



TEACHER COMPUTER-BASED TRAINING GUIDELINES



General Computer Knowledge and Skills			
BASIC			
	Introductory	Intermediate	Proficient
General Knowledge of basic hardware and software terminology G1	<ul style="list-style-type: none"> Identifies hardware components, peripherals and their purpose Identifies icons, windows and menus 	<ul style="list-style-type: none"> Uses icons, windows and menus Uses basic peripherals (e.g. CD-ROM, storage media, etc.) 	<ul style="list-style-type: none"> Incorporates general knowledge of basic hardware and software into lesson design as appropriate (e.g. vocabulary, naming and saving conventions, printing, etc.)
Operation and care of hardware G2	<ul style="list-style-type: none"> Starts up and shuts down computer and peripherals Uses a mouse Inserts and ejects diskettes, CD-ROM, etc. Uses software from a disk, hard drive, or CD-ROM Creates, names/renames folders and files Starts an application and creates a document Names, saves, saves as, retrieves and revises a document Prints documents 	<ul style="list-style-type: none"> Organizes the desktop Initializes, formats, names diskettes Copies documents between computer and diskettes Chooses printer location 	<ul style="list-style-type: none"> Allocates memory needed by applications Accesses and changes control panels Sets software preferences Makes more system memory available Performs regular maintenance Organizes files and programs Uses print preview and options Opens and works with more than one application at a time Shares files and printers on a network Installs software Selects and uses appropriate anti virus software
Implements basic troubleshooting techniques G3	<ul style="list-style-type: none"> Restarts a frozen computer Identifies directly connected or networked printer problems 	<ul style="list-style-type: none"> Troubleshoots basic hardware, software and printing problems before accessing the appropriate level of support Checks cables for proper attachment Solves simple printer problems with directly connected printer 	<ul style="list-style-type: none"> Troubleshoots common hardware, software, printing and network problems before accessing the appropriate level of support
Integration, Student Learning & Classroom Management G5		<ul style="list-style-type: none"> Explains various models for classroom management of technology Cites examples of appropriate applications of technology as an educational tool 	<ul style="list-style-type: none"> Selects and uses effective classroom management techniques using technology in a limited number of educational settings Selects and implements appropriate technology tools to support teaching and learning processes



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Internet BASIC

	Introductory	Intermediate	Proficient
General Knowledge and Appropriate Use of Hardware, Software (e.g. Web Browsers and connections) G1, G5	<ul style="list-style-type: none"> • Launches a browser and uses the tool bar • Specifies a URL and can point and click to navigate on existing links • Changes window sizes • Views history • Accesses help file • Explains basic internet terminology • Accesses Internet through a modem or network 	<ul style="list-style-type: none"> • Explains the anatomy of a URL • Configures preferences for software • Sets a home page • Refreshes or reloads a page • Hides, displays or configures the tool bar • Locates and opens a local file within the browser • Copies, pastes and saves from web pages • Downloads files • Configures page setup to print citation resources 	<ul style="list-style-type: none"> • Selects helper files/applications used to open downloaded files • Maintains and organizes bookmarks/favorites • Troubleshoots address errors (i.e. 404 errors) • Uses and manages multiple windows
Communication Collaboration S3, S4	<ul style="list-style-type: none"> • Explains use of email as a means of communication 	<ul style="list-style-type: none"> • Uses email to communicate with members of a group 	<ul style="list-style-type: none"> • Explains the use of chat, newsgroups, or threaded discussions to communicate with members of a group
Research Tools S7	<ul style="list-style-type: none"> • Conducts basic searches 	<ul style="list-style-type: none"> • Explains the differences between search indexes, search engines and metasearch tools • Understands Boolean logic • Conducts natural language searches 	<ul style="list-style-type: none"> • Uses advanced search features • Conducts multiple search strategies to locate and validate information • Uses internet search as a resource for lesson development
Ethics & Policies G4, S13, S14		<ul style="list-style-type: none"> • Explains issues surrounding Internet use in the classroom (e.g. copyright, management, student safety, AUP, etc.) 	<ul style="list-style-type: none"> • Implements procedures and management techniques concerning Internet use in the classroom for instruction
Information Literacy S5, S8	<ul style="list-style-type: none"> • Evaluates information for accuracy • Identifies whether a source is credible 	<ul style="list-style-type: none"> • Organizes information • Analyzes and interprets information 	<ul style="list-style-type: none"> • Uses a wide variety of sources • Filters information for relevancy • Incorporates information literacy strategies into lesson design
Integration, Student Learning & Classroom Management S6, S9-S12		<ul style="list-style-type: none"> • Locates resources appropriate for integrating technology into lesson design 	<ul style="list-style-type: none"> • Selects and implements internet resources appropriately in lesson design • Selects and uses effective classroom management techniques



