
Compose computer program

What to do: Choose a suitable tune file for use with *Compose*. The 'Compose1' file has enough contrast to be suitable, but you might also try one of the others like 'Sporty'.
Play through the phrases looking for ones that suit the mood of the journey and looking for words to go with them.

Fighting our way   through the forest

You can add the words either as sung to the rhythm of the phrases or as spoken as the phrases play or as a rap.
When you have a story with phrases and words you can add to the performance with other sounds. These can be using the percussion and keyboard sounds from the earlier activity or the recordings from the first task.

Experience level
Beginner
Intermediate 2 3
Experienced
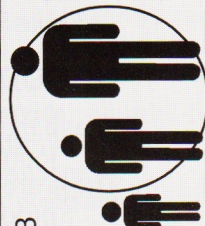
3

2

Communicating and
handling info. 2 3

Controlling,
monitoring and
modelling

IT Activity Sheet 2

Music Activity Sheet 3

Title: **LET'S GO ON A JOURNEY (4): Writing a long story or song**

Activity: This involves writing a longer story using different songs linked together by the common theme.

Resources: Computer program used as a composition tool
Tape recorder used for accompaniment
Classroom instruments used for accompaniment

What to do: In this activity we extend the simple story to a sequence of stories and songs.

The pupils will be drawing on the experience gained in the previous examples of using the composition program; adding percussion parts to songs and recording using a tape recorder.

Split the class into groups, one for each stage in the 'journey'.

Each group then needs to experiment with the composition program to find tunes and phrases that suit their part of the story.

If you are using the *Compose* program then each group will be listening to the different tune files to find a file that suits their part of the story. For example, the group working on the muddy part of the journey might use the 'Compose3' tune file.

Squelching through the sticky mud   doing this is very hard

Squelching through the sticky mud   we are getting very tired

It can take valuable computer time to work on both the music and the words and so it may be helpful to record the tune on tape so that the group can work on the song away from the computer.

When they have finished the words for the song, add some accompaniment using the ideas from earlier activities. Both the recordings of sounds and the classroom instruments can be used here.
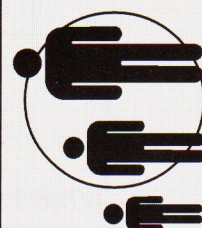
IT Activity Sheet 4

**Title**: **LET'S GO ON A JOURNEY (5): Finding ways of writing your sounds down**

Activity: This is an exploration into notation which involves using appropriate ways of musically describing some of the sounds, rhythms and songs used in the above activities.

Resources: Pen and paper
Computer graphics program
Computer notation program

What to do: Having written a story or song there are a number of ways of 're-cording' the composition.

The pupils will already have words and descriptions of the stories and songs. There are a number of additional ways of 'recording' the music. If they have used *Compose* then the song can be written in terms of the pictures from *Compose*, but this will not indicate very much about the musical content of the phrases.

If there are pupils in the class who are familiar with notation then they might like to attempt to notate the phrases using traditional music notation. A computer program like *Notate* may help to enable them to try out the notes to get the right ones. It is easier to listen to the way the notes sound and to make changes on a computer program like this than on paper.

Other notational forms can be explored. Let the pupils invent ones of their own.

In addition, some way of notating the accompaniment needs to be found. This could be:

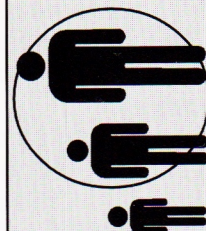a picture of a muddy puddle for the squelching sound
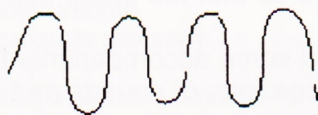
a large wavy line for slow movement

a small jagged line for fast movement

A computer graphics program or a collection of clip art might be useful to help with the notation task.

Experience level
Beginner
Intermediate 5
Experienced 5

Communicating and handling info. 5

Controlling, monitoring and modelling

IT Activity Sheet 4

Using a CD-Rom for Music, Science and History

Jane Carson
Head teacher, Roselands JMI School, Hoddesdon

Whilst there are many exciting new CD-Roms on the market with some having appropriate content and language for use in our primary schools we, at Roselands, still value some of our older, original discs as invaluable resources for common topics within the school.

Many pupils study the Tudors during their junior school years. Microsoft's *Musical Instruments* CD offers an easy reference guide for the sounds and instruments of those times. We made a simple task card for the pupils to work from:

Musical Instruments in Tudor Times
CD: Microsoft's *Musical Instruments*

Find out all you can about an instrument that Henry VIII liked to hear:–

harpsichord
recorder
flute
organ
spinet
clavichord
flagolet

What does it look like?
What does it sound like?
How is the sound made?

When you have answered the questions return the computer screen to program manager, mark your names on the rota and collect the next pair on the list.

Having demonstrated the disc to the whole class each 'computer pair' visits the multimedia machine, logs on, loads and uses the CD, working down the task card. They make notes as appropriate and close down at the end of their session. Having marked their names off the rota they then collect the next pair until the task is finished.

This is a simple and successful way of ensuring each pupil can use a CD for reference, searching contents and index sections and using alphabetical order to find names of instruments. It enables them to see how cross references can be followed within the CD material. At the same time they are enhancing their awareness of the Tudor period by hearing its music and sounds of instruments that are not commonly available today. They can also see how some of our contemporary instruments have been influenced by, and developed from, these earlier
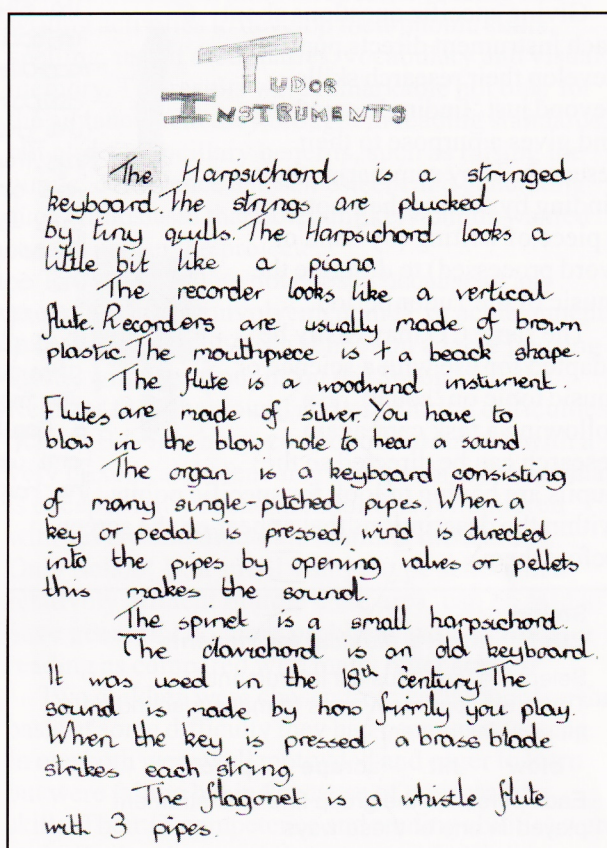

Tudor Instruments

The Harpsichord is a stringed keyboard. The strings are plucked by tiny quills. The Harpsichord looks a little bit like a piano.

