

**Howard County Public School System  
Educational Technology**

**Essential Curriculum  
Grade Four**

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

**Systems**

Objective - The student will be able to:

- a. Demonstrate knowledge of technology concepts and systems
  1. Understand that there are correct sitting, hand, arm, and fingering positions when keyboarding
  2. Identify and use functions represented by symbols and icons commonly found in applications
  3. Identify strategies for managing everyday hardware and software problems

**Goal 2: Digital Citizenship – The students at grade four 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. Explain how technology affects people and society
  1. Explain how technology (such as computers, calculators, television, cameras, CD-ROM, and DVD) influences societies
  2. Identify examples of how technology has affected the environment, past and present
  3. Explain how technology tools have or can be used to meet the needs of societies
  4. Recommend ways technology can be used to meet the needs of societies

**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. Recognize the potential harm of intrusive applications (such as worms, viruses, spyware, pop-up windows, etc.)
  6. Use safe and correct security procedures (such as protecting password and user ID)
- b. Demonstrate an understanding of current legal standards
1. Demonstrate social and ethical behaviors when using technology (such as appropriate copying and pasting, legal downloading, intellectual property recognition, and obeying copyright laws)
  2. Discuss the importance of having access to current, accurate information
  3. Comply with copyright laws and fair use provisions
  4. Practice strategies for avoiding plagiarism when using digital content
  5. Cite electronic sources of text and digital information used properly
- c. Understand current online 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. Understand the purpose of technology protection measures including filtering systems

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

**Learning**

Objective - The student will be able to:

- a. Use and explain how the technology tools enhance learning
  1. Use technology tools, including software and hardware, from a range of teacher-selected options to learn new content or reinforce skills
  2. Explain how selected technology tools are being used to support learning
  3. Reflect as an individual on appropriateness of selected technology for the given task
  4. Describe how technology tools are used to collect information
  5. Assess the use of the selected technology for individual learning for the specific task

**Encourage Collaboration**

Objective - The student will be able to:

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- a. Use and explain how technology encourages collaboration
  - 1. Use technology tools to work collaboratively within the classroom
  - 2. Use technology tools to exchange ideas with individuals or groups outside of the classroom
  - 3. Articulate the advantages of collaboration supported by technology tools

### **Increase Productivity**

Objective - The student will be able to:

- a. Use and explain how technology tools increase productivity
  - 1. Explain how the selected technology tools are being used to accomplish tasks efficiently \*
  - 2. Create new documents to complete learning assignments
  - 3. Collect, analyze, and display data and information using tools, such as calculators, spreadsheets, graphing programs, and databases \*
  - 4. Input and analyze information in a predefined spreadsheet or database \*
  - 5. Use suitable electronic resources to edit final copies of texts for correctness in language usage and conventions, such as capitalization, punctuation, and spelling
  - 6. Use various electronic retrieval sources to obtain information on a topic \*

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

### **Communication**

Objective - The student will be able to:

- a. Use technology for communication
  - 1. Use communication tools identified by the teacher to help gather information, share ideas, and respond to questions when communicating with various audiences, including school, community, parents, and experts \*
  - 2. Present information, independently or with assistance, to various audiences including school and community
- b. Use and explain the purposes of different media formats
  - 1. Communicate independently with various audiences using different media formats
  - 2. Explain the purpose for a chosen media format

### **Expression**

Objective - The student will be able to:

- a. Use and explain how technology can be used to express ideas

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1. Use 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, or graphic organizers that are appropriate to a specific audience \*
3. Change, edit, and revise graphs, graphics, presentations, and word processing documents \*

**Goal 5: Technology for Information Use and Management: The students at grade four 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. Use and evaluate information resources available through technology, independently or with assistance
  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, and web sites
  3. Apply evaluation strategies when using electronic resources (such as publication/copyright date, fact vs. fiction, source credibility, ease of use)
  4. Understand library catalog search strategies
  5. Understand search strategies for age-appropriate Web search engines/directories

### **Organize Information**

Objective - The student will be able to:

- a. Use and evaluate technology tools to organize information
  1. Use technology tools independently to support note-taking \*
  2. Use technology tools independently to support data collection \*
  3. Describe how technology tools are used to organize information \*
  4. Evaluate the effectiveness of technology tools for organizing information\*

**Goal 6: Technology for Problem-Solving and Decision-Making: The students at grade four 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

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

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:

- 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. Describe how technology tools are used to collect information
  2. Use technology to help formulate a research question about a problem/situation that require further study
  3. Use technology to develop a plan for how to answer questions about a problem/situation that requires further stud
  4. Identify technology resources to gather information about a problem/situation that requires further study
- c. Carry Out the Plan
  1. Collect data and information using technology tools.
  2. Use communication tools identified by the teacher to help 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 predefined spreadsheet or database
  3. Describe how technology tools are used 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. Assess the use of the selected technology for individual learning of the specific task

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- b. Explain the purpose for a chosen media format when communicating data

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