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A WEB PAGE OF CURRICULAR RESOURCES FOR THE
COMPUTER LITERACY CLASS: GRADES 7 - 9

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Instructional Technology


by
Kelly Sue Daly
December 2001

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COMPUTER LITERACY CLASS: GRADES 7 - 9

A Project
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by
Kelly Sue Daly
December 2001

Approved by:



Dr. Amy S.C. Leh, First Reader

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ABSTRACT

Computers are becoming an integral part of children's education. Many schools are often requiring a certain amount of computer literacy at every grade level in combination with state curricular standards. Many resources offer insights into a variety of ways to integrate computers and other technology within the core curriculum, but little is available specifically for computer literacy classrooms. The enthusiasm for computers in education is realized by the needs of the students to support their learning styles and to prepare them for a technology-driven future.

Computer literacy teachers of seventh through ninth grade students will be the target audience for this project. The product chosen for this project will be a web page. The elements of the web site for this project provide resources and ideas that can be integrated into any computer literacy course. This resource is not a complete curriculum within itself. Teachers everywhere can use this web site and adapt what is necessary to serve their own needs, which will help to assist in providing computer literacy students the same enthusiasm, variety, and learning that other curricular areas share.

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and to my buddy who collects degrees as a hobby,

Clayton Wilson

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CHAPTER ONE

INTRODUCTION

Overview

In the early 1980s, computers began to enter schools. Students originally learned simple programming and computer design from specific computer courses. Soon, teachers in other curricular areas were able to utilize the benefits of new drill and practice software to enhance basic skills, concepts, problem solving, memorization, and simulations. Now, almost twenty years later, computers have become an important learning and teaching tool for many schools. With new software better focused on learning objectives; increased availability of the Internet; and more powerful computers, technology has become an important element to assist in student learning and to prepare students for a future more technologically driven than any previous generations.

The United States government has noticed the importance of computers and other technology as an educational tool by providing much needed funding so that schools have equal access to technology. A U.S. Department of Commerce report *Falling Through the Net II: New Data on the Digital Divide*, reported that although more Americans

now own computers, certain people are less likely to have equal access to computers and the Internet:

Lack of such access affects the ability of children to improve their learning with educational software, adults to learn valuable technology skills, and families to benefit from online connections to important health and civic information. (U.S. Department of Education: Office of Educational Technology, 2001, para. 1)

President Bill Clinton released a follow-up study in 1999 informing the nation that the "digital divide" exists and continues to grow where children attend high poverty schools. Funding by the government for schools to purchase needed technology was greatly improved from these and similar reports.

Similarly, California, as with many states, has taken an active roll in supporting the technology needs of schools. For instance, the California Technology Assistance Project (CTAP) has been created to support schools and districts in integrating technology into teaching and learning. CTAP provides assistance in the following key component areas:

1. Staff development
2. Technical assistance
3. Informational and learning resources
4. Telecommunications infrastructure

5. Coordination and funding

(CTAP, 2001, What is CTAP section, para. 3)

Among the many valuable grant opportunities that have been available to California schools is the Digital High School Grant that is currently completing its final year of the application process. Through this grant, qualifying high schools throughout the state receive \$300 per student in attendance to purchase hardware, software, telecommunications infrastructure needs, and teacher training so that all high school students will be able to have equal benefits of learning with technology. A multitude of other grants have also been offered by government and private organizations in order for every grade level to receive funds to incorporate computers into education.

Additional support for successful teaching strategies using computer within the variety of curricular disciplines are from conferences dedicated to technology in education. Computer-Using Educators (CUE), National Educational Computing Conference (NECC), and Classroom Connect's Connected Conference are only some of the professional learning opportunities for educators. These conferences emphasize teaching strategies for integrating computers and other technology into math, science,

history, and English and other areas of education for all grade levels to assist students in meeting curricular standards and objectives.

More and more learning opportunities are available for teachers to have tools for integrating a variety of ideas using computers. Newsgroups, listservs, collaborative Internet tools, workshops, and professional literature each provide an abundance of creative ideas and support for using computers within the core areas of learning. Resources for teachers to support computer ideas in the classroom are key to successful implementation for learning with computers and other technology.

Statement of Problems

At both the middle school and high school levels, curricular resources for lesson planning specifically for computer literacy classes have been limited. Since there has been such a needed emphasis with integrating technology within the core curriculum, students of computer literacy courses have been deprived of the same creativity and learning possibilities that other curricular areas utilize to reach different learning styles and to fill the need of learning objectives.

With an emphasis on providing resources for integrating computers into the core curriculum, classrooms devoted solely to computer literacy have comparatively less curricular resources available. Ultimately, students do not have equal opportunities to the creativity, enthusiasm, and differentiated teaching strategies that other disciplines have been providing.

This project is a web page for computer teachers that will address the needs of computer literacy students in grades seven through nine. This target audience seems most appropriate because often times computer education is offered as an elective or a requirement at these grade levels.

Goals

The goal of this web page is to serve as a curricular resource for computer literacy teachers, which will provide critical benefits for both teachers and students. Though computers in education have been a priority for many school districts for the last few decades, it has not been until the year 2000 that the U.S. Department of Education and the International Society for Technology in Education (ISTE) collaborated to publish a document titled *National Educational Technology Standards for Students*:

Connecting Curriculum and Technology (2000). This project will incorporate the general areas published by ISTE for the technology foundation standards for students:

1. Basic operations and concepts
2. Social, ethical, and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools (pp. 14-15)

In order to reach the breadth and depth of these standards, computer teachers need access to lesson ideas specific for their needs. The goals of this project will be to:

- Create resources for computer literacy teachers to enhance their curriculum.
- Allow for equal learning opportunities for students.
- Align learning with the ISTE standards.
- Make computer curricular resources available for all.

Significance

There is a great need for curricular resources designed for the computer literacy classroom. The web page produced for this project will serve as a beginning. With a variety of computer learning ideas, educators will have an increased selection of teaching tools to reach standards for computer literacy, teach to different learning styles, and provide creativity beyond the common computer literacy textbooks of basic software applications.

Currently, California has not adopted state standards for teaching computer literacy. Nor does the state offer or require a teaching credential in computer literacy beyond the supplementary authorization available that one can add to a current credential in another discipline. The web page for this project will attempt to fill in the gaps where computer teachers are not provided with enough training and resources.

Limitations

Although the web page for this project will be easily accessible and can be manipulated independently by the user, many challenges to this process can possibly exist. Some schools, for example, have not had the funding

opportunities previously mentioned and therefore cannot implement some of the lesson ideas the web page will offer. However, there will be resources even for classrooms with limited technology.

Another problem that can impose a challenge is a district's adopted curriculum. Palm Springs Unified School District currently utilizes a ninth grade computer literacy course outline from 1986. Since the time skills and concepts were originally written into the outline, the ability of computers today has changed dramatically. The Apple IIe computers mentioned in the course, for instance, have long been replaced by more powerful multimedia technology. It is hoped that teachers in this type of situation will still be able to utilize computer learning strategies regardless of an outdated course outline.

One limitation of this project can also include the current situation for California where there is a high demand for credentialed teachers in general. In an effort to fill empty teaching positions, it is possible that computer labs might be temporarily filled with unqualified educators in the area of computer literacy. This poses a desperate problem for both the teachers and students, but it is hoped that teachers in this difficult situation can benefit from this project as well.

In providing a web site that is based on curricular needs of teachers, and standards of learning for students, the following chapter is a review of related literature that will assist in achieving these goals.

Definition of Terms

The following terms are based on definitions from the *Microsoft Encarta Encyclopedia CD-ROM (1998)*:

Application: a computer program designed to help people perform a certain type of work.

Computer Literacy: knowledge and an understanding of computer combined with the ability to use them effectively.

Listserv: a type of software that automatically manages computer mailing lists on the Internet. These lists focus on specific topics and membership is usually open to anyone who requests it.

Newsgroup: in computer communications, a topic-specific forum where people can post questions, news, and comments, or read and respond to such postings left by other users on the Internet and other networks.

Software: computer programs; instructions that cause the hardware-machines-to do work.

Staff Development: training workshops that provide curricular ideas and to support student learning.

Telecommunications: devices and systems that transmit electronic signals across long distances.

Web Site: file of information located on a server connected to the World Wide Web.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

Computers have been found to have an essential role in preparing students for their future and assisting in the learning process. Teachers are most effective at utilizing computers within a curriculum when training, preparation, and support have been specifically designed for that purpose. Though teachers of computer literacy are often literate in computer concepts and skills themselves, they too must have training and resources available to better reach the needs of students. This section will review a variety of literature and web sites that support the need for curricular ideas directed toward the computer literacy classroom. In addition, lesson ideas will be reviewed that correlate with the technology content standards of learning.

Computers in Education

It is agreed upon by many researchers and scholars that computers have an important role in preparing students of today for a future different from what previous generations planned for in the past. The power and ability of technology are continually increasing

exponentially, demanding society to be more technologically literate than ever before. According to Gordon Moore in 1965, co-founder of Intel, "the number of transistors per integrated circuit would double every 18 months" (Intel, 2001, What is Moore's Law section, para. 1) with a proportionate decrease in cost. He forecasted that this trend would continue through 1975. This trend still exists today with computers and other technology continually improving at a fast pace.

With this continual acceleration of change defined in Moore's Law, computers are increasing their computing speed, holding more data, and allowing users to complete a larger variety of tasks. This cycle of change requires continual learning by users to keep up with the pace of technology.

Children have already assimilated to these hi-tech transformations through daily use of the television, computer games, email, beepers, cell phones and many other types of technology that have woven themselves into everyday lifestyles. The International Society of Technology in Education has published a resource guide for teachers with ideas for integrating computers and other technologies into the curriculum based on new content standards for technology. The report states, "Tools are

different; kids are different; all children must be ready for a different world" (ISTE, 2000, p. 3). Therefore, both educators and education need to be able to incorporate technology into learning in order to reach this new generation of learners.

The growth and complexity of technology brings forth change upon children and their learning. ISTE's resource guide for teachers titled *National Educational Technology Standards for Students: Connecting Curriculum and Technology* provides much needed lesson ideas and research for teachers of grades Pre-K through 12. Activities are available for the following core curricular areas:

- English Language Arts
- Foreign Language
- Mathematics
- Science
- Social Studies

(ISTE, 2000, pp. VII - IX)

According to the ISTE document, computers are vital tools in the education of students in today's society:

The challenge facing America's schools is the empowerment of all children to function effectively in their future, a future marked increasingly with change, information growth, and evolving technologies. Technology is a powerful tool with enormous potential for paving high-speed highways from outdated educational

systems to systems capable of providing learning opportunities for all, to better serve the needs of 21st century work, communications, learning, and life. (p. XI)

It is evident that students need computers as part of their education to help them achieve in a world of change. This is further proved from Don Tapscott's (1998) research he shares in his book *Growing Up Digital: The Rise of the Net Generation*. Tapscott comments, "What we know for certain is that children without access to the new media will be developmentally disadvantaged" (p. 7). Therefore, education must allow equal access to computers for all children in order to meet the demands of society.

Children today relate well to learning with computers. Tapscott's research additionally points out the following:

Computers in the school can have a positive impact on learning and thereby intellectual development. Computers are more effective teaching devices because processing computer operations mirrors the operations of the human cognitive system as information travels from sensory memory to short-term memory to long-term memory. (p. 100)

The use of computers and other technology in education help to prepare students for learning and for a future where technology plays an integral role. Equally important is that children today are affected by the continual, fast-paced changes of computers and other

technology. Children learn differently than previous generations with the new tools of technology and teachers need to be prepared.