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Email			
BASIC			
	Introductory	Intermediate	Proficient
General Knowledge and Appropriate Use of Hardware, Software G1, G5	<ul style="list-style-type: none"> Explains telecommunications terms Explains the 3 main components of an email address 	<ul style="list-style-type: none"> Configures email preferences Attaches, receives and opens attachments Creates and uses an address book Recognizes and uses embedded web links 	<ul style="list-style-type: none"> Manages an address book Locates, opens and manages attached files
Communication and Collaboration S3, S4	<ul style="list-style-type: none"> Starts up program, retrieves and reads email Saves, prints and deletes email Composes, edits, and sends new email 	<ul style="list-style-type: none"> Uses reply to sender, reply to all and forwarding appropriately CC's and BCC's email to interact with one or a few people 	<ul style="list-style-type: none"> Employs email as a tool to interact with and provide information to students, parents, and other community members
Integration, Student Learning & Classroom Management S6, S9-S12	<ul style="list-style-type: none"> Explains procedures and processes for use of email in the classroom 	<ul style="list-style-type: none"> Describes use of email in the classroom for connecting with others such as: keypals, global classrooms, parallel problem-solving, mentoring, etc. 	<ul style="list-style-type: none"> Designs curricular lessons which utilize email as a part of the activity Selects and uses effective classroom management techniques using email in a limited number of educational settings Selects and implements appropriate email tools to support teaching and learning
Legal, Ethical G4, S13, S14	<ul style="list-style-type: none"> Explains netiquette Explains issues surrounding student safety and security 	<ul style="list-style-type: none"> Practices appropriate netiquette related to email Implements issues related to personal safety and security 	<ul style="list-style-type: none"> Incorporates netiquette in classroom instruction Implements student safety and security procedures in instruction



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Word Processing

BASIC

	Introductory	Intermediate	Proficient
General Knowledge and Appropriate Use of Hardware, Software G1, G5	<ul style="list-style-type: none"> Identifies word processing terms (e.g., word processing, cursor, styles, etc.) Opens, saves, prints and deletes a document 	<ul style="list-style-type: none"> Navigates in a large document Accesses and uses Help Previews document to identify layout problems Uses basic proofing tools (e.g. spell check, grammar check) 	<ul style="list-style-type: none"> Finds and replaces text Saves word processing documents in other file formats Retrieves documents with the find file command
Communicate through printed media S2	<ul style="list-style-type: none"> Types, selects, corrects, deletes, text within a document Adjusts tabs and margins Applies and changes font, character and paragraph formatting Changes on-screen view mode and magnification 	<ul style="list-style-type: none"> Copies, pastes text within and between documents Uses styles to change the appearance of paragraphs and outlines Uses templates Applies borders Creates numbered and bulleted lists Adds and deletes page breaks, and creates headers and footers Creates tables using built-in software assistance 	<ul style="list-style-type: none"> Uses word processors to create lesson plans, articles, reports, etc. Enhances documents by inserting graphics Incorporates drawing tools Resizes and relocates graphics within a document Creates templates Formats text in columns with different fonts and colors
Integration, Student Learning and Classroom Management S6, S9-12		<ul style="list-style-type: none"> Transcribes handwritten documents into word processed documents Creates a simple word processed document 	<ul style="list-style-type: none"> Creates enhanced word processed documents for classroom use Designs lessons that utilize word processing as part of the activity



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Publishing BASIC

	Introductory	Intermediate	Proficient
General Knowledge and Appropriate Use of Hardware, Software G1, G5	<ul style="list-style-type: none"> Defines publishing terms (e.g., page layout, stories, fields, etc.) Opens, saves, prints and deletes a document 	<ul style="list-style-type: none"> Navigates in a large document Accesses and uses Help Previews document to identify layout problems Uses basic proofing tools (e.g. spell check, grammar check) 	<ul style="list-style-type: none"> Finds and replaces text Saves text documents in other file formats
Communicates through printed media S2	<ul style="list-style-type: none"> Creates a new document Changes document setup Copies, cuts and pastes text and graphics Changes on-screen view mode and magnification Incorporates clip art Changes typefaces, font size and other text attributes Changes text alignment/justification Identifies types of publishing software (e.g. word processing, page layout, image/graphic, etc.) Undo unwanted changes 	<ul style="list-style-type: none"> Imports/ places and resizes graphics, (e.g. clip art, charts, auto-shapes, etc.) both as objects and as type Uses suitable size, style and number of fonts Creates a simple shape graphic Controls text flow around graphics Moves, arranges and layers objects Creates numbered and bulleted lists Uses guides and rulers Creates multiple text columns Controls page numbering Changes page tabs, margins and indents Edits line and shape style and fill Creates and modifies headers and footers 	<ul style="list-style-type: none"> Understands elements of basic design (e.g. white space, page layout, etc.) Saves documents in appropriate formats Integrates various and appropriate software for desktop publishing (e.g. graphics, layout, etc.) Incorporates digital images from external sources (e.g. cameras, scanners, WWW, etc.)
Integration, Student Learning & Classroom Management S6, S9-S12	<ul style="list-style-type: none"> Describes various types of publishing media and possible classroom applications 	<ul style="list-style-type: none"> Selects media to support instructional objectives 	<ul style="list-style-type: none"> Develops student assignments that embed elements of effective design Plans for effective classroom management of available resources



