

APPENDIX D

Technology Skills by Grade Levels

	K-2	3-5	6-8	9-10	11-12
Description					
1. Basic Operations and Concepts					
1.1. Employ appropriate startup and shut down procedures, including standby, restart, and hibernate	AI	IR	R	M	M
1.2. Use correct keying technique	AI	IR	M	M	M
1.2.1. Use the home row and correct reaches	AI	IR	R	M	M
1.2.2. Use enter/return, space bar, shift, and tab keys with correct reaches	AI	IR	R	M	M
1.2.3. Use correct posture at the computer	AI	IR	R	M	M
1.2.3.1. <i>Sit up straight, square, and centered to the keyboard</i>	AI	RM	M	M	M
1.2.3.2. <i>Place feet flat on the floor</i>	AI	RM	M	M	M
1.2.3.3. <i>Use proper chair height</i>	AI	RM	M	M	M
1.2.3.4. <i>Use proper distance from the keyboard</i>	AI	RM	M	M	M
1.2.3.5. <i>Place hands slightly off of the keyboard with wrists flat</i>	AI	RM	M	M	M
1.2.3.6. <i>Keep elbows close to your sides</i>	AI	RM	M	M	M
1.2.3.7. <i>Keep fingers slightly curved</i>	AI	RM	M	M	M
1.2.4. Use the top row of the keyboard for number keying	A	IR	R	M	M
1.2.5. Use the numeric keypad for number keying	A	IR	R	M	M
1.2.6. Keep eyes on copy	A	IR	M	M	M

1.2.7. Key rhythmically	A	IR	R	M	M
1.3. Use mouse correctly	AI	R	M	M	M
1.3.1. Use the point and click feature	AI	R	M	M	M
1.3.2. Use the double click feature	AI	IR	RM	M	M
1.3.3. Use the drag and drop feature	AI	R	M	M	M
1.3.4. Use the right click feature	AI	IR	RM	M	M
1.3.5. Recognize mouse icons (i.e., I-beam, arrow, double-headed arrow, four-headed arrow, hour glass, pointing index finger)	A	IR	RM	M	M
1.3.6. Change mouse characteristics (i.e., buttons, motion, orientation, pointers)	A	IR	RM	M	M
1.4. Practice proper care with all computer components	AI	R	M	M	M
1.4.1. Exhibit good hygiene when operating the computer	AI	R	M	M	M
1.4.2. Keep food, liquid, and magnets away from computer components	AI	R	M	M	M
1.4.3. Use and properly care for storage media (i.e., CD-ROMs, USB flash drives)	AI	R	M	M	M
1.5. Use and identify operating system functions	AI	IR	M	M	M
1.5.1. Open and exit applications using various methods	AI	IR	M	M	M
1.5.2. Open, close, minimize, maximize, and restore windows	AI	IR	M	M	M
1.5.3. Perform tasks using menus, buttons, and keyboard shortcuts	AI	IR	R	M	M
1.5.4. Display and use toolbars	AI	IR	R	M	M
1.5.5. Identify and use vertical and horizontal scroll bars	AI	IR	M	M	M

1.5.6.	Identify and refer to parts of the window	AI	R	M	M	M
1.5.7.	Cascade and tile windows	AI	IR	R	M	M
1.5.8.	Demonstrate effective file management skills	AI	IR	R	RM	M
1.5.8.1.	<i>Create and name files</i>	AI	IR	RM	M	M
1.5.8.2.	<i>Open and close files</i>	AI	IR	M	M	M
1.5.8.3.	<i>Use the Save and Save As commands appropriately</i>	AI	IR	M	M	M
1.5.8.4.	<i>Find or search for files and folders</i>	A	I	R	RM	M
1.5.8.5.	<i>Create and name folders</i>	*	A	IR	RM	M
1.5.8.6.	<i>Sort folders by type, name, date, size, or program</i>	*	*	AI	R	RM
1.5.8.7.	<i>Change folder views</i>	*	*	AI	R	RM
1.6.	Setup and prepare the workstation	A	AI	R	M	M
1.7.	Explain computer processes (i.e., input, process, output, storage)	*	A	IR	R	M
1.8.	Identify basic hardware devices					
1.8.1.	Identify storage devices (i.e., hard drive, USB flash drive, CD drive, DVD drive)	A	AI	R	M	M
1.8.1.1.	<i>Compare and contrast types of storage devices</i>	*	AI	R	M	M
1.8.2.	Identify input devices (i.e., mouse, keyboard, stylus, handheld computers, scanner, digital camera, microphone, smart phones)	A	AI	R	M	M
1.8.3.	Identify output devices (i.e., printer, monitor, speakers)	A	AI	R	M	M
1.8.4.	Identify central processing unit	A	AI	R	M	M