Tapscott, however, warns the educational system and parents. He raises concerns that where there are differences in availability to computers, technology fluency, and opportunities to learn, this "...may lead to a two-tiered world of knowers and know-nots, doers and do-nots" (p. 256). Tapscott's research shows that all students need equal access to computers so as not to segregate children from equal opportunities due to a lack of technology skills. This is reiterated in Susan Abdulezer's (2001) article about Lou August, the founder and director of the Wilderness Technology Alliance. Mr. August built a lodge on Mount Rainier, Washington in 1989 where today students combine wilderness skills with computer skills (i.e. building a computer, web design, etc.) in order for students to combine real world values with technology. From August's many years of working with schools districts, he finds "wealthier districts' access to personal computers gave their students an enormous advantage in the workplace" (p. 20). One of August's goals is to bridge this digital divide among socio-economic classes.

The United States government has also raised this warning. A report by the U.S. Department of Commerce in 1998 titled *Falling through the Net II: New Data on the Digital Divide* provides evidence that children and their families from poor households and schools are effected negatively from not having a computer or online access. This groundbreaking report states that "Lack of such access affects the ability of children to improve their learning with educational software, adults to learn valuable technology skills, and families to benefit from online connections to important health and civic information" (U.S. Department of Education: Office of Educational Technology, 2001, para. 1). With this evidence, President Clinton released follow-up studies supporting that the digital divide continues to grow today. Computers and other technology have become vital tools in society where children do not always have equal advantage. Fortunately, federal and local government agencies along with private corporations have been offering many grant opportunities to level the inequalities of technology in our schools over the past decade. Some of the many financial resources that have helped schools purchase needed hardware, software, and teacher training include the Digital High School Grant

that gives \$300 per student enrollment for qualifying schools. The Universal Service Fund for Schools and Libraries, popularly known as the "E-rate," is another major grant that provides all public and private schools and libraries access to affordable telecommunications and advanced technologies, where eligibility is partly based on the number of students participating in the National Free Lunch Program (California Department of Education: Educational Technology Office, 2001, Funding Opportunities section, para. 1). Funding alone has shown to not be enough. Preparing teachers in ways to effectively use computers and other technology in the classrooms is equally important.

Computers in the Curriculum

To meet the needs of today's generation of learners in a world of technology, there has been an immediate drive to weave computers into the core curriculum (i.e. math, history, science, and English). The current push is "Integration" where computers are utilized within the core curriculum to enhance education and learning (ISTE, 2000). The emphasis becomes the curriculum rather than computer skills, where skills are believed to be learned through experience. Jolene Dockstader (1999) in her article

"Teachers of the 21st Century Know the What, Why, and How of Technology Integration" states that integration is not "providing application software like electronic encyclopedias, spreadsheets, databases, etc. without a purpose" (p. 73). Dockstader lists reasons why technology integration should be incorporated into the core curriculum:

1. Correctly designed, more depth into the content-area curriculum is possible.
2. In the information age, there is an intrinsic need to learn technology.
3. Students are motivated by technology, thus increasing academic engagement time.
4. While working in more depth with the content, students are able to move beyond knowledge and comprehension to application and analysis of information.
5. Students learn where to find information in an information rich world.
6. Computer skills should not be taught in isolation.
7. Students develop computer literacy by applying various computer skills as part of the learning process. (pp. 73 - 74)

According to Dockstader, learning with computers can be achieved only if used effectively, which is where computer training for teachers becomes crucial.

Teacher Training and Resources

In order to support these more recent needs of teachers, a variety of training and resources are offered by both private and public entities. In many schools, teachers are learning at their own level and pace through online courses such as those offered through Classroom Connect's Connected University (www.classroom.com), where teachers learn independently on the Internet. Connected University offers classes online from simple personal computer use to creative ways for integrating computers into a curriculum. Also offered is training at individual school sites to assist in helping teachers fully utilize the benefits of Connective University. There are many similar individualized online learning accessible as well for all teachers that offer ideas for integrating computers into classrooms.

Additionally, California has created a statewide educational technology leadership initiative called the California Technology Assistance Project (CTAP). This program provides support to districts, schools, and

teachers in a variety of ways for the ultimate goal being integration of technology into teaching and learning. Each county in California has a local CTAP support team that is available to provide technology assistance based on the following five key component areas:

1. Staff Development
2. Technical Assistance
3. Information and Learning Resources
4. Telecommunications Infrastructure
5. Coordination and funding

(CTAP, 2001, What is CTAP section, para. 3)

CTAP works collaboratively with school districts and individual school sites to support the effective use of technology in education.

An example of CTAP's support is evident from the writing of Desert Hot Springs High School's Digital High School Grant application. CTAP worked collaboratively with the school's writing team, which the author of this project was a member, and Palm Springs Unified School District's director of technology to edit each draft before sending the grant to the state level. This assistance made it possible for the grant to be written in a timely manner and to keep the needs focused on student learning. The grant was accepted at the state level from the high school's first submission. CTAP also offers a variety of classes for personal computer proficiency, software training, and computer integration. Thus, the State of California is actively working toward supporting schools through CTAP and other programs to meet the needs of students where technology has become an necessary aspect of learning and living.

Another type of a powerful curricular resource available for computer integration are web sites. The Internet is an ever-growing research and communication tool where anyone can find information on just about any topic. In 2001, 98% of schools are connected to the Internet and the ratio of computer to students is currently 1-to-8 and is projected to soon be 1-to-6 (Levinson & Grohe, 2001). With a respectable availability of computers and the Internet in most schools, teachers are searching for effective uses of the Internet to support their curriculum. Michael Sullivan (1999) states in his article titled "Internet Can Reform Education with Personalized Content and Assessment, NOT FRILLS:"

If the Web is to achieve a meaningful place in education, it must find a role in which it becomes indispensable. And that role almost certainly must be to provide content, learning activities and assessment, for these are the meat and potatoes of education. (p. 45)

Thus, teachers are devouring the many resources available on the Internet to assist them in creating creative and effective curricular ideas for utilizing computers within their lessons.

Some popular web sites where curricular ideas focusing on integrating technology for learning include:

- Kathy Schrock's Guide for Educators
(<http://discoveryschool.com/schrockguide>)
- S.C.O.R.E. (www.score.k12.ca.us)
- Scholastic Network (www.scholasticnetwork.com)
- BLUE WEB'N (www.kn.pacbell.com/wired/bluewebn)
- Discovery (www.discoveryschool.com)

- Classroom Connect (www.classroom.com)

These web sites provide resources for standards, lesson ideas, tools, current issues, and other helpful support for core curricular teachers.

These are just a few of the many thousands of resources available. Because most web sites and classes accessible for educators focus on the core curriculum, computer literacy teachers do not have the same creativity and resources to prepare students with technology skills.

Need for Computer Literacy Classes

It is evident that there is a big push to have computers integrated throughout PreK-12 education. Often times the perfect scenario is when core teachers focus on the curriculum and not computer skills and yet are able to weave both seamlessly together; however, this is not always the case. Many middle and high schools require a course in computer literacy for all students. Computer literacy is the "basic understanding of what a computer is, what it does, and why computers are important to our society" (Parsons & Oja, 1999, p. H-2). This type of course not only prepares students for a technology based future, but also allows for students to be better prepared in their other course work where computers and other

technology are utilized. This is why computer literacy is often a graduation requirement for many high school students.

With a lack of resources and yet a Computer Literacy requirement for many students, with what source do computer teachers align their lesson plans?

Standards

Though many schools require classes in computer literacy, the State of California does not propose a curriculum framework specifically for computer literacy. The state offers frameworks to the following curricular areas:

- Reading/Language Arts
- Mathematics
- Science
- History/Social Science
- Visual and Performing Arts
- Foreign Language
- Health

The California Department of Education provides frameworks to give teachers a "blueprint for implementing the content standards" (CDE, 2001, Curricular Frameworks section, para. 1). Teachers of computer literacy do not

have this "blueprint" and therefore each teacher must independently create his or her own path for teaching computer skills and concepts according to an individual school district's guidelines. An additional problem for computer literacy teachers is the lack of state curricular standards in this discipline. In the year 2000, the International Society for Technology in Education (ISTE) published the National Educational Technology Standards (NETS) for students as a resource for educators. The previous year, Lajeane G. Thomas and Donald G. Knezek (1999) point out in their article "National Educational Technology Standards" (p. 27) that the roll of NETS will be to provide:

standards that describe the technology skills that should be inter-woven in the curricular fabric of our schools; when such skills should be taught; and how the power of technology can help our children become successful learners, information users, communicators, and workers. (p. 27)

The following year, ISTE's publication does just that. The 373 page document addresses topics in connecting curriculum and technology, foundation standards, and curriculum integration ideas for the core curriculum.

The purpose of NETS is to create technology-literate students and to assist teachers in the core curriculum for planning technology-based activities. Each standard has

sub categories to define more clearly each broad standard.

The broad standards are:

1. Basic operations and concepts
2. Social, ethical, and human issues
3. Technology productivity tools
4. Technology Communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools (ISTE, 2000, pp. 14 - 15)

Since California has not yet adopted state standards, many school districts are implementing NETS as their guidelines for both the core curriculum and computer literacy courses.

Computer Literacy Curriculum

Computer teachers who are searching for resources to assist in their classrooms will find little available from books, articles, and the Internet comparatively to what is available for the core curriculum. With the absence of both California adopted curricular standards and a state framework for computer literacy, computer teachers continue striving to move forward with their lesson planning regardless of the lack of resources at both the middle and high school levels.

Gagne, Briggs, & Wager (1988) find from their studies that instructional design should incorporate both concepts and skills into learning strategies. There are many variations as to which skills and concepts are taught in computer literacy classes at the secondary level; however, this project will focus on the overlapping areas of learning that most computer students are exposed to.

Secondary schools offer computer education in a variety of ways. Many general skills and concepts are being taught in a few basic classes, or single classes focus on a few particular skills and concepts. For example, at Torrey Pines High School in Encinitas, California, students in a Keyboarding class learn basic computer operations, keyboarding skills, and beginning word-processing (Torrey Pines High School, 2001). The school also has available more specialized computer electives including Computer Programming, AP Computer Science, and Web Page Design.

Similarly at Petaluma High School in Petaluma, California, basic word-processing, presentations, data base management, spreadsheets, and graphics are part of their Computer Applications curriculum. Students can also choose classes specifically in the areas of desktop publishing, web page design, and keyboarding (Petaluma

High School, 2001). Additionally, Bella Vista High School in Fair Oaks, California has computer classes that cover these same skills with the addition of research techniques, Internet skills, and industrial technology careers. (Bella Vista High School, 2001).

Though high schools may title their computer classes differently, it seems that California schools are teaching similar computer topics.

Summary

As echoed throughout this chapter, computer skills should be taught with a purpose. As Dockstader states, "Computer skills should not be taught in isolation" (p. 73). One of the goals of this project is to provide a web site of lesson ideas where students use computers with a real life experiences, a meaningful purpose, and in a way to reach a variety of learners as would be expected of any curriculum.

It has been proven that there are many resources supporting curricular ideas for utilizing computers in the core curriculum and that little is available for the computer literacy teacher. As shown previously in this chapter, the Internet is a rich resources for many subject matters, but little is available specifically for computer

classes. This project will be a web site that will incorporate both skills and concepts based on the ISTE National Educational Technology Standards, sound research, and creativity to support the computer learning needs of students. The following chapter will give detailed descriptions of each section of the web site.

