Computer Technology: Literacy and Usage

EIGHTH GRADE

Standard 1.0
Students will understand basic operations and concepts of technology.

Learning Expectations
1.1   Students will demonstrate an understanding of the nature and operation of technology systems.
1.2   Students will exhibit a proficiency in the use of technology.
1.3   Students will demonstrate and apply basic skills (alpha numeric and special characters) in using keyboard using the touch system of keying

Accomplishments
8.1.1. Students will demonstrate an understanding of the nature and operation of technology systems.
   a. Demonstrate knowledge and appropriate use of operating systems, software applications, communication and networking components.
      1. Manipulate icons on the desktop, create folders, and store files within the folder.
      2. Use different software programs (word processor, spreadsheets, etc.).
      3.   Maintain a current vocabulary of networking terms
   b. Use technology terminology appropriate to the task.
      1. Print reports based on a sort
      2. Print reports based on a query
   c. Use terminology related to the Internet appropriately including, but not limited to electronic mail (e-mail), Uniform Resource Locators (URLs), electronic bookmarks, local area networks (LANs), wide area networks (WANs), World Wide Web (WWW) page, and HyperText Markup Language (HTML).
   d. Explain how LANs, WANs, Internet, and intranet operate versus a stand-alone system.

8.1.2. Students will exhibit a proficiency in the use of technology.
   a. Compare, contrast, and appropriately use various input, processing, output, and primary/secondary storage devices.
      1. Use peripheral devices, such as a mouse, a keyboard, and a scanner correctly.
      2. Organize files on a computer disk, hard drive, server, or other storage device.

      b. Perform basic software application functions including, but not limited to, opening an application program and creating, modifying, printing, and saving documents. (1.2) (M)
1. Type, edit, and print a document.
2. Create a chart that visually represents data.
3. Import graphics with appropriate placement.
4. Use advanced formatting techniques such as margins, line spacing, and tabs.
5. Create a multi-page, multimedia presentation using text, graphics, and sound to effectively communicate a concept.

8.1.3. Students will develop basic skills (alpha numeric and special characters) in using keyboard using the touch system
      a. Using appropriate ergonomics, apply the touch system on the alpha, numeric, and symbol keys at a rate of 30 net words per minute (NMPM) on a 2 minute time straight copy timed writing..
      b. Apply the touch system to the numeric keypad

Performance Indicators

The student is able to:

- Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.
- Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving.
- Key at a rate of at least 30 net words per minute (NWPM) using the proper touch-keying techniques on a straight copy timed writing

Sample Performance Task

- Using a selected piece of software student will demonstrate that a computer needs instructions from system software to operate applications. Students model a teacher demonstration of sequential instructions to print, sort, calculate and perform other functions. The student will also explain that a computer uses binary codes to implement functions. Proficiency is determined by student utilization of software specific to the computer and the successful completion of assigned tasks as observed by the teacher.

Integration/Thematic Connections
See links on Tennessee State website @ _____.

Standard 2.0
Students will understand the importance of social, ethical, and human issues associated with technology.

Learning Expectations
> 2.1 Students will understand the ethical, cultural, and societal issues related to technology.
>
> 2.2 Students will practice responsible use of technology systems, information, and software.
>
> 2.3 Students will develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

Accomplishments
> 8.2.1. Students will understand the ethical, cultural, and societal issues related to technology.
>> a. Practices ethical and legal behaviors when using information and technology, and discuss ramifications of misuse.
>>> 1. Discuss copyright laws/issues and model ethical acquisition and use of digital information, citing sources using established methods.
>>> 2. Demonstrate proper etiquette and knowledge of acceptable use while in an individual classroom, lab, or on the Internet and intranet.
>>> 3. Describe the consequences regarding copyright violations including, but not limited to, computer hacking, computer piracy, intentional virus setting, and invasion of privacy.
>> b. Discuss current changes in information technologies and how those changes affect society and the workplace.

> 8.2.2. Students will practice responsible use of technology systems, information, and software.
>> a. Practices ethical and legal behaviors when using information and technology, and discuss ramifications of misuse.
>>> 1. Discuss copyright laws/issues and model ethical acquisition and use of digital information, citing sources using established methods.
>>> 2. Demonstrate proper etiquette and knowledge of acceptable use while in an individual classroom, lab, or on the Internet and intranet.
>>> 3. Describe the consequences regarding copyright violations including, but not limited to, computer hacking, computer piracy, intentional virus setting, and invasion of privacy.

8.2.3. Students will develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
    a. Practices ethical and legal behaviors when using information and technology, and discuss ramifications of misuse.
        1. Discuss copyright laws/issues and model ethical acquisition and use of digital information, citing sources using established methods.
        2. Demonstrate proper etiquette and knowledge of acceptable use while in an individual classroom, lab, or on the Internet and intranet.
        3. Describe the consequences regarding copyright violations including, but not limited to, computer hacking, computer piracy, intentional virus setting, and invasion of privacy.
        4. Demonstrate safe personal practices of the internet.
        5. Demonstrate appropriate use of electronic equipment.
    b. Demonstrate knowledge of the relevancy of technology to future careers, lifelong learning, and daily living for individuals of all ages.
        1. Take a career assessment test and discuss results.
        2. Discuss the impact of technology on career options.
        3. Recognize that people control technologies and are responsible for their effects.

Performance Indicators
The student will be able to:

- Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society.
- Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.
- Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.

Sample Performance Task

- During appropriate curricular activities students will verbally describe when and how technology is used in everyday life and occupations. Using observation, teachers will develop a rubric evaluating the behavior of the students as they use technology in content area lessons.

Develop situational examples to test concepts of AYP and piracy.

