Unit 1: Computer Applications - Fundamentals

Content Area: **Technology**
Course(s): **Sample Course**
Time Period: **SeptOct**
Length: **8 weeks**
Status: **Published**

Computer Fundamentals

Department of Curriculum and Instruction

Belleville Public Schools

Curriculum Guide

Unit 1-Computer Applications Introduction - Fundamentals

Grade levels 9-12

Belleville Board of Education

102 Passaic Avenue

Belleville, NJ 07109

Prepared by: Corey Woodring

Dr. Richard Tomko, Ph.D., M.J., Superintendent of Schools

Ms. LucyAnn Demikoff, Director of Curriculum and Instruction K-12

Ms. Nicole Shanklin, Director of Elementary Education K-8, ESL Coordinator K-12

Mr. George Droste, Director of Secondary Education

Board Approved: September 23, 2019

Unit Overview

- The student will be able understand and become familiar with:

  What is Computer Technology/ Hardware, Software Operating System, Word Processing Software

- Introductory Computer Concepts and Techniques and PC Fundamentals.

- Students will understand copyright laws and the dangers of plagarism
- Student will understand and apply what digital citizenship is

Enduring Understanding

The Belleville High School District serves learners by assisting them to acquire the knowledge, skills, abilities, and attitudes necessary to function successfully in the business and economic environment.
In order to achieve this, students will understand that: Creativity, innovation, and critical thinking are essential for success in a technologically advanced world.

- Responsible digital citizenship requires effective oral, written and online communication and collaboration skills.
- The ability to navigate the World Wide Web is essential to being a successful student now and a productive citizen later.
- The ability to join the World Wide Web community by creating original content and navigating existing content is essential to being a successful student now and a productive citizen later.
- The ability to allocate and manage personal and business-related finances is important for future success.
- Proficiency with hardware and software leads to more success in academics and in finding employment.
- Successful college and career planning is essential to future success.
- Application of essential business knowledge is essential to assimilation into the world of work.
- Individuals have important rights and responsibilities as citizens in the work place.
- The ability to work with diverse populations is key to participation in a global economic society.
- Individuals can make informed and reasoned decisions for the public good.
- The ability to interpret and apply data to business situations is an integral part of the world of work.

Essential Questions

The following questions guide Business teachers' work in developing curriculum and planning units and lessons.
They are examples of questions that students should be able to answer during and at the conclussion of taking Business classes.

In the age of information, how can data be best stored, retrieved, and organized for reporting and analysis, in order to improve business operations?

How can I effectively use the Internet to gather a variety of research from valid/reliable sources?

What professional organizations are available to provide accurate information in answering questions regarding different areas of business?

How can a Computer keep you organized?

To what extent are we dependant on Technology?

Exit Skills

Students will be able to understand and display digital citizenship

Students will be able to effectively use the Internet to gather a variety of research from valid/reliable sources.

Turn on/off computer, monitor, and printer.
Use a mouse.
Use a keyboard.
I know the meaning of the hourglass.
Open a program from a desktop icon.
Open a program using the START menu.
Exit a program.
Minimize/maximize program windows.
Understand the difference between a program and a document.

Create and save a document.
Open and close a document.
Use drop down menus.
Can move insertion point using the keyboard and the mouse.
Correct errors with backspace and delete keys.
Print document.
Use Save As

New Jersey Student Learning Standards (NJSLS-S)

TECH.8.1.12	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.12.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.12.A.CS1	Understand and use technology systems.
TECH.8.1.12.A.CS2	Select and use applications effectively and productively.
TECH.8.1.12.B	Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
TECH.8.1.12.C	Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Interdisciplinary Connections

LA.RH.6-8.4	Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
LA.RH.6-8.7	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

Learning Objectives

Students will be able to:

1. Load and exit windows; use mouse and keyboard; identify the components of the windows desktop; organize screen based desktop; switch tasks in a multi-tasking environment.
2. Start and exit Word processing software; open and close a document; delete and inset text and blank lines; select blocks of text; change justification and line spacing; save and print a document.
3. Spell-check a document; open and display two documents; cut, copy, and move text; enter date codes; set margins and tabs; bold and italicize text; search and replace text.
4. Objectives related to basic computer competency specify the skills a student must demonstrate before successfully completing the training. These statements include the knowledge of basic computing concepts, security measures and the ability to use popular software applications to produce documents, spreadsheets and presentations. Other objectives are creating and managing files and folders and retrieving data.