CHAPTER THREE

DESIGN AND DEVELOPMENT

Introduction

An important consideration when creating a web site of computer literacy resources for teachers is the breadth and depth of content. The web pages for this project include curricular resources based on common topics often taught in basic computer classes. Much attention has been given to the learning needs of students where activities incorporate both interest and variety. Curricular units are detailed within this section along with individual web pages, handouts, and links all referenced within the appendices (Web pages displayed within the Appendices have been scaled to 85% of their original size to meet the margin requirements for the purpose of that section). Additionally, the future plan for this web site is to be posted as a link from the Palm Springs Unified School District's main web page: <http://www.psusd.k12.ca.us>.

Design

The web site's design is based on three general sections: main pages (see Appendix A), lesson pages (see Appendix B), and handouts extending from the lesson pages (see Appendix C). An important goal for the design of this

web site is for teachers to easily navigate throughout and to utilize sections independently. In order to achieve this, a template has been created using Macromedia Dreamweaver that includes a navigation bar with links to each curricular unit. This bar is available for each page so that teachers can simply click to any topic within the site at anytime.

In addition to the ease of navigation, simplicity is included as an element of design. The layout of each main page is similar. For example, the web site's title is located at the top, the navigation bar is at the left, and a curricular unit's title is at the top center followed by content. Also included is a small graphic related to the content at the right side of each main page and lesson page. All graphics are from Microsoft's Clip Design Gallery from the Internet used with permission (see Appendix D).

Uniformity is similarly applied to each lesson page. Lesson pages link from corresponding curricular pages. As does the main pages, lesson pages consist of the same site title and navigation bar. To assist visitors, each lesson page is referenced with the same curricular title that the pages link from so as not to confuse teachers of their position within the web site. Immediately beneath the

curricular title follows the name of the individual lesson with activities.

The most important addition to the lesson pages are the NETS Standards, time frame for the activities, objectives, and materials all located at the right side of the page. These items are logistically placed toward the side and highlighted in a different color from the lesson in order to stand out as critical references but as not to overshadow the activities themselves.

Links within the lesson pages are the last element within the web site. Some activities require additional resources such as handouts or additional information on the Internet. Handouts support the activities or are examples for teachers. Handouts are links that are downloadable in Microsoft Word or Microsoft Excel formats that can be changed and saved by visitors if desired.

Links to Internet resources are also important components. Some lessons require supplementary information where a detail might not be common knowledge by some teachers. Moreover, other Internet links offer references to additional resources beyond the scope of the web site but in correlation with the curricular units.

As the basic design of the web site for this project has been established, curricular content is the next

crucial element. The next section of this chapter describes each main page with corresponding links and handouts.

Home Page

The purpose of this page is to be a starting point where visitors can grasp the goals of the overall web site and become familiar with the content that they have available. This page includes a link to the National Educational Technology Standards for Students (NETS) on the Internet so that teachers can see that each lesson incorporates technology standards for student learning.

Bold sections on this web page highlight important benefits of the web site so that visitors realize lessons can be used within their current curriculum. These sections also point out that a variety of learning styles and creative lesson planning have been included.

Computer Ethics

Computer ethics is the first curricular unit following the home page. Though the web site is not a course within itself and does not need to be navigated in any particular order, this is an important topic that is hoped would be included in any computer literacy curriculum. Therefore, visitors are more likely to view

these lesson ideas if the unit is located toward the top of the navigation bar.

This page provides links to three lessons:

Appropriate Use Policy, Situations, and Articles. The *Appropriate Use Policy* (AUP) activities help students to define their responsibilities when using computers and other technologies. The lesson brings the school or district's own AUP to the forefront where small groups each have a section of the AUP to read and then share back with the rest of the class in a traditional class jigsaw puzzle methodology.

Situations are another lesson where groups of students resolve ethical issues for computer use. Each situation illustrates someone participating in a real-life activity where he or she must make an important decision related to computer ethics (i.e. creating a virus, copying software without permission). A handout is available for teachers to draw upon as a starting point for class conversations within groups and soon after for discussing group conclusions as a class.

Additionally, *Articles* are an activity that can be utilized as an in class or homework assignment. This is a traditional current event lesson where students find current news related to computer ethics. This activity

also has a handout for students that provides spaces for summarizing their article and for posing an opinion of what they read.

Keyboarding

Keyboarding is often a "boring" unit for teenagers. Activities in this section help bring the process of memorizing keys to life. For example, three lessons link from the main page for this unit. *Coloring* is an activity without the use of computers where students color in a keyboard before they have been taught all of the keys. This lesson necessitates a medium for students to predict finger placement on the keyboard and to find a pattern in correlation with what they have previously learned. A handout is included with this activity where students begin by coloring each key of the home row a different color from one another. Then, students color in all other keys the same color in relationship with the fingers placements shared from the home row. In the end, students will completely color in all keys on the keyboard illustrating a pattern of proper finger placements.

A *Practice* lesson is also provided where students and the teacher interact without the usual keyboarding book. Teachers read from a list of keys he or she creates and

challenges the class to see who is fastest and most accurate. This is accomplished by having students raise one hand before the teacher reads the order of keys dictated. As the teacher reads from the list of keys, a student lowers his or her hand once noticing the first mistake. Students can visually compare their skills with the rest of the class in a fun activity.

Lastly, *Key Review* is a simple and quick lesson where students early on in a keyboarding unit create words with the few keys they have already learned. This is also a technique for building spelling into the curriculum.

Word Processing

This curricular unit includes two lessons. Both of these lessons are quite lengthy, so a third lesson is not provided as does other units within this web site. The first activity is an *Autobiography*. Students often enjoy writing about themselves, so this lesson allows students to provide their own content along with displaying their word processing skills. An important aspect of this assignment is the introductory paragraph to their essay. To illustrate this, an example sheet of introductions is provided for teachers to share with students. The class can use these examples for discussion by deciding which

examples are effective introductions and which are not. Notes in italics supply brief instructions to the teacher explaining why each paragraph is or is not an appropriate introduction to this autobiography assignment.

Teachers can also download the autobiography handout that serves as a structure for students to complete their essay. The assignment calls for students to respond to questions about themselves and to include specific elements within the structure, combining both content and word processing skills.

An additional lesson is the *Letter to Principal*. This lesson not only allows for another type word processing structure, it also involves the school's principal. Students are to write a formal letter to his or her principal, complaining about the school but also providing a solution. Students can choose, instead, to share nice thoughts about school as well. A formal letter style is downloadable from this lesson page. Once students have completed and edited their work, letters are then sent to the principal for him or her to eventually respond in writing or in person.

Desktop Publishing

The activities for desktop publishing require students to utilize a variety of publishing tools within word processing and other software. One of the challenges presented is *Comic Strips*. In this lesson, students are required to utilize high-level publishing tools available from simple word processing software such as inserting callouts, formatting shapes, and exporting between software applications. Drawing and editing graphics in a paint program also tests students' skills.

Within this comic strip activity, students create six cells with different shapes using the drawing toolbar, for example, if using Microsoft Word. Students then add text using callouts and graphics that communicate together for an ultimate moral or lesson to be learned by the end. This activity is an opportunity for students to design and create from scratch.

Another desktop publishing lesson visitors can choose from is *Greeting Cards*. Rather than beginning with nothing as the comic strips demand, this activity is designed for students to utilize templates. Software such as Microsoft Publisher or Print Master Gold is suggested that assists students in the creation of holiday or special occasion greeting cards where they learn how to manipulate

templates. An optional activity suggested is where the class defines their own holiday such as a "National Computer Ethics Day" wherein the class can incorporate desktop publishing with a lesson in computer ethics. The purpose for this addition is to show teachers that the lesson plans throughout the web site do not need to be taught in isolation. Activities can be changed or woven together as needed.

The *Party Invitation* lesson is similar to the comic strip activity above in that students create without a template. The purpose is for learners to utilize a variety of desktop publishing tools within word processing software. This also gives students a medium for planning and designing. Students design a invitation to a party using any theme of their choice. They must include a title or name for their party, a place, date, time and a map. The map, however, must be drawn using only the tools available within the word processing software in order to improve upon students' skills.

This activity includes an option where the class can participate in a small party where invitations are displayed. This serves as a physical and authentic activity to extend the styles of learning.

Inside a Computer

Often times an introduction to how a computer basically works and thinks is part of an introductory class in computer literacy. Depending on the level of learners, this topic can span a wide variety of topics. For this curricular unit, two activities provide higher levels of thinking that can be used by both beginning and intermediate learners.

An activity for comparing a computer to human memory is through *Memory Analogies*. This lesson allows students to associate computers not only to humans but also to other objects unlike a computer that have some similarities. For example, RAM, ROM, and a computer's hard drive are compared by the teacher to buying milk (RAM), remembering someone's own birth date (ROM), and remembering items stored in a garage (hard drive). Students then develop their own analogies for each type of computer memory. The final product for this lesson is a poster created on paper or on the computer that illustrates a comparison between one type of computer memory with one object, describing how the two are similar. A handout is linked to this lesson page for teachers to have an example of the final poster.

Buying a Computer is another lesson for learning about the inside of a computer but with a more real-life approach. This lesson assumes students have previous knowledge already established with definitions for RAM and a computer's hard drive. There is a link to the previous activity if this is not the situation. It is necessary that teachers are familiar with a basic history of the CPU and Moore's Law. Thus, a link to the Internet is available to familiarize themselves with both of these topics.

In this activity, the teacher defines important elements in computer advertisements: RAM, MHz, CPU, hard drive, and average prices. Then, using a variety of actual advertisements, students identify these elements along with enticing marketing methods by completing a handout that links to the lesson page. After a class discussion of everyone's findings, students construct their own advertisements using the computer where they include an original brand name but use real elements for the structure of a computer as learned from the previous findings from actual advertisements.

An optional activity is provided where teachers can have students compare students' work with real advertisement from newspapers and magazines, writing a detailed comparison. Details compare both the structure of

a computer and any advertising tricks used to entice buyers.

Internet

Two lessons with a possible third activity provide opportunities for students to become familiar with the Internet. A *Treasure Hunt* is an activity where students already have familiarity with basic search techniques. The hunt is an extended activity where learners practice their Internet research skills by having to answer specific everyday questions from a handout. For example, one question reads, "List each year the Miami Dolphins football team played in the NFL Super Bowl." Students then need to find that information on the Internet and list the URL. There are ten different questions that represent different topics, so students must search a variety of web sites.

A *Web Page Rubric* is another Internet lesson but this activity is based on critical thinking skills. Teachers display two web sites for students that are linked to the lesson page. One site represents a person's personal web site and the other is professional. There is a class discussion about the reliability of information and the overall quality of the aesthetics. Student then search

five to ten additional web sites in small groups where they finally create a rubric defining categories and descriptions of degrees for poor to excellent quality web sites. An example rubric is available for teachers.

An option to this assignment is to have students participate in the *On The Cutting Edge* Webquest where students will complete a similar activity but through an interesting interactive adventure. An Internet link directs teachers to the webquest.