The recorder looks like a vertical flute. Recorders are usually made of brown plastic. The mouthpiece is t a beack shape.

The flute is a woodwind instrument. Flutes are made of silver. You have to blow in the blow hole to hear a sound.

The organ is a keyboard consisting of many single-pitched pipes. When a key or pedal is pressed, wind is directed into the pipes by opening valves or pellets this makes the sound.

The spinet is a small harpsichord.

The clavichord is an old keyboard. It was used in the 18th century. The sound is made by how firmly you play. When the key is pressed a brass blade strikes each string.

The flagonet is a whistle flute with 3 pipes.

Fig. 1. *Children working from card looking up harpsichords on Tudor Instruments.*

types. The pupils are developing their awareness of a vast range of instruments and often stop along the way to listen to and look up others they may see that interest them. This is similar to sifting through materials in a book and it is interesting to note how much other information they retain. This is particularly true of these CDs where each screen page has a similar appearance and layout. It gives the children confidence to search around the screen and find related articles.

Giving specific questions about each instrument directs pupils to develop their research skills beyond just 'finding' something and gives a purpose to their research. They summarise their finding by sorting their notes into a piece of writing (by hand or word processed) to describe the music of the Tudor period.

The same CD may easily be adapted for use with a science or music topic on 'sound'. By following a task card again research can be directed so the pupils are having to look for specific points within the descriptions that appear on the screen before them.

Sound
CD: Microsoft's *Musical Instruments*

Select the icon 'Musical Instruments'
There are four main ways to make a sound on a musical instrument:–

blow   hit   scrape   pluck

Each person in the group find an instrument played in one of these ways.

Find out all you can about your instrument and listen to its sound. The others in your group can read and help you while you make notes.

Each person has a turn.
Close the program at the end and mark your names on the rota. Collect the next group.

This time the group collaboration is likely to be more extensive as they are looking within the information for particular answers. Here we can see how the music and science of sound are so closely related it is impossible to define which curriculum area we are working in. For our primary pupils this does not matter. It is far more important that they find the answers to the questions and can see and hear how these different sounds are made. In addition their IT skills are being used as they search the materials.

In both these examples we can see that the multimedia experience, adding sound to the written and pictorial information, is invaluable and is also a particularly time-efficient way of imparting factual

information to our pupils. Above all this it is exciting and engaging with the pupils wanting to find out and having the directives to help them start and then succeed in their own research.

Both these examples may easily be adapted to use with other CDs within other topics.

ICT and the '3Rs' help struggling readers

Marg Lester
Lecturer at the University of Derby and a Consultant in Computers in Education

The National Literacy project has enjoyed substantial funding and has been reported with a fanfare of publicity, but meanwhile pupils in four primary schools in Sheffield have been quietly achieving remarkable results using only the one computer in the classroom and readily available software.

The project arose from a course called 'Computers can help make reading easier', which was linked to the Sheffield Year of Reading initiative. Four teachers on the course volunteered to make a more in-depth study of the role of the computer in developing reading, and it proved so successful that they are now sharing their experience with teachers in other schools.

The general aim of the project was to see how daily use of the computer can enhance reading through autonomous learning combined with the '3 Rs' – rigour, routine and reinforcement. A secondary objective was to identify the most effective software and learning methods for pupils of Key Stages 1 & 2.

The National Curriculum requires that in English pupils should be encouraged to make use of a range of sources of information, including dictionaries, encyclopaedias, newspapers and IT reference materials, and that not all of these, even at primary level, should necessarily be designed for children. The National Curriculum states that in IT pupils should be given the opportunity to handle a variety of equipment and software and use these to explore, solve problems, organise and analyse in a range of different contexts. The reading project seemed ideally suited to these requirements.

Two children from each of four Sheffield primary schools worked in pairs on specific reading and writing activities to develop their phonic skills, spelling, use of dictionaries, vocabulary and visual memory. The results were remarkable not only for the advancement they brought in reading standards, but also for ancillary benefits, such as raising the pupils' confidence and self esteem and generating such enthusiasm that other unlikely pupils wanted to take part in the project.

The schools were not chosen because of any exceptional prior involvement in IT or achievement in reading. School A is a school on a large housing estate, with many pupils on the Special Needs Register for behavioural and/or learning difficulties. School B is in a busy, cosmopolitan suburb with a very mixed catchment area and an ability range that is exceptionally broad. School C is for children with severe and moderate learning difficulties. Only School D, a small village-type school in a relatively affluent middle class area, can be said to have generally no great problems with learning or reading as compared with many other schools.

Two children were chosen from each school on the basis of some difficulty they had been experiencing. In one both were well motivated and eager to learn but were falling behind because of poor reading skills. Their IT competence and reading abilities were at similar levels, so neither was thought likely to dominate the other. In another school the two were the poorest readers in the class and lacked confidence and self-esteem. In a third the two children chosen

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IT READING PROGRAMS USED IN THE PROJECT

School A Y3
Oxford Reading Tree, Talking Stories – Sherston Software
Activities   Participation of children in reading stories, key words picked out.

School B Y1
Talking Animated Alphabet – Sherston Software
Activities   Visual letter discrimination, aural discrimination and letter 1 sound matching, each activity having 3 levels of difficulty controlled by the teacher.

School C Y2/Y3
Rosie and Jim Talking Activities – Sherston Software
Activities   Participation by children built into the program, listening to and joining in reading, extending vocabulary.

School D Y5
Look and Read, Spywatch, Earthwarp – Logotron
Activities   Exciting activities for group reading linking with History, Science, English National Curriculum.

for the project were quite different in terms of ability, one being almost two years behind his chronological reading age and the other being barely two months behind. At the special school other factors came into play. One child enjoyed working at the computer but lacked social skills, such as sharing and turn taking. She had problems with pencil control but could manage a mouse and the return keys. The other was at a complete standstill in his progress in reading and showed little interest or motivation. It was hoped that these children, for whom conventional methods seemed to promise so little, would respond to a different approach.

