

TSAT Revision - Final Draft

Introduction

Welcome to the Massachusetts Technology Self-Assessment Tool.

This technology instrument has been designed for:

1. **Teachers:** to determine their own levels of technology proficiency and to identify personal technology professional development needs.
2. **Schools/Districts:** to assess their professional development needs and to plan professional development activities that will help all teachers become proficient in technology.
3. **The State:** to gather and report data on technology competencies and technology professional development.

Using the Technology Self Assessment Tool

The TSAT has four mastery levels:

- Early Technology
- Developing Technology
- Proficient
- Advanced

If this is the first time you are taking this assessment, you should begin at Early Technology. The assessment presents a list of skills with check boxes. Check a skill if you are able to do all of the examples given. You can take the assessment as many times as you wish. When you have completed a skill level, proceed to the next higher level. For example, once you master the skills in Early Technology, you should begin working on the Developing Technology level.

Mastery Levels

The table shows the percentage of skills that you need to have in order to attain mastery of each level. When you have mastered a level, you advance to the next level. For example, once you have attained 100% of the skills at the Early Technology level, you are considered to be at the Developing Technology level.

There are two ways you can use the TSAT. You can read through the entire document, checking off skills that you have attained, or you can complete one level at a time, stopping when you reach a level that you have not yet mastered. Although some levels do not require that you complete all of the skills to attain mastery, you can go back at any time to check off new skills when you learn them.

	Technology Operations & Concepts	Ethics and Safety	Teaching & Learning with Technology
Early Technology	100%	100%	100%
Developing Technology	80%	100%	80%
Proficient	80%	100%	80%
Advanced	80%	100%	80%

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		<i>A. Early Technology</i>
I know how to		Standard 1 – Technology Operations and Concepts
	A1.1	Identify components of a computer system and its operating system (e.g., drives, memory, window). Explain the functions of the components, and use appropriate terminology in speaking about them.
	A1.2	Connect the cables and cords correctly so that a computer is functional. Reduce the risk of hardware failure through proper care of the components.
	A1.3	Demonstrate basic skills for using hardware and applications (e.g., start up and shut down computer system and peripherals, open and close a file, start an application and create a document).
	A1.4	Follow the proper district/school procedures in the event of technical difficulties.
	A1.5	Navigate using scroll bars, arrow keys, special keys, trackpads/touchpads, and mice.
	A1.6	Save/backup and retrieve a file to/from a local hard drive, portable disk/device, and/or online storage location.
	A1.7	Select a printer and print a document with appropriate resolution and orientation (portrait or landscape).
	A1.8	Use basic editing and formatting features of a word processing program (e.g., centering, spacing, fonts, enter text, edit, copy and paste, and insert graphics.).
	A1.9	Explain the concept of a database, and provide examples from everyday life (e.g., library catalogs, school records, telephone directories).
	A1.10	Use correct terminology in speaking about Internet communications (e.g., browser, search engine, website, URL, domain, links).
	A1.11	Explain terms related to the use of networks (e.g., username, password, network, server, domain).
	A1.12	Select a strong (secure) password and keep it safe.
	A1.13	Access the Web and use the navigation features of an Internet browser (e.g., “home,” “back,” “forward,” hyperlinks, and multiple tabs).
	A1.14	Add a website to <i>Favorites</i> or <i>Bookmark</i> it for future reference.
	A1.15	Create and send a message using email. Retrieve and read email. Reply to sender, forward an email, and attach a file. Save, print and delete an email. Differentiate between “reply” and “reply to all.”
	A1.16	Send an email attachment. Receive an attachment, open it, and save it to an appropriate location.
I know how to		Standard 2 – Ethics and Safety
	A2.1	Explain and comply with the Acceptable Use Policy in your district and describe the consequences of failing to comply.
	A2.2	Explain and apply classroom/lab rules for responsible and equitable use of technology.

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	A2.3	Explain potential problems viruses and other malware create and practical methods of prevention (including exercising caution in opening email attachments and installing software).
	A2.4	Identify key intellectual property issues that apply to technology use in education, the workplace and society (e.g., fair use, copyright, software licensing, plagiarism).
	A2.5	Follow appropriate licensing for all software and content used.
	A 2.6	Discuss the basic concept of assistive technologies and Universal Design for Learning (UDL).
	A2.7	Evaluate the proper physical setting for technology use (ergonomics).
	A2.8	Explain how media and technology can be used to distort or exaggerate information.
I know how to		Standard 3 – Teaching & Learning with Technology
	A3.1	Discuss current best practices on teaching and learning with technology in order to plan rich learning environments and experiences.
	A3.2	Use technology to gather curriculum-specific information from online and/or local digital sources.
	A3.3	Integrate technology into the curriculum of your subject and/or grade level with assistance of a coach, mentor, or other staff member.
	A3.4	Use digital and online tools to communicate with teachers, parents, and other stakeholders and to create/distribute classroom materials.
	A3.5	Identify your personal technology professional development needs.

