

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Introduction to Internet (Grades 8-12)

Lesson 1 History of the Internet, Structure of a Web Page, Website Exploration

History of the Internet, Structure of a Web Page, Website Exploration

Standard Benchmark and Indicator
S01. Standard 1:
A. Synthesize information, evaluate and make decisions about technologies. (09-12)
01. List and describe factors that may influence the development of technology. (09)
01. Describe how the rate of technological development and diffusion is increasing rapidly (e.g., a computer system chip has been adapted for use in toys and greeting cards). (10)
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)

Lesson 2 URLs, HTML, Uses for the Internet

S03. Standard 3:
A. Demonstrate an understanding of concepts underlying hardware, software and connectivity. (06-08)
01. Describe how computer and multimedia technology systems work (e.g., asynchronous transfer mode ATM, Internet protocol IP, local area networks LAN, wide area networks WAN, wireless). (08)
S05. Standard 5:
A. Determine and apply an evaluative process to all information sources chosen for a project. (09-12)
02. Analyze the intent and authorship of information sources used for a curricular need. (11)
B. Apply a research process model to conduct research and meet information needs. (09-12)
02. Identify sources most likely to have the needed information and determine subjects and keywords to be used in searching magazine databases and other electronic reference resources. (10)
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)
04. Establish a criteria for evaluating the information retrieved through Internet searching: author's expertise, bias, coverage of topic and timeliness. (09)
04. Examine the information retrieved through Internet searching for authenticity of information, bias, currency, relevance and appropriateness. (10)
04. Critique research retrieved through the Internet for authority, accuracy, objectivity, currency, coverage and relevancy. (12)
D. Evaluate choices of electronic resources and determine their strengths and limitations. (09-12)
02. Review strengths and weaknesses of various types of electronic resources for research need (e.g., compare subject specific magazine database to general online index of articles). (09)
03. Differentiate coverage of electronic resources to select information need. (11)
03. Evaluate technology resources and determine strengths and weaknesses for curricular or personal needs. (12)

Lesson 3 TCP/IP, ISPs, Browsers, Home Pages

S01. Standard 1:
B. Apply the core concepts of technology in a practical setting. (06-08)
01. Demonstrate how technological systems can be connected to one another. (08)
S03. Standard 3:
A. Demonstrate an understanding of concepts underlying hardware, software and connectivity. (06-08)

01. Describe how computer and multimedia technology systems work (e.g., asynchronous transfer mode ATM, Internet protocol IP, local area networks LAN, wide area networks WAN, wireless). (08)

Lesson 4 Topics: Browser Buttons, Favorites

S05. Standard 5:
B. Apply a research process model to conduct research and meet information needs. (09-12)
04. Organize and analyze information, finding connections that lead to a final product. (10)
C. Develop search strategies, retrieve information in a variety of formats and evaluate the quality and appropriate use of Internet resources. (06-08)
01. Troubleshoot error messages in a Web browser (e.g., verify the address, use refresh and/or stop buttons). (08)
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)
02. Create a stand-alone system for tracking Internet resources for personal and academic needs (e.g., postsecondary institutions of interest). (12)

Lesson 5 Topics: Search Engines, Keywords, Meta-Search Engines

S05. Standard 5:
A. Evaluate the accuracy, authority, objectivity, currency, coverage and relevance of information and data sources. (06-08)
01. Understand the structure and organization of information sources including key words, subject directory, subject search in a library catalog or search engine. (08)
A. Determine and apply an evaluative process to all information sources chosen for a project. (09-12)
01. Seek and evaluate information to answer both personal and curricular needs. (11)
B. Apply a research process model to conduct research and meet information needs. (09-12)
02. Identify sources most likely to have the needed information and determine subjects and keywords to be used in searching magazine databases and other electronic reference resources. (10)
C. Develop search strategies, retrieve information in a variety of formats and evaluate the quality and appropriate use of Internet resources. (06-08)
03. Compare information found in searches completed on different search engines (directories, spiders, meta crawlers) and discuss differences in how search engines select, rank and display information: Relevancy; Popularity; and Paid placement. (08)
04. Compare several Web sites on the same topic and evaluate the purpose of each site (e.g., use several sites for a specific curricular need and note whether the sites have similar or conflicting data). (08)
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. Identify multiple directories and search engines matching curricular need (e.g., given an assignment, use knowledge of tools to pick an appropriate tool to search for information). (09)
01. Construct an effective search strategy to retrieve relevant information through multiple search engines, directories and Internet resources. (10)
02. Narrow or broaden the search strategy by modifying the keywords entered in the original search strategy. (10)
03. Compare and chart the search results from multiple Web sites to check for consistency of information (e.g., compare data on acid rain from more than one site). (09)