At a preliminary meeting the teachers chose the software which they thought would suit their pupils' needs, and also made some reinforcement activity materials which were an important part of the process. No particular constraints were applied to the choice of programs, which included the *Oxford Reading Tree Talking Stories* (Y3), *The Talking Animated Alphabet* (Y1), both from Sherston, and *Spywatch* (Y5), from Logotron. The special school used *Rosie and Jim Talking Activities* (Sherston). Though each was chosen to meet the needs of the individual pupils involved, the choice seemed not to matter very much in terms of results, and each was successful in its own way.

Before the project began the Advisory Teacher

for English visited each school, introduced the program to the children and tested their reading ability using a variety of tests. These were the *Schonell Reading Test*, *Running Records* based on Reading Recovery levels, and Ladybird 12 and 20 *Key Words* (at the special school). Having an outside visitor conduct the test made one child ask 'Am I going to be a leader?'

From the beginning it was understood that the '3Rs' – rigour, routine and reinforcement – were essential.

Routine: Half an hour each day (fifteen minutes on the computer and fifteen minutes of follow-up work) was set aside for the project, usually at the start of the teaching day. In no time at all the children would go straight to the computer without any prompting and load their work on the 'special' project.

Rigour: A clear course of action was agreed with the pupils, appropriate resources were provided, and a place and regular time were assigned. The expectation of success was there and they eagerly set about achieving it, but at their own rate and with deliberately minimal intervention by their teachers. Since the way in which they worked was different in each case, there is no point in reporting the details. What matters is that the agreed scheme was rigorously enforced, and as

AN OUTLINE OF THE PRACTICAL ESSENTIALS

1. Implementation

Organisation:
Check timetable so that activity is not interrupted or postponed (make it the same time each day).
    Decide on a satisfactory length of time each day to achieve desired outcomes. Discuss the project with the class and share the aims.
    The two pupils taking part must be in agreement and want to improve.
    Provide follow-up activity as reinforcement after each session.
    Provide additional adult support if possible/necessary.
    Inform parents of the project.

Teacher's role:
Make planned intervention, to be revised as the project develops.
    Make possible specific intervention to ensure pupils are benefiting from the activity. Keep pupils on task.
    Monitor what is happening, e.g. by informal discussion after activity, teacher diary, observation, individual interview, questionnaire, test sheet or weekly discussion with the pupils (there may be need for co-operation from head to allow this to happen away from the classroom).

2. Assessment

Teacher's role:
Devise strategy for reflection and review to assess whether the aims have been achieved.
    Recognise unanticipated outcomes.
    Discuss the project with individual pupils and the whole class.
    Record development of pupils' IT skills.

Pupil's role:
Keep a diary of time, task and progress.
    Share with the class the attitude to the task, at the beginning, middle and end of project.
    Complete self-evaluation sheet at end.

a result the children progressed quickly.

Reinforcement: Each of the pupils understood that there was work to be done away from the computer. This was a vital part of their commitment. Preparation for this follow-up work was the most difficult part for the teacher, since it meant providing linked activities five times a week for ten weeks. All the pupils had books to record their progress.

The results

At the end of the ten weeks there were observable differences in the children, in attitude to the reading process, in writing and in motivation. Although gratifying, these observable improvements were, of course, not in themselves enough, so each pupil was re-tested. In this way the success of this simple scheme was amply demonstrated. One boy (Y5) increased his reading age by a year in the ten weeks.

Teachers wishing to try a similar approach do not need any special facilities beyond what ought to be the minimum provision in any British classroom – a mouse-driven computer and software to suit. Much more important, it seems, is the organisation of the learning programme, and in particular the raising of self-esteem through success in learning.

So when you are next told that children learn best when they are sitting in rows absorbing the traditional talk-and-chalk form of teaching, or that the answer lies in better provision or in a national reading scheme, think of the success achieved by modest methods in these four Sheffield schools, and quietly get on and try it yourself.

A shorter version of this article was published in the *Times Educational Supplement* in February 1997.

SCHOOL A – Y3

Content and implementation

During the first five weeks of the project the computer program used was the *Oxford Reading Tree Talking Stories.* This program was chosen because K was at Reading Recovery level 516 and L at Reading Recovery level 7 and the O.R.T. stories are around level 8. Also, as O.R.T. was formerly a core scheme in school, there were a lot of backup resources. There were five stories and the children worked on one each week.

Each day K and L read the story together on the computer. They would often re-read the story, making up their own word games using the highlighted/spoken words on screen. This was followed by an extension activity away from the computer. These activities included playing/making games with key words, word pattern/rhyming activities, comprehension activities and cutting up sentences/stories and re-ordering them. The children had their own project books where they recorded their work.

Over the next five weeks they were involved in similar activities using the *Talking Rhymes* program.

Evaluation

By the end of the ten weeks it was hoped that K and L would have gained in confidence, learnt new strategies and made progress in their reading by regularly using the computer in a rigid and structured way.

When K and L were assessed using a running record it was found that:

- They had made progress up the Reading Recovery levels.
- They had become much more confident and independent in both reading and writing. They had become competent computer users.
- They were enthusiastic and had enjoyed the project enormously, both the computer and the follow-up activities.

The children were tested using Running Records based on Reading Recovery levels. Scores of 90% – 95% indicate that the child is on the correct reading box.

Child	Sept %	Box level	Dec %	Box level
K	97	5	93	8
L	90	7	95	8

Whole school implication

Other members of staff in the school have been very supportive of the project, especially the Language Coordinator, and have regularly asked about the progress of the children. The IT Coordinator will now work closely with the Language Coordinator to assess how the content of the project can be integrated into and support the National Literacy Project in school.

SCHOOL B – Y1

Content and implementation

The program chosen for the first five weeks of the project was *The Talking Animated Alphabet* (Sherston). It was selected because it builds up phonic knowledge in three stages: visual letter discrimination, aural letter discrimination and finally letter recognition. Within each of these stages there were three levels of difficulty, so the program could be tailored to the needs of the two pupils. The program was new to the classroom, thereby contributing to the feeling that the project was special and important. Once the software was loaded it was easy to use, so the children were able to work independently.

They spent the first two weeks working on visual discrimination, progressing through the levels of difficulty. This was followed up by a simple task – either making their name with magnetic letters or picking out the odd letter from a group. They then progressed through the next stage in two weeks and worked on letter recognition for the remainder of the project. The various follow-up activities were recorded in a book.

The second program, used alongside the first, was *Duck Loses His Quack* (Sherston). This was chosen in an attempt to develop the children's ability and confidence as readers. Follow-up activities for this were mainly in the form of games and word/sentence jigsaws.

