

**Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Computer Applications**

Lesson 01: History of Computers

History of Computers

Standard Benchmark and Indicator
S01. Standard 1:
C. Examine the synergy between and among technologies and other fields of study when solving technological problems. (09-12)
01. Describe how technology transfer occurs when an innovation in one setting is applied in a different setting. (09)
02. Cite examples of how technological innovation has resulted when ideas, knowledge or skills have been shared within, or among, other technologies. (11)
03. Define examples of how technological progress is integral to the advancement of science, mathematics and other fields of study. (10)

Lesson 02: Parts of the Computer

Parts of the Computer

Standard Benchmark and Indicator
S01. Standard 1:
B. Apply technological knowledge in decision-making. (09-12)
01. Demonstrate how the stability of a technological system is influenced by all system components, especially those in the feedback loop. (09)
S02. Standard 2:
C. Interpret and evaluate the influence of technology throughout history, and predict its impact on the future. (09-12)
01. Describe how some technological development has been evolutionary, the result of a series of refinements to basic inventions or innovations over time. (09)

Lesson 03: The Systems Unit

The System's Unit

Standard Benchmark and Indicator
S01. Standard 1:
B. Apply technological knowledge in decision-making. (09-12)
01. Demonstrate how the stability of a technological system is influenced by all system components, especially those in the feedback loop. (09)
S02. Standard 2:
C. Interpret and evaluate the influence of technology throughout history, and predict its impact on the future. (09-12)
01. Describe how some technological development has been evolutionary, the result of a series of refinements to basic inventions or innovations over time. (09)

Lesson 04: Input and Output

Input and Output

Standard Benchmark and Indicator
S01. Standard 1:
B. Apply technological knowledge in decision-making. (09-12)
01. Demonstrate how the stability of a technological system is influenced by all system components, especially those in the feedback loop. (09)
S02. Standard 2:
C. Interpret and evaluate the influence of technology throughout history, and predict its impact on the future. (09-12)
01. Describe how some technological development has been evolutionary, the result of a series of refinements to basic inventions or innovations over time. (09)
02. Understand the basic elements of the evolution of technological tools and systems throughout history. (11)

Lesson 05: Data Storage

Data Storage

Standard Benchmark and Indicator
S02. Standard 2:
D. Analyze ethical and legal technology issues and formulate solutions and strategies that foster responsible technology usage. (09-12)
01. Practice responsible usage of technologies (e.g., download legally, install licensed software, adhere to copyright restrictions). (09)
E. Forecast the impact of technological products and systems. (09-12)
03. Compare and contrast the past, present and future developments of a technological system. (09)

Lesson 06: Software

Software

Standard Benchmark and Indicator
S02. Standard 2:
A. Interpret and practice responsible citizenship relative to technology. (09-12)
03. Review how different factors, such as individual curiosity, advertising, the strength of the economy, the goals of a company and the current trends, contribute to shaping the design of and demand for various technologies. (09)
04. Identify capabilities and limitations of contemporary and emerging technology resources and assess the potential of these systems and services to address personal, lifelong learning and work place needs. (10)

Lesson 07: Programming

Programming

Standard Benchmark and Indicator
S01. Standard 1:
B. Apply technological knowledge in decision-making. (09-12)
01. Demonstrate how the stability of a technological system is influenced by all system components, especially those in the feedback loop. (09)
S02. Standard 2:
C. Interpret and evaluate the influence of technology throughout history, and predict its impact on the future. (09-12)
02. Understand the basic elements of the evolution of technological tools and systems throughout history. (11)

Lesson 08: Networks

Communication Networks

Standard Benchmark and Indicator
S07. Standard 7:
E. Classify, demonstrate, examine and appraise information and communication technologies. (09-12)
03. Explain how information travels through different media (e.g., electrical wire, optical fiber, air, space). (11)
04. Compare the difference between digital and analog communication devices. (10)

Lesson 09: The Internet

The Internet Part 1

Standard Benchmark and Indicator
S05. Standard 5:
C. Formulate advanced search strategies, demonstrating an understanding of the strengths and limitations of the Internet, and evaluate the quality and appropriate use of Internet resources. (09-12)
01. Construct an effective search strategy to retrieve relevant information through multiple search engines, directories and Internet resources. (10)
02. Construct search strategies focused on the retrieval of specific search results by incorporating Boolean operators "AND" "OR" "NOT" and adjacency/proximity techniques. (09)
D. Evaluate choices of electronic resources and determine their strengths and limitations. (09-12)
01. Modify a search through the use of different key words and other techniques specific to an electronic resource (e.g., online database, Web-based index). (11)