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		<i>B. Developing Technology</i>
I know how to		Standard 1 – Technology Operations and Concepts
	B1.1	Connect and operate peripheral equipment (e.g., scanner, printer, projector).
	B1.2	Identify and use a variety of storage media (e.g., CD/DVD, flash drives, network servers, online storage spaces). Explain why a particular medium is or is not suited for a particular storage task.
	B1.3	Resolve basic technical difficulties (e.g., reboot computer, clear paper jam, replace ink cartridge).
	B1.4	Use built-in help and other available support resources to learn about hardware and software features and to troubleshoot problems.
		Use proper terminology to communicate commonly occurring technology problems (e.g., frozen screen, disk error, printing problems).
	B1.5	Use editing and formatting features (margins, spelling, and tabs) in a word processing application. Insert images (e.g., downloaded from the Web or copied from a removable device) into documents.
	B1.6	Create a report or newsletter using a word-processing or desktop publishing application.
	B1.7	Describe the structure and function of a spreadsheet (e.g., cells, rows, columns, and formulas).
	B1.8	Create an original spreadsheet, entering simple formulas (various number formats, equations, percentages). Reposition columns and rows; apply formatting features.
	B1.9	Interpret spreadsheet information, and produce simple charts from data.
	B1.10	Perform basic searches (including multiple key words) on digital and online databases (e.g., library card catalog, encyclopedia). Use available tools to refine and limit the results of a search.
	B1.11	Create and manipulate graphics using a drawing or painting program (e.g., adjust scale, size, shape, resolution).
	B1.12	Create a simple multimedia presentation and explain the terminology (e.g., slide, transition, build).
	B1.13	Organize <i>Bookmarks</i> or <i>Favorites</i> into folders for future reference.
	B1.14	Identify and use basic search strategies on the Internet.
	B1.15	Create and use an address book in an email program.
I know how to		Standard 2 – Ethics and Safety
	B2.1	Ensure equitable access to technology resources for all students in the class.
	B2.2	Use basic assistive technology features of operating systems and applications. For example, change text size in a word processor, use text-to-speech features, change mouse controls, use on-screen calculators.

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	B2.3	Cite electronic sources correctly in accordance with academic standards (e.g., APA); explain and model this in the classroom.
	B2.4	Explain and demonstrate ethical and legal behavior (including fair use guidelines) in copying/downloading files, applications, and media.
	B2.5	Evaluate a website's validity as a source of information (e.g., find site sponsor, author, date the site was last updated).
	B2.6	Explain the safe, responsible use of email, instant messaging, chat rooms, and other electronic communications (including strategies for avoiding and responding to cyberbullying and for avoiding malware/phishing schemes).
I know how to		Standard 3 – Teaching & Learning with Technology
	B3.1	Design and develop lessons and activities that integrate technology in a variety of instructional settings for all students.
	B3.2	Use appropriate technology to differentiate instruction (e.g., multimedia presentations, concept maps) for all learners.
	B3.3	Identify and locate technology resources, including online curriculum resources (Massachusetts Curriculum Frameworks and/or district curriculum guides).
	B3.4	Manage student technology activities to optimize learning with available resources (e.g., in a one-computer classroom, a computer lab, or with portable/wireless technology).
	B3.5	Use applications (e.g., spreadsheets, databases) to organize curriculum-specific information into charts, tables, and diagrams.
	B3.6	Create multimedia presentations to communicate curriculum content.
	B3.7	Integrate results of electronic research into classroom instruction with proper citations as appropriate to the grade level.
	B3.8	Locate and participate in appropriate technology professional development activities offered by the district, local college/university, or online provider.

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		<i>C. Proficient</i>
I know how to		Standard 1 – Technology Operations and Concepts
	C1.1	Recognize and work with a variety of different multimedia and document formats (e.g., jpg, html, mp3, pdf, doc, odt).
	C1.2	Determine the size and format of files, to identify the storage space remaining on drives, and to identify the version of an application in use.
	C1.3	Install new software from a variety of sources (e.g., CD, DVD and the Internet) per district policies.
	C1.4	Resolve commonly occurring technology problems (e.g., frozen screen, disk error, printing problems).
	C1.5	Demonstrate intermediate word processing skills (e.g., indents, headers and footers, end notes, bullets and numbering, tables, track changes, insert comments).
	C1.6	Use built-in calculating functions (e.g., sum, average) in a spreadsheet application.
	C1.7	Customize the formatting of charts or graphs created in a spreadsheet.
		Define and use built-in data functions of a spreadsheet such as sort, filter, find.
	C1.8	Differentiate between formulas with absolute cell references and relative cell references in a spreadsheet.
	C1.9	Use multiple sheets within a spreadsheet and link cells together across sheets.
	C1.10	Define terms (field, table, record, query, etc.) and functions related to databases.
	C1.11	Perform simple operations in a database (e.g., browse, sort, search, delete, add data, define field formats).
	C1.12	Create a multimedia presentation that includes a design template, tables, imported audio, and graphics.
	C1.13	Demonstrate advanced search strategies to locate and retrieve electronic information (e.g., use syntax and Boolean logic operators such as “and/or”) correctly.
	C1.14	Share links among users via a variety of technologies (e.g., email, instant messaging, social networks, message boards).
I know how to		Standard 2 – Ethics and Safety
	C2.1	Use assistive technology applications (e.g., text-to-speech, word prediction, voice recognition, word-symbol, communication software).
	C2.2	Address situations where inappropriate technology use occurs, and contact proper district personnel to take action.
	C2.3	Demonstrate and teach students the principles of ergonomics (e.g., avoiding repetitive stress injuries, maintaining proper posture), as well as how to use equipment safely.