Spreadsheets

Some students find spreadsheets intimidating. The activities for this curricular unit give students opportunities to learn spreadsheet tools in fun and creative ways. The first lesson is *Car Costs*. Class begins with a discussion where everyone shares details about his or her "dream" car. In pairs, students brainstorm all costs related to buying and maintaining their car and share results as a class. The teacher gives an introduction into basic spreadsheet tools, and then students individually plan their car costs on paper first, where costs are determined from newspapers, magazines, and the Internet. Next, students list and calculate their information onto a spreadsheet. Once all numbers are

calculated according to instructions from the lesson, students creatively style and format their work before printing.

A longer more inclusive project for learning spreadsheet skills is through the *Stock Portfolio* activity. This project requires a small piece of several class sessions over a one-month period. Toward the end of the project, more time will be necessary. The class will visit web sites for learning the basics about stocks and the stock market. An Internet link allows teachers to utilize a popular web site as a starting point.

Individual students will choose three to five different types of stocks as to diversifying their investments and will keep track of price fluctuations and current news related to their stocks each day throughout the month while collecting data within a spreadsheet and a word processing document. An example spreadsheet layout is available for teachers. At the end of the month, data will be calculated, design will be considered, and information will be printed along with charts and notes that are exported and described in a word processing document. The entire activity will be bound into a portfolio-like presentation.

One of the purposes beyond the objectives of this project is to give teachers a real-life experience to utilize with their classes that requires students to combine skills within different software applications. This lesson gives students the opportunity to display a multitude of computer skills.

Concept Builders

This page is somewhat different from other main pages. Similarly there are brief descriptions of activities with links to lesson pages; however, the focus for this page is concepts instead of computer skills. Computer-related vocabulary terms and current events are the subject matter for these lessons. Another difference within this web page is the links to the lesson pages. There are four activities that link to one lesson page. This is because the lessons are short curricular support activities that can be woven within any unit. They are not complete lessons within themselves. A classic game of *Bingo* is an activity where students brainstorm computer-related terms learned in the class and then create bingo cards based on their findings. The teacher generates question cards from this same list and reads

questions where students mark off correct answers as usually done in a bingo game.

Another vocabulary builder is through a *Wordsearch* activity where students create their own wordsearches. This activity provides a purpose for students to utilize tables within word processing software and as a review. A 15x15 table inserted onto a new document begins the process produced by students. Using a list of twenty computer-related terms brainstormed by individuals, students then enter each letter into cells that recreate their words forwards, backwards, and diagonally. They then add random letters to fill in any extra spaces and type their original list of terms at the top or bottom of the page. A completed wordsearch includes desktop publishing design tools that add interest and reflect the overall purpose of the wordsearch. The best project is copied for the whole class to complete as a graded assignment.

The *Millionaire* activity is provided as a whole class concept builder for reviewing vocabulary and other concepts learned throughout the computer literacy course. This group-learning environment is based on the television show *Who Wants to be a Millionaire Game*. The lesson page has a link to the www.technet.com web site where teachers can download a free copy of the Power Point presentation.

The game has already been created for teachers to use as a template where they add their own questions and answers. Using a visual device, the presentation is displayed for students to answer a variety of questions ranging from easy to difficult and adding an element of fun.

The last concept building activity is *News Articles*. This idea is simply a way for teachers to keep students current on computers and other technology issues within the news media. Technology continually changes and computer books are stable, so in this lesson, teachers find current articles from newspapers or magazines relevant to the study of computer literacy in order to resolve this problem. From the article the teacher finds, he or she writes specific questions concerning the content and more general questions for students to reflect upon at a higher level. A copy of the article with a proper resource citation is copied on one side of a paper including questions on the other side. This assignment is woven within any curricular unit as an extended activity with an endless number of future articles for teachers to eventually include. It is also a medium for bringing reading into the computer literacy course.

Other Resources

As this project has proven, resources designed specifically for computer literacy teachers are limited. However, there are some excellent choices available where others need to become aware. On the *Other Resources* main page, there are no links to lesson pages. Instead is a list of alternative solutions to further support a computer literacy curriculum. The first item is a free kit offered by Intel titled *The Journey Inside: The Computer*. This is a resource available for computer literacy teachers of 6th through 9th grades that includes a detailed teacher's guide, videos, and computer parts for demonstration. The page provides a phone number for teachers to call for an informational brochure.

Additional information on the *Other Resources* page incorporates a link to the Internet site www.blackboard.com. This is described as a site that teachers can use for free with their classes to set up a learning environment for sharing documents, communicating, and learning. The purpose of this link is to extend learning into the 21st century where it is becoming common for university and high school classes to be taught in part or in whole on the Internet.

A link to www.discoveryschool.com is an additional source for educators. Among the many curricular resources at this web site are free tools for assisting teachers in creating their own crossword puzzles, mazes, wordsearches and other activities to support their lessons.

Also included on the resource page is an Internet link to www.cnet.com that teachers can make use of as a learning tool for themselves and for students. This is a web site where visitors will find access to current technology related news, reviews, technical tips, product information, and other issues concerning computers and other technologies.

Lastly, assessment rubrics are an essential component of the *Other Resources* main page and to the rest of the web site as well. All activities throughout this project within the web site need assessment guidelines. In order to facilitate this, assessment rubrics for learning with computers are available through an Internet link to Kathy Schrock's web page at the Discover School web site mentioned above. Kathy Schrock lists resources for almost all curricular areas for learning along with helpful tools such as assessment rubrics. Because the scope of this project's web site spans 7th through 9th grades and since computer literacy curriculum is somewhat vague without the

support of California state approved standards, it is appropriate for educators to utilize the variety of assessment rubrics available from Kathy Schrock's web site to assist in the assessment process. Grade and skill levels along with the type of computer literacy class vary drastically among schools where a teacher will need to determine what type of assessment is most appropriate for his or her own students. The link available at this project's web page assists teachers in the assessment process.

Evaluation of Web Site

As a way to provide a web site that meets the goals and objectives mentioned throughout these chapters, a small sampling of three computer literacy teachers from the Palm Springs Unified School District volunteered to assist in evaluating the quality, usability, and overall relevancy of resources to their own computer curriculum.

All three computer instructors met in a computer lab at Desert Hot Springs High School. The group was made up of 7th, 8th, and 9th grade teachers. They were given instructions to independently view the web site created for this project and to write down any questions or comments. This process averaged an approximate time of 45

minutes. Afterwards, the teachers met together as a group to discuss their observations with each other and the author of this project.

The first area shared was each individual's specific comments and questions. All three agreed that the web site was a great resource for computer teachers. The 9th grade instructor commented that teachers at any level can utilize and modify content according particular needs. The 9th grade teacher also commented that the aesthetic perspective seemed simplistic; however, the other two participants felt simplicity was a positive element for focusing on content and for ease of navigation. The 7th grade teacher was concerned about the amount of overall available resources presented: Will it be added to or updated? How often? With the ever-changing world of technology, can content keep up with the needs of teachers? The author commented that the web site would be an ongoing project beyond the requirements of the Masters Degree, where research and changes will be made by the author, by ideas shared from the author's colleagues, and by visitors of the web site itself.

Once each teacher was able to share his or her comments as mentioned above, the author asked the group three questions:

1. Does the layout provide information that is easy to read, manipulate, browse, and understand?
2. Does the content reflect the needs of your students within your curriculum?
3. Is the quality of this web site professional and does the lesson ideas reach the variety of learning styles and abilities with your classroom?

Each of the three teacher-volunteers agreed that this web site of curricular resources meets the goals of providing a variety of activities to reach differentiating learning styles specific for computer literacy students. They also were in unison that the layout was user-friendly and uniform. However, though an array of curricular topics are represented, one of the teachers felt more could be added such as database management and networking.

Taking into consideration the information, conversation, and observation shared by computer teacher volunteers, this evaluation has provided needed input for realizing this project to be a valuable resource for computer literacy classrooms. Teachers have a tool that can be used to both enhance their current curriculum and to provide creativity and real-life relevancy that will assist in student learning.

The following chapter gives a more in-depth summary of this entire project along with overall conclusions and recommendations to improve resources for computer literacy classrooms.

CHAPTER FOUR

CONCLUSIONS AND RECOMMENDATIONS

Summary

In order to produce a quality resource for educators, in-depth research provides a foundation for content within the web site. Teachers have access to activities and information that is based on findings from professional literature and standards.

This project is a web site dedicated to providing computer literacy resources that assist teachers in designing quality, interesting, and educational curricular units directed toward adolescent learners. Activities have been developed for use within a current computer course taking into account both the usability for educators and the learning needs of students.

It is essential that computer teachers have similar accessibility to resources as does teachers of other disciplines. Therefore, several activities are available that support a wide span of computer skills, concepts, and methodologies.

In addition, every element included within each web page has been intentionally placed in order to focus on the activities and yet provide easy references to

essential information that guide the curriculum. These elements include NETS standards, learning objectives, time frames, and materials.

Recommendations for Professionals

Although this project provides a resource of curricular activities for computer teachers and other interested professionals, it is not enough. This project successfully presents a variety of activities and other resources for the use of computer teachers within their classrooms. However, though the content is quite complex, there can always be more ideas added, especially considering the multitude of options available on the Internet for the core curriculum. This can be resolved by periodically updating content through additional research and from suggestions shared by visitors. There is an email address available on each page where visitors are encouraged to respond.

It is also hoped that educators will begin seeing computer literacy as a valuable and necessary learning tool where more resources will become available in the near future. Possibly this web site will inspire educators to begin sharing their ideas through similar web sites or other projects of their own. Issues still remain to be

further examined specifically focusing on computer literacy classrooms such as computer lab management, working with older technology, and integrating needs of special education or limited English learners into computer literacy lessons. The list of issues and creative solutions are endless.

Conclusion

As noted throughout this thesis, there is a desperate need for creative, standard-based lesson ideas and resources directed specifically toward teachers of computer literacy. Much is already available on the Internet or within newspapers, professional journals, conferences, and other training mediums. Integrating curriculum and technology seamlessly together has been proven as one of the keys components necessary for reaching the learning needs of students. The web site created as part of this project successfully meets these needs by providing activities, standards, objectives, and other support materials where students learn necessary skills and concept to be successful computer users in both school and in their future.

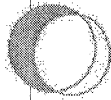
Even with the limitations posed in the previous section of this chapter, this web site will be an

assistance to any computer literacy teacher searching for curricular resources. Both visitors and the author of this project can add to the multiple activities already available.

This web site is an exciting endeavor for the author in hopes that many computer literacy teachers will utilize the quality and quantity of resources available. In reaction to this project, it may be possible that other educators will take the opportunity to share ideas so computer literacy students have access to learning opportunities equal to all other disciplines.

APPENDIX A

MAIN PAGES



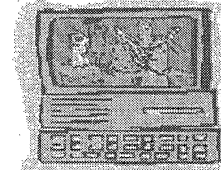
Lesson Ideas for the Computer Literacy Classroom



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Concept Builders
Other Resources

Home

Welcome to a web site dedicated to lesson ideas for computer literacy teachers for grades 7 through 9! You will find activities that can be **incorporated into your current curriculum**, though this is not a complete course by itself. Feel free to use, print, steal, and share anything from this web site that can assist your students in learning computer literacy.



Lesson ideas have been created in ways that meet a **variety of learning styles and abilities** that combine skills and concepts. Some activities require a computer and some do not. All lessons are based on the National Educational Technology Standards for Students (NETS).

These are the goals for this web site:

1. Create resources for computer literacy teachers to enhance their curriculum
2. Allow for equal learning opportunities for all students
3. Align learning with the NETS standards
4. Make computer curricular resources easily accessible

Let's share in the abundance of creative lesson ideas for integrating computers into the curriculum just as core curricular teachers have available. Use the navigation bar to the left, and e-mail me with any comments or helpful tips to improve this page.