Suggested Activities & Best Practices

Students will create and edit a variety of documents; i.e., reports, letters, memos, emails, labels and envelopes from unarranged, edited, and script copy using word processing software.

Students will demonstrate basic word processing formatting skills.

1. *Utilize file functions: open, close, save, save as, page setup, and print.*
2. *Utilize formatting functions: variable top, bottom, left, and right margins; font sizes and styles; line spacing, word wrap, bullets and outline features; justification; spell check; thesaurus.*
3. *Create tables.*
4. *Utilize report functions: page numbering; page number suppress; widow/orphan protection; enumerated items; bibliography (references); works cited; title pages; table of contents.*

Students will learn / practice:

- *Setting Margins*
- *Changing font size*
- *Changing alignment*

- *Using bold print*
- *Typing a paragraph with word wrap*
- *Spell checking*
- *Copy and paste*

Assessment Evidence - Checking for Understanding (CFU)

Web-Based Assessments-alternate assessment

Unit test-summative assessment

Admit/Exit tickets-formative assessment

-benchmark assessments

Students will create and edit a variety of documents; i.e., reports, letters, memos, emails, labels and envelopes from unarranged, edited, and script copy using word processing software. Students will demonstrate basic word processing formatting skills.

Utilize file functions: open, close, save, save as, page setup, and print.

1. Utilize formatting functions: variable top, bottom, left, and right margins; font sizes and styles; line spacing, word wrap, bullets and outline features; justification; spell check; thesaurus.
2. Create tables.
3. Utilize report functions: page numbering; page number suppress; widow/orphan protection; enumerated items; bibliography (references); works cited; title pages; table of contents.

- Admit Tickets
- Anticipation Guide
- Common Benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- DBQ's
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration
- Journals
- KWL Chart
- Learning Center Activities
- Multimedia Reports
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Surveys
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit review/Test prep
- Unit tests
- Web-Based Assessments
- Written Reports

Primary Resources & Materials

Office 2013 Textbook -Pearson

Ancillary Resources

Business&ITCenter21

G Suite learning Center

additional resources that will be used to strengthen this unit's lessons.

Technology Infusion

Technology Infusion and/or strategies are integrated into this unit to enhance learning