Lesson 6 More Search Engines, Directories

S05. Standard 5:
A. Determine and apply an evaluative process to all information sources chosen for a project. (09-12)
01. Seek and evaluate information to answer both personal and curricular needs. (11)
C. Develop search strategies, retrieve information in a variety of formats and evaluate the quality and appropriate use of Internet resources. (06-08)
03. Compare information found in searches completed on different search engines (directories, spiders, meta crawlers) and discuss differences in how search engines select, rank and display information: Relevancy; Popularity; and Paid placement. (08)
04. Compare several Web sites on the same topic and evaluate the purpose of each site (e.g., use

several sites for a specific curricular need and note whether the sites have similar or conflicting data). (08)

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. Identify multiple directories and search engines matching curricular need (e.g., given an assignment, use knowledge of tools to pick an appropriate tool to search for information). (09)

01. Construct an effective search strategy to retrieve relevant information through multiple search engines, directories and Internet resources. (10)

02. Narrow or broaden the search strategy by modifying the keywords entered in the original search strategy. (10)

03. Compare and chart the search results from multiple Web sites to check for consistency of information (e.g., compare data on acid rain from more than one site). (09)

Lesson 7 Advanced Searches People Searches, Translators

S05. Standard 5:

A. Determine and apply an evaluative process to all information sources chosen for a project. (09-12)

01. Seek and evaluate information to answer both personal and curricular needs. (11)

C. Develop search strategies, retrieve information in a variety of formats and evaluate the quality and appropriate use of Internet resources. (06-08)

03. Compare information found in searches completed on different search engines (directories, spiders, meta crawlers) and discuss differences in how search engines select, rank and display information: Relevancy; Popularity; and Paid placement. (08)

04. Compare several Web sites on the same topic and evaluate the purpose of each site (e.g., use several sites for a specific curricular need and note whether the sites have similar or conflicting data). (08)

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. Identify multiple directories and search engines matching curricular need (e.g., given an assignment, use knowledge of tools to pick an appropriate tool to search for information). (09)

01. Construct an effective search strategy to retrieve relevant information through multiple search engines, directories and Internet resources. (10)

02. Narrow or broaden the search strategy by modifying the keywords entered in the original search strategy. (10)

03. Compare and chart the search results from multiple Web sites to check for consistency of information (e.g., compare data on acid rain from more than one site). (09)

D. Select, access and use appropriate electronic resources for a defined information need. (06-08)

03. Locate and use advanced search features and appropriate tools such as Boolean operators ("AND" "OR" "NOT") and a thesaurus in an online database. (08)

Lesson 8 News Tools, Study Tools

S05. Standard 5:

(11)
B. Use technology to conduct research and follow a research process model which includes the following: develop essential question; identify resources; select, use and analyze information; synthesize and generate a product; and evaluate both process and product. (06-08)
02. Identify and evaluate relevant information and select pertinent information found in each source. (08)
B. Apply a research process model to conduct research and meet information needs. (09-12)
02. Identify sources most likely to have the needed information and determine subjects and keywords to be used in searching magazine databases and other electronic reference resources. (10)
C. Develop search strategies, retrieve information in a variety of formats and evaluate the quality and appropriate use of Internet resources. (06-08)
04. Compare several Web sites on the same topic and evaluate the purpose of each site (e.g., use several sites for a specific curricular need and note whether the sites have similar or conflicting data). (08)
D. Evaluate choices of electronic resources and determine their strengths and limitations. (09-12)
01. Integrate search strategies within the electronic resource that targets retrieval for specific information need (e.g., limit by date of publication, focus on specific format such as image, sound file). (09)
03. Evaluate technology resources and determine strengths and weaknesses for curricular or personal needs. (12)