Evaluation

It was hoped that the project would motivate the children and accelerate their learning by using the computer in an organised and structured way.

Both children's phonic knowledge improved greatly, as did their confidence in reading and writing. Afterwards they were able to approach classroom tasks with much less support. Their knowledge of computer skills also developed, and they were enthusiastic about their part in the project.

The children were tested on their knowledge of alphabet sounds.

Child	Sounds recognised Sept	Dec
R	0	9
G	5	13

Whole school implication

The project teacher's job-share partner, who is not a confident computer user, acknowledges the benefits of the project, and the headteacher, who strongly supported the project, is enthusiastic about the results. The English coordinator wishes to develop the use of IT in this way throughout the school. A copy of *The Talking Animated Alphabet* has been purchased so that it can be used in a similar way with other Y1 children. Meanwhile, the project under discussion will continue with two more children next term, with the support of the two who have just finished.

SCHOOL C – Y2 /Y3

Content and implementation

The programs used were the *Rosie and Jim Talking Activities*, *Duck loses his Quack* and *Jim gets the Sneezes*, published by Sherston. They were chosen because the characters from the stories were already familiar to the children and the content of the book was easy to understand. Each story was used for a five-week period. It usually took about 30 minutes for the children to listen to the story and complete the follow-up exercise. The follow-up exercises were a combination of those produced by Sherston Software and those made by the teacher. They mainly involved picture and word matching and were suited to the ability of the children, so that they could complete them without supervision.

Evaluation

The expectation was that the children would be stimulated to read other *Rosie and Jim* books and that their general interest in reading would increase. Also expected was an extension of their recognition of key reading words, an improvement of fluency in their reading, an enhancement of their computer skills and an extension of their level of concentration.

Progress was made in all these areas, especially in their level of word recognition. But other, more general benefits soon became apparent:

- They adopted a much more positive attitude to reading.
- Their word attack skills showed great improvement.
- They gained independence in loading and changing programs on the computer.
- They gained greater control of the computer keys and the mouse.
- The project raised their self-esteem.
- The project promoted interest among the other pupils in using the computer for reading.

This success has prompted the teacher to think of other children in the class who might benefit from this type of program. The teacher believes that the two children following the program had more benefit from a concentrated regular period of work rather than they would have had as individuals waiting their turn among a group of eleven to work on the computer.

The children at School C were tested for sight recognition of the Ladybird 12 and 20 key words:

Child	Sept 12 words	Sept 20 words	Dec 12 words	Dec 20 words
C	8	(not tested)	10	11
J	4	(not tested)	6	(not tested)

Whole school implication
Those involved feel that this targeting of certain children could be used in other classes to give a general boost to children's confidence in reading. It could also be used to help raise standards in other areas, such as Maths. The skills acquired in using the computer can be applied in other subject areas. The success of the project has prompted enthusiasm to borrow computers from other classes when they are not in use. Arrangements may also be made for a number of children from other classes to come to one area to work on several computers at the same time, supervised by one member of staff.

SCHOOL D – Y5

Content and implementation
Two programs were selected which suited the age of the pupils and which were likely to appeal to them in terms of their content and visual effectiveness. One (*Earthwarp*) tied in with the project we were doing on Earth in Space. The pupils certainly preferred the other (*Spywatch*), which impressed with its graphics and range of language activities. The two children used the computer at the beginning of the day, and after a few days they were keen to work at it by themselves. The other children in the class were very accommodating and supportive.

The follow-up activities were all extensions of those in the program and were designed to be completed in about ten minutes. It was easy to produce follow-up work from the *Spywatch* program, because of its carefully thought out layout and the structure of its activities.

Evaluation
At the end of the project the pupil who had been further behind in his reading skills had gained confidence in tackling more complicated words in his reading book. He became quicker at reading sentences and generally appeared to find much more sense in a page in his book as he was not stumbling nearly so often. In the final few weeks of the project his writing also showed much improvement. His spelling and grammatical structure were better, to the extent that other teachers and even the child's mother remarked upon it. On final testing he was found to have gone up almost a year in his reading age. The second pupil, who initially had had little or no difficulty in reading, also displayed more confidence, though the improvement was less spectacular.

The children were tested on the Schonell Reading Test:

Child	Sept Chronological age	Sept Reading age	Dec Chronological age	Dec Reading age
E	9.4	7.3	9.7	8.3
L	9.1	9.2	9.4	9.4

Whole school implication
Some members of the staff, particularly the headteacher, have been very supportive. Other teachers have been encouraged to embark on a similar project.
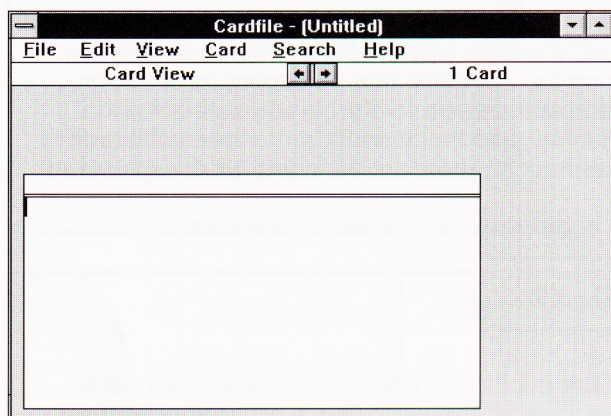
Cardfile . . . don't underestimate its potential

Doug Dickinson
Independent IT adviser

Cardfile is one of the most useful tools for word-processing, data handling, writing to some purpose, and keyboarding skills.

It sits there, usually in the 'windows accessories' bit of 'Windows 3.1' or in your 'data handling' window and looks like this.

Think of it as an electronic version of that blue box that sits next to the phone with all of your names, addresses and telephone numbers in it.

It really is a very versatile package and can be used in all curriculum areas. It allows children to enter information into it in a 'free' way and it allows them to look for it again and make changes in it. Best of all, or so I'm told by people who use it a lot, you can quickly drop images from PC Paintbrush in it. So even if all you have is a PC 386 or 486, maybe the one exiled from the school office, as long as you have 'Windows 3.1' you can do useful work.