1.8.5. Identify communication devices (i.e., modem)	*	A	I	R	M
1.9. Use basic hardware	A	AI	R	M	M
1.9.1. Use storage devices (i.e., hard drive, USB flash drive, CD drive, DVD drive)	A	AI	R	M	M
1.9.2. Use output devices (i.e., printer, monitor, speakers)	A	AI	R	M	M
1.9.3. Use communication devices (i.e., modem)	A	AI	R	M	M
1.10. Choose an appropriate device for a given task (i.e., input, output, storage)	*	AI	I	R	M
1.11. Multitask by opening and using two or more applications at once	*	AI	R	M	M
1.12. Identify different file extensions (i.e., .doc, .xls)	*	AI	RM	M	M
1.13. Recognize desktop icons and their functions	*	AI	R	M	M
1.14. Use the help and support features	*	AI	IR	M	M
1.15. Differentiate between system and application software programs	*	A	IR	R	M
1.15.1. Apply Control Panel options to setup/alter peripherals	*	A	IR	R	M
1.15.2. Identify the information available in the system properties dialog box	*	A	I	R	M
1.15.3. Cascade and tile windows	*	A	I	R	M
1.15.4. Edit desktop properties	*	A	I	R	M
1.15.5. Interpret notification area messages	*	*	I	R	M

Description	K-2	3-5	6-8	9-10	11-12
2. Social, Ethical, and Human Issues					
2.1. Work cooperatively with others as a	AI	IR	R	RM	M

team					
2.2. Demonstrate ethical behavior when using computers	AI	I	IR	R	RM
2.2.1. Define plagiarism	AI	IR	RM	M	RM
2.2.2. Define copyright	AI	IR	RM	M	RM
2.2.3. Obey copyright laws	A	R	RM	M	RM
2.2.4. Respect privacy of others	A	I	R	R	RM
2.2.5. Identify issues that are harmful to information technology (i.e., virus, cookies)	A	AI	I	IR	RM
2.2.6. Describe personal consequences of copyright violations	*	AI	R	RM	M
2.3. Follow district Acceptable Use Policy	AI	R	M	M	M
2.5. Protect personal information	A	AI	I	IR	RM

Description	K-2	3-5	6-8	9-10	11-12
3. Technology Productivity Tools					
Keyboarding *(See Section 1 - Basic Operations and Concepts for details on proper keying technique)	AI	R	M	M	M
3.1. Compose original documents at the keyboard	AI	IR	RM	M	M
3.2. Identify the insertion point	AI	R	M	M	M
3.8. Use keyboard shortcuts (i.e., Ctrl+Home, Ctrl+End, Page Up, Page Down)	AI	R	R	M	M
Word Processing	A	I	M	M	M
3.10. Open, modify, and save an existing document	A	IR	R	RM	M
3.11. Switch between views	*	AI	I	RM	M
Format and Edit Text					
3.12. Define word wrap	AI	IR	RM	M	M
3.13. Select, insert, and delete text	AI	R	M	M	M
3.14. Move and copy text	AI	IR	RM	M	M

3.15.	Change font face (typeface), size, and color	AI	R	RM	M	M
3.16.	Use bold, italic, and underline styles	AI	R	RM	M	M
3.17.	Change page setup options	A	I	R	M	M
3.17.1.	<i>Set page orientation (i.e., portrait, landscape)</i>	AI	I	R	RM	M
3.17.2.	<i>Set horizontal and vertical text alignment</i>	AI	IR	RM	M	M
3.17.3.	<i>Set document margins</i>	A	I	R	M	M
3.17.4.	<i>Change document default settings</i>	*	AI	IR	RM	M
3.17.5.	<i>Change paper size and print source</i>	*	A	IR	RM	M
3.18.	Insert and format text boxes	*	AI	R	RM	M
3.19.	Create, insert, size, move, format, and link charts	*	AI	IR	RM	M
3.20.	Change font case	*	AI	R	M	M
3.21.	Set line spacing	*	AI	R	M	M
3.22.	Create and customize bulleted or numbered lists	*	AI	IR	RM	M
3.23.	Apply and edit borders and shading options	*	AI	IR	RM	M
3.25.	Apply special font effects	*	A	I	R	M
3.26.	Reveal formatting	*	*	A	IR	M
3.27.	Insert a hard return, soft return, and hard page break	*	A	I	R	M
3.28.	Apply highlight feature to text	*	A	I	R	M
3.30.	Set, edit, and clear indents on the ruler or using menu options	*	*	AI	R	RM
3.31.	Set, edit, and clear tabs on the ruler or using menu options	*	*	AI	IR	RM
3.32.	Insert and format sections	*	*	AI	IR	RM

