

Montpelier Schools
Ninth Grade
Technology Applications and Information Tools
Ohio Technology Content Standards 3, 4, and 5
Scope and Sequence

Key: I – Introduce, C – Continuation, M - Mastery

Standard 3

Technology for Productivity Applications

Students learn the operations of technology through the usage of technology and productivity tools.

Benchmark A: Integrate conceptual knowledge of technology systems in determining practical applications for learning and technical problem-solving.		
Skills	Level	Comments
Explore state-of-the-art devices to store data that will be used for researching projects.	I	
Create a design for a basic network and list skills needed to manage networks.	I	
Describe strategies for identifying and solving routine hardware and software problems that occur during everyday use.	I	

Benchmark B: Identify, select and apply appropriate technology tools and resources to produce creative works and to construct technology-enhanced models.		
Skills	Level	Comments
Identify and use input and output devices to operate and interact with computers and multimedia technology resources (e.g., digital video camera, mobile cameras-a camera on a robot base, like a Mars rover, how to connect analog equipment to digital equipment).	C	
Demonstrate proficiency in all productivity tools - word processing - spreadsheet - database - presentation - desktop publishing	C	

Standard 4

Technology and Communication Applications

Students use an array of technologies and apply design concepts to communicate with multiple audiences, acquire and disseminate information, and enhance learning.

Benchmark A: Apply appropriate communication design principles in published and presented projects.		
Skills	Level	Comments
Format text, select color, insert graphics and include multimedia components in student-created media/communication products.	C	
Modify electronic publications and other communication products to meet accessibility guidelines so that access to information is not limited.	C	
Examine how and why image, language, sound and motion convey specific messages designed to influence the audience.	C	
Assess the accuracy of the communication product.	C	

Benchmark B: Create, publish and present information, utilizing formats appropriate to the content and audience.		
Skills	Level	Comments
Use e-mail in a teacher-moderated discussion group and in threaded discussion lists.	C	
Use technology to publish information in electronic form Web - Multimedia - digital video - electronic portfolio	C	
Validate use of communication techniques.	C	

Benchmark C: Identify communication needs, select appropriate communication tools and design collaborative interactive projects and activities to communicate with others, incorporating emerging technologies.		
Skills	Level	Comments
Demonstrate communication clarity and use elements and formats of e-mail to communicate with others - discussion lists - message boards - chat - instant messaging	I	
Identify and use the appropriate communication tool to collaborate with others Presentation Web site digital video	C	
Investigate the uses of video-conferencing, Web casting, and other distance-learning technologies (e.g., interviews, meetings, course work).	I	
Develop collaborative online projects to research a problem and disseminate results.	I	

Standard 5

Technology and Information Literacy

Students engage in information literacy strategies, use the Internet, technology tools and resources, and apply information-management skills to answer questions and expand knowledge

Benchmark A: Determine and apply an evaluative process to all information sources chosen for a project.		
Skills	Level	Comments
Define terms which determine information validity: - a Accuracy; - b Authority; - c Objectivity; - d Currency; and - e Coverage (including objectivity and bias)	C	
Determine the author's authority for all resources and identify points of agreement and disagreement among sources.	C	

Benchmark B: Apply a research process model to conduct research and meet information needs.		
Skills	Level	Comments
Determine the essential questions and plan research strategies.	M	
Select and evaluate appropriateness of information from a variety of resources, including online research databases and Web sites to answer the essential questions.	M	
Integrate copyrighted information into an information product, following appropriate use of guidelines (e.g., quote using proper citation format, request permission for use).	C	

Benchmark B: Apply a research process model to conduct research and meet information needs.		
Skills	Level	Comments
Identify relevant facts, check facts for accuracy and record appropriate information.	C	
Incorporate a list of sources used in a project using a standard bibliographic style manual (e.g., MLA and APA Style Manuals).	C	
Evaluate the research process and product as they apply to the information need (e.g., does the process reflect the actual information need).	C	

Benchmark 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.		
Skills	Level	Comments
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).	C	
Construct search strategies focused on the retrieval of specific search results by incorporating Boolean operators “AND,” “OR” or “NOT” and adjacency/proximity techniques.	C	
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).	C	
Establish a criteria for evaluating the information retrieved through Internet searching: author’s expertise, bias, coverage of topic and timeliness.	C	

Benchmark D: Evaluate choices of electronic resources and determine their strengths and limitations.		
Skills	Level	Comments
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).	C	
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).	C	
Demonstrate the difference between databases, directories and database archives (e.g., free vs. fee-based, delivery mechanism, such as CD, DVD, network, Internet, and general vs. specific discipline).	C	
Select a specific database for an assignment and explain why it is the appropriate one to use (e.g., in researching a particular author, use a literary database of biographical and critical information about writers).	C	