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Webmaster





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Computer Ethics

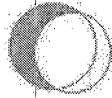
The study of ethical ways to use and not use a computer is important to any curriculum where computers will be utilized. This web site defines "computer ethics" as someone choosing between right or wrong when using computers or other technology. A good place to begin this topic is with your school district's Appropriate Use Policy.

Collaboration is a great way to get students to think, share, and problem-solve. Real-life situations are wonderful for this task.

Another way to make computer ethics real is to use articles from newspapers. Fortunately (or unfortunately) there is often something in the news where someone decided to make a wrong choice using a computer.

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Keyboarding

Keyboarding can become "boring" to students. There are a few fun ways to keep students interested and to supplement learning. One way is through a coloring activity.

Practice, practice, practice is what makes students faster and to help them memorize those keys. Here is a way to make practice a fun challenge for everyone (even the teacher).

You might not be teaching an English class, but keyboarding is a great opportunity to improve spelling. This key review activity is a way to review keys and to improve spelling.

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Word Processing

There are many activities to help students learn word processing skills. Certainly a web site can be dedicated to just that (maybe another time). In the mean time, an autobiography is a wonderful way to make students want to write.

You want to really hit home with the students and yet teach word processing? Let them write a letter to the principal. Here is a creative way where students don't even realize they are learning.

Preparation for the two above activities is crucial. It is assumed that basic skill for word processing have been set, and these activities are for reviewing and improving skills. Also, these lesson bring textbook skills to life.

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Desktop Publishing

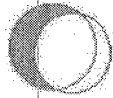
Desktop publishing incorporates multiple computer skills and an environment for fun learning activities. One great lesson for reviewing the use of publishing tools is with student created comic strips.

A favorite for new computer learners are greeting cards. This is especially fun around the holidays.

Another useful learning tool is where students design a party invitation adding publishing elements that use higher level publishing skills in a word processing program.

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Inside a Computer

Depending on the level of the computer literacy class for students, some instruction of the basics of how a computer thinks is often within the curriculum. One hands-on approach to tackling this lesson is with memory analogies.

A common real life task many students will face in their future is buying a computer. Not only is this helpful, it is also a great way to sneak in information about important aspects that make a computer work. This is often a favorite.

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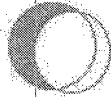
The Internet

The Internet is an important learning tool in education today. Both teachers and students utilize Internet resources for communication, collaboration, research, and excellent shopping bargains (maybe this one isn't for education). After a good introduction into the basics of a browser and search techniques, have students enjoy a treasure hunt to find current, relevant information on the Internet.

Since there is so much information on the Internet that can be created by literally anyone, students need to become critical viewers of what they see. This can be done through a group rubric in combination with a web quest.

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Spreadsheets

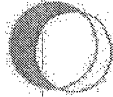
Spreadsheets are excellent tools for organizing and calculating information, but many students do not understand the significance. Students complain that it is easier to simply pull out a calculator to do their work. In some cases this is true, but students often times find it difficult to comprehend advantages of using spreadsheets for appropriate tasks.

Beginning as early as middle school, kids are already planning the type of cars they want. Calculating car costs is a practical and interesting approach for teaching spreadsheets to students.

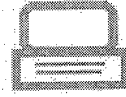
Another interesting approach for keeping students excited about learning is through stock portfolios. In this activity, students track stocks and use a variety of spreadsheet features to do so.

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Concept Builders

It is nearly impossible to teach a skill or concept, assess, and then move on to the next unit without ever going back to that same content again. Repetition in a variety of creative ways helps reinforce skills and concepts already learned.

A non-computer activity is an old fashioned game of bingo created by the teacher and/or students.

Technical vocabulary is a challenge for some, so have students create their own wordsearch and learn or reinforce skills. Another way to have some incredible fun with vocabulary is through a game of millionaire.

Current news articles are better than textbooks and don't outdate themselves. This can also be a chance to add class discussions to your lessons.

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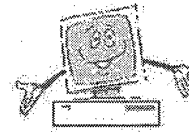
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Other Resources

There is not a whole lot of resources available specifically for computer literacy teachers when it comes to creative lesson ideas and supporting the curriculum. Below are links and other resources to assist students in learning.



Intel offers a free kit to computer teachers of 6th - 9th grades. The kit has hands-on activities for understanding how computers work with excellent videos, computer parts, and support material. The program is called *The Journey Inside: The Computer*. Call 1-800-346-3029 to receive an informational brochure and order form.

Students can share documents, communicate with the teacher and other students, and learn through a free on-line teaching tool called Blackboard. It is very easy to set up a class, and students love the interaction.

A wonderful resource for teaching tools such as free puzzles, mazes, wordsearch creators, and many other resources are available at DiscoverySchool.

Technical resources for computer teachers, students, and anyone interested in technology is at CNET. Visitors will find access to current technology related news, reviews, technical tips, product information, and other resources specifically related to computer users.

Kathy Schrock offers many curricular ideas for the core curriculum and some even for computer lessons. However, a very critical element offered is Assessment Rubrics specifically directed

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toward grading activities created with technology. These rubrics can also be used to assist in assessing activities used from this web site.

The resources mentioned above are favorites used by the webmaster of this web site. If you find additional ideas, please share!

APPENDIX B
LESSON PAGES



Lesson Ideas for the Computer Literacy Classroom



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Computer Ethics

Appropriate Use Policy (AUP)

Overview: Many school districts, schools, or individual teachers send home rules for appropriate use of computers and where there is usually a parent signature line. This form is then brought or sent back to the school. How clearly do parents and students understand the rules and consequences of a student's behavior? This lesson makes the student's responsibilities more clear.



NETS Standards:
Social, ethical, and human issues

Procedures:

1. Write the term "Appropriate Use Policy" on board and have class brainstorm how the term relates to computer use.
2. Hand out and briefly introduce the district's (or classroom's) AUP.
3. Separate students into small groups where each group is responsible for a certain section of the AUP. Each group reads their designated section within their team and discusses among themselves what it means.
4. Each individual student has a piece of notebook paper ready for taking notes for the group share out.
5. Each group in order of the AUP summarizes their section while each individual student throughout the class jots down a summary of that section from each group presentation.
6. Depending on the ability of students at the time of this activity, have each group combine their notes, and make their own classroom AUP on the computer using creative desktop publishing skills.

Time Frame:
approx. 2 hours

Objectives: *Define "appropriate use policy" and its components, identify individual and group responsibilities for computer use, define elements of computer ethics.*

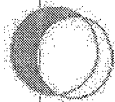
Materials:

* District's appropriate use policy or classroom rules for computer use.

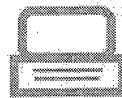
* Notebook paper

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Computer Ethics

Situations

Overview: It has been proven that when learning becomes real and relevant to students, the lesson is more likely to be remembered. Computer ethics is brought to life with this activity where students problem-solve real life situations.



Procedures:

1. After lessons on computer ethics where students show familiarity with the topic, have class break into groups of 3 to 4.
2. Each group receives a slip with a situation where the group must discuss and solve the problem at hand (each group will have a different situation).
3. After about 5 to 10 minutes, have groups take turns reading their situation and then sharing with the rest of the class their solution to the problem. Encourage the class to ask questions and pose other possible solutions immediately after each group presents.
4. An extended computer activity can be to have students video tape and act out situations where the class can later view and critique which choices were wrong and which were right.

NETS Standards:
Social, ethical, and human issues

Time Frame: approx.
1 - 6 hours

Objectives: *Identify individual and group responsibilities for computer use, define elements of computer ethics. Problem-solve real-life ethical situations.*

Materials:

* Situation handout cut into sections for each group

* (optional) Video camera, video editing software, blank video tapes.

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Computer Ethics

Articles



Overview: This activity allows students to realize how computer ethics is not just a textbook term but an issue that is a problem in society today.

Procedures:

1. Have class brainstorm on board names of periodicals and Internet sites where they can find current events about computer ethics
2. Pass out the article handout. Students are to find an article in newspapers, magazines, or the Internet that has an article about someone who has made a wrong choice with computers (i.e. hacking, copying software, etc.). This may take some time, so this assignment works well as homework.
3. Once students find their own article, they are to read it, write a summary and opinion, and attach the article (or a copy) to the handout to be turned in.
4. On the day articles are due, have each student briefly summarize to the class what their article was about with a question/answer period at the end.
5. An excellent additional activity is for the teacher to find a current article, write questions related to the article, and make this a handout for this and other articles as a way to keep computer ethics part of the entire course.

NETS Standards:
Social, ethical, and human issues, technology problem-solving and decision-making tools.

Time Frame: approx. 1 week

Objectives: *Identify current issues related to computer ethics in the news media, reflect on what was previously learned with the contents of the article.*

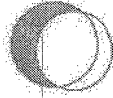
Materials:

* Article handout

* (optional) magazines, newspapers, and/or the Internet if this is an in class activity.

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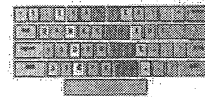
Keyboarding

Coloring Activity

Overview: Coloring can be fun for any age. More importantly, some students learn best with this type of hands-on activity. This lesson serves as both a means to review keys already learned and to predict the keyboard pattern to figure out what they haven't yet been exposed to.

Procedures:

1. Review keys already learned by having the class type letters you say. Make sure students are not looking at their fingers.
2. Explain to students that they will be completing a coloring handout (.rtf format) where they will review and predict using crayons. There are choose nine different as to represent the nine fingers they will be typing with. It is imperative that they color the home row first (eight colors) and the spacebar. Do this as an example on the board with just a few keys.
3. If, for example, a student colored the D key blue, then they are to color all other keys on the keyboard blue that share the same finger.
4. Students collect nine colors (use different patterns if not enough colors are available), and complete the coloring handout.
5. See sample final product at the upper right corner of this page.



NETS Standards:
Basic operations and concepts

Time Frame: approx.
3/4 hour to 1 hour

Objectives: Identify correct finger placement on a keyboard of keys already learned, predict keyboarding pattern for keys not yet learned.

Materials:

* Coloring handout

* Crayons or colored pencils

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Keyboarding

Keyboard Practice

Overview: Typing, typing, and more typing independently from a book becomes mundane, so give students a little extra challenge where the whole class gets involved. This activity might require a few candy bars or other small prizes!



Procedures:

1. Review keys already learned by having the class type letters you say. Make sure students are not looking at their fingers.
2. With everyone at their computers and at a new word processing document, have students sit correctly and turn off their monitors only.
3. Slowly (and then progress to a quicker speed) say letters for review one at a time aloud to class while they type what you say. They do not look at their fingers.
4. Write down each letter exactly as said for later in this activity.
5. After about a minute, have students raise one hand and then turn on their monitors. Slowly read back the letters said earlier.
6. When a student finds his or her first mistake, they put down their hand until you have only a few hands raised by the time all keys are read back.
7. Make this a fun challenge by handing out small prizes to the winners.

NETS Standards:
Basic operations and concepts

Time Frame: approx.
3/4 to 1 hour.