3.33. Find and replace characters and formatting	*	*	AI	IR	M
3.34. Insert and format page numbers (i.e., different first page)	*	*	AI	IR	RM
3.35. Apply, create, modify, and clear styles for characters and paragraphs	*	*	A	I	RM
3.36. Adjust character spacing	*	*	A	I	RM
3.37. Save a document in appropriate formats for different usages (i.e., RTF, webpage, XML, template)	*	*	*	IR	RM
3.38. Insert and view hidden text	*	*	*	AI	IR
3.39. Structure documents using Extensible Markup Language (XML)	*	*	*	A	AI
Tools					
3.40. Use undo/redo actions	AI	IR	RM	M	M
3.41. Explain the difference between insert mode and typeover mode	A	IR	RM	M	M
3.43. Explain the function of the clipboard	*	AI	IR	RM	M
3.44. Insert symbols and special characters	*	AI	IR	RM	M
3.45. Use proofing tools (i.e., spell check, grammar check, word count, comments, document summarization, document statistics)	*	AI	R	M	M
3.50. Create and modify footnotes and endnotes to cite sources	*	*	AI	IR	RM
3.51. Import, embed, and link a spreadsheet worksheet in a file	*	*	AI	R	RM
3.53. Insert, format, edit, delete, and position headers/footers (include different first page, odd/even pages, page numbering)	*	*	AI	IR	RM
3.54. Create, edit, delete, format, size, and move tables	*	*	AI	IR	RM
3.55. Format text into columns	*	*	AI	IR	RM
3.55.1. Edit column size and spacing	*	*	AI	IR	RM

Graphics						
3.64.	Insert clip art and pictures from various sources	AI	IR	RM	M	M
	<i>3.14.1. Manipulate clip art and pictures (i.e., washout, grayscale, black/white, resize, rotate, change size, change color, move)</i>	*	AI	IR	RM	M
3.65.	Create a word/text art object	AI	R	RM	M	M
3.66.	Draw, size, format, and move shapes and lines	A	AI	IR	RM	M
3.67.	Flip, rotate, and crop objects	*	AI	IR	RM	M
3.68.	Wrap text around clip art, pictures, and text art	*	AI	IR	RM	M
3.69.	Explain the differences between picture file types (i.e., jpeg, gif, tiff)	*	AI	IR	RM	M
3.70.	Control image brightness and contrast	*	*	I	RM	M
Create Documents						
3.72.	Create reports (i.e., single page, multi-paragraph, multi-page)	*	AI	IR	RM	M
3.74.	Create and format web pages	*	*	AI	IR	RM
3.75.	Create special documents (i.e., resume, minutes, itinerary, agenda, newsletters, flyers, envelopes & labels, organizational charts and diagrams)	*	*	AI	IR	M
3.76.	Print a document	AI	R	RM	M	M
Use Collaboration/Integration Tools						
3.77.	Insert, view, and edit comments	*	*	A	IR	RM
3.78.	Track, accept, and reject proposed changes	*	*	A	IR	RM
	<i>3.78.1. Modify track changes options</i>	*	*	*	AI	RM
	<i>3.78.2. Print document with markup</i>	*	*	*	AI	RM
Presentation and Multimedia		A	AI	R	RM	M

