Massachusetts Technology Standards

Grades 3 through 5 – Technology Standards and Expectations

By the end of fifth grade, all students should have had the opportunity to become familiar with the tools they will be expected to use with proficiency later on. Through this exposure, they will have gained a positive view of computers as tools for learning. For example, electronic sources such as multimedia encyclopedias and teacher-previewed web sites can be used to gather information for a report. Additionally, there are many developmentally appropriate applications for children: interactive books, graphic organizers, and writing assistants, as well as mathematical and scientific tools. Such tools can enhance learning for all children, including those with disabilities; for example, multimedia reading software reinforces literacy skills by providing visual and auditory feedback to early readers. These tools can be integrated appropriately in an effective lesson plan.

Standard 1. Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity.

1.1 Basic Operations

G3-5: 1.11 Demonstrate basic steps in using available hardware and applications (e.g., log into a computer, connect/disconnect peripherals, upload files from peripherals).

G3-5: 1.12 Select a printer, use print preview, and print a document with the appropriate page setup and orientation.

G3-5: 1.13 Use various operating system features (e.g., open more than one application/ program, work with menus, use the taskbar/dock).

G3-5: 1.14 Demonstrate intermediate[1] keyboarding skills and proper[2] keyboarding techniques.

1.2 Word Processing/Desktop Publishing

G3-5: 1.21 Use menu/tool bar functions in a word processing program (i.e., font size/style, line spacing, margins) to format, edit, and print a document.

G3-5: 1.22 Copy and paste text and images within a document, as well as from one document to another.

G3-5: 1.23 Proofread and edit writing using appropriate resources (e.g., dictionary, spell-checker, grammar resources).

1.3 Database

G3-5: 1.31 Define the term" database" and provide examples from everyday life (e.g., library catalogues, school records, telephone directories).

G3-5: 1.32 Define terms related to databases, such as "record," "field," and "search."

G3-5 1.33 Do simple searches of existing databases (e.g. online library catalog, electronic encyclopedia).

1.4 Spreadsheet

G3-5: 1.41 Demonstrate an understanding of the spreadsheet as a tool to record, organize, and graph information.

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[1] By the end of eighth grade, students should obtain keyboarding skills between 25-30 wpm with less than 5 errors. In this grade span, districts determine the intermediate level so that students will reach this standard by the end of eighth grade.

[2] It is a district's decision if touch-typing skills are needed. However, students should know the proper ergonomics when using the keyboard.

G3-5: 1.42 Identify and explain terms and concepts related to spreadsheets (i.e., cell, column, row, values, labels, chart, graph).
G3-5: 1.43 Enter/edit data in spreadsheets and perform calculations using simple formulas (+, -, *, /), observing the changes that occur.

1.5 Internet, Networking, and Online Communication

G3-5: 1.51 Explain and use age-appropriate online tools and resources (e.g. tutorial, assessment, web browser).
G3-5: 1.52 Save, retrieve, and delete electronic files on a hard drive or school network.
G3-5: 1.53 Explain terms related to the use of networks (i.e., username, password, network, file server).
G3-5: 1.54 Identify and use terms related to the Internet (i.e. web browser, URL, keyword, World Wide Web, search engine, links).
G3-5: 1.55 Use age-appropriate Internet-based search engines to locate and extract information, selecting appropriate keywords.

1.6 Multimedia and Presentation Tools

G3-5: 1.61 Create, edit, and format text on a slide.
G3-5: 1.62 Create a series of slides and organize them to present research or convey an idea.
G3-5: 1.63 Copy and paste or import graphics; change their size and position on a slide.
G3-5: 1.64 Use painting and drawing applications to create and edit work.

• Standard 2. Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school, and in society.
• 2.1 Ethics
• G3-5: 2.11 Explain and demonstrate compliance with school rules (Acceptable Use Policy) regarding responsible use of computers and networks.
• G3-5: 2.12 Explain responsible uses of technology and digital information; describe possible consequences of inappropriate use.
• G3-5: 2.13 Explain Fair Use Guidelines for the use of copyrighted materials (e.g., text, images, music, video, etc.) in student projects.
• 2.2 Society
• G3-5: 2.21 Identify ways in which technology is used in the workplace and in society.
• G3-5: 2.22 Work collaboratively online with other students under teacher supervision.
• G3-5: 2.23 Analyze media messages and determine if their purpose is to inform, persuade, or entertain.
• G3-5: 2.24 Explain that some web sites and search engines may include sponsored commercial links.
• G3-5: 2.25 Explain how hardware and applications can enable people with disabilities to use technology.
• 2.3 Health and Safety
• G3-5: 2.31 Recognize and describe the potential risks and dangers associated with various forms of online communications.
• G3-5: 2.32 Identify and explain the strategies used for the safe and efficient use of computers, (e.g.,

passwords, virus protection software, spam filters, popup blockers).
• G3-5: 2.33 Demonstrate safe email practices, recognition of the potentially public exposure of email and appropriate email etiquette (if the district allows student email use).
• G3-5: 2.34 Identify cyber bullying and describe strategies to deal with the situation.
• G3-5: 2.35 Recognize and demonstrate ergonomically sound and safe use of equipment.
Standard 3. Demonstrate the ability to use technology for research, critical thinking, problem solving, decision-making, communication, collaboration, creativity and innovation.
3.1 Research
G3-5: 3.11 Locate, download, and organize content from digital media collections for specific purposes, citing sources.
G3-5: 3.12 Perform basic searches on databases (e.g., library card catalogue, encyclopedia) to locate information, using two or more keywords and techniques to refine and limit such searches.
G3-5: 3.13 Evaluate Internet resources in terms of their usefulness for research.
G3-5: 3.14 Use content-specific technology tools (e.g., environmental probes, sensors, measuring devices, simulations) to gather and analyze data.
G3-5: 3.15 Use online tools (e.g., email, online discussion forums, blogs, and wikis) to gather information collaboratively with other students, if district allows it.
3.2 Problem Solving
G3-5: 3.21 With teacher direction, use appropriate technology tools (e.g., graphic organizer) to define problems and propose hypotheses.
G3-5: 3.22 Use spreadsheets and other applications to make predictions, solve problems, and draw conclusions.
3.3 Communication
G3-5: 3.31 Create projects that use text and various forms of graphics, audio, and video (with proper citations) to communicate ideas.
G3-5: 3.32 Use teacher-developed guidelines to evaluate multimedia presentations for organization, content, design, presentation, and appropriate use of citations.
G3-5: 3.33 Communicate with other students and other classes using appropriate technology, including email if the district allows it.