

PGCE SCIENCE

A Booklet Looking at Issues such as Data Protection, Copyright, Social, Moral and Ethical Considerations and Classroom Management

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<ICT Booklet> Authored by Aftab Gujral, St. Martin's College; accessed from http://www.ase.org.uk/sci-tutors/professional_issues/teaching_teaching/use_of_ict_in_science.php date created: August 2005, page 1 of 13

All websites in this booklet were accessed on 25 September 2003.

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PLEASE READ CAREFULLY:

What do I do with the Audit? Please keep your audit safe. This is for your benefit. I will ask you to look at this again at the end of October to see what progress you have made. There is a more comprehensive audit which I will give you in December.

What happens in the College ICT Sessions? The list for the sessions is up on the PG notice board. These are based on the SMC PGCE-QTS ICT Pack. They are basically skills sessions and are not compulsory. However, I do give out handouts and other information during the sessions. The handouts will be available for collection from outside the technicians' room as they are printed. It is up to you to make sure that you attend those sessions which you might find helpful or go through the ICT Pack Files on your own to make sure you have the relevant skills. The SMC PGCE-QTS ICT Pack is available either as a CD-ROM or a booklet from Peter Fishwick, the ICT Technician, in the Askwith Building. You can also find it on the College Network. Log on and click on ITResources, then open 'ICT Pack Files' followed by 'PGCE-QTS ICT Pack Files' Inside you will find all the necessary files. All the files have an assessed item in them. While this is really for the UGs, it is a good way of checking your own competence.

Are there any extra Help Sessions? There are **TWO** drop-in help sessions organised for PG trainees, run by Peter Fishwick. The timetable for these is up on the PG notice board. Please make use of these for extra help / practice / experience.

Where can I save work? You can either save on a floppy disk or you can save it in your area of the network. This is on the H drive. It will have your username on it. You can find it in 'My Computer'. You have 10 MB of space, so please use it carefully. You can also save work on to a CD. Most computer suites have at least one PC with a CD-Rewriter. Log on to this PC and save your work onto a CD, any files which are too big for a floppy.

Where can I print work? You can purchase printer credits from the machine in the Library. It costs 5p to print a b/w page and 25p for a colour page. Choose Local Printer for a b/w print in the computer suite. For colour, choose Colour Laser but check where the page is printed. If you are in the Askwith Building, it will be in AB3.

How do I submit my Portfolio? You can submit this as a hard copy or on a CD or several floppies. However, you might find it useful to have it as a hard copy to show your prospective employers what you can do.

Extra Bits: Log on and click on ITResources, then open 'SecQTSUGs'. In this there are several folders that may be useful. The folder called Science contains a lesson plan pro-forma, evaluation pro-forma, QCA Schemes of Work for KS3 and the folder called PGCE 2003 – 4 contains some of the handouts from the sessions, example of PowerPoint presentations, spreadsheets and materials downloaded from a school. If you have not already done so, go to <http://www.chemit.co.uk> and look at some interesting ways to produce interactive worksheets. You will need to register but it is free.

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Download 5.2 'ICT Booklet'

Finally, please keep practicing your skills and enjoy your use of ICT in Science. Good luck!

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Task 2

By referring to:

<http://www.teachers.org.uk/index.php> (once in the site click on the **Health and Safety** tab/button, then select section 2 and click on **Working with Computers**) and **Superhighway Safety: safe use of the Internet** at <http://www.safety.ngfl.gov.uk>

(Superhighway Safety: This used to be available as a free booklet from BECTA, but now it can only be accessed on the Internet at the address shown. The pack was designed to help schools and colleges make sure that pupils benefit from the Internet in an appropriate and safe way. Published by the Department of Education and Employment (DfES) and the British Educational Technology Agency (Becta), it covered acceptable use policies for the Internet, setting up your own Web site, Internet monitoring organisations, intellectual property and copyright and much more. There's also information and advice for parents and carers. This was produced in conjunction with partners including the Internet Watch Foundation, the Parents Information Network, and NCH Action for Children and Disney).

Design an A4 wall poster showing rules for the safe use of computers in your classroom. Attach the completed poster to the end of the booklet.