3.81. Describe how slide shows assist in the presentation of ideas and facts to an audience	A	AI	R	RM	M
3.82. Organize a presentation plan	*	A	I	R	RM
Work with Presentations					
3.83. Create a slide show	AI	IR	R	M	M
3.83.1. Use a design template	AI	IR	R	RM	M
3.83.2. Insert automatic slide content	*	*	A	IR	RM
3.84. Insert slides using different slide layouts	AI	IR	R	M	M
3.85. Open, modify, and save an existing presentation	AI	IR	R	M	M
3.86. Switch between slide views	A	IR	R	M	M
Format and Edit					
3.87. Move and copy slide objects	AI	IR	RM	M	M
3.88. Revise the sequence of slides	A	IR	R	M	M
3.89. Change the slide background	AI	I	R	RM	M
3.90. Change the slide layout	A	AI	IR	RM	M
3.91. Apply transitions and timings	*	AI	IR	RM	M
3.92. Insert slides from file	*	AI	IR	RM	M
3.93. Apply animation to text and create custom animations	*	AI	IR	RM	M
3.94. Change the slide design color scheme	*	*	AI	IR	RM
3.95. Insert and modify hyperlinks within a presentation	*	*	A	AI	R
Graphics, Audio, and Video					
3.98. Use the drawing tools	A	AI	IR	RM	M
3.99. Manipulate clip art, drawing objects, and pictures	*	AI	IR	RM	M
3.100. Work with gridlines and page guides	*	AI	IR	RM	M
3.101. Insert audio and video clips	*	AI	IR	RM	M
3.102. Apply animation to graphics and create custom animations	*	AI	IR	RM	M
3.103. Insert diagrams and graphs	*	*	*	AI	IR

Presentation Delivery						
3.104.	Run a slide show	AI	IR	R	M	M
3.105.	Preview and print slides and audience handouts	AI	IR	R	M	M
3.106.	Deliver an oral presentation with a slideshow	A	AI	IR	RM	M
Spreadsheets		A	IR	R	RM	M
3.110.	Describe how worksheets are used to analyze data and solve problems	*	AI	IR	RM	M
Work with Spreadsheets						
3.111.	Open, modify, and save an existing spreadsheet	A	IR	R	RM	M
3.112.	Identify cells, columns, rows, and ranges	A	IR	R	RM	M
3.113.	Insert and delete data in cells	A	IR	R	RM	M
3.114.	Select cells, columns, rows, ranges, and the entire worksheet	A	IR	R	RM	M
3.115.	Insert and delete cells, columns, and rows	A	IR	R	RM	M
3.116.	Interpret spreadsheet data	A	IR	R	RM	M
3.117.	Select the appropriate chart type to best represent given data	A	I	R	RM	M
3.118.	Delete, add, copy, cut, paste, and rename worksheets	*	AI	IR	RM	M
3.119.	Use cut, copy, paste, and paste special to manipulate spreadsheet data	*	AI	IR	RM	M
3.120.	Insert, position, and size graphics	*	AI	IR	RM	M
3.122.	Hide and unhide columns and rows	*	AI	IR	RM	M
3.123.	Create spreadsheets from templates	*	A	IR	RM	M
3.124.	Create formulas	*	AI	IR	RM	M
3.125.	Preview and print spreadsheets	*	AI	R	RM	M
3.125.1.	<i>Size to fit</i>	*	*	A	IR	RM

3.125.2. <i>Set print area to print a specified area of a worksheet</i>	*	*	A	IR	RM
3.125.3. <i>Print a workbook containing multiple worksheets</i>	*	*	AI	IR	RM
3.125.4. <i>Print column and row titles on multiple pages</i>	*	*	AI	IR	RM
3.125.5. <i>Print gridlines and column headings</i>	*	*	AI	IR	RM
3.126. Copy and move a worksheet to another spreadsheet	*	A	IR	RM	M
3.127. Present spreadsheet data orally to a group	*	A	IR	RM	M
3.131. Import data into a spreadsheet	*	*	A	IR	RM
3.131.1. <i>Link spreadsheet data</i>	*	*	A	IR	RM
3.131.2. <i>Embed objects in spreadsheets</i>	*	*	A	IR	RM
3.132. Export spreadsheet data	*	*	A	IR	RM
3.133. Create and edit templates	*	*	A	IR	RM
3.134. Insert and modify hyperlinks	*	*	*	AI	IR
Format a Spreadsheet					
3.135. Change fonts and apply font styles	A	IR	RM	M	M
3.136. Center cell contents across a range	A	IR	RM	M	M
3.137. Align text horizontally in cells	A	IR	RM	M	M
3.138. Align text vertically in cells	*	AI	IR	RM	M
3.139. Change column width	A	IR	RM	M	M
3.140. Change row height	A	IR	RM	M	M
3.141. Change page orientation	A	I	R	RM	M
3.142. Set margins	A	I	R	M	M
3.143. Change number formats	A	AI	IR	RM	M
3.144. Add borders and shading to cells	*	AI	IR	RM	M
3.145. Customize worksheet tabs	*	AI	IR	RM	M
3.146. Align, indent, and rotate cell contents	*	*	AI	RM	M
3.147. Apply and modify cell styles	*	*	AI	RM	M