An example of its use might well be found in this History topic on the Greeks. Children were doing work on Greek Gods and wanted to store the information so that anyone who had facts to add could easily do so. *Cardfile* was opened and the first card labelled by double clicking on the index line:
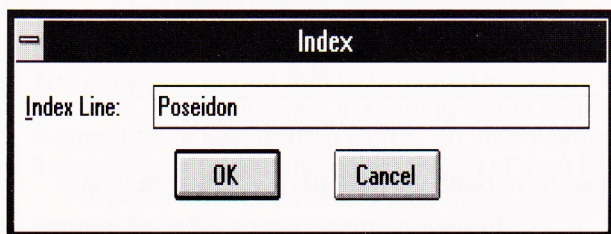
Clicking on 'OK' brought up the blank card for information to be entered, in this case about Poseidon.
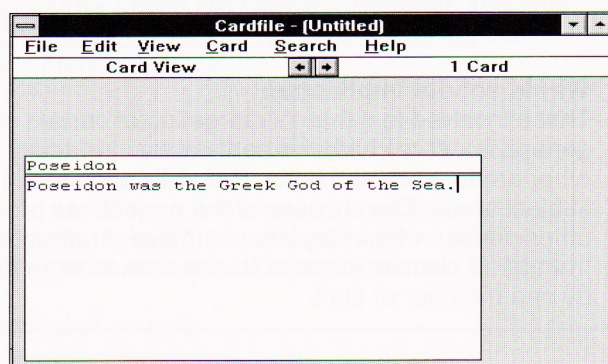
The next person who came along had information about Zeus. Clicking on 'card' on the menu bar caused a menu to drop down and clicking on 'add' gave the 'index' line again and 'Zeus' was entered. This was 'OK'ed and the next card popped into place for the notes on Zeus.
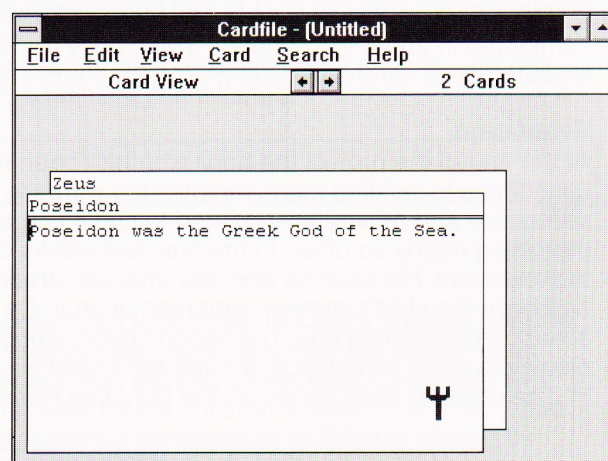
Extra cards were then added for all of the Gods. No one person entered all of the facts about any one God. It was all done on a co-operative basis and care was taken to ensure that the children were aware that the information that they put into the database had to be correct as others would be using it for their work.

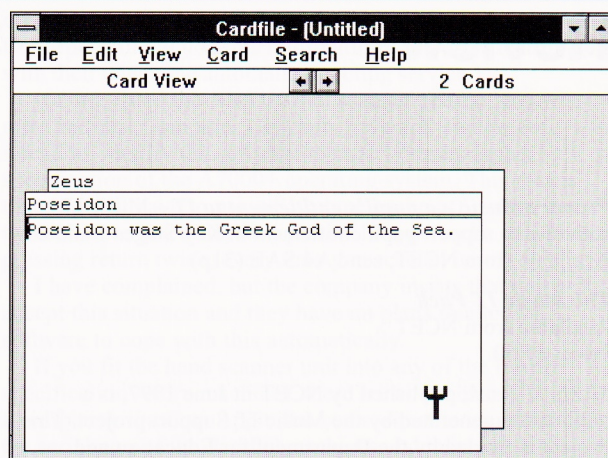## To add the graphics

First minimise *'cardfile'*. Now open your graphics package. In the example graphics were added from *PC Paintbrush*, but could have easily been added from any graphics package, and as the card was only small and adding a huge picture would have taken up the whole of the card the 'zoom in' feature was used. This was found in 'View'.

A picture was drawn and then copied to the clipboard in the usual way by cutting and pasting.

The *Cardfile* which the picture was going to be attached to was then opened and 'Edit' selected. 'Picture' was selected from this menu and then again 'Edit' but this time 'Paste'. The picture appeared on the card next to the cursor – in this case Poseidon's trident. The picture can be moved around the card by holding down the left hand mouse button over the picture and moving it to the desired position.

It will be easily appreciated that once you have worked out how to use this application for Greeks then 'materials', 'ourselves', 'the weather', 'our

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┌────────────────────────────────────────────────────┐
│ ─            Cardfile - [Untitled]          ▼ ▲     │
│ File  Edit  View  Card  Search  Help               │
│ ───────────  Card View      ◄ ►        2 Cards     │
│                                                     │
│   ┌─────────────────────────────────────────┐      │
│   │ Zeus                                     │      │
│   ├─────────────────────────────────────────┤      │
│   │ Poseidon                                 │      │
│   │ Poseidon was the Greek God of the Sea.   │      │
│   │                                          │      │
│   │                                 Ψ        │      │
│   └─────────────────────────────────────────┘      │
└────────────────────────────────────────────────────┘
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favourite paintings', 'diaries', 'books we have read' etc. quickly spring to mind.

The software obviously has limitations but it does allow you to find cards separately, view them as a list, search for key words within cards and it allows you to print the cards all together or separately.

Regional news

For further details ring Betty Lumley 01923 823411 or e-mail betty@westb.demon.co.uk

Sheila Wilson

Chiltern

Issues of National Curriculum teaching and Management

It was a pleasure to have John Kenney and Ros Chapman to help us focus on classroom management issues.

The ever inventive John gave us practical tips on the care of our computers, including a DIY disc box made from a 5 ream A4 paper box. The advantage of this idea is that the one box can be designed to hold 5¼ inch discs, 3½ inch discs and CDs. All his suggestions were clearly described in his hand out, giving us a useful resource to share with our colleagues at school.

Ros effervesced with ideas and helpful advice about how we might choose to manage the teaching side of IT. She recommended useful books to develop our own skills, and highlighted the obvious (which we hardly ever remember!), like the positioning of a computer. Have you ever started a lesson and then realised you did not have a good understanding of the software? After listening to Ros you will know your software and plan lessons so that they can continue even if there is a computer problem!

We left our meeting, sorry that more people had not been able to benefit from all the advice we had received, but feeling better equipped to deal with some of the ICT issues we were returning to face at school, which could be summed up as:

• caring for equipment
• development of our personal IT, (sorry ICT!), skills
• supporting the curriculum
• teaching ICT skills to children
• helping children with disabilities access the curriculum

Thank you Ros and John for all the help you gave us.

Our next Session will be on 28 March 1998. It is entitled "Software to help with Children's spelling" and will be led by Carol Kaufman who has extensive experience in this field.

Scotland

The annual Scottish MAPE Conference was held on Saturday 22nd November at the Auchterderran Centre in Fife. There was a good mix of workshops and presentations for Acorn, Mac and PC covering all aspects of ICT in the 5–14 curriculum.