Lesson 10: Internet Browsers

The Internet Part 2

Standard Benchmark and Indicator
S05. Standard 5:
D. Evaluate choices of electronic resources and determine their strengths and limitations. (09-12)
03. Evaluate technology resources and determine strengths and weaknesses for curricular or personal needs. (12)

Lesson 11: Word processing

Microsoft Word Part 1

Standard Benchmark and Indicator
S03. Standard 3:
B. Identify, select and apply appropriate technology tools and resources to produce creative works and to construct technology-enhanced models. (09-12)
01. Utilize advanced word processing and desktop publishing features and programs. (10)
01. Assimilate productivity and technological tools into all aspects of solving problems and managing personal information and communications. (12)
02. Demonstrate proficiency in all productivity tools (e.g., word processing, spreadsheet, database, desktop publishing). (09)

Lesson 12: Word processing

Microsoft Word Part 2

Standard Benchmark and Indicator
S03. Standard 3:
B. Identify, select and apply appropriate technology tools and resources to produce creative works and to construct technology-enhanced models. (09-12)
01. Utilize advanced word processing and desktop publishing features and programs. (10)
01. Assimilate productivity and technological tools into all aspects of solving problems and managing personal information and communications. (12)
02. Demonstrate proficiency in all productivity tools (e.g., word processing, spreadsheet, database, desktop publishing). (09)

Lesson 13: Spreadsheets

Microsoft Excel Part 1

Standard Benchmark and Indicator
S03. Standard 3:
B. Identify, select and apply appropriate technology tools and resources to produce creative works and to construct technology-enhanced models. (09-12)
01. Assimilate productivity and technological tools into all aspects of solving problems and managing personal information and communications. (12)
02. Demonstrate proficiency in all productivity tools (e.g., word processing, spreadsheet, database, desktop publishing). (09)
03. Identify/recognize state-of-the-art technology tools for solving problems and managing personal/professional information. (10)

Lesson 14: Spreadsheets

Microsoft Excel Part 2

Standard Benchmark and Indicator
S03. Standard 3:

B. Identify, select and apply appropriate technology tools and resources to produce creative works and to construct technology-enhanced models. (09-12)
01. Assimilate productivity and technological tools into all aspects of solving problems and managing personal information and communications. (12)
02. Demonstrate proficiency in all productivity tools (e.g., word processing, spreadsheet, database, desktop publishing). (09)
03. Identify/recognize state-of-the-art technology tools for solving problems and managing personal/professional information. (10)

Lesson 15: Power Point

Microsoft PowerPoint Part 1

Standard Benchmark and Indicator
S03. Standard 3:
B. Identify, select and apply appropriate technology tools and resources to produce creative works and to construct technology-enhanced models. (09-12)
01. Assimilate productivity and technological tools into all aspects of solving problems and managing personal information and communications. (12)
02. Demonstrate proficiency in all productivity tools (e.g., word processing, spreadsheet, database, desktop publishing). (09)
03. Identify/recognize state-of-the-art technology tools for solving problems and managing personal/professional information. (10)

Lesson 16: Power Point

Microsoft PowerPoint Part 2

Standard Benchmark and Indicator
S03. Standard 3:
B. Identify, select and apply appropriate technology tools and resources to produce creative works and to construct technology-enhanced models. (09-12)
01. Assimilate productivity and technological tools into all aspects of solving problems and managing personal information and communications. (12)
02. Demonstrate proficiency in all productivity tools (e.g., word processing, spreadsheet, database, desktop publishing). (09)
03. Identify/recognize state-of-the-art technology tools for solving problems and managing personal/professional information. (10)

Lesson 17: Databases

Databases

Standard Benchmark and Indicator
B. Identify, select and apply appropriate technology tools and resources to produce creative works and to construct technology-enhanced models. (09-12)
01. Assimilate productivity and technological tools into all aspects of solving problems and managing personal information and communications. (12)
02. Demonstrate proficiency in all productivity tools (e.g., word processing, spreadsheet, database, desktop publishing). (09)

02. Demonstrate proficiency in all productivity tools (e.g., word processing, spreadsheet, database, desktop publishing). (09)
03. Identify/recognize state-of-the-art technology tools for solving problems and managing personal/professional information. (10)

Lesson 18: Computer security and ethics

Security, Privacy, Ethics

Standard Benchmark and Indicator
S02. Standard 2:
A. Interpret and practice responsible citizenship relative to technology. (09-12)
02. Understand that ethical considerations are important in the development, selection and use of technologies. (09)
05. Analyze advantages and disadvantages of widespread use and reliance on technology in the work place and in society as a whole. (10)