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Databases

BASIC

	Introductory	Intermediate	Proficient
General Knowledge and Appropriate Use of Hardware, Software G1, G4, G5	<ul style="list-style-type: none"> Defines database terms (e.g. records, fields, etc.) Creates, opens and saves a database Selects, moves, copies, deletes, clears and inserts fields and records 	<ul style="list-style-type: none"> Formats fields to reflect appropriate data (e.g. date, name, currency, etc.) Explains differences between report and query/search/find Uses print preview to identify print problems 	<ul style="list-style-type: none"> Finds and replaces data Sorts, matches and goes to specific records Exports data from database Adds header and footer
Manage records (e.g. grade book, attendance, etc.) S1	<ul style="list-style-type: none"> Enters text and data into appropriate fields 	<ul style="list-style-type: none"> Uses find command to locate a specific record Creates or modifies report layout 	<ul style="list-style-type: none"> Merges database information with word processing document to produce "form letters"
Communicate through Printed media S2	<ul style="list-style-type: none"> Sorts data to produce reports (e.g. alphabetical listings, etc.) Formats text and numbers in record (e.g. boldface, currency, etc.) 	<ul style="list-style-type: none"> Creates a variety of report layouts Sorts or defines data to print only required records (e.g. students reading at grade level) 	<ul style="list-style-type: none"> Imports data from other applications Creates new layouts or edits existing layouts for specific productivity or curricular goals
Integration, Student Learning & Classroom Management S6, S9-12	<ul style="list-style-type: none"> Describes the educational uses of databases 	<ul style="list-style-type: none"> Identifies lessons that require the manipulation of data Creates new databases related to content area. (e.g. world populations, animal data, etc.) 	<ul style="list-style-type: none"> Designs curricular lessons which utilize databases to enhance learning outcomes Develops student assignments that require management and manipulation of a variety of data



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Spreadsheets

BASIC

	Introductory	Intermediate	Proficient
General Knowledge and Appropriate Use of Hardware, Software G1, G5	<ul style="list-style-type: none"> Defines spreadsheet terms (e.g. cells, alignment, formula, etc.) Creates, opens and saves spreadsheets Navigates using the mouse and tabs Undo unwanted changes Locates cells based on column/row addresses Selects, moves, copies, deletes, clears and inserts cells Selects entire column or row Resizes cells and rows Changes typeface, font size and other cell attributes 	<ul style="list-style-type: none"> Sorts cells Changes text cell alignment and justification Replicates a formula or range of cells (e.g. :fill") Creates simple bar or pie charts Adds shading and borders Selects charts for appropriate data representation 	<ul style="list-style-type: none"> Saves in a variety of formats Imports/exports charts and data (e.g. spreadsheet to word processing, etc.) Aligns and rotates text and numbers Creates a variety of charts Labels graphs appropriately
Manage records (e.g. grade book, attendance, etc.) S1	<ul style="list-style-type: none"> Enters text and data into specific cells 	<ul style="list-style-type: none"> Creates formula cells (e.g. sum, average, etc.) Formats cells for appropriate content such as text, decimal alignment, currency 	<ul style="list-style-type: none"> Utilizes grade book templates Maintains student records
Communicate through Printed media S2	<ul style="list-style-type: none"> Adjusts layout and margins Uses print preview and print document with title Creates and edits headers, footers and page numbers Sets up print options for grid lines, zoom, etc. 	<ul style="list-style-type: none"> Prints a specific range of cells, pages and sheets Searches for and replaces text Changes size, placement and title of charts Changes page margins 	<ul style="list-style-type: none"> Imports/exports charts into word processing application
Integration, Student Learning & Classroom Management S6, S9-12	<ul style="list-style-type: none"> Describes the educational uses of spreadsheets 	<ul style="list-style-type: none"> Creates new spreadsheets related to content area 	<ul style="list-style-type: none"> Designs curricular lessons requiring use of spreadsheet Creates appropriate charts for a content lesson