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I know how to		Standard 3 – Teaching & Learning with Technology
	C3.1	Plan for the management of technology resources within the context of learning activities (e.g., schedule use of computer lab, wireless laptops, whiteboard).
	C3.2	Evaluate technology resources, including online resources, for accuracy and suitability for your curriculum area and the students you teach.
	C3.3	Identify and discuss the technology proficiencies needed in the workplace, as well as strategies for acquiring these proficiencies.
	C3.4	Use appropriate technology tools to enhance your curriculum (e.g., digital projectors, wireless laptops, handhelds, environmental probes).
	C3.5	Facilitate technology-enhanced lessons that address content standards and student technology literacy standards, while addressing a variety of learning styles.
	C3.6	Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
	C3.7	Identify and evaluate developing technologies as they relate to your subject area, grade level and student population.
	C3.8	Assess student learning using a variety of district, school or individual technology tools and strategies (e.g., the state Data Warehouse, progress spreadsheets, or commercial gradebook applications).
	C3.9	Provide assistance to colleagues in using multimedia presentations, WebQuests, and other technology-rich lessons in the classroom.
	C3.10	Manipulate data using charting tools and graphic organizers (e.g., concept mapping, and outlining software) to connect ideas and organize information.
	C3.11	Use electronic communication tools (e.g., message boards, email, virtual classrooms) to enhance teaching and learning.
	C3.12	Use the Internet to network with other teachers and learn about effective use of technology in teaching your subject(s).
	C3.13	Explain and correctly use terms related to online learning (e.g., upload, download, forum, journal, post, thread, intranet, drop box, account).
	C3.14	Facilitate student use of online tools (e.g., blogs, wikis, message boards) to gather and share information collaboratively.

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		<i>D. Advanced</i>
I know how to		Standard 1 – Technology Operations and Concepts
	D1.1	Install and troubleshoot new hardware.
	D1.2	Understand the differences between common file types, and identify the appropriate use of each. Identify methods of converting one file type to another (e.g., jpg to png, wav to mp3).
	D1.3	Import/export and link data between spreadsheets, databases, and other applications, including presentation applications.
	D1.4	Explain and demonstrate effective strategies for backing up and restoring personal computer data.
	D1.5	Design, create, modify, and manipulate an original database.
	D1.6	Be able to do queries and create reports from a database.
	D1.7	Explain and properly use terms related to networks and Internet infrastructure (e.g., LAN, WAN, DSL, T1, router, firewall, IP address, DHCP, DNS, POP, IMAP).
I know how to		Standard 2 – Ethics and Safety
	D2.1	Manage assistive technology equipment and install peripherals for diverse learners (e.g., alternative keyboards, pointing devices, and scanners with OCR software).
	D2.2	Explain basic practices that contribute to a website's accessibility to people with disabilities (e.g., use of alternative text to describe graphics, providing captions for audio, maintaining consistency in the interface).
	D2.3	Discuss how copyright law and fair use is affected by, and affects, the use of the Internet.
I know how to		Standard 3 – Teaching and Learning with Technology
	D3.1	Routinely and rigorously identify, evaluate, and apply emerging technologies as they relate to teaching and learning.
	D3.2	Use specialized technology tools for problem solving, decision-making, and creativity (e.g., simulation software, geographic information systems, dynamic geometry software, art and music composition software).
	D3.3	Develop tools and online content (e.g., web pages, blogs, wikis, mailing lists) for instruction and communication among students and faculty.
	D3.4	Use technology (e.g., applets that require the use of logic to solve problems) to challenge students to develop higher order thinking skills and creativity.
	D3.5	Plan and implement collaborative projects with other classrooms or schools using interactive tools (e.g., email, discussion forums, groupware, interactive websites, VoIP, videoconferencing).

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	D3.6	Present ideas using the most appropriate communications technologies (e.g., multimedia, web pages, desktop-published documents).
	D3.7	Distinguish between effective and ineffective design and presentation in electronic format (e.g., websites, multimedia, charts).
	D3.8	Explain and demonstrate the use of metadata (e.g., tagging, EXIF) to help students and teachers organize information on their computers and/or the Internet.
	D3.9	Design and deliver effective staff development in technology and its integration into the curriculum.

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