The Early Years workshop, run by Louise Westall, was a hive of activity as the participants tried out a wide variety of software and had the opportunity of using their artistic creation for a design that could be ironed on to a T-shirt or other material.

In other workshops there was the chance to try *Claris Home Page*, to create templates in *Claris Works* and also use *Claris Works* to create a database.

The participants in the *Textease* Workshop were impressed with this piece of software and the excellent results that Pete Mungall demonstrated.

Workshops also covered modern languages in the primary school, making *Clicker* grids, using *Informax* to make concept keyboard overlays, *Doorway* and *Project Presenter*.

Xemplar demonstrated their Junior Toolbox for the Acorn and the Apple eMate – a stylish machine with lots of promise. RM demonstrated Internet for Learning and also had a Window Box machine set up for demonstration throughout the day.

John McCann presented the findings of the HMI on Computer Aided Communication – examples of which include e-mail and the internet. On a more practical level, a popular presentation was one describing the actual use of e-mail in a group of small rural schools to enhance the curriculum.

Speech recognition was the subject of another presentation and it was very interesting for the audience to see and hear about the pros and cons of this much talked about software.

The Scottish committee would like to thank all the people who gave up their time to attend this Conference, either as a delegate, presenter or workshop leader, and we look forward to seeing them again.

Sandra O'Neill

Reviews

Primary Music – a pupil's entitlement to IT – Music IT activities to support pupil entitlement in Key Stages 1 and 2 Available from NCET; send A4 SAE (31p)

The Music IT Pack
Available from NCET
Price: £7.50

Music IT Pack, published by NCET in June 1997, is a publication generated by the Music IT Support project. This Project is funded by the Department for Education and Employment (DfEE) and the Curriculum IT Support (CITS) initiative and is steered by a committee of representatives of prominent organisations, including SCAA, OFSTED, professional associations and practising teachers.

The pack itself consists of a series of guides aimed at Key Stage 3, a fact which would suggest that it is not appropriate to review it in *MICRO-SCOPE*. However, there are some parts of the pack that are relevant to Key Stages 1 and 2 and therefore worth bringing to the attention of primary specialists.

Primary Music

The Music IT Support project has, as part of its activities, brought out two documents that are directly relevant to Key Stages 1 and 2. The first of these is called 'Primary Music – a pupil's entitlement to IT'. This was distributed to schools in mid 1996 so your school should have a copy. If you need extra copies these are obtainable from NCET. The document comprises six sides of A4 and is an important reference when implementing IT and Music in the primary curriculum. It provides a use-ful guide to curriculum planning and gives some general example activities. The second of the primary documents is called 'Music IT activities to support pupil entitlement in Key Stages 1 and 2'. This is a companion document to the entitlement document and expands the activities in more depth. Brief mention is made of various source materials and ideas about how they might be implemented. In eleven pages it cannot go into much detail but there are some useful pointers in the document.

Music IT Pack

The actual pack is, as I have explained, aimed at Key Stage 3. However, it is worth describing the contents of the pack as some of it applies to Key Stages 1 and 2. It is also important to note that there are no immediate plans to do a similar support pack for Key Stages 1 and 2 so this is the only NCET publication to contain detailed information regarding music and IT.

The pack consists of a number of guides:

Guide 1: IT in the Music Classroom
This general introduction gives basic advice on how the different aspects of IT can be applied to the curriculum. It contains useful advice about when IT is useful and when it is not.

Guide 2: A computer system for the music classroom
This gives a detailed overview of the component parts that would go together to make up a computer music system. This type of dedicated use of a computer is less likely in primary education where the computer is more often used as a general resource. However, its explanation of items such as MIDI, soundcards, headphones etc. is of general relevance.

Guide 3: Recording and listening equipment for the music classroom
This guide gives details about recording equipment, how to choose recording equipment and how best to use a microphone to record live performance. It is generally very informative but once again needs reading with the understanding that much of the advice is directed at Key stage 3.

Guide 4: MIDI hardware and software for music education
This is a very useful guide to MIDI and how it can be used. MIDI itself is explained in detail and terms relating to MIDI equipment are covered. There is a large amount of detail given to MIDI sequencing which can look somewhat overpowering but if you are interested in tackling musical sequencing at Key Stage 2 then the document explains the principles in some depth.

Guide 5: Electronic keyboards in the music classroom
Choosing a suitable musical keyboard for school can be quite daunting as you wade through the many options and endless jargon. This guide covers many of the important terms and gives some helpful advice. However, the criteria used to make a decision in primary can be quite different to the criteria set out in this guide.

Guide 6: Music CD-ROM resources for the classroom
If you use a CD-ROM in your IT activities in school then there is unlikely to be anything that will be new to you in this guide. The guide explains the way in which encyclopaedia type CD's with musical content can be useful but there are problems associated with some of these with the use of language and layout aimed at secondary. There is also no mention of the way in which story telling, games style and simple sound exploration type CD's can be of value to music at primary level.

Guide 7: Synthesisers and sound processors in music education
Sound synthesis and sound processing are exciting and important areas for musical creativity at any Key Stage. However, it is more likely that at primary a few simple effects will be used rather than the daunting list of effects explained in this guide. Unfortunately synthesiser manufacturers have made access to synthesis much harder at primary by replacing tactile knobs and levers with a small display window giving abstract numerical information on the grounds of cost savings.

Guide 8: A glossary of terms used
This glossary contains a rather strange combination of terms almost none of which would be relevant to primary.

A guide to CD-ROMs for music education
This contains brief details of 55 CD-ROMs of which 16 are suggested as being suitable for Key Stage 1 and or 2.

I would certainly recommend obtaining the primary music documents. It is less clear whether the full pack is worth purchasing from NCET. It has been sent to all secondary schools and may be available at teacher centres so it might be better to attempt to see or even borrow a copy from secondary colleagues in order to extract the relevant information when working on your music IT policy.

Although the scope of the pack has relevance to Key Stage 1 and 2, the application of the equipment and software really needs a set of guides aimed directly at Key Stage 1 and 2. IT can be used very effectively for music with a reception class but clearly the advice required is going to be very different from that for Key Stage 3. I hope, despite the lack of current provision for this, that full guides will be developed for Key stages 1 and 2 in the near future.

Andy Pierson

Implementing IT
Available from NCET: NCET Bookshop, Milburn Hill Road, Science Park, Coventry CV4 7JJ – Price: £35

Not many publications in IT in education come into the 'must read' category and still fewer are so seminal that you 'must have' your own copy. However, if you are a primary school IT co-ordinator you really do need to buy *Implementing IT* for it will both enable you to fulfil your role more effectively and lighten the burden that the role imposes.