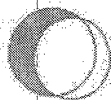
Objectives: *Identify correct finger placement on a keyboard of keys already learned, increase typing speed.*

Materials:

* Small prizes

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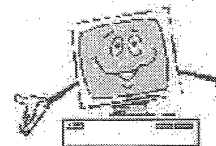
Keyboarding

Key Review

Overview: This activity is short but a great way to review. It is also perfect for building vocabulary and improving spelling. This lesson is best when the class has not yet learned finger placements for more than six keys beyond the home row in order to keep this challenging. This is a good "sponge" activity to begin a class period.

Procedures:

1. List all of the keys already learned on the board in a row but not in alphabetical order.
2. Students write as many words they can think of having to do with computers and that use only the letters learned so far from the keyboard.
3. After about 5 minutes, ask how many students have at least 10, 15, or 20 words in their list. Give class a little more time to try and catch up with the longer lists.
4. Find out who has the most words.
5. Begin with the person with the most words. As that person reads off his or her list, all other students need to listen for words that are not related to computers and share concerns if student is incorrect.
6. Continue rotating through class until it is evident who has the longest list with accurate computer-related words.
7. An extension of this lesson can include having students begin a list of words from the course as they go along. This list can be displayed in a multimedia program like Hyperstudio. Students can also choose to use a database.



NETS Standards:
Basic operations and concepts, technology productivity, tools.

Time Frame: approx.
1/2 to 2 hours.

Objectives: *Review keys on the keyboard previously learned. Identify computer terms.*

Materials:

* White-board or other visual display.

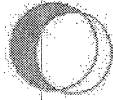
* Notebook paper

* Prizes or points

* (optional) database management or multimedia software.

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Word Processing

Autobiography

Overview: Students love to write about themselves. This activity combines personal experience with new skills that is fun but still challenging. This is definitely a favorite for students. This activity requires that basic word processing skills have already been established.



Procedures:

1. Ask students to define the term "autobiography" and then have them compare it to the term "biography."
2. Explain that students will be writing an autobiography where they will reflect upon several questions they are to answer in paragraph form. They will also use word processing skills to complete the assignment.
3. Give instruction in the importance of an introductory paragraph in an essay by reading the introductory examples sheet. Students are to decide as a class or individually on paper which paragraphs are good introductions to this assignment, which are not, and why.
4. Have students begin writing their introductions on the computer using word processing software.
5. Once introductions have been written, share good examples with the class, and then introduce the autobiography handout.
6. Students begin completing the rest of the autobiography assignment according to instructions by combining content and word processing skills.

NETS Standards:
Basic operations and concepts, technology, productivity tools.

Time Frame: approx. 1 week

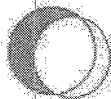
Objectives:
Demonstrate proper use of word processing tools, create a word processed document, identify and create an introductory paragraph.

Materials:

- * Introductory examples sheet
- * Autobiography handout
- * Word processing software

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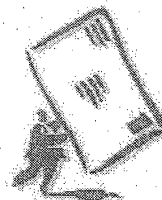
Word Processing

Letter to Principal

Overview: Business letters are important aspects of word processing. However, this activity is only real to students if they can utilize it in a meaningful way. This is a great assignment where the principal becomes involved by participating in an important task to both students and teachers.

Procedures:

1. Have students brainstorm the differences between a letter to the president of a company and a letter to a friend: styles, wording, pictures, slang, etc.
2. Introduce the formal letter style and its purpose as a powerful means of communication.
3. Before beginning the assignment, have students practice writing addresses correctly (very important).
4. Students will write a two paragraph formal letter to their principal. They have two options: say something nice about school or make one complaint about school.
5. Students who say something nice are to use details, possibly comparing their current school to another they have attended.
6. Students who want to complain will make their complaint in the first paragraph **and** follow their complaint with a solution in the second paragraph.
7. Work is to be edited with peers and checked for errors using the computer.
8. With permission from individual students, give letters to the principal and ask him or her to respond or invite the principal to the classroom for questions and answers.



NETS Standards:
Basic operations and concepts, technology, productivity tools, technology communication tools.

Time Frame: approx.
3 - 4 hours.

Objectives: *Create a formal business letter using the computer, write proper addresses, communicate well, thought out problems and solutions (or share positives) about the school. (Optional) Students create letters using templates.*

Materials:

* Formal letter style example

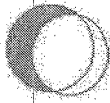
* Word processing software

* School's principal

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Students are very impressed when principals come to class for this activity!



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Desktop Publishing

Comic Strips



Overview: This lesson requires students to utilize many publishing tools in word processing software. It is also a great way to import from Paint. This is a fun activity and looks great displayed when everyone is done.

NETS Standards:
Basic operations and concepts, technology productivity tools, technology communication tools.

Procedures:

Time Frame: approx. 3 hours.

1. Review the term for desktop publishing with students: Combining creativity and computer tools for displaying information.
2. This assignment is best if there is a visual device available for students to see how to set up the cells. Students set their word processor page to landscape and draw six cells to fill the page (squares, ovals, and/or other autoshape).
3. Then, students click onto each (or "select all"), and format each cell to be "no fill" so graphics and text later added will be visible.
4. **Each cell** will have one or more graphics and one or more callouts with text (see example) that communicate together for an ultimate lesson to be learned by the end.
5. Possible topics can include safety, learning, fun, or other topics with a moral or lesson. Students can also have a comic that represents good computer ethics.
6. Display comics when students are done.

Objectives: *Insert graphics, insert callouts with text, draw and format boxes or ovals, design a layout of a comic strip, utilize a variety of publishing tools available from word processing software, (Optional) edit graphics in paint software and export to word processing software.*

Materials:

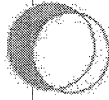
* Word processing software, (optional); MS Paint or other paint software for drawing or editing graphics.

* Visual device

* Example comic

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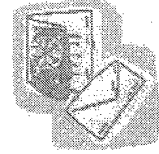
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Desktop Publishing

Greeting Cards



Overview: An important aspect of being computer literate is being able to use a variety of software. This activity goes beyond the word processor for publishing. It is simple and fun, especially around the holidays.

Procedures:

1. Review the term for desktop publishing with students: Combining creativity and computer tools for displaying information.
2. Introduce the basics of any desktop publishing software such as MS Publisher, Print Master, etc. Choose a time of the school year when a holiday or special occasion will be coming soon.
3. Students create a greeting card of their choice (i.e. birthday, holiday, special occasion) to whom ever they want but they must include the following elements: graphic and text on the 1st and 3rd pages. 4th (back) page must have a small graphic with the name of the student. They may print 2 copies: 1 for themselves to use for that special person, and one for the teacher to grade.
4. As a class or individually, have students compare the differences between using a word processor and using desktop publishing software.
5. An extension of this lesson can be where the class creates their own holiday, such as "National Computer Ethics Day" or other curricular related "holiday" using the same above criteria. This is a great activity to review topics previously learned.

NETS Standards:
Basic operations and concepts, technology productivity tools, technology communication tools.

Time Frame: approx. 1 hour.

Objectives: *Insert graphics. Draw and write in text boxes, plan and design using specific desktop publishing software.*

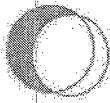
Materials:

* Desktop publishing software

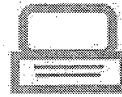
* Paper

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Desktop Publishing

Party Invitation

Overview: A common task for computer users at home is to create a party invitation. Sometimes party planners do not always have desktop publishing software available. This activity requires students to be creative from scratch without templates.

Procedures:

1. Review the term for desktop publishing with students: Combining creativity and computer tools for displaying information.
2. Introduce word processing publishing tools (i.e. inserting graphics, lines, arrows, textboxes).
3. The invitation will include a theme (birthday, just because, holiday, etc.), a title/name, place, date, time, and a map created using publishing tools only. Be sure to have student use pretend addresses so that their invitations can be displayed.
4. Students also need to add elements to make their party enticing and consider which elements best reflect the theme for their party.
5. An optional extension to this activity is to have a small party at the end of this activity with all of the invitations shared by students or displayed on the walls.



NETS Standards:
Basic operations and concepts, technology productivity tools, technology communication tools.

Time Frame: approx. 2 to 3 hours.

Objectives: *Utilize a variety of desktop publishing tools in word processing software, effectively use publishing elements that represent the main theme of a topic.*

Materials:

* Word processing software

* Paper

* (Optional) Basic party supplies and refreshments.

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Inside a Computer

Memory Analogies

Overview: The study of computer memory is necessary for understanding the basics of how a computer remembers much like a person. Textbooks teach this but the addition of a hands-on approach helps students fully understand.

Procedures:

1. A basic introduction into RAM, ROM, and Hard Drive needs to be first briefly defined to students. Once these definitions are established, begin the next step.
2. Teacher draws a stick figure on the board. Draw an arrow from the stick figure (see graphic on upper right corner of this page) to the phrase "Buying milk at 6 pm tonight." Explain that this is temporary memory as is RAM, because the person will soon forget that on that date at that time milk was bought. RAM doesn't remember what is did previously either.
3. Do the same with the phrase "My birth date." Explain that this is permanent memory that someone will never forget just like ROM always remembers. Neither can be changed.
4. Once again, write the phrase "Items in my garage." Explain that some items are left on the shelves for a very long time and some are continually used, replaced, or put back much like information in a hard drive.
5. Students are to individually create their own stick figures on notebook paper with 3 different analogies. Rotate a few volunteers to the board to draw their stick figures and analogies. Discuss the

My birth date



NETS Standards:
 Basic operations and concepts, (Optional) technology productivity tools, technology communication tools.

Time Frame: approx. 2 - 4 hours.

Objectives: Define basic terms for computer memory, compare computer memory to that of a person, create an analogy for one type of computer memory.

Materials:

* White board or other visual device

* Notebook paper

* Butcher paper

* Crayons, colored pencils, or markers

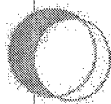
* (Optional) A painting, word processing, or combination of these types of software.

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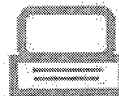


effectiveness of each analogy as a class.

6. Lastly, using butcher paper with crayons/markers or a paint program on the computer, have students choose one type of memory learned. They write the name of that computer memory, what it is like, and draw a picture of the analogy (see example). This could also be done completely on the computer.



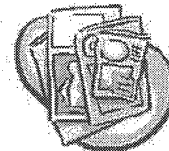
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Inside a Computer

Buying a Computer



Overview: Buying a computer can be pretty tricky for those who do not know the basics of what to look for. This activity gives students knowledge into how a computer basically works and important elements to look for in a computer advertisement.

Procedures:

1. A basic introduction into RAM and Hard Drive needs to be briefly defined to students (see Memory Analogies lesson). Once these definitions are established, begin the next step.
2. Compare elements of a new computer being sold today with an older computer like an Intel 486: RAM, MHz, CPU, hard drive and prices with a newer Intel Pentium IV today (prices are much the same though computers have greatly improved due to Moore's Law).
3. Have students find three different computer advertisements and list important elements they find from each computer including things that help sell the computer (i.e. rebates, free items, graphics, etc.). Use handout for collecting data.
4. Discuss as a class differences and similarities between the computers and the advertising "tricks" used to help sell the product.
5. Next, using desktop publishing or word processing software students are to design their own advertisement on the computer by creating an original brand name but using real elements for RAM, hard drive, MHz/GHz, CPU, and price.

NETS Standards:
Basic operations and concepts, technology productivity tools, technology communications tools, technology problem-solving and decision-making tools.

Time Frame: approx. 4 hours.

Objectives: *Define basic computer terms found in a computer advertisements, identify common elements of computer advertisements, design and create an original computer advertisement.*

Materials:

* White board or other visual device

* Notebook paper

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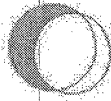


They will also include items and designs that will make their computer enticing to a buyer. Bind all advertisements from the class into a class catalog.