Lesson 9 Evaluating Online Information, Copyright Issues, Netiquette

S02. Standard 2:

02. Acknowledge intellectual property in using information sources. (12)
03. Create a bibliography of sources in an electronic format. (10)
B. Use technology to conduct research and follow a research process model which includes the following: develop essential question; identify resources; select, use and analyze information; synthesize and generate a product; and evaluate both process and product. (06-08)
05. Use a teacher or district designated citation or style manual to credit sources used in work (e.g., MLA style manual, APA Guidelines, or other selected style manuals). (08)
B. Apply a research process model to conduct research and meet information needs. (09-12)
03. Integrate copyrighted information into an information product, following appropriate use of guidelines (e.g., quote using proper citation format, request permission for use). (09)
03. Evaluate information and select relevant and pertinent information found in each source, and maintain accurate records of sources used. (10)
05. Respect copyright laws and guidelines, and use standard bibliographic format to list sources. (11)
05. Incorporate a list of sources used in a project using a standard bibliographic style manual (e.g., MLA and APA Style Manuals). (09)
05. Follow copyright law and guidelines, using standard bibliographic format to list sources. (10)
06. Adhere to copyright and intellectual property laws and guidelines when creating new products (e.g., standard bibliographic format, permissions to use information created by others). (12)
C. Develop search strategies, retrieve information in a variety of formats and evaluate the quality and appropriate use of Internet resources. (06-08)
04. Compare several Web sites on the same topic and evaluate the purpose of each site (e.g., use several sites for a specific curricular need and note whether the sites have similar or conflicting data). (08)
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)
03. Compare and chart the search results from multiple Web sites to check for consistency of information (e.g., compare data on acid rain from more than one site). (09)
03. Develop a systematic approach to judge the value of the retrieved Web information. (11)
04. Establish a criteria for evaluating the information retrieved through Internet searching: author's expertise, bias, coverage of topic and timeliness. (09)
04. Examine the information retrieved through Internet searching for authenticity of information, bias, currency, relevance and appropriateness. (10)
04. Critique research retrieved through the Internet for authority, accuracy, objectivity, currency, coverage and relevancy. (12)
S06. Standard 6:
A. Identify and produce a product or system using a design process, evaluate the final solution and communicate the findings. (09-12)
08. Recognize that patent, trademark and copyright law protect technological ideas and intellectual property. (09)
10. Predict the outcome if no copyright or patent laws were in place. (11)

Lesson 10 Safe Surfing

S02. Standard 2:
A. Interpret and practice responsible citizenship relative to technology. (09-12)
01. Explain how making decisions about the use of technology involves weighing the trade-offs between the positive and negative effects. (09)
02. Understand that ethical considerations are important in the development, selection and use of technologies. (09)
02. Contrast ethical considerations and how they are important in the development, selection and use of technologies. (10)
D. Analyze ethical and legal technology issues and formulate solutions and strategies that foster responsible technology usage. (09-12)
04. Practice responsible and ethical usage of technology. (12)

Lesson 11 Viruses and Hoaxes

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)
02. Contrast ethical considerations and how they are important in the development, selection and use of technologies. (10)
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)
01. Describe/discuss the ethical considerations involved in the development or deployment of a technology. (10)
04. Practice responsible and ethical usage of technology. (12)

Lesson 12 Internet Scavenger Hunt

S05. Standard 5:
A. Determine and apply an evaluative process to all information sources chosen for a project. (09-12)
01. Seek and evaluate information to answer both personal and curricular needs. (11)
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. Identify multiple directories and search engines matching curricular need (e.g., given an assignment, use knowledge of tools to pick an appropriate tool to search for information). (09)
01. Construct an effective search strategy to retrieve relevant information through multiple search engines, directories and Internet resources. (10)
02. Narrow or broaden the search strategy by modifying the keywords entered in the original search strategy. (10)