This chunky, ring bound pack contains guidance on, and templates for, all aspects of the primary IT co-ordinator's responsibilities – from writing an IT policy, through developing schemes of work, to assessing IT capability. It also contains practical advice on planning hardware and software provision and on classroom organisation.

The binder has been designed to allow extra information to be added – items from school or local IT support services, for example. This flexibility provides co-ordinators with a pack that can continue to grow and contain up-to-the-minute information about integrating IT into the curriculum. The production is of a very high quality with the pages being closer to card than paper, which will make them durable enough to be repeatedly removed from the binder for duplication or study. Many local support providers will be offering courses which will make extensive use of this pack, thereby bringing added value to the publication.

Even if you come from one of the rare schools which already has IT under control; policies written, a clear and costed development plan, an explicit scheme of work detailed right down to lesson plans, an agreed staff development strategy, a rigorous system for monitoring IT teaching and assessing IT capability (does such a school exist?) you will still be able to learn from this publication about how all this can be developed and refined, about how you can support your colleagues continuing professional development and about ways of taking a proactive role in whole school planning. There are also plenty of suggestions for further reading.

If you are an IT co-ordinator *Implementing IT* should be your next purchase.

Heather Govier

A note about scanners

A scanner has many uses and can greatly enhance communicating information using a computer.

A hand scanner can scan virtually anything! I have used it to scan different materials, to look at weave patterns, hair, skin, pencil cases, just about anything, which can then be saved and put into an art package to carry out investigational work on textures.

A hand scanner will usually scan anything but can only save the image in black and white, whereas a flat bed scanner can usually scan both black and white images as well as colour and save them in either form.

Hand scanners seem to only come from one source, Computer Concepts in Watford for about £120, whereas flatbed scanners can now be bought from various sources including PC World from only £80!

Archimedes users take note
If you have a new Archimedes A7000 or A7000+ and wish to buy a hand scanner, you must make sure that the computer is **NOT** fitted with a CD Rom unit. Most people order these new machines with a CD unit since the cost is only about £100 extra. Acorn will supply the A7000+ without a CD unit but they will also remove the daughter board so that when you want to fit the hand scanner podule, you will not be able to without first

ordering part number AMD10. (Neither Acorn nor Computer Concepts will tell you this information and you will struggle with their telephone automatic directing service.)

Having fitted the AMD10 and scanner podule, you will now find that Computer Concepts have not, and do not intend to, modify the software to cope with the higher specification of the A7000+ operating system. This means that you will have to press F12, type cache off, return key twice, before you scan, then press F12 type cache on, pressing return twice, every time you scan an item!

I have complained, but the company insists that you will accept this situation and they have no plans to alter the software to cope with this automatically.

If you fit the hand scanner unit into any of the lower specification Acorn machines, there are no problems. Exemplar will sell an Apple flat bed scanner to work through the serial port of the RiscPC machines and these work wonderfully but are probably out of the price range of most primary schools.

The only other warning from using scanners is one about copyright. You will be able to scan any image and the results can be captivating. Remember to give credit to the originator of the image and do not sell any publication which contains an image taken from a standing publication.
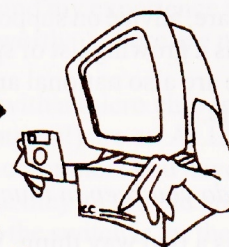
Enjoy your scanning!

Reg Eyre
University of Derby School of Education

In conversation with . . . Jacquie Disney

Director, Parents' Information Network

When was PIN founded?

PIN was set up in the Summer of 1994 by a group of people who had a background in education. We had seen time and money devoted to IT in schools, but there was no similar support for parents. The need for support for parents was highlighted by the big sales and marketing push targeted at the home market and identifying parents.

Can you tell me something about your organisation?

Yes. PIN is organised on a regional basis, though some are more active than others. We are developing local networks, offering local 'hand holding' and support, and we'd like to roll out a more developed and formalised identity for these.

What is your membership?

Our current membership is over 14,000. An annual subscription to PIN costs £20, and for this parents can get advice on the purchase of computers and software, advice on supporting children's learning, as well as a growing list of specialist publications. There are also national and regional events for parents.

How do you keep in touch with your members?

This is a two way thing. We disseminate information in a variety of ways. There are information sheets which also contain activities suitable for parents and children to do together. We use questionnaires as a tool to get feedback, and also as a means of keeping a finger on the pulse of developments and the needs of our members. Members can communicate with us by letter, on-line or via the Internet. We make full use of technology, our Web site is designed with feedback built into the structure. Local support groups and community events are other valuable ways of keeping in touch.

Can you tell me about PIN's software recommendations?

An open question at the end of a survey of our members brought an overwhelming request for assistance in choosing software. This led to the introduction of a quality symbol. Programs which 'pass the tests' all have some parental input to maximise the educational potential. We stress that these are not just games for children to 'play' by themselves. Only a few make the grade each time and are selected because they have depth of content, quality of design, educational value and enjoyment factor to make them more than a short-lived wonder.

How are the programs tested?

Before a piece of software can qualify for the symbol there are a series of rigorous tests which take about three months to complete. Firstly teachers trial the software with some children, either members of their own family or with pupils, but not necessarily in school. After this a meeting is held at which the merits of the software are discussed. The software then goes to another teacher who tries it out with children. If the software passes both of these stages it goes to a family who try it out at home for a further two months. The quality symbol is only awarded if the program passes all these tests.

Will programs for the home market improve as a result of this?

I think so. Software houses are showing interest. We have even been contacted to find out how much we charge to award a quality symbol! What is certainly true is that there is now a realisation that educational software for use in the home is not necessarily the same as educational software for use in schools.

What sort of links do you have with schools?

We are not aiming for formal home–school links in every school. We hope that schools recognising the value of parental involvement is something that will grow. We believe that IT is forcing this issue as never before, especially with the growth of home computer ownership, which raises all sorts of educational, social, and equality issues.

Are you targeting any particular age group?

No. We have members from all phases. At present 20% of members have pre-school children, 50% primary children, and the rest secondary.

Tell me something about the courses you run.

PIN training has been developed by me in conjunction with teachers and parents. Courses are delivered by PIN people who have backgrounds and experience in education, and who understand what is appropriate in terms of approach and accessibility.

When do you hold courses, and who are they designed for?

We run the courses as and when they are needed – daytime, evenings, weekends, whatever is most suitable.

There are two main areas of training. The first is for parents – IT courses and workshops, but we also run professional development courses for teachers in this whole area of home–school links with IT.