Integration/Thematic Connections
See links on Tennessee State website @ _____.

Subjects such as Language Arts, Social Studies, and Science should apply citation of sources and piracy issues as they write and research from the Internet

Standard 3.0
Students will use technology productivity tools.

Learning Expectations
  3.1   Students will use technology tools to enhance learning, increase productivity, and promote creativity.
  3.2   Students will use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.

Accomplishments

  8.3.1. Students will use technology tools to enhance learning, increase productivity, and promote creativity.
    a. Demonstrate proficiency in the use of a variety of input devices such as mouse/track pad, keyboard, microphone, digital camera, printer, scanner, disk/disc, modem, CD-ROM, or joystick.
    b. Use digital keyboarding standards for data input such as spacing after punctuation and quotation marks.
    c. Demonstrate the ability to select and use software for a defined task according to quality, appropriateness, effectiveness, and efficiency.
      1. Choose the correct software (e.g., word processor, database, or spreadsheet) per task.
      2. Create projects for different audiences (e.g., peers or community) .

  8.3.2. Students will use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
    a. Use productivity tools to create effective document files for defined audiences such as slide shows, posters, multimedia presentations, newsletters, brochures, or reports.
    b. Demonstrate appropriate use of fonts, styles, and sizes, as well as effective use of graphics and page design to create a report or presentation.

Performance Indicators

- Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.

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

Sample Performance Task

- Students will design a slide-show presentation on a topic of their choice. The students will be assessed using a teacher designed rubric.

Integration/Thematic Connections
See links on Tennessee State website @ _____.

Standard 4.0
Students will use technology communications tools.

Learning Expectations
    4.1   Students will use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.

    4.2   Students will use a variety of media and formats to communicate information and ideas effectively to multiple audiences.

Accomplishments

8.4.1. Students will use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences by:
   a. Using multimedia authoring programs to create linear or non-linear projects incorporating text, audio, video, and/or graphics.
   b. Creating a document using desktop publishing techniques including, but not limited to, the creation of multi-column or multi-section documents with a variety of text-wrapped frame formats.

8.4.2. Students will use a variety of media and formats to communicate information and ideas effectively to multiple audiences by:
   a. Planning, creating, and editing documents created with a word processor using readable fonts, alignment, page setup, tabs, and ruler settings.
   b. Creating and editing spreadsheet documents using all data types, formulas and functions, and chart information.

Performance Indicators

- Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences.

- Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences.

Sample Performance Task

- Using Internet resources students will construct a timeline listing historical aspects of computing. The students should select the appropriate software to complete the task. The timeline describes early and modern methods of computing and identifies people involved in computing. Students compare and contrast generations of computers and project future technology trends. Students will print their projects and share results with the class.

Integration/Thematic Connections
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Standard 5.0
Students will select and use appropriate technology research tools.

Learning Expectations
      5.1   Students will use technology to locate, evaluate, and collect information from a variety of sources.
      5.2   Students will use technology tools to process data and report results.
      5.3   Students will evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.

Accomplishments

    8.5.1. Students will use technology to locate, evaluate, and collect information from a variety of sources.
       a. Apply appropriate electronic search strategies in the acquisition of information including keyword and Boolean search strategies.
       b. Use on-line help and other documentation.
       c. Evaluate the electronic information for accuracy and validity.
       d. Identify the source, location, relevancy, and content validity of available information
    8.5.2. Students will use technology tools to process data and report results.
       a. Apply appropriate electronic search strategies in the acquisition of information including keyword and Boolean search strategies.

Performance Indicators

- Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.
- Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.
- Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom.
- Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.

Sample Performance Task

- Using a related curriculum topic, students will create collaboratively a multimedia (sound, pictures, and text) project utilizing library and classroom resources to access, analyze, interpret and synthesize information. During the time frame of project development students will take responsibility for copyrights of software and Internet resources. The teacher will use rubrics to evaluate this task including evidence of a variety of resources used to create original presentations concerning real-world problems.

Integration/Thematic Connections
See links on Tennessee State website @ _____.

Standard 6.0
Students will utilize technology problem-solving and decision-making tools.

Learning Expectations
    6.1   Students will use technology resources for solving problems and making informed decisions.
    6.2   Students will employ technology in the development of strategies for solving problems in the real world.

Accomplishments

    8.6.1. Students will use technology resources for solving problems and making informed decisions.
        a. Use technology in self-directed activities by sharing products for defined audiences. (6.1) (M)
            1. Create a document using a word processor to share with the class.
            2. Create presentations for extra-curricular activities (e.g., science fair, 4-H, or parent/teacher organizations).

b. Integrate acquired technology applications skills, strategies, and use of the word processor, database, spreadsheet, telecommunications, draw, paint, and utility programs into the foundation and enrichment curricula.
   1. Compose essays or reports using a word processor.
   2. Create charts and graphs using a spreadsheet.

8.6.2. Students will employ technology in the development of strategies for solving problems in the real world.

a. The student will demonstrate knowledge of the relevancy of technology to future job skills, life-long learning, and daily living.
   1. Discuss uses of technology at home.
   2. Compare technology of the past with the present.
b. Use technology resources (e.g., calculators, videos, educational software) for self-directed learning, problem-solving, and extended learning activities.
   1. Describes more than one problem-solving method.
   2. Selects an appropriate problem-solving method.
   3. Generate a desired outcome using a problem-solving method.

Performance Indicators

- Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum.
- Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.
- Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.
- Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving.
- Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.

Sample Performance Task

- The student will develop a storyboard to establish a sequence for analyzing and performing a task. The teacher will use a rubric to evaluate flow chart construction and accuracy in relation to the storyboard.