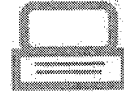
6. An optional extension to this activity is to have students compare a student advertisement (student names taken off advertisement) with an advertisement from a newspaper or magazine writing a comparison.

* Desktop publishing or word processing software.

* A variety of advertisements cut from newspapers or magazines (Optional: students can collect these over time before activity).



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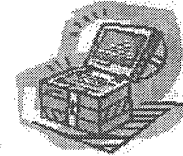


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The Internet

Treasure Hunt

Overview: Finding relevant information from reliable resources and knowing where to search is crucial to an introduction to the Internet. This activity requires a variety of search techniques for real life information in a fun way.



NETS Standards:
Basic operations and concepts, technology, research tools, technology problem-solving and decision-making tools.

Procedures:

1. Discuss and demonstrate a variety of search techniques using the Internet's World Wide Web.
2. Students will individually complete a Treasure Hunt handout that requires them to think about what type of web site would have the information requested and how they will find it.
3. Students will answer each question in the appropriate section and write the URL where they found the information. (Optional: have students keep track of all URLs visited to get each answer).
4. When students are done, discuss and share as a class the variety of web sites and search techniques they used to find information ask for in the Treasure Hunt.

Time Frame: approx. 2 hours.

Objectives: *Use a variety of Internet search techniques, find specific information using the Internet, problem-solve search strategies to begin and Internet search.*

Materials:

* White board or other visual device

* Treasure Hunt handout

* Internet access

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The Internet

Web Page Rubric



Overview: New users of the Internet need to be able to sift through the multitudes of good and bad information available. This activity helps students to become critical viewers of Internet sites that will help them select more reliable information.

Procedures:

1. Have students brainstorm on the board or other visual device the differences between the reliability of information found in encyclopedias and information found on the Internet. Afterwards, be sure to point out that anyone can create a web page and that the Internet is a great source of information but is not always reliable.
2. View a variety of web sites as a class that display content and aesthetics that are good and sites that show these elements in more ineffective ways. Two examples can include Beagle Buddies (personal page) or Washingtonpost (professional source).
3. Break students into pairs or small groups. Each pair or group will view 5 to 10 sites (have a prepared list to keep control of sites viewed). Students take notes while viewing each site about the reliability of the content and the aesthetic value of the page overall.
4. Next, each group or pair will develop a rubric based on the notes they took about the web sites. To do this, they will need to first agree upon the column headings and row categories (see sample rubric).
5. Finally, students create details according to each column and row that is agreed upon.

NETS Standards:
Basic operations and concepts, technology productivity tools, technology communications tools, technology research tools, technology problem-solving and decision-making tools.

Time Frame:
approx. 1 1/2 weeks.

Objectives: *View a variety of web sites to define criteria to evaluate reliable and unreliable web sites, create a table from word processing software, organize information onto a table, define the term "rubric," create a rubric for evaluating web sites.*

Materials:

** White board or other visual device.*

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Webmaster



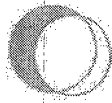
by their group for a total of 5 columns and 4 rows with 16 detailed cells beyond the headings and categories using tables in word processing software. Each group shares their rubric with the rest of the class by displaying their best web site example with their worst web site example according to their rubric.

* Notebook paper

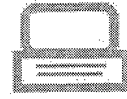
* Internet access

* Sample rubric

6. An optional extension of this activity is to participate in the *On The Cutting Edge* Webquest where students do a similar activity through an interactive Internet activity, which older students find to be a fun adventure.



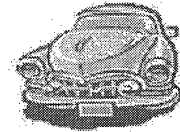
Lesson Ideas for the Computer Literacy Classroom



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Computer Ethics
Keyboarding
Word Processing
Desktop Publishing
Inside a Computer
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Spreadsheets
Concept Builders
Other Resources

Spreadsheets

Car Costs



Overview: This activity brings students to the realization that cars are cool but costly. Equally important is that students learn the value of spreadsheets as a tool for realistic tasks.

Procedures:

1. Have a class conversation about students' dream cars: what it looks like, the year, make, model, color, etc. Let students dream! Explain that students will be planning for that special car by calculating costs needed to buy and support their new vehicle.
2. Open up a new spreadsheet document (having a visual device is best), and introduce students to the basics: rows, cells, columns, maneuvering around, adding numbers in a row or column using a formula or autosum.
3. Using notebook paper, have pairs brainstorm every cost necessary to purchase and maintain a car. Share lists afterwards as a class and transcribe new ideas on board or other visual. Label each item as essential or nonessential.
4. Planning on paper is important for classes new at spreadsheet design. Students individually draw from the list of items on the board and/or from their notes for their car costs including any extras he or she desires by transferring items onto a spreadsheet. Students need to consider what are appropriate column and row labels.
5. Next, students calculate total cost for

NETS Standards:
Basic operations and concepts, technology productivity tools, technology communication tools.

Time Frame: approx.
3 - 4 hours.

Objectives: *Define effective areas of a spreadsheet to layout information, calculate numbers using formulas, use design tools for printing spreadsheets.*

Materials:

- * Spreadsheet software
- * White board or other visual device
- * Internet access
- * (Optional) Newspapers and/or magazines

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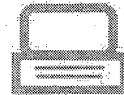


purchasing their car. They will also have totals for expenses for an entire month: insurance, gas, etc. Prices for all items can be found from the Internet or from newspapers and magazines.

6. Once numbers have been calculated, students are to creatively style and format their work for printing (i.e. text colors, fonts, borders, outlines, graphics, etc.).



Lesson Ideas for the Computer Literacy Classroom



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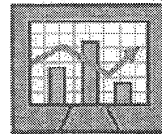
Spreadsheets

Stock Portfolio

Overview: This activity requires students to take a little bit of time each day over several weeks. At the end, data is collected in spreadsheets, charts, and includes exporting to word processing software. A variety of skills are combined.

Procedures:

1. Introduce the concept of stocks, ticker tapes, shares, stock prices, market fluctuations, etc. Visit the multitudes of web sites available as a class for more information (see example).
2. Each individual student will decide on 3 to 5 different types of stocks to make sure they diversify their investments. They find the price of one share for each stock and record the price, date, and month on a spreadsheet.
3. Each day for the next month, students visit the web site to collect share and price changes in each of their stocks while keeping a record of each on their spreadsheet. Students also need to read any relevant information regarding their stocks and record notes onto a word processed document.
4. Students need to problem-solve how to set up their spreadsheets to display their information (see example).
5. At the end of four weeks according to data collected, students will calculate monthly changes in stock prices, total stock prices, % earned overall for each stock, and any other calculations decided upon according to data collected.



NETS Standards:
Basic operations and concepts, technology productivity tools, technology communications tools, technology problem-solving and decision-making tools.

Time Frame: approx.
4 - 5 weeks.

Objectives: *Organize information onto a spreadsheet, define stocks and related terms, create a chart using spreadsheet software, export charts to word processing software, track stock prices, and related changes.*

Materials:

- * White board or other visual device.
- * Spreadsheet software
- * Word processing software

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6. Students create charts using the chart tool for each stock based on their spreadsheet data. These charts will then be exported to word processing software where students will summarize their stock changes from the last month and add any notes they collected as well.

* Web sites for tracking stock prices (see link on this page).

* Example spreadsheet for tracking stocks

7. This entire activity can be bound nicely into a portfolio with all work completed over the four week period.



Lesson Ideas for the Computer Literacy Classroom

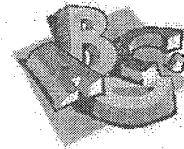


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Concept Builders

Concept Builder Lesson Ideas

Bingo: Have students brainstorm on the board all the computer-related terms they have learned in from the class. Write each individual term on a 3x5 card until there are 25 terms total. Have students draw a bingo card on notebook paper with four lines evenly spaced vertically and four lines evenly spaced horizontally creating 25 squares. Choose a card at random and say only the definition to students. Students are to write the definition on their paper in an empty box. Continue to read definitions while keeping cards already defined set aside until someone says "bingo." Have student read through their answers as cards are reviewed to see if that student is correct.



Wordsearch: Students individually brainstorm 20 computer-related terms learned in class. Then they draw a 15x15 table in a new word processing document. They first type in their terms forwards, backwards, and/or diagonally. Next, they fill in the empty cells with random letters. Letters should be capital only and centered. Once the letters have been entered, they highlight their table and, using the border icon on the tool bar, they erase the lines. Students then list their terms to be found on the same page and use publishing tools to make their work fancy. Encourage students by having the best wordsearch copied for the whole class to complete.

Millionaire: Here is a game based on a famous television show to help build vocabulary. It is a Power Point presentation that will take time to set up for use with your classroom but will be a whole lot of fun. Click onto this [link](#) for a legal downloadable copy of the game for the [Technet](#) web site.

News Articles: Continually look through the newspaper throughout the course of your class to find relevant article related to new technology, computer ethics, or anything else that helps support the curriculum. Copy the article onto one side of a paper with proper citations, and then write questions specific

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to the article along with questions that require students to reflect at a higher level. This is very effective at keeping students current and weaving reading into the curriculum!

APPENDIX C

HANDOUTS

Name:
Date:
Period:

Reading Computer Advertisements

Directions: Look at 3 different computer advertisements and fill out a section below for each.

Advertisement #1

1. What is the name brand of the computer?
2. What type of processor/CPU does this computer have?
3. How many MHz/GHz?
4. How much memory on the hard drive?
5. What is the price?
6. What other things does the advertisement have that helps entice buyers to purchase this computer?

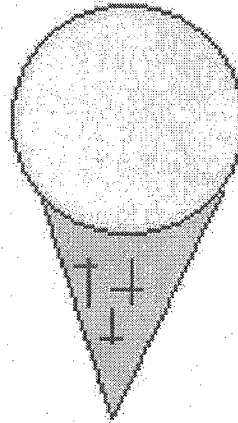
Advertisement #2

7. What is the name brand of the computer?
8. What type of processor/CPU does this computer have?
9. How many MHz/GHz?
10. How much memory on the hard drive?
11. What is the price?
12. What other things does the advertisement have that helps entice buyers to purchase this computer?

Advertisement #3

13. What is the name brand of the computer?
14. What type of processor/CPU does this computer have?
15. How many MHz/GHz?
16. How much memory on the hard drive?
17. What is the price?
18. What other things does the advertisement have that helps entice buyers to purchase this computer?

RAM is like...



Students can be much more creative with this on either the computer or designed on butcher paper. This is just a basic example.

an ice cream because they are both temporary and don't last forever.

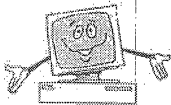
Autobiography

Directions: You will demonstrate your word processing skills in this autobiography assignment by responding to each topic in the body of your paper and including all required elements. Do your very best and show off how well you can use a computer to type!

Required Elements: Each of the following will be included in your paper, but you may add to these as well to give this paper your own personality.

- Title must be created with WordArt. See example of WordArt from the title of this page. Make your title creative!
- Type the body of your paper in 12-point font only (see me if your font is too small at 12).
- You must include two or more graphics with text wrapped around one or more. See example of text wrapped around graphic on this page.
- Lines must be double spaced
- Number each page using the automatic format for inserting page numbers.
- Correct your work for proper spelling and grammar.

The Body of Your Paper: Respond to each section in paragraph form, including the elements above. Each paragraph should be four or more sentences. Have fun!