Lesson 13 Internet Terminology

S05. Standard 5:
A. Determine and apply an evaluative process to all information sources chosen for a project. (09-12)
01. Seek and evaluate information to answer both personal and curricular needs. (11)
B. Use technology to conduct research and follow a research process model which includes the following: develop essential question; identify resources; select, use and analyze information; synthesize and generate a product; and evaluate both process and product. (06-08)
02. Identify and evaluate relevant information and select pertinent information found in each source. (08)
B. Apply a research process model to conduct research and meet information needs. (09-12)
02. Identify, evaluate information and select relevant and pertinent information found in each source. (11)

Lesson 14 Plug-In Software

S02. Standard 2:
A. Interpret and practice responsible citizenship relative to technology. (09-12)
01. Assess technology systems, resources and services relative to responsible usage of technology. (11)

01. Make informed choices among technology systems, resources and services. (12)
02. Contrast ethical considerations and how they are important in the development, selection and use of technologies. (10)
D. Articulate intellectual property issues related to technology and demonstrate appropriate, ethical and legal use of technology. (06-08)
04. Discuss software piracy, its impact on the technology industry, and possible repercussions to individuals and/or the school district. (08)
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)

Lesson 15 Primary & Secondary Sources

S05. Standard 5:
A. Determine and apply an evaluative process to all information sources chosen for a project. (09-12)
01. Seek and evaluate information to answer both personal and curricular needs. (11)
02. Analyze the intent and authorship of information sources used for a curricular need. (11)
D. Evaluate choices of electronic resources and determine their strengths and limitations. (09-12)
02. Review strengths and weaknesses of various types of electronic resources for research need (e.g., compare subject specific magazine database to general online index of articles). (09)
03. Evaluate technology resources and determine strengths and weaknesses for curricular or personal needs. (12)

Lesson 16 Research Project

S05. Standard 5:
A. Determine and apply an evaluative process to all information sources chosen for a project. (09-12)
01. Seek and evaluate information to answer both personal and curricular needs. (11)
02. Analyze the intent and authorship of information sources used for a curricular need. (11)
03. Determine and apply an evaluative process to all information sources chosen for a project. (12)
B. Apply a research process model to conduct research and meet information needs. (09-12)
02. Select and evaluate appropriateness of information from a variety of resources, including online research databases and Web sites to answer the essential questions. (09)
04. Integrate multiple information sources in the research process. (12)
C. Develop search strategies, retrieve information in a variety of formats and evaluate the quality and appropriate use of Internet resources. (06-08)
03. Compare information found in searches completed on different search engines (directories, spiders, meta crawlers) and discuss differences in how search engines select, rank and display information: Relevancy; Popularity; and Paid placement. (08)
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. Identify multiple directories and search engines matching curricular need (e.g., given an assignment, use knowledge of tools to pick an appropriate tool to search for information). (09)
01. Construct an effective search strategy to retrieve relevant information through multiple search engines, directories and Internet resources. (10)
02. Narrow or broaden the search strategy by modifying the keywords entered in the original search strategy. (10)
03. Synthesize search results retrieved from a variety of Internet resources to create an information product for a targeted audience. (12)

Lesson 17 College & Career Information Online

S03. Standard 3:

A. Integrate conceptual knowledge of technology systems in determining practical applications for learning and technical problem-solving. (09-12)
01. Make informed choices among technology systems, resources and services. (11)
B. Select appropriate technology resources to solve problems and support learning. (06-08)
02. Create a video production related to a class activity. (08)

Lesson 18 Shareware & Freeware, Other Online Resources

S02. Standard 2:
A. Interpret and practice responsible citizenship relative to technology. (09-12)
01. Assess technology systems, resources and services relative to responsible usage of technology. (11)
02. Contrast ethical considerations and how they are important in the development, selection and use of technologies. (10)
D. Articulate intellectual property issues related to technology and demonstrate appropriate, ethical and legal use of technology. (06-08)
04. Discuss software piracy, its impact on the technology industry, and possible repercussions to individuals and/or the school district. (08)
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)