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Presentation Software

BASIC

	Introductory	Intermediate	Proficient
General Knowledge and Appropriate Use of Hardware, Software G1, G5	<ul style="list-style-type: none"> Defines presentation and multimedia terms (e.g. slides/cards, slideshow, hyper-navigation, etc.) Creates, opens, modifies and saves presentations Defines available tools (e.g. drawing, text, etc.) Uses templates or wizards to create a new presentation Adds new slides or cards Inserts text, formats text or adds text box Uses toolbar or menus to apply formatting changes Inserts clip art or digitized pictures 	<ul style="list-style-type: none"> Inserts or changes slide or card design Navigates using scrollbar, slide sorter, menu, key commands, etc. Switches between different page views Re-arranges the order of slides or cards Applies backgrounds and objects appropriately Uses available tools (e.g. drawing, text, etc.) Incorporates sound Defines different image types (i.e. TIFF, GIF, PCX) Connects, configures and troubleshoots peripheral devices for presentation 	<ul style="list-style-type: none"> Creates and edits navigational buttons to move through presentation Navigation through presentation is clear and easy to understand Applies transitions and effects, if appropriate, to slides or cards Incorporates hypertext links Incorporates animations from library Incorporates movies from library Records sound and inserts in presentation Incorporates clip art from other sources (e.g. web, scanner, etc.) Organizes presentation resources in a folder on the desktop or server Edits clip art (if appropriate)
Communicates through print media S2	<ul style="list-style-type: none"> Prints slides 	<ul style="list-style-type: none"> Demonstrates understanding of basic design elements (i.e. color, design, space and composition) Prints using advanced printing options 	<ul style="list-style-type: none"> Prints handouts that enhance instructional objectives (e.g. outlines, notes, etc.)
Integration, Student Learning & Classroom Management S6, S9-12	<ul style="list-style-type: none"> Describes the educational uses of presentation software 	<ul style="list-style-type: none"> Organizes information in a clear, consistent way for the viewer Creates cards or slides using effective design to enhance communication Uses appropriate background and text colors to ensure clarity and readability 	<ul style="list-style-type: none"> Designs curricular lessons which utilize multimedia to enhance learning outcomes Follows fair use and copyright law for text, graphics, and sound



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Instructional Technology

BASIC

	Introductory	Intermediate	Proficient
Analyzes best practices and research findings G5, S12	<ul style="list-style-type: none"> Locates learning, teaching and communication resources related to implementation in the classroom 	<ul style="list-style-type: none"> Is able to locate and adapt lessons based upon best practices and research findings 	<ul style="list-style-type: none"> Analyzes best practices and research findings on the use of technology and designs lessons accordingly
Considers content to be taught and selects the best tech resources to support, manage and enhance learning S5, S10	<ul style="list-style-type: none"> Identify established criteria used to evaluate digital media Is provided with examples of lesson plans that integrate technology Identifies process used to match technology with content 	<ul style="list-style-type: none"> Practices evaluating educational digital media using established criteria Practices including appropriate technological resources in classroom lesson plans 	<ul style="list-style-type: none"> Evaluates educational digital media using established criteria Includes appropriate technological resources in classroom lesson plans
Identifies student learning styles and determines appropriate resources S6, S9	<ul style="list-style-type: none"> Is aware of learning style inventories for students Examines a variety of technology resources for their applicability to learning styles 	<ul style="list-style-type: none"> Selects and uses activities to identify student learning styles Uses a variety of technology resources in lesson plans to meet student learning styles 	<ul style="list-style-type: none"> Integrates appropriate technology resources and adapts lessons and classroom practice according to learning style inventory results
Demonstrates ability to create and maintain effective learning environments using computer based technology S11	<ul style="list-style-type: none"> Describes various models of technology use that enhances learning and increases efficiency and productivity 	<ul style="list-style-type: none"> Uses teacher productivity tools for classroom management (e.g. home-school communication, student records and grades) Lesson plans reflect a management system for computer based activities 	<ul style="list-style-type: none"> Effectively uses technology for whole class, small group and individual instruction Classroom activities allow all students to build upon their technology skills and increase learning Implements management procedures that support assessment of student involvement and achievement
Demonstrates knowledge of privacy security and safety issues G4, S13, S14	<ul style="list-style-type: none"> Explains the need for and use of copyright policy, protection of student privacy, security and safety 	<ul style="list-style-type: none"> Implements established policies for safe, private and secure practices in personal work Personally implements established policies surrounding copyright and plagiarism 	<ul style="list-style-type: none"> Implements established policies for safe, private and secure practices in classroom Implements policies surrounding copyright and plagiarism in classroom