Attach also a copy of the 'ICT Code of Conduct' for either school A or school B

Task 3

Visit web address <http://www.dataprotection.gov.uk/principi.htm>. Write out the eight Principles of Data Protection; give one example of how this will affect your role as a teacher in School B

Task 4

Personal information is available across the Internet. Visit the following sites (this is only a small selection). Using yourself as an example, try to discover how much information is available to any casual enquirer. Perhaps search for information on the current whereabouts of an old college friend. Try using a search engine or "Friends Reunited" website. Is this 'spying'?

www.192.com enrol and check your own family details

www.afd.co.uk/PcLookup.htm

<http://www.royalmail.com/default.htm>

Post Codes on line

www.multimap.com

www.bt.com

Directory Enquiries

Are sites like these helpful or are they an intrusion into our private lives?

Task 5

You are creating a school web site, why is it important not to publish pictures and names of children?

Task 6

You have to organise at least one lesson involving ICT and your subject. Attach/staple a lesson plan for that session, together with a seating plan of the room indicating the number of children per computer.

Task 7

Complete the two forms 'Thinking of using ICT in your lesson?' one for each of your schools A and B.

Task 8

Complete the survey form (at the end of the booklet) for both schools A and B.

Thinking of using ICT in your lesson?

Here are a few questions to help you prepare.

Name of ICT Co-ordinator?	
Name of Divisional ICT Co-ordinator?	
Location of computers and how many?	
Are they 'stand alone' 'clusters' or networked?	
How do you get access to the computer/s?	
Does the school/division use a network?	
Do the children 'Log On'?	
How? Do they need a password?	
How do they print?	
How do they save? 1. to floppy? 2. to hard drive? 3. to network? 4. a combination of these?	
Is printing paper supplied?	
Do you have to book the computer rooms?	
Where do you go to book the computer rooms?	
Do the children have any previous ICT experience? 1. In your subject? 2. In a particular area e.g. DTP, spreadsheets, databases?	
Does the school record the pupil's use of ICT? How? Where?	

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Survey

School A (Please make notes on the reverse, if insufficient room for your comments.)

Name of school	
Brief description of facilities offered by:	School
	Department
Main factors that enabled / encouraged / hindered / prevented your use of ICT for teaching / preparation / administration	

School B (Please make notes on the reverse, if insufficient room for your comments.)

Name of school	
Brief description of facilities offered by:	School
	Department
Main factors that enabled / encouraged / hindered / prevented your use of ICT for teaching / preparation / administration	

Reviewing Software

Introduction

It is important for all teachers to be able to evaluate and select software for two reasons:

1. to consider whether a piece of software is still the best choice for the task for which it is regularly used
2. to assess new and existing software against science teaching and learning objectives to establish whether it is suitable for achieving that purpose

There are three broad types into which software can be grouped;

1. ICT tools (the generic applications such as word processors and spreadsheets)
2. Science specific software (this includes a wide variety of software from games and revision programmes through to science web-sites)
3. Reference resources (such as a CD-ROM atlas or encyclopaedia and reference type web sites)

When assessing software it is best to use a mixture of approaches:

- master a set of criteria by which to make an initial assessment
- read and listen to recommendations from publications (including educational web sites) and local sources (including local teacher centres)
- discuss software actively within school and use the expertise of the IT specialists for technical advice

However, assessing software can be difficult for many reasons, not least of which are:

- simple software which can be easily loaded and understood is easy to assess but may have limited or restricted value in the classroom
- more complex software can be difficult to install, difficult to understand and difficult to use without investing a certain amount of time learning it. But it may offer far greater value in the classroom once mastered.

Buying software

When evaluating software for purchase teachers need to initially consider the following:

- Does it provide educational value for money?
- Is it possible to try out the software fully before purchase?
- Will it run successfully on the equipment / network?
- Can you print, save, copy and paste from the software?
- Is there any assessment and recording system built into the software?
- Does the content match the National Curriculum Programme of Study?
- Does it develop science skills in the National Curriculum Programme of Study?
- Is there any similar or alternative software already in school?

Using software

When using software in the classroom teachers need to consider the following:

- Do the activities meet the desired learning objectives?
- Is it broadly suitable for the intended users? (the age and ability level of the pupils)
- Do the pupils have the appropriate ICT skills or will they be able to develop them?
- Do the pupils have the appropriate scientific skills or will they be able to develop them?
- Do the teachers have the required knowledge and skills in order to use it effectively?

Summary

Evaluating software is a complex task as there are so many variables to consider and not all features of the software are apparent on initial inspection. Software which is of the greatest value often requires time to master. The assistance of another person who has a more in-depth knowledge of the software can be invaluable.

Visit <http://www.teem.org.uk> to read reviews of software.