Khan Academy

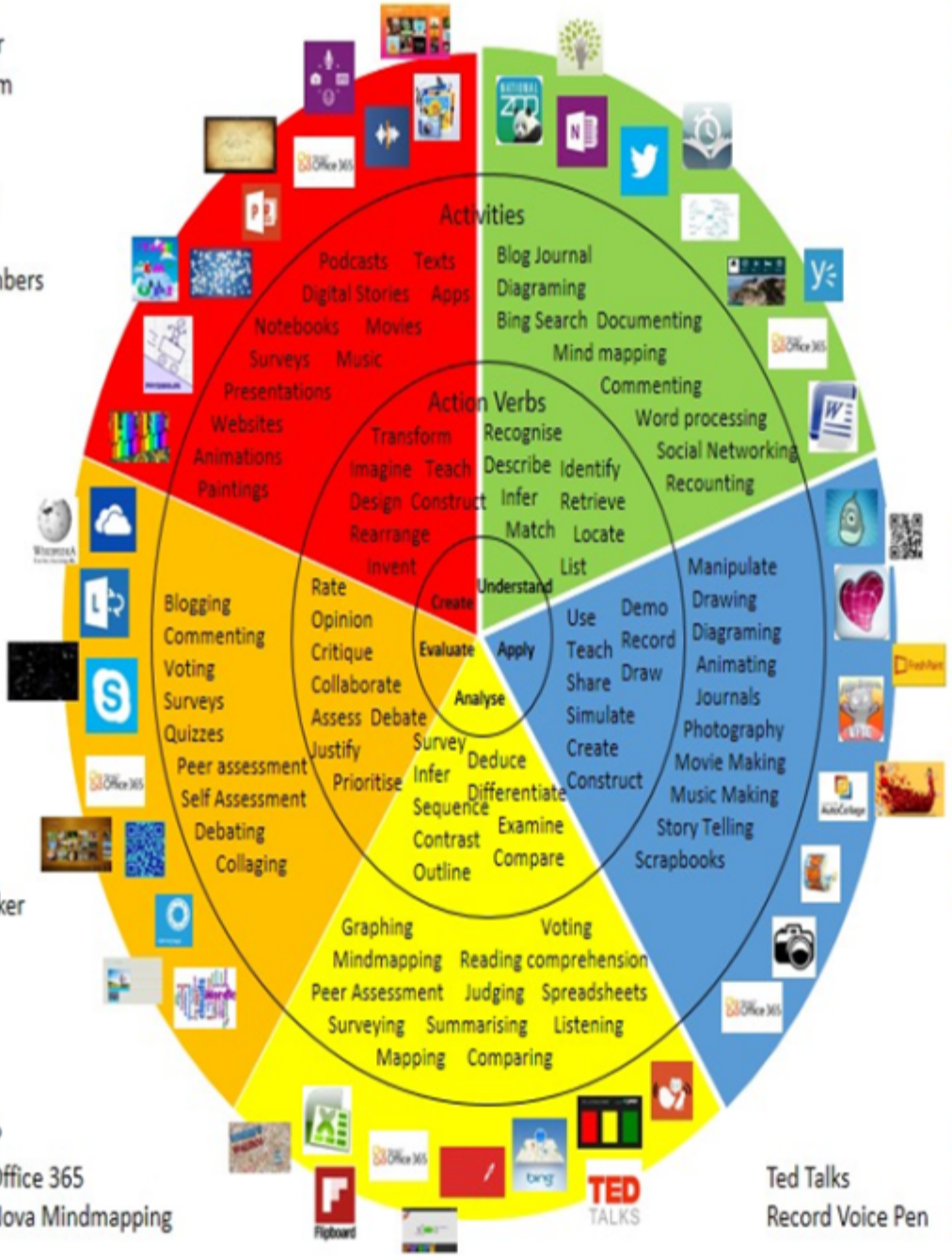
Office 365

Google Suite

Win 8.1 Apps/Tools Pedagogy Wheel

Podcasts
Photostory 3
Kid Story Builder
Music Maker Jam
Paint A Story
Office 365
MS PowerPoint
Stack 'Em Up
NqSquared Numbers
Physamajig
Xylophone 8

Wikipedia
Skydrive
Lync
SkyMap
Skype
Office 365
Puzzle Touch
Easy QR
Memorylage
Life Moments
Word Cloud Maker



Where's Waldo?
MS Excel Office 365
Flipboard Nova Mindmapping

Ted Talks
Record Voice Pen

Originally taken from http://www.coetail.com/vzimmer/files/2013/02/iPadagogy-Wheel.001.jpg
And adapted for Windows 8.1 devices by Charlotte Beckhurst @CharBeckhurst

Alignment to 21st Century Skills & Technology

21st Century Skills & Technology and their Alignment to the core content areas is essential to student learning. The core content areas include:

- English Language Arts;
- Mathematics;
- Science and Scientific Inquiry (Next Generation);
- Social Studies, including American History, World History, Geography, Government and Civics, and Economics;
- World languages;
- Technology;
- Visual and Performing Arts.

