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INTRODUCTION

Remember when technology in the primary classroom meant having a tape recorder? Maybe having technology meant that you were given the old typewriters from the office, when the secretaries got new typewriters. Times have changed and hopefully our primary classrooms have changed with them. "Why computers in the primary classroom?", you ask. "I have so much else to deal with." The computer is really just a tool and needs good software and a teacher who knows how to meld the software and the curriculum together. You will find that computers help students learn from each other, as well as develop a cooperative attitude in the classroom and lab. Computers can add enrichment to the content of lessons by adding an extra dimension. This book will help you to integrate technology into your own classroom curriculum.

Teachers have entered into the age of technology at all different levels, some teachers have been trained at their colleges, while some are having to learn at in-services. It is our hope that *Integrating Technology into the Curriculum* will help teachers have a level playing field, whether they are new to technology or have been involved for a long time, and from this base, expand their technology horizons.

The first section of this book is devoted to an understanding of the hardware involved in using technology in the classroom, followed by a discussion of various computer configurations for classrooms and computer labs. You will even find blackline masters of a computer system that can be used to teach the parts of the computer and then made into a puzzle. Then you will find a discussion of the Internet and its uses for primary teachers , which includes some interesting educator sites and can be easily accessed. Finally, in this first section, you will find information on how to acquire funds for technology, in the discussion about grant writing.

The second section of this book has been devoted to lesson plans. These lesson plans provided will help you integrate technology into all the areas of the curriculum (i.e., English, maths, study of society, art, and science). You will find planning sheets, assessment forms, and even internet Web sites for many of the lesson plans. These lesson plans will help get you started on all of the different ways you can integrate technology into your current classroom curriculum.

The final section of this book addresses software. In it you will find a section on how to choose it. There is a listing of educational software catalogues that are available to you, and finally, a listing of primary software, each with a short description helping to figure out which ones will best serve your classroom needs. These software programs are arranged in subject categories for easy access. A few educational software dealers are listed and their telephone numbers for your use.

Integrating Technology into the Curriculum is an excellent resource for classroom teachers looking for ways to use technology to extend their primary curriculum.

WHAT IS HARDWARE?

Hardware, simply put, is any computer technology that one can touch. The computer, printer, monitor, keyboard, and mouse are all hardware components. These are the tools that carry out the instructions that the software gives them. Your brain, for instance, is the greatest piece of computer hardware known to man. It is a maze of interconnected circuits which carries out instructions that have been loaded through a lifetime of experience. What makes the brain such a perfect piece of hardware is that it is continually being upgraded to process faster and remember things better. Computer hardware, on the other hand, needs to be physically upgraded or even replaced periodically in order to run new or more powerful software.

Educators are faced with having to know what the capabilities of their hardware are in order to use it to its potential. This section will provide the background you need to determine the capabilities of different pieces of hardware. Each piece of hardware and its function are described, as well as tips on care and maintenance.

There are two computer blackline masters found on pages 23 and 24 that you can reproduce. One blackline master has the different parts labelled, and one does not. Have your students colour in the blackline master with the names and then place the page in a folder where every student can look at his/her work whenever he/she wants. Have your students colour in the second blackline master, cut out the different parts, label each one, and glue them on a separate piece of paper in the correct order. It should look like the computer system found on page 23. This project should help to familiarise your students with the different hardware pieces and their names.

The blackline master on page (23) can be used as a study guide, or you might use whiteout to mask the labels, duplicate the page, and have students label the hardware parts.
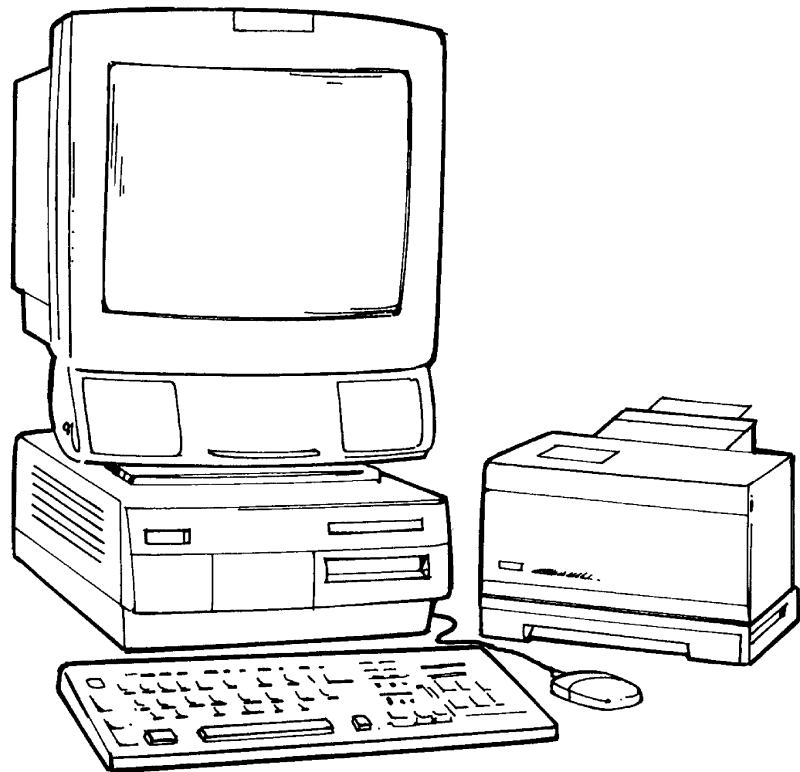
COMPUTERS