What of the future?

The area of home–school links is very important in view of the increasingly sophisticated resources available outside school. As well as all our other activities we aim to provide a forum for discussion, providing the opportunity to move forward.

For further information, please contact:
Jacquie Disney,
PIN @ PO Box 1577,
London W7 3ZT
http://www.pin-parents.com

And finally. . . 10 tips for surviving Ofsted

Geoff Turrell
Head of St. Peters C of E Junior School, Harborne

Dear Worried IT co-ordinator,
Thanks for the note. Yes, you are right I have been through three OFSTED inspections now, but only because I keep getting moved from school to school.

Your OFSTED starts next week?

The main thing is . . . don't worry, that is by far the worst bit of the whole OFSTED experience. If you really have nothing else to worry about, just send me an e-mail to let me know and I'll soon remedy that! Of course IT is always a soft target and when a school gets a critical bit on IT you know it's a good overall report because they were clearly having to look for things where no school in the country is achieving all the statutory requirements.

The team we had last time were disappointed in the IT because they couldn't use their prepared paragraphs on the computer they write the report on. They had to re-write the IT summary after a week here.

Our only real problem was how to get Mr. Wibble to conform for the week. I kept telling him that this was to be a team effort and that it would not help the school (or himself for that matter) if he continued to use the computer as a door stop during inspection week. Well you know how despondent Mr. Wibble can become. After a lot of reassurance, he agreed to talk to me about what IT applications might support his lessons during inspection. I have to say, this was not an easy task as he admitted early on in the conversation that the red stuff on the screen was indeed wax resist. (That's the last time Year 5 do batik with him.)

The only reason I mention this is because a bit of forward thinking can help, and my experience may help you. So, for what it's worth . . . here are my top ten tips:—

1. Make sure anything with a micro chip in it, (and that includes the computers!) are on ALL the time of the inspection. Any computers you haven't got a hope of using (because they're too old and everyone's forgotten where the switch is, or they're broken) put in the school well.

2. Don't put your wizzy kids on the machines first thing on Monday morning. The team probably won't be too interested in IT on the first day, they are too busy getting to grips with other priorities, like who was supposed to bring the kettle and the soft toilet paper. They will be very interested in IT once they have sorted out these problems though, so save your wizzy kids for later in the week.

3. Make sure that even at those points when the kids are not near the computers (assembly, play-times etc.) that each screen shows something interesting and different. If the worst comes to the worst, do what I did and put the Bart Simpson screen saver on – this occupied the Registered Inspector for the best part of an hour. He finally left the computer when he deciphered Bart imploring him to 'Eat my shorts'.

4. Get the Roamers out, the Big Traks, the Pips and make sure the team has to step over them wherever they go.

5. Make sure that a variety of applications are running throughout the day. We had mostly word processing and data handling going on the first day, but by the end of the week we thought 'What the heck' and had the internet smoking, spreadsheets in Year 4, Mr. Wibble had *Tomb Raider* in Year 5 at full volume, and then we used that cheap Morphing software you pointed out to me on the 'cheap 'n' cheerful' website. Even the Secretary got in on the act and had Mavis Bacon's Typing Tutor out on the office machine.

6. Don't be afraid to show off. I did. Not to intimidate the team, but just to 'celebrate' all the good practice. What I mean is . . . don't be afraid to be adventurous. We got the computers in on absolutely everything. We used them in assembly (the theme was 'Things that inspire awe and wonder') Year 3's floating and sinking investigation on Tuesday, it sank. We used Talking Books during story time and I made sure I had the school portable in my holdall. Whenever an inspector appeared, I would get it out and, polish the screen shout 'wow, just look at that!' and then close it quickly so that they couldn't see that it wasn't powered up. I came unstuck once, but that was only because I didn't move my right hand away from the keyboard quickly enough. Still, I pretended not to notice I had the machine attached to my hand for the rest of the lesson. I think it worked.

7. If you have a weather station connected to a computer, have the printer on all day churning out statistics and weather maps. If you don't have a weather station just get up on the school roof the weekend before, put some painted cornflake boxes and four spoons attached to a stick, on the roof, and run some wires from the box, through a window to the nearest computer. (We managed a very convincing weather station this way.) Cut out yesterdays weather from the newspaper and glue it to the computer screen. Change it daily. If you come across the inspector squinting up close up to the screen, simply say 'Amazing resolution eh? . . . just look at that precipitation . . . excuse me . . . is that a Big Trak you are standing on?' This will score brownie points in both the IT and the Geography departments.

8. Identify who is inspecting for IT (it's on the team CVs) and introduce yourself within 5 minutes of their arrival. From then on follow them everywhere. Have a list prepared before hand of all the things you've ever done since you owned that Sinclair ZX 81. Go through your list several times over. Drag them to any computer screen at every opportunity and press their noses against it. You might like to try Mr. Wobble's entreat to the IT inspector. He pushed his nose to the screen and said 'Sniff that you arrogant swine'. It certainly livened up the inspectors day but I think next time I will illustrate what I mean when I advise staff to 'pester and show'.

9. If a teacher says about their children 'But if they're on the computer they will miss the lesson', make sure that some of the activities are collaborative, with two kids going to the computer for 10 minutes at a time. We almost slipped up on this one and during Mrs. Wayward's PE lesson, she left Wayne on the computer. He was the one who broke both his arms the week before helping me with the weather station, and he was still in plaster. However, she had the foresight to put *The Human Body* CD on for him. Even so, the sight of him using his toes to control the mouse still lingers in my mind.

10. Arrange for something exciting and unexpected to happen during the week that shows that the school is involved in challenging and 'leading edge' IT applications that they can only read about in Cyber News. If you are on the Internet, arrange a live conference with another school. Receive a phone call from David Blunkett asking you for advice on the strategy for IT in Primary schools into the next Century. Finish the conversation with the words 'No problem David, Oh . . . by the way we have an inspection team in this week, how long did you say they would be in work? . . . that long? . . . so no Summer Holiday for them then? . . . See you Sunday, Dave.' Then put the phone down and look knowingly into the nearest Inspector's eyes with a Mona Lisa grin on your face.

Well those are my hot top 10 tips, culled from being at the blunt end of OFSTED inspections over the past few years. I hope you find these useful. If I can be of any further assistance, just give me a call. I have to go now, the Headteacher has just asked to see me; it appears that next term I am to transfer to Greenpasture Junior School. Apparently they have an inspection coming up too. She also muttered something about a cornflake box and a gross of plastic spoons having showered down on children in the playground this dinner time. Some people are so ungrateful!

Very best wishes,
    Stay cool,
        Jiffy

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