9.3.12.BM.1	Utilize mathematical concepts, skills and problem solving to obtain necessary information for decision□making in business.
9.3.IT.4	Demonstrate positive cyber citizenry by applying industry accepted ethical practices and behaviors.
TECH.8.1.12.B.CS2	Create original works as a means of personal or group expression.

21st Century Skills/Interdisciplinary Themes

21st Century/Interdisciplinary Themes that will be incorporated into this unit.

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

CAEP.9.2.12.C	Career Preparation
CAEP.9.2.12.C.1	Review career goals and determine steps necessary for attainment.
CAEP.9.2.12.C.2	Modify Personalized Student Learning Plans to support declared career goals.

21st Century Skills

Upon completion of this section, please remove all remaining descriptions, notes, outlines, examples and/or illustrations that are not needed or used.

Please list only the **21st Century Skills** that will be incorporated into this unit.

- Civic Literacy
- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

Differentiation

The teacher will scaffold the lesson with a slow release from assisted support with guided practice to independent practice.

- Multisensory approaches

Effective educational **Differentiation** in a lesson lies within content, process, and/or product.

Differentiations:

- Small group instruction
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives
- Center-based instruction
- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time
- Preview vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan

- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

Hi-Prep Differentiations:

- Alternative formative and summative assessments
- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects
- Interest groups
- Learning contracts
- Leveled rubrics
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products
- Varying organizers for instructions

Lo-Prep Differentiations

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills
- Open-ended activities
- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

Special Education Learning (IEP's & 504's)

Extended time on projects or assessments

Special Education Learning adaptations that will be employed in the unit, using the ones identified below.

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multi-sensory presentation
- multiple test sessions
- preferential seating
- preview of content, concepts, and vocabulary
- Provide modifications as dictated in the student's IEP/504 plan
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner
- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

English Language Learning (ELL)

Allowing the use of note cards or open-book during testing

English Language Learning adaptations that will be employed in the unit, using the ones identified below.

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarif
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;
- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

At Risk

Classes will be largely activity-focused. One-to-one assistance will be available during class time.

Allowing students to select from given choices

Intervention Strategies that will be employed in the unit, using the ones identified below.

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes

- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

Talented and Gifted Learning (T&G)

Complete activities aligned with above grade level text using Benchmark results

Teacher can use a pre-assessment to determine students' knowledge of standard being taught in lesson and then provide an extension activity for students

Talented and Gifted adaptations that will be employed in the unit, using the ones identified below.

- Above grade level placement option for qualified students
- Advanced problem-solving
- Allow students to work at a faster pace
- Cluster grouping
- Complete activities aligned with above grade level text using Benchmark results
- Create a blog or social media page about their unit
- Create a plan to solve an issue presented in the class or in a text
- Debate issues with research to support arguments
- Flexible skill grouping within a class or across grade level for rigor
- Higher order, critical & creative thinking skills, and discovery
- Multi-disciplinary unit and/or project
- Teacher-selected instructional strategies that are focused to provide challenge, engagement, and growth opportunities
- Utilize exploratory connections to higher-grade concepts
- Utilize project-based learning for greater depth of knowledge

Sample Lesson Computer Applications

Framework for Technological Literacy

Classroom Activity for Belleville High School



Title: Internet Safety in the High School Classroom

Author Information:

Name:Corey Woodring
School:Belleville High School

County:Essex

Content Area:Technological Literacy

Grade Level:9-12

Student Learning Objectives:

Students will be able to:

1. Develop a criteria sheet for evaluating websites used for research.
2. Research and identify facts related to plagiarism and copyright infringement and the basic guidelines of the fair use policy (e.g., purpose, nature, amount, and effect)
3. Become familiar with and develop a basic understanding of Internet safety concepts.
4. Create a presentation with a multimedia software program on an Internet safety topic.
5. Create a brochure with a publishing software program on an Internet safety topic.

