

**Howard County Public School System
Educational Technology**

**Essential Curriculum
Grade Eight**

Goal 1: Technology Systems – The students at grade eight will develop foundations in the understanding and uses of technology systems

Systems

Objective - The student will be able to:

- a. Demonstrate knowledge of technology systems
 1. Explain how network resources are accessed, controlled, connected, and used effectively and efficiently (e.g., FTP/Web publishing, wireless networks, USB, firewire, etc.)
 2. Use keyboard and mouse effectively and efficiently
 3. Apply utility programs to convert formats, as necessary, for effective use in Web, video, audio, graphic, presentation, word-processing, database, publication, and spreadsheet applications
 4. Describe strategies for identifying, solving, and preventing routine hardware and software problems that occur during everyday technology use

Goal 2: Digital Citizenship – The students at grade eight will demonstrate an understanding of the history of technology and its impact on society, and practice ethical, legal, and responsible use of technology to assure safety

Technology and Society

Objective - The student will be able to:

- a. Evaluate how technology affects the individuals and society
 1. Evaluate technology's influence on the individual and society
 2. Evaluate technology's impact on the environment
 3. Evaluate the use of technology to solve a societal issue
 4. Propose a technological solution to a societal issue

Legal and Ethical Issues

Objective - The student will be able to:

- a. Practice responsible and appropriate use of technology systems, software, and information
 1. Explain the purpose of and follow the acceptable use policy
 2. Work cooperatively and collaboratively with others when using technology
 3. Practice responsible use of technology systems

* Indicates the objective could be part of the problem solving and decision-making process indicated in Goal 6

4. Demonstrate proper care of equipment (such as following lab rules, handling equipment with care, appropriate printing of resources)
 5. Explain the potential harm of intrusive applications (such as worms, viruses, spyware, pop-up windows, etc.) and safeguards for limiting exposure to these
 6. Use safe and correct security procedures (such as protecting password and user ID)
- b. Demonstrate an understanding of current legal standards
 1. Comply with copyright laws and fair use provisions when using digital content
 2. Use electronic resources appropriately (such as paraphrasing)
 3. Cite electronic sources of text and digital information properly (such as MLA, APA, Chicago)
 - c. Understand current safety guidelines
 1. Understand that the Internet offers access to multiple digital communities with differing guidelines
 2. Explain safety and privacy issues related to use of the Internet
 3. Use safe and correct security procedures when working online (such as not disclosing personal information and protecting passwords)
 4. Describe procedures for exiting an inappropriate site (such as clicking the home, turning off monitor, notifying an adult)
 5. Practice privacy guidelines
 6. Explain the importance of firewalls and filtering systems

Goal 3: Technology for Learning and Collaboration – The students at grade eight will use a variety of technologies for learning and collaboration

Learning

Objective - The student will be able to:

- a. Select and use technology tools to enhance learning
 1. Use technology tools, including software and hardware, to learn new content or reinforce skills
 2. Defend the selection of a specific technology tool to complete a learning task

Encourage Collaboration

Objective - The student will be able to:

- a. Select and use technology tools to encourage collaboration
 1. Use technology tools to work collaboratively within the school community
 2. Use technology tools to exchange ideas with individuals or groups outside of the school community
 3. Articulate the advantages of collaboration supported by technology tools

Increase Productivity

* Indicates the objective could be part of the problem solving and decision-making process indicated in Goal 6

Objective - The student will be able to:

- a. Select and use technology tools to increase productivity
 1. Defend the selected technology tools to complete tasks efficiently *
 2. Create new documents to complete learning assignments and demonstrate new understanding
 3. Input and analyze information in a spreadsheet or database *
 4. Use suitable electronic resources to refine presentations and edit texts for effective and appropriate use of language conventions, such as capitalization, punctuation, spelling, and pronunciation
 5. Use word processing technology when appropriate
 6. Collect, manipulate, analyze, and display data and information using tools, such as calculators and computers *

Goal 4: Technology for Communication and Expression – The students at grade eight will use technology to communicate information and express ideas using various media formats

Communication

Objective - The student will be able to:

- a. Select and use technology for communication
 1. Use communication tools (such as e-mail, discussion boards, online conferences, Learning Management Systems, portfolios) to gather information, share ideas, and respond to questions *
 2. Present information independently to various audiences
 3. Evaluate the appropriateness of media formats for various purposes *

Expression

Objective - The student will be able to:

- a. Select and use technology to express ideas
 1. Select and use the appropriate multimedia and publishing tools to express original ideas with print, drawings, digital images, existing or original video, sounds, and/or personal recordings
 2. Present ideas and information in formats such as electronic presentations, web pages, graphic organizers, or spreadsheets that are appropriate to a specific audience *
 3. Change, edit, and revise graphs, graphics, presentations, and word processing documents
 4. Evaluate student-created product design based on purpose, audience, and format *

* Indicates the objective could be part of the problem solving and decision-making process indicated in Goal 6

Goal 5: Technology for Information Use and Management: The students at grade eight will use technology to locate, evaluate, gather, and organize information and data.

Locate, Evaluate, and Gather Information/Data

Objective - The student will be able to:

- a. Select and use information resources available through technology
 1. Select relevant information from appropriate technology resources *
 2. Select and read to gain information from electronic personal interest materials, such as brochures, books, magazines, cookbooks, web sites, and other online materials
 3. Apply evaluation strategies when using electronic resources (such as publication/copyright date, fact vs. fiction, source credibility, ease of use)
 4. Refine library catalog search strategies
 5. Refine search strategies for Web search engines/directories

Organize Information

Objective - The student will be able to:

- a. Select and use technology tools to organize information
 1. Use appropriate technology tools to support information organization *
 2. Defend the selection of the specific technology tool to organize information *

Goal 6: Technology for Problem-Solving and Decision-Making: The students at grade eight will demonstrate the ability to use technology and develop strategies to solve problems and make informed decisions

Components of a Problem Solving Process Supported by Technology

- a. Investigate Problems and Propose Solutions
 1. Understand the Problem
 2. Devise a Plan
 3. Carry Out the Plan
 4. Analyze Data
 5. Communicate Conclusion
- b. Examine the Solution

The components of the problem solving process are the same for all disciplines and across all grade levels. Academic rigor comes from the complexity of the problem and the technology used to solve the problem.

Investigate Problems and Propose Solutions

Objective - The student will be able to:

* Indicates the objective could be part of the problem solving and decision-making process indicated in Goal 6

- a. Understand the Problem
 1. Use technology to help identify the type of problem and the data needed to answer that type of problem
- b. Devise a Plan
 1. Identify possible technology tools to gather data
 2. Use technology to help formulate a research question about a problem/situation that requires further study
 3. Use technology to develop a plan for how to answer questions about a problem/situation that requires further study
 4. Identify technology resources to gather information about a problem/situation that requires further study
 5. Select an appropriate technology tool to gather data
- c. Carry Out the Plan
 1. Collect data and information using technology tools.
 2. Use communication tools to gather information
 3. Apply evaluation strategies when using electronic resources
 4. Make and record observations using technology
- d. Analyze Data
 1. Analyze information using technology tools
 2. Input and analyze information in a spreadsheet or database
 3. Defend the selection of the specific technology tool to organize information
- e. Communicate Conclusion
 1. Display data and information using technology tools
 2. Use communication tools identified by the teacher to communicate conclusions
 3. Present information and conclusions in formats that are appropriate to a specific audience

Examine the Solution

Objective - The student will be able to:

- a. Defend the use of the selected technology for individual learning of the specific task
- b. Evaluate the appropriateness of media formats for communicating data

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