Tech Ladder Skills

(CDE/AEFL Incentives for Using Emerging Technologies in Instructing Adults)

The Tech Ladder Skills list was adapted from the Massachusetts Technology Self-Assessment Tool. (http://www.doe.mass.edu/edtech/standards/tool.pdf)

A. Qualifier

Skill Set A1 – Technology Operations and Concepts – I know how to..

	A1.1. Make hardware and applications choices (e.g., start up and shut down computer system and peripherals, open/close a file, start an application and create a document.)
	A1.2. Navigate using scroll bars, arrow keys, special keys, and mouse functions.
	A1.3. Identify components of a computer system (e.g., operating system, platform, drives, memory, window), explain their functions and use appropriate terminology in speaking about them.
	A1.4. Save/backup and retrieve a file to/from the desktop, hard drive, and external storage units, such as thumb drives and CD's.
	A1.5. Select a printer and print a document with appropriate orientation within page setup.
	A1.6. Connect the cables and cords correctly to make a computer functional.
	A1.7. Use basic editing and formatting features of a word processing program (e.g., centering, spacing, fonts and styles, enter and edit text, copy and paste, manipulate fonts, use writing tools and insert clip art.).
	A1.8. Use basic terminology in speaking about Internet communications (e.g., browser, search engine, online).
	A1.9. Access the Internet and identify and use basic navigation features of a browser (e.g., "go," "back," "forward").
	A1.10. Add a Web site to *Favorites* or *Bookmark* it for future reference.
	A1.11. Identify basic elements of a Web site (e.g., URL, hyperlinks, etc.) and use a URL.
	A1.12. Create and send a message using email. Retrieve and read email. Reply to sender and forward an email. Save, print and delete an email.

Skill Set A2 – Ethics and Safety – I know how to..

	A2.1. Apply classroom/lab rules for responsible use of technology.
	A2.2. Explain potential problems viruses create and offer practical methods of prevention such as exercising caution in opening e-mail attachments from unknown sources.

Skill Set A3 – Teaching & Learning with Technology – I know how to..

	A3.1. Use technology to gather curriculum-specific information from CD-ROMs, Web sites and/or automated card catalogue.
	A3.2. Integrate technology into the curriculum of my content area with assistance of a coach or mentor. (e.g. blogs, video and sound clips, virtual tours, Google tools)
	A3.3. Use word processing to support teaching and learning (e.g., letters to students or their families, course syllabi or expectations, flyers, worksheets, students' stories, etc.)
	A3.4. Identify personal technology professional development needs.

B. Bronze

Skill Set B1 – Technology Operations and Concepts – I know how to..

	B1.1. Identify and use basic features of a computer operating system (e.g., format/initialize disks, access information on size and format of a file, create and organize folders on local hard drive and desktop).
	B1.2. Manage files: save, locate and organize files.
	B1.3. Operate peripheral equipment (e.g., scanner, printer, projector).
	B1.4. Resolve basic technical difficulties (e.g., soft reboot, paper jam, ink cartridge replacement).
	B1.5. Connect a computer to peripheral devices (e.g., printers), a network outlet, and take proper care of the system.
	B1.6. Use editing and formatting features (margins, cut and paste, spelling, and page numbers).
	B1.7. Insert images (e.g., graphics, clip art) from different sources into word-processed documents.
	B1.8. Create a report or newsletter using word-processing or desktop publishing software.
	B1.9. Describe the structure and function of spreadsheet (e.g., cells, rows, columns, and formulas) and apply basic formatting features, such as repositioning columns and rows.
	B1.10. Create an original spreadsheet, entering simple formulas (various number formats, equations, percentages, exponents).
	B1.11. Interpret spreadsheet information, and produce simple charts from data.
	B1.12. Define terms (field, table, record etc.) and functions of a database and use it for simple analysis.
	B1.13. Create, copy and manipulate graphics using a drawing or painting program (e.g., adjust scale, size, shape).
	B1.14. Create a simple multimedia presentation using PowerPoint or similar softward, and explain the terminology (slide, transition, etc.)
	B1.15. Differentiate among browser, email program and Internet service provider.
	B1.16. Organize *Bookmark*s or *Favorites* into folders for future reference.
	B1.17. Identify and use basic search strategies on the Internet.
	B1.18. Send an email attachment, open and save on to the desktop.
	B1.19. Create an address book in an e-mail program.

Skill Set B2 – Ethics and Safety – I know how to..

	B2.1. Use basic assistive technology resources. (e.g, change text size or make templates in a word processor, use text-to-speech features, change mouse controls, use on-screen calculators.)
	B2.2. Explain and demonstrate ethical and legal behavior in copying/downloading files, applications, and media (Internet).
	B2.3. Ensure responsible uses of technology by students: a. including intellectual property b. copyright laws, c. effective use of resources and d. environmental concerns.
	B2.4. Validate a Web site for authenticity (e.g., find site sponsor, author, date the site was last updated)

Skill Set B3 – Teaching & Learning with Technology – I know how to..