NJ Core Curriculum Content Standards

Content Area	Standard	Grade	Strand	CPI
Technology Literacy	8.1	12	B	1-4, 6-7
Language Arts	3.4	12	B	2
Language Arts	3.5	12	A	2,3
Language Arts	3.5	12	C	1,3
Career Education and Consumer, Family, and Life Skills	9.1	12	A	1,3,5

Purpose and Overview:

The purpose of this lesson is for students to become familiar with copyright laws and the dangers of plagiarism.This activity requires students to create a multimedia presentation.

Instructional Activity:

Teacher will establish a purpose for lesson and provide background information related to copyright laws and plagiarism.

Evaluating Websites

1. Then students will visit Evaluating a Website at

http://www.2learn.ca/evaluating/evaluating.html.Use one of the criteria guides for a specific grade level. Write a summary paragraph about evaluating websites in general.

2. After visiting this website, students will participate in class discussion about how to determine if information is accurate and true.

3. Next, students will complete the Internet Scavenger Huntworksheet called Internet Safety Scavenger Hunt--#1. After completing the scavenger hunt students will review the section Evaluating Online Resources? at http://edsitement.neh.gov/reference_shelf_evaluating.asp

and also visit http://lib.nmsu.edu/instruction/evalcrit.html to compare the criteria for evaluating websites. Students are surprised that the original site they visited from the scavenger hunt appeared so scientific and yet is completely false.

Plagiarism & Copyright Use

4. Students will conduct some research on plagiarism by visiting http://www.2learn.ca/mapset/SafetyNet/plagiarism/Plagiarism.html and listing three facts about it.

5. Students will visit the copyright and fair use website in the scavenger hunt activity to find three facts.

Internet Safety

6. Students will be assigned or can select a topic they want to learn more about in regards to Internet safety such as: hoaxes, spamming, chat rooms, viruses, cookies, hate sites, filtering software, software blocks, etc. Students will then conduct research online to find appropriate information to create a multimedia presentation

and present to the class to share the information.

7. Students will take the data collected from their research and create multimedia presentations.Then students will present the information and develop a two-fold brochure to disseminate to the class during their presentation.

Assessment Strategies: Rubric, Question/Answer, Oral Presentation Rubric

1. Students will give an oral presentation on their Internet safety topics. Students should use rubric: Making A Brochure: Internet Safety #2 to assess each presentation.

2. Students will create a two-fold brochure related to their Internet safety topic information, as well as vocabulary words.

3. Students will take a quiz on the five main criteria in evaluating websites (e.g., accuracy, authority, objectivity, currency, and coverage). Knowledge of information and internet safety vocabulary words will be included.

*Key vocabulary words for study include:

AUP, URL, bookmark, Boolean operators, browser, domain, hyperlink, keyword, netiquette, post, search engine, search tools, website, and webpage
http://www.sharpened.net/glossary/index.php

http://whatis.techtarget.com/

Additional Information:

Other websites to visit include:

Encourage Safe Use of the Internet, www.webteacher.org.

Search Engines:

www.dogpile.com, www.altavista.com, www.yahoo.com, www.google.com, and www.goto.com.

Students can scroll toward the bottom of the website and take the vocabulary quiz on ?Learning Computer Terminology?.

http://www.sheppardsoftware.com/web_games_vocab.htm.

Students can create their own free word game using www.puzzlemaker.com.

Students can use the assessments on internet safety at http://coe.nevada.edu/slefevre/Tasks.html.

Teachers might want to read more about plagiarism at http://alexia.lis.uiuc.edu/~janicke/plagiary.htm or Anti Plagiarism ideas athttp://virtualsalt.com/antiplag.htm.

PowerPoint for students on Plagiarism (downloadable) for college students can be found at

http://www.libraryinstruction.com/plagiarism/lib97plag.ppt.

Teen Safety on the Internet can be found at http://www.safeteens.com/safeteens.htm.