1. Introductory paragraph that states what the paper will be about and is creative to make your reader want to read on.
2. Share things about your family, who you live with, or other interesting family members.
3. Describe any or all of your friends and things you like about them.
4. What do you like to do when you are not in school (keep it appropriate for the classroom – please)?
5. Favorite sports or games you like to play or just watch.
6. Animals or pets you own or just like.
7. Favorite TV shows.
8. Favorite movies.
9. Favorite music.
10. Favorite person (someone you know, don't know, famous, or from the past).
11. Describe what you want to do after you graduate from high school.
12. If you can make one really big change in the world, what would it be? Explain.
13. Describe something interesting about yourself that many people don't know.

Introductory Examples Sheet

Directions: The following are effective and ineffective paragraphs to the Autobiography assignment to be used with students as examples. The purpose is to show students that introductions are meant to introduce basic contents of the essay and catch the reader's interest.

1. I'm about to tell you about myself. My family is pretty crazy. We all have a real good time at holidays. I guess it is because there are six of us: Mom, Dad, Steve, Tom, Bonnie, and myself. We get along pretty well. I like my family.

(This is an introduction to an essay only about the family and not the autobiography that discusses many other things beyond the family)

2. I'm about to tell you about myself. I will explain about my family, some interesting things I like to do when I'm not at school, and some other really cool things about me.

(This works as an introduction but doesn't have the interest element)

3. Who is this incredibly interesting person you ask? What are her deepest, darkest secrets? You will soon find out more than you ever wanted to know about me. Watch out! You might be very impressed!

(This is a good introduction to the autobiography assignment)

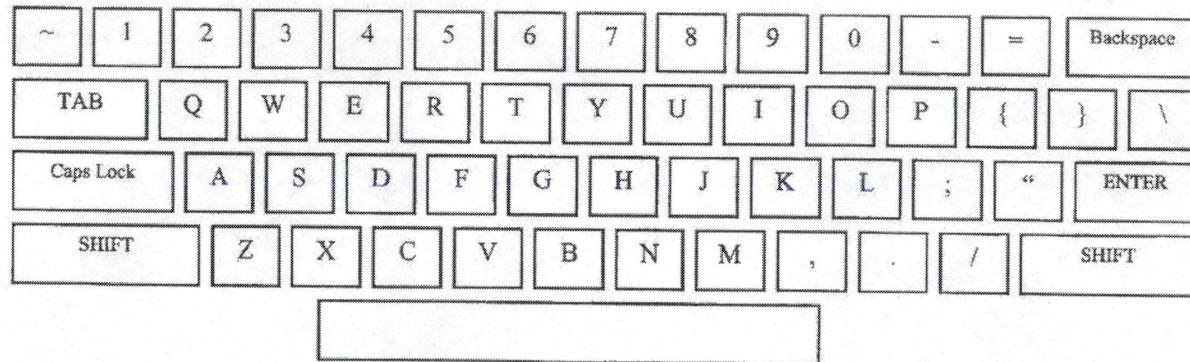
4. I'm going to write a little about my life and things I like to do.

(This lacks interest and is not a complete paragraph)

Name:
Date:
Period:

KEYBOARD COLOR

DIRECTIONS: Color each key of the home row and the spacebar a different color so that you have nine colors total. Next, color all other keys the same color as the keys from the home row that share the same fingers. For example, if you colored the "A" key blue, then color every key blue that also is pressed by the same finger. The entire keyboard* will be colored.



* Not all characters are represented on keyboard.

Name:
Period:
Date:

Current News Concerning Computer Ethics

Directions: Read any article from a newspaper, magazine, or the Internet that has something to do with wrong choices made by someone using a computer or other technology. Cut out the article (or make a copy) and attach it to this paper. Fill out each section below in your own words using complete sentences and details.

Source: _____ **Title of article:**

Summary:

Your Opinion:

Sample Rubric Table

This is a possible layout that students create and fill in due to evidence found from viewing other web sites.

	Poor	Fair	Good	Excellent
Graphics & Animation	Shows little or no graphical content. Has nothing to do with content and shows no animation.			
Text and Colors		Text is used in web site but in parts it is confusing at times and makes little sense. Color is used but not very interesting.		
Usability			This type of web site makes sense and is pretty easy to manipulate but might have a few problem areas.	
Reliability of Information				Information presented shows that it is well researched and presented in an authoritative manner.
Aesthetics	Web site is not interesting. Viewer becomes bored and does not want to continue on.			

Sample Formal Letter Style

Rhonda Stewart
83927 Dillon Road
Desert Hot springs, CA 92240
(555) 555-5555

} Your name, address,
phone number, etc.

Mickey House
2335 Disney Street
Anaheim, CA 55555
(555) 555-5551

} Person
you are
writing
to

October 9, 2001

Don't forget
the colon

To Mr. House:

Now is the time for all good men to go to the aid of their country. Now is the time for
all good men to go to the aid of their country. Now is the time for all good men to go
to the aid of their country.

↕ 2 spaces
between
chunks of
information

Now is the time for all good men to go to the aid of their country. Now is the time for
all good men to go to the aid of their country. Now is the time for all good men to go
to the aid of their country. Now is the time for all good men to go to the aid of their
country.

Sincerely,

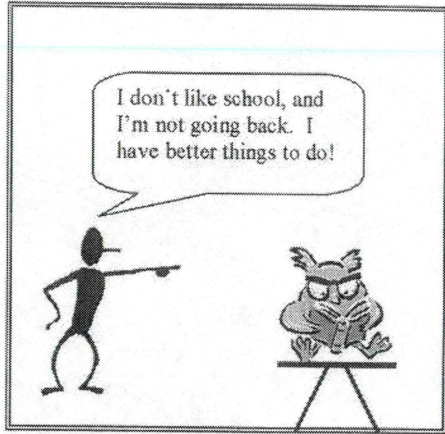
} 4 spaces between this
section only for room
to sign name in
between

Rhonda Stewart

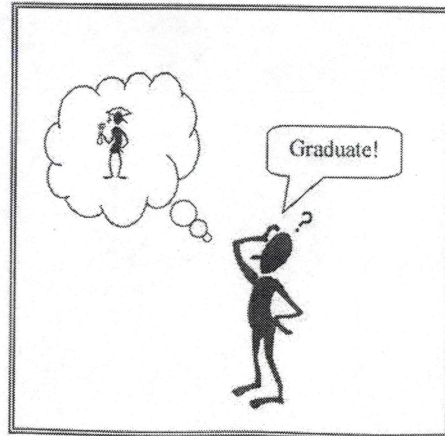
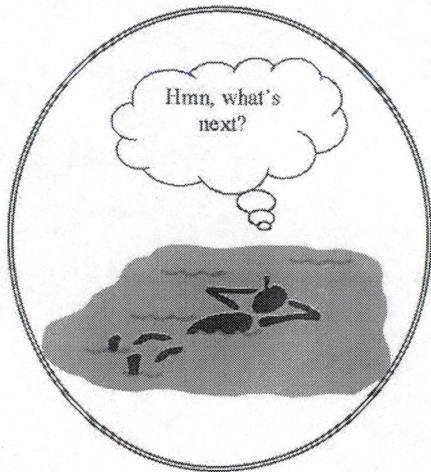
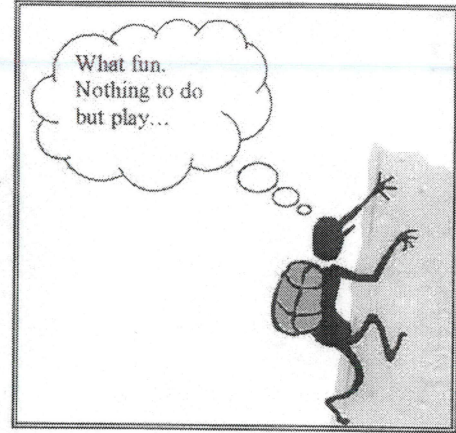
Sample Situations

Directions to Teachers: This is a sample that can be used with your classes and changed or added to according to your class' needs. Copy this page and then cut out each section for groups to problem solve and then share out their ideas with the rest of the class. Each group receives a different situation. This activity is meant as a review and to spark additional conversation (some of these are meant to be a little tricky too ☺).

- 1 A student goes onto the Internet and finds an essay about the novel titled *Outsiders*. Can this student use this essay? Why or why not?
- 2 Your teacher goes to a local store and buys a computer program and loads it on every computer in her computer lab at school. Was this right or wrong? Why?
- 3 A person buys a used computer loaded with software and doesn't have the original disks. Is this legal or illegal?
- 4 Your aunt gives you a computer game. You load it on to your computer, but you didn't buy the software yourself. Is this legal or illegal? Why?
- 5 You buy a computer and it comes with a bunch of software. You use the software without registering it. Is this legal or illegal? Why?
- 6 A student goes on the Internet and copies and pastes pictures from web sites. Is this legal or illegal? Why or why not?



The Confident Student



Sell now	0	0	0	0	0	0	Initial portfolio value (\$)
	Company 1		Company 2		Company 3		Total portfolio value (\$)
	Share price	No. of shares	Share price	No. of shares	Share price	No. of shares	
Monday	0	0	0	0	0	0	0.00
Tuesday	0	0	0	0	0	0	0.00
Wednesday	0	0	0	0	0	0	0.00
Thursday	0	0	0	0	0	0	0.00
Friday	0	0	0	0	0	0	0.00
Monday	0	0	0	0	0	0	0.00
Tuesday	0	0	0	0	0	0	0.00
Wednesday	0	0	0	0	0	0	0.00
Thursday	0	0	0	0	0	0	0.00
Friday	0	0	0	0	0	0	0.00
Monday	0	0	0	0	0	0	0.00
Tuesday	0	0	0	0	0	0	0.00
Wednesday	0	0	0	0	0	0	0.00
Thursday	0	0	0	0	0	0	0.00
Friday	0	0	0	0	0	0	0.00
Monday	0	0	0	0	0	0	0.00
Tuesday	0	0	0	0	0	0	0.00
Wednesday	0	0	0	0	0	0	0.00
Thursday	0	0	0	0	0	0	0.00
Friday	0	0	0	0	0	0	0.00

Sample Stock Spreadsheet

Treasure Hunt

Directions: Your job is to utilize a variety of Internet search tools. You must search the Internet to answer each question below. Answer each question completely, and list the URL where you found your final information.

Questions	URL's
1. List each year the Miami Dolphins football team played in the NFL Super Bowl:	
2. What is the weather forecast for the next three days in San Francisco, California (include today)?	
3. What does the word "staid" mean?	
4. Describe how to get from 745 N. Gen Autry Trail in Palm Springs, California to 43500 Monterey Avenue in Palm Desert, California:	
5. What was the most watched movie at the theaters this last weekend?	

6. What is the stock Ticker symbol for Microsoft?	
7. What price did Intel's stocks last closed at (example: 24.328)?	
8. What were the California Super Lotto winning numbers on January 6, 1993?	
9. Who wrote the novel <i>The Lecturer's Tale</i> ?	
10. What high school did Martin Luther King, Jr. graduate from?	

APPENDIX D
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- MICROSOFT PUBLISHER 97 (or more current) (**see * below**)
- MICROSOFT FRONTPAGE 98 (or more current) (including Image Composer)
- MICROSOFT HOME PUBLISHING 99 (or more current)
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Is
non-commercial/
internal yes
business/
personal use
okay?

Is there a
Microsoft
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alternative?

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