3.148.	Arrange worksheets	*	*	A	I	RM
3.149.	Format multiple worksheets in one spreadsheet simultaneously	*	*	A	IR	RM
3.150.	Add a background image to a worksheet	*	*	*	AI	RM
3.151.	Use conditional formatting	*	*	*	AI	RM
Tools						
3.157.	Sort data	*	AI	IR	RM	M
3.160.	Search for and replace text	*	*	AI	IR	RM
3.161.	Name a range and use a range in a formula	*	*	AI	IR	RM
3.162.	Filter data	*	*	AI	IR	RM

Description	K-2	3-5	6-8	9-10	11-12
4. Technology Communications Tools					
4.1. Select appropriate technology tools for the task and audience	AI	IR	M	M	M
4.2. Identify examples of programs that can harm your computer (i.e., viruses, worms, Trojan Horses, adware and spyware)	A	AI	I	M	M
4.3. Use a web browser	AI	R	M	M	M
4.3.1. Explain website extensions (i.e., .org, .com, .edu, .gov)	AI	IR	R	M	M
4.3.2. Navigate teacher-approved websites	AI	R	M	M	M
4.3.3. Identify navigation bar buttons and their purpose	A	IR	RM	M	M
4.3.4. Identify the purpose of search engines	A	IR	R	M	M
4.3.5. Create and use Favorites and Bookmarks	A	AI	R	M	M

Internet	4.3.6.	Copy and paste a picture from the	A	AI	R	M	M
	4.3.7.	Define URL	*	AI	R	RM	M
	4.3.8.	Identify a home page	*	AI	IR	RM	M
	4.3.9.	Identify a hyperlink	*	A	I	R	M
	4.4.	Use email	*	AI	IR	RM	M
email	4.4.2.	Explain the purpose and intent of	*	AI	I	IR	M
message	4.4.3.	Identify the parts of an email	*	A	AI	IR	RM
	4.4.4.	Send and receive email	*	A	AI	IR	RM
	4.4.5.	Demonstrate proper netiquette	*	A	AI	IR	RM
	4.4.9.	Explain Spam	*	*	A	IR	RM

Description	K-2	3-5	6-8	9-10	11-12
5. Technology Research Tools					
5.1. Demonstrate correct usage of Internet terminology and vocabulary	AI	I	R	R	M
5.3. Identify various electronic research resources and reference tools	A	AI	IR	RM	M
5.4. Conduct research using appropriate electronic sources and tools (i.e., CD-ROMS and Internet)					
5.4.1. Appropriately cite sources when using information from the Internet	*	A	IR	RM	M
5.5. Conduct a simple search (i.e., keyword, subject)	A	AI	R	M	M
5.6. Conduct an advanced and/or limited search	*	AI	R	M	M
5.7. Utilize research results	A	AI	I	R	M
5.8. Acquire information (i.e., text, audio, graphics)	A	AI	R	M	M
5.9. Use web directory links	A	AI	R	M	M

Description	K-2	3-5	6-8	9-10	11-12
6. Technology Problem-Solving and Decision-Making Tools					
6.1 Determine the appropriate software application for a given task	*	A	AI	IR	RM
6.2. Use technology to compare, contrast, evaluate, and validate information	*	A	AI	IR	M
6.3. Consider the quality, quantity, and relevance of information	*	A	AI	IR	M
6.4. Use technology to compile, organize, synthesize, produce, and disseminate information	*	*	AI	IR	RM
6.5. Collaborate with others in problem solving and decision making	*	*	AI	R	M
6.6. Present, in an oral or written report, the problem, the chosen solution, and the rationale for the related decisions	*	*	AI	R	RM
6.7. Troubleshoot basic information technology problems using help screens and reference materials	*	*	A	I	R
6.8. Integrate software applications to maximize the potential of available functions	*	*	A	IR	M
6.9. Develop criteria to determine the effectiveness of the process used for a given task or problem	*	*	*	AI	R

Key: A=Awareness, I=Introduce, R=Reinforce, M=Master