Students and/or teachers can use this site for additional information on cyber safety

http://www.cybersmart.org/info/overview_pres.asp.

Fair and Use Guidelines for Teachers can be found at

http://www.mediafestival.org/chartshort.html.

Making A Brochure: Internet Safety #2

Teacher Name:_____

Student Name: _____

CATEGORY	4	3	2	1
Sources	Careful and accurate records are kept to document the source of 95-100% of the facts and graphics in the brochure.	Careful and accurate records are kept to document the source of 94-85% of the facts and graphics in the brochure.	Careful and accurate records are kept to document the source of 84-75% of the facts and graphics in the brochure.	Sources are not documented accurately or are not kept on many facts and graphics.
Multimedia Presentation	Each slide of the multimedia presentation has a clear purpose.	Almost all slides of the multimedia presentation have a clear purpose.	Most slides of the multimedia presentation have a clear purpose.	Less than half of the slides of the multimedia presentation have a clear purpose.
Spelling & Proofreading	No spelling errors remain after one person other than the typist reads and corrects the brochure.	No more than 1 spelling error remains after one person other than the typist reads and corrects the brochure.	No more than 3 spelling errors remain after one person other than the typist reads and corrects the brochure.	Several spelling errors in the brochure.
Attractiveness & Organization	The brochure has exceptionally attractive formatting and well-organized information.	The brochure has attractive formatting and well-organized information.	The brochure has well-organized information.	The brochure's formatting and organization of material are confusing to the reader.
Presentation	Well rehearsed with smooth delivery that holds audience attention.	Rehearsed with fairly smooth delivery that holds audience attention most of the time.	Delivery not smooth, but able to maintain interest of the audience most of the time.	Delivery not smooth and audience attention often lost.
Graphics/Pictures	Graphics go well with the text and there is a good mix of text and graphics.	Graphics go well with the text, but there are so many that they distract from the text.	Graphics go well with the text, but there are too few and the brochure seems "text-heavy".	Graphics do not go with the accompanying text or appear to be randomly chosen.
Multimedia Presentation	Each slide of the multimedia presentation has a clear purpose.	Almost all slides of the multimedia presentation have a clear purpose.	Most slides of the multimedia presentation have a clear purpose.	Less than half of the slides of the multimedia presentation have a clear purpose.

Internet Safety Scavenger Hunt--#1

1. Go to Alan November's website and read the article about Zack doing research on the Holocaust, http://www.anovember.com/articles/zack.html

a. Why is it important for students to learn how to validate the information?

b. What are 3 categories the author suggests you use to evaluate findings?

c. Click on http://pubweb.acns.nwu.edu/~abutz/index.html under the Meta-

Web information and determine what the information is intended for.

Beware of what follows the .

2. Visit http://www.yahooligans.com/parents/ Yahooligans ?Surfing as a Family Adventure.? What do they say to look at when evaluating web content?? Does this agree with the website in question #1Explain your answer.

3. Visit the Virginia State Department of Education's Acceptable Use Policy site at

http://www.pen.k12.va.us/go/VDOE/Technology/AUP/home.shtml#TOC.

Review the importance of having such a policy.? List a few key components of an?

Acceptable Use Policy. List the facts below:

1._____

2._____

3._____

4._____

4. Using the above website, look at one or two of the sample AUP's they provide. Do you notice common items?
   a. What do you think is important to include? Explain your answer:
      _____

5. Go to the Family Guidebook http://www.familyguidebook.com/permit.html and view Sophie's Safe Surfing Permit. Could you use this in your school Explain your answer. Take the quiz at http://yahooligans.yahoo.com/parents/kids/quiz.html.

6. Visit the New Jersey State Department of Education's site at:http://www.state.nj.us/njded/techno/htcrime/index.html and visit their General Information section Visit Guide for Educators:? Critical Evaluation Information.?? Select an article to review and write threeI learned statements based on the article.

1. I learned _____

2. I learned _____

3. I learned _____