

# NINTH – TWELFTH GRADES

By the end of the ninth, tenth, eleventh, and twelfth grades, students will do the following:

## Standard 1 - Basic Operations and Concepts

### Terminology

- Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
- Copyright
- Software piracy
- License agreement
- Telecommunication
- Multimedia
- Desktop publishing
- Database
- Query
- Field
- Record
- Spreadsheet
- Cell
- Column
- Row
- Formula
- Boolean search

### Computer Hardware/Software

- Use a variety of media and technology resources for directed and independent learning activities across the curriculum.
- Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
- Appraise computer hardware to determine software compatibility.

Examples: RAM, processing speed, hard drive, video card.

### Operating Systems

- Utilize an operating system efficiently.
  - Operating system (Example: Windows) menu items and commands/options
- Examples: *File, Edit, View, Help*

- Start button/start menu
- Taskbar, system tray
- Control/Alt/Delete—Shut down and end tasks
- Differentiate among operating systems.

Examples: Windows 98, Windows 2000, Windows XP, Linux, Unix, OS10 or higher

- Identify the functions and advantages of computer productivity software.
- Telecommunications
- Spreadsheet
- Database

### Networking

- Practice responsible use of networked computer.
- Use log- in numbers/names
- Use network printers
- Save files to individual home directories

- Use multiple storage drives
  - Access on- line information for instruction
  - Access information from a folder/directory
  - Send and receive electronic mail
  - Set up and change user passwords
  - Know the importance of password security
9. Assess the impact of networks on society.

### **File Management**

- Use basic computer management skills.
- Access and exit software
- Manage files (save, retrieve)
- Organize files
- Use disk utilities (format, copy, delete, create, backup, save)
  - Identify advantages of creating an organized file structure.
  - Arrange an organized file structure
  - Modify file structure.
  - Identify various storage and backup options.

Examples: floppy disks, CDRW, DVD, network folders

### **Basic Trouble Shooting**

- Describe correct procedures for troubleshooting simple hardware and software problems.
- Apply strategies for identifying and solving routine hardware and software problems that occur in everyday use.

Examples: check plug, on/off switch, connections, video, and sound; reboot; use help sources

## **Standard 2 - Social, Ethical, and Human Issues**

### **Information Ownership**

- Interpret copyright laws and policies with regard to ownership and use of electronic information.
- Interpret copyright laws
- Interpret fair use policies
- Obtain permission to use electronic media sources/products
- Determine considerations necessary to use electronic media sources/products.

Examples: fair use (educational and personal), software licensing

- Explain consequences of copyright violations

### **Responsible Use**

- Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.
- Examples: clean hands, clean work area, no magnets, drink, or food around computer
- Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.
  - Identify and practice legal and ethical behaviors when using information and technology.

- Obey copyright laws
- Obey fair use policies
- Use Internet appropriately
- Use appropriate computer netiquette
  - Understand and follow the Technology Usage Policy.
- Explain consequences of the misuses of technology

- Evaluate the accuracy, appropriateness, relevance, comprehensiveness, and bias of electronic information.
- Cite electronic sources properly.

Examples: style manuals

- Identify unethical behaviors regarding use of technology.

Examples: hacking, viruses, threats, unauthorized access, piracy

- Recognize practices that are not in keeping with netiquette.

Examples: slamming, spamming, flaming, screaming

### **Implications of Technology Use**

- Explain types of tasks for which technology may be used in school, home, and business.

Examples: e-learning, e-commerce, telecommuting

- Describe current changes in information technologies and the effect those changes have on the workplace and society.
- Analyze ways in which technology has influenced the course of history.
- Evaluate the effect technology has on the workplace and society.
- Identify factors that affect access to technology.

Examples: socio-economic level, political climate, geographic location

### **Standard 3 - Technology Productivity Tools**

- Utilize productivity/multimedia tools and peripherals to support personal productivity, group collaboration, communication, and learning throughout the curriculum.

- Word processing software
- Spreadsheet software
- Database software
- Telecommunications (e-mail and Internet)
- Presentation/authoring software
- Web tools
- Digital cameras
- Scanners.

### **Word Processing**

- Use appropriate techniques for producing word processing documents.
- Create and save a new document
  - Use *Save* and *Save As*
- Open, view, print, and close documents
  - Use *Print Preview*
  - Print selected parts
  - Print on various sizes of paper
- Format documents
  - Select font style and size
  - Space words
  - Indent
  - Justify text
  - Space lines
  - Select page orientation
  - Set margins
  - Set tabs
  - Use headers, footers and pagination
- Edit text

- Select text
- Change font style and size
- Cut, copy, paste, and delete text
- Use spell check
- Use thesaurus
- Use *Find* and *Replace* features
- Use desktop publishing techniques
  - Insert graphics
  - Size graphics
  - Insert, modify, delete columns
  - Create tables
- Use word processor in real world context
  - Write stories or poems
  - Type reports
  - Generate letters
  - Make brochures
  - Add entries to work cited
  - Create a resume (introduced in 10<sup>th</sup>)
  - Create a formal lab report for science (introduced in 10<sup>th</sup>)

## **Spreadsheets**

- Identify examples of

Italicized words indicate special key names or computer commands.