	B3.1. Design, develop and publish lessons and activities that integrate technology in a variety of instructional settings for all students.
	B3.2. Identify and locate technology resources including online curriculum resources for planning.
	B3.3. Facilitate simple on-site and hybrid technology-enhanced lessons that address content standards, national technology standards (ISTE), and workplace standards.
	B3.4. Manage student technology activities to optimize learning with available resources in a

	one-computer classroom, a computer lab, or with portable/wireless technology.
	B3.5. Create resources and guidelines to have students create their own content for learning in areas of their interest.
	B3.6. Use and have students develop appropriate technology to differentiate instruction (multimedia presentations, gaming, concept maps, etc.) for all learners.
	B3.7. Apply technology to have students assess their own learning of content, using a variety of standardized or individual assessment tools and strategies.
	B3.8. Use application programs to organize curriculum-specific information/data into charts, tables and diagrams (spreadsheets, databases, etc.).
	B3.9. Help students create multimedia presentations to communicate curriculum content.
	B3.10. Integrate results of electronic research into classroom instruction, (with proper citations) as appropriate to level.
	B3.11. Locate and enroll in appropriate technology professional development activities on a regular basis.

C. Silver

Skill Set C1 – Technology Operations and Concepts – I know how to..

	C1.1. Save (also retrieve, load, and import) documents in different file formats (e.g., RTF, HTML) to facilitate file sharing.
	C1.2. Use a variety of external peripherals (e.g., digital camera, camcorder, CD-RW, scanner) and connect them to a computer or distance learning equipment.
	C1.3. Resolve commonly occurring technology problems, and use proper terminology or communicating them (e.g., frozen screen, disk error, printing problems).
	C1.4. Identify, download and use multimedia, graphic, sound and video files.
	C1.5. Install new software from a variety of sources (e.g., CD, downloads, plug-ins and applications) per district policies.
	C1.6. Use built-in calculating features and create basic interactive tutorial functions in a spreadsheet application like MS Excel.
	C1.7. Create and customize charts or graphs in spreadsheet. Define and use built-in data functions of a spreadsheet such as sort, filter, find.
	C1.8. Perform simple operations in a database (e.g., browse, sort, search, delete, add data, define field formats, etc.).
	C1.9. Create a multimedia presentation that includes imported sound and graphic files, tables and a design template.
	C1.10. Share links and documents online among users via email or other posting.
	C1.11. Create a basic Web site with three linked pages.

Skill Set C2 – Ethics and Safety - I know how to..

	C2.1. Use specific assistive technology software (e.g., programs that use pictures/symbols with words, talking word processing, or word prediction).
	C2.2. Effectively address situations where inappropriate sites are accessed.
	C2.3. Demonstrate and teach students the issue of ergonomics (e.g., repetitive stress injuries) and how to use equipment safely.

Skill Set C3 – Teaching & Learning with Technology - I know how to..

	C3.1. Evaluate technology resources, including online resources for accuracy and suitability.
	C3.2. Create and teach simple segments using hybrid education tools, such as Elluminate or other classroom-management tools.
	C3.3. Use technology to support learner-centered strategies that address all students.
	C3.4. Use Web 2.0 interactive tools to build virtual learning communities.
	C3.5. Manage student learning experiences that integrate effective uses of technology to meet a variety of abilities, learning styles and "intelligences".
	C3.6. Use the Internet for curriculum development and instruction (e.g. Web Quests, games, lesson plans)
	C3.7. Use appropriate technology tools to enhance my own curriculum.
	C3.8. Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
	C3.9. Identify and evaluate developing technologies as they relate to my subject area, grade level and student population.
	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 conferencing tools to help students communicate with each other over long distances.

D. Gold

Skill Set D1 – Technology Operations and Concepts – I know how to..

	D1.1. Troubleshoot hardware problems and add new hardware.
	D1.2. Identify and use methods for transferring, downloading, and converting graphic, sound, videother files. Use different graphic file formats where appropriate (e.g., PICT, TIFF, JPEG).
	D1.3. Import/export and link data between spreadsheet, databases and other applications, luding presentation applications.
	D1.4. Design, create and manipulate an original database.
	D1.5. Create and post a Web page per program policy.

Skill Set – Ethics and Safety – I know how to..

	D2.1. Manage assistive technology equipment and install peripherals for diverse learners alternative keyboards, voice recognition, and scanners with OCR software).

Skill Set D3 – Teaching and Learning with Technology – I know how to..

	D3.1. Challenge students to use technology to teach themselves and to apply higher order thinking skills and creativity.
	D3.2. Develop web pages for instruction and communication.
	D3.3. Integrate gaming and virtual 3D environments as part of routine instruction (e.g., Second Life and other developing virtual worlds).
	D3.4. Apply the semantic tools of Web 3.0 to have students participate in content creation and manipulation.
	D3.5. Use specialized technology tools for problem solving, decision-making, and creativity (e.g., simulation software, environmental probes, computer-aided design, geographic information systems, dynamic geometric software, graphing calculators, art and music composition software).
	D3.6. Combine information from different applications (e.g., a chart imported from a spreadsheet into a word-processed report can be linked to update automatically when the data is changed in the spreadsheet) to enhance/clarify communication of information.
	D3.7. Develop a personal "arsenal" of technology resources to help students become proficient in the Web 2.0 and Web 3.0 environments.
	D3.8. Assess and apply shareware and other online instructional resources.
	D3.9. Present information, ideas, and results of work using the most appropriate videotapes, desktop-published documents).
	D3.10. Use electronic communications to enhance teaching and learning, (e.g. listserv, electronic classrooms, and interactive video/Web tools).
	D3.11. Design and deliver effective staff development in technology and its integration in curriculum.