CHOOSING A COMPUTER

Much like choosing an automobile, choosing a computer can be a daunting task. There are several manufacturers that package computers in hundreds of ways. They use model numbers and slick names to steer us away from "what's under the bonnet."

PLATFORM

Platform refers to the type of computer/operating system that you require. There are two major choices: Windows or Macintosh (DOS ships standard on all IBM and compatibles). In the past, this was a major decision when considering a purchase in that IBM and compatible machines could not run Macintosh programs and vice versa. With the development of software translators and dual platform (they can run both) machines, the problem has become less significant. However, this is still a consideration. Here are a few questions that will help you or your school make the platform decision:

1. What platform is shared by the people with whom you most often share documents (office staff, fellow teachers, school sites)? If only one is used, choose that platform. If both are utilised, choose a platform that can easily operate in both environments.

2. What platform offers the software which you use or are interested in using? Most companies produce software versions for both platforms; however, because of the abundance of IBM compatibles, you will usually find them more accessible through retailers. Macintosh software, although available, tends to be easier to get through mail-order sources such as Mac Mall, Mac Warehouse, and educational suppliers.

PROCESSOR

The brain of any computer is its processor. The ability to handle large computing jobs with speed and accuracy depends largely on the processor. Computer manufacturers have evolved through several microprocessors, each generation fleeter and more powerful than the last. Don't focus on the name or model number of the microprocessor. Compare the speed of the processor with other models in your price range. The computing speed of a processor is listed in megahertz or MHz.

RAM

RAM or Random Access Memory is the computer's short-term memory which it needs to carry out a program's instructions. As software becomes more and more memory intensive, it is important to buy a computer with enough RAM to handle it. RAM's unit of measure is the megabyte or MB. Here are a few questions to ask when considering a purchase:

1. How much RAM does the operating system software use? Windows and MacOS require a large amount of RAM just to run the computer.

2. What types of programs am I going to run? Many graphic intensive programs like educational CD-ROMs require several megabytes of RAM to run. Look at the backs of software packages that you are interested in, check the minimum RAM requirements, and then add at least 25 percent more as a safety net.

COMPUTERS *(cont.)*

RAM *(cont.)*

3. Will you run more than one program at a time? If you are a first-time computer user, you may not think that you will; however, the time savings of being able to move information from one program to another is extremely useful. If so, add the minimum memory requirements for both programs together and add 25 percent for safety.

4. Is the RAM easily upgradable, and what is the maximum RAM upgradability? As computer programs are developed that require more memory, it is important that you are able to "keep up."

STORAGE

Storage is the amount of long-term memory that a computer can file or store. There are several storage devices on the market. Like RAM, storage is also measured in megabytes (MB) or gigabytes (GB). There are 1,000 megabytes in a gigabyte. Almost all computers now come with an internal hard-disk drive and at least one removable disk drive. Both of these would be considered storage.

MONITOR

A monitor is the screen for the computer. Monitors are available in many sizes and configurations. If you are to take advantage of the multimedia (text, sound, animation, video, photographs, drawings, etc.) available in programs, you will need a good-quality monitor that supports at least 256 colours. Monitors that support thousands and millions of colours are also available. Be aware that high-end, large-screen monitors will require the addition of special parts called video cards installed into your computer.

PERIPHERALS

Peripherals are things that you add to your computer, such as printers, scanners, modems, video input cards, digital cameras, etc., that enhance what it can do. When shopping for peripherals, study the job that you want to do and the software you need to do it. Ask the following questions:

1. What quality are you expecting?

2. Will you need to add anything to the computer in order for the peripheral to work?

3. Does the peripheral require any software?