Computer Technology
Standards of Learning
for Virginia's Public Schools
Grades 3-5

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Board of Education
Commonwealth of Virginia

Introduction

> *As the new century has unfolded, various studies have postulated about the likely competencies that will be needed in the workplace of tomorrow; one consistent conclusion is that technology will be integrated into every facet of business and life.*
>
> *The* Educational Technology Plan for Virginia: 2010-15 *focuses primarily on one specific component of 21st century skills—information and communications technology (ICT) literacy. The most recognized definition for this topic was formulated in 2002 by the International ICT Literacy Panel: "ICT literacy is using digital technology, communications tools, and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society."*

> *Educational Technology Plan for Virginia: 2010-15*

The Computer Technology Standards of Learning define the essential knowledge and skills necessary for students to access, manage, evaluate, use, and create information responsibly using technology and digital resources. They provide a framework for digital literacy and include the progressive development of technical knowledge and skills, intellectual skills for thinking about and using information, and skills needed for working responsibly and productively <u>both</u> individually and within groups. Digital literacy is not an end in itself but lays the foundation for deep and continuous learning. It focuses on using technology to learn rather than learning about technology.

To become technologically proficient, students must develop these skills through integrated activities across all K-12 content areas. These skills should be introduced and refined collaboratively by all K-12 teachers as an integral part of the learning process. Teachers can use these standards as guidelines for planning technology-based activities in which students achieve success in learning and communication—preparing them to meet the challenges of today's knowledge-based society.

Grades 3-5

Basic Operations and Concepts

C/T 3-5.1   Demonstrate an operational knowledge of various technologies.
   A. Use various types of technology devices to perform learning tasks.
      - Use a keyboard, mouse, touchscreen, touchpad, and other input devices to interact with a computer.
      - Demonstrate the ability to perform a wide variety of basic tasks using technology, including saving, editing, printing, viewing, and graphing.
   B. Communicate about technology with appropriate terminology.
      - Use basic technology vocabulary in daily practice.

C/T 3-5.2   Identify and use available technologies to complete specific tasks.
   A. Identify the specific uses for various types of technology and digital resources.
      - Identify the differences among local, network, and Internet resources and tools.
      - Create, edit, and format a document with text and graphics.
      - Create and present a multimedia presentation.
      - Create and populate a spreadsheet with data.
      - Capture and edit a digital image.
      - Demonstrate the ability to choose appropriate resources when completing assignments in various content areas.
   B. Use content-specific tools, software, and simulations to complete projects.
      - Use tools in various content areas as directed by the teacher.

Social and Ethical Issues

C/T 3-5.3   Make responsible decisions—grounded in knowledge of digital safety and security best practices—that pertain to various digital communication tools and methods.
   A. Demonstrate knowledge of basic practices related to online safety.
      - Use best practices for online safety as defined by the division's online safety program.
      - Demonstrate an understanding of the division's acceptable use policy and consequences for inappropriate use.
   B. Discuss and model responsible behaviors when using information and technology.
      - Identify reasons for taking security precautions when using any technology, especially those related to the Internet.
      - Demonstrate responsible behavior, such as using strong passwords and avoiding high-risk activities.
      - Identify inappropriate or threatening interpersonal situations involving electronic devices and develop strategies to react to them safely.

- Behave appropriately in virtual groups and be proactive in preventing bullying behavior in an environment that provides anonymity to bullies.

C/T 3-5.4   Exhibit personal responsibility for appropriate, legal, and ethical conduct.
   A.   Understand the need for laws and regulations regarding technology use.
      - Model appropriate, legal, and ethical behavior in all technology use and technology-supported environments.
   B.   Understand the basic principles of the ownership of ideas.
      - Demonstrate a basic understanding of "fair use."

C/T 3-5.5   Demonstrate digital citizenship by actively participating in positive activities for personal and community well-being.
   A.   Communicate respect for people when participating in group online learning activities.
      - Identify ways in which online communications are different from face-to-face communications.
      - Demonstrate online etiquette when communicating with others.
   B.   Explore the potential of the Internet as a means of personal learning and the respectful exchange of ideas and products.
      - Participate in the creation of digital projects that involve communicating with others.

Technology Research Tools
C/T 3-5.6   Plan and apply strategies for gathering information, using a variety of tools and sources, and reflect on alternate strategies that might lead to greater successes in future projects.
   A.   Collect information from a variety of sources.
      - Conduct research using various types of text- and media-based information.
   B.   Apply best practices for searching digital resources.
      - Apply effective search strategies that will yield targeted information.
      - Identify basic indicators that a digital source is likely to be reliable.

C/T 3-5.7   Draw conclusions from research and relate these findings to real-world situations.
   A.   Use research to support written and oral presentations.
      - Apply research derived from digital resources to original work.
      - Demonstrate how to cite digital resources when developing nonfiction reports and presentations.
   B.   Apply knowledge when conducting research to develop accurate and balanced reports.
      - Use best practice guidelines for evaluating research results.

Computer Technology Standards of Learning

Thinking Skills, Problem Solving, and Decision Making

C/T 3-5.8   Practice reasoning skills when gathering and evaluating data.
  A. Determine when technology tools are appropriate to solve a problem and make a decision.
    • Identify technology resources and tools that can help with decision making.
  B. Demonstrate organization and persistence when completing personal and group assignments, activities, and projects.
    • Use various productivity tools that help with planning, time management, project goal setting, etc.

C/T 3-5.9   Use models and simulations to understand complex systems and processes.
  A. Understand the use of simulations in learning.
    • Enhance understanding of concepts and skills by explaining how a simulation differs from and is similar to real life.
  B. Use simulations to understand complex concepts.
    • Enhance understanding of concepts and skills by using simulations.

Technology Communication Tools

C/T 3-5.10   Communicate effectively with others (e.g., peers, teachers, experts) in collaborative learning situations.
  A. Use technology tools for individual and collaborative writing, communication, and publishing activities.
    • Produce documents and presentations that demonstrate the ability to edit, reformat, and integrate various tools and media.
  B. Participate in communications among different cultures.
    • Understand the need to place communication in the context of culture.
  C. Assume different roles (e.g., leader/follower, orator/listener) on teams in various situations.
    • Recognize that different people on a team bring different technical skills, and understand how that can influence team responsibilities.
    • Demonstrate the ability to share technology tools as needed.

C/T 3-5.11   Apply knowledge and skills to generate innovative ideas, products, processes, and solutions.
  A. Organize and display knowledge and understanding in ways that others can view, use, and assess.
    • Understand the various ways in which digital products can be shared.
  B. Use technology tools to share original work.
    • Use presentation tools to organize and present stories, poems, songs, and other original work.