- Explain advantages of using spreadsheets.
- Apply appropriate techniques for producing spreadsheets.

- Create and save spreadsheets
  - Identify intended use
  - Specify data organization
  - Determine columns and rows
  - Set cell attributes
  - Create simple calculation formulas
  - Enter and edit data
- Retrieve data
  - Sort data
  - Create chart(s)
- Print and close spreadsheets
  - Print all
  - Print selection
  - Use *Close*
- Edit data
  - Insert column or row
  - Delete column or row
  - Use fill down/across
  - Save updated spreadsheet
- Generate graphs from spreadsheets
  - Determine and create appropriate type of graph
  - Incorporate graphs into word processing

## Databases

- Identify examples of databases.
- Identify uses of databases.

Example: compile like information

- Explain advantages of databases.
- Apply appropriate techniques for producing or manipulating databases.

- Plan data structure
- Create new and open existing database
- Use *Save*, *Save as*, and *Close*
- Use print options.

Examples: preview, entire file, selected parts

- Name fields.
- Set field attributes
- Enter data
- Edit data
- Search data
- Sort data
- Query data
- Create and print reports
- Filter data
- Merge data

## Multimedia Authoring

- Explain uses, advantages, and options of multimedia authoring.
- Use a variety of media and technology resources to produce developmentally appropriate multimedia knowledge products across the curriculum.

Examples: autobiography, stories using word processor, brochures, newspapers, slide presentations, web pages, digital or video presentations

- Prepare an electronic presentation
  - Create and edit slides/screens
  - Add and edit text (font, size, color)
  - Design a presentation using four or more different forms of media
  - Create an electronic presentation using research in a real world context
- Create or change the look of presentation
  - Customize the background using color or picture
  - Arrange objects on the slide/screen
  - Insert graphics, clip art, digital pictures, paint, and/or original scanned artwork
  - Use Word Art to enhance titles or to create original art
  - Cite all graphics – link where appropriate
  - Create a works cited screen or add to bottom of web page
- Customize
  - Add slide transitions to slide show
  - Use sound to enhance presentation (Optional)
  - Place video in presentation (Optional)
  - Create slide layouts for tables and/or charts
  - Create a hyper- link to at least one website

- Arrange slides/screens in a logical and appropriate order
- Animate text and/or graphics to add impact (Optional).Ninth- Twelfth Grades-8  
Asterisk indicates a new skill.

Italicized words indicate special key names or computer commands.

- Save

- Use *Save* to store a presentation as a new and/or existing file
- Use *Save As* to save the presentation to a new location

Example: saving to shared directory for use during class presentation

- Close presentation

- Save a presentation as a web page

## **Standard 4 - Technology Communication Tools**

### **Presentations**

- Demonstrate proficiency in presenting multimedia projects.

- Open an existing multimedia project
- Practice presentation skills for audience (use of microphone, posture, delivery skills)
- Deliver presentation using projection device
- Create notes for final presentation

- Demonstrate proficiency in displaying digital information.

Examples: web pages, video segments, publications, multimedia presentations

### **Communications Applications**

- Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.

Examples: on-line curriculum projects such as describing the environment, cultural exchange, discussions with experts, school broadcasts, discussion groups, pen pals

- Explain ways technology is used for transfer of information.

Examples: e-mail, listserv, video conferencing, Internet

## **Standard 5 - Technology Research Tools**

- Use appropriate (content-specific) on-line resources to support learning and research.

- Utilize information from locally approved websites
- Identify appropriate resources
- Identify a need for information
- Search electronic card catalogs, , electronic dictionaries, encyclopedias, and almanacs as appropriate
- Search the Internet using developmentally appropriate search engines
- Define search parameters
- Produce research project incorporating information retrieved from at least two different types of sources.

- Apply appropriate techniques for information retrieval.

- Key words
- Boolean operators

Examples: AND, NOT, +, -

- Identify useful information from a search.

- Evaluate for accuracy, appropriateness, and relevance
- Evaluate for comprehensiveness and bias
- Compare information from at least two sources
- Identify trends in data

- Take notes and paraphrase from a search.

- Cite electronic sources appropriately for bibliography.

## **Standard 6 - Technology Problem-Solving and Decision-Making Tools**

- Utilize technology for solving problems.
- Utilize technology for making data-driven decisions.

Examples: assembling a plan for purchasing a computer given a basic set of circumstances, making projections

- Select appropriate technology tools and resources to address a variety of tasks and problems.
- Use appropriate tools and technology resources to resolve information conflicts by validating information through research and comparison of data.

Example: defending a position on political or social issues