

## Strand One: Basic Operations and Tools

*Grade Expectations IT1: Students demonstrate proficiency in the effective use of technology*

<b>Use of Hardware/ Keyboarding</b>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>K-2</b>	<ul style="list-style-type: none"> <li>• Navigate with a mouse, recognize and use keys (e.g. letters, numbers, and space bar)</li> <li>• Keyboarding techniques: thumb for space bar, pinky for return</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>3-4</b>	<ul style="list-style-type: none"> <li>• Use removable media (e.g. floppy disc, CD, DVD)</li> <li>• Keyboarding techniques: thumb for space bar, pinky for return</li> </ul>	<ul style="list-style-type: none"> <li>• Keyboarding Techniques: Home row, 2 handed typing</li> <li>• Differentiate between right and left mouse click, recognize and use keys, letters, numbers, and space bar, shift, return/enter punctuation, delete/back space keys</li> </ul>	<ul style="list-style-type: none"> <li>• Use effective posture when keyboarding (straight back, body leaning forward, etc)</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>5-6</b>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Keyboarding Techniques: Both hands; all keys</li> <li>• Use digital tools to capture images (e.g. scanner, digital camera)</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>7-8</b>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Key Strokes for copy/paste etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Keyboarding Techniques: Both hands; all keys with accuracy-eyes on monitor</li> <li>• Use digital tools to capture images (e.g. scanner, digital camera)</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>9-12</b>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Keyboard with speed and accuracy</li> <li>• Use digital tools to capture images and other information (temperature, sound, light, film) and import them into a computer</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

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<i>Operating Systems and Standard Features of Applications</i>				
	Awareness	Guided Practice	Independent	Optional
<b>K-2</b>	<ul style="list-style-type: none"> <li>Launch a program by clicking on an desktop/menu (shortcut)</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>3-4</b>	<ul style="list-style-type: none"> <li>Log in and out of a network</li> </ul>	<ul style="list-style-type: none"> <li>Navigate between open windows</li> <li>Open documents from and save documents to multiple locations (e.g. drive, network, removable media)</li> </ul>	<ul style="list-style-type: none"> <li>Launch a program from the desktop</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>5-6</b>	<ul style="list-style-type: none"> <li>Identify and save documents in multiple formats (doc. Jpg. Pdf, rtf)</li> </ul>	<ul style="list-style-type: none"> <li>Locate files and folders using appropriate term and the find command</li> </ul>	<ul style="list-style-type: none"> <li>Launch a program from the desktop/menu</li> <li>Navigate between open windows and applications</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>7-8</b>	<ul style="list-style-type: none"> <li>Compress/Decompress files</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Open and save to nested folders</li> <li>Locate files and folders using multiple criteria and the find command</li> <li>Save documents in multiple formats (doc. Jpg, pdf, )</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>9-12</b>			<ul style="list-style-type: none"> <li>Save documents in multiple formats (e.g. doc, jpg, pdf, html)</li> <li>Use electronic help to solve a problem or to learn something new</li> </ul>	

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<b><i>Organization and Navigation : Working With Files</i></b>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>K-2</b>	•	•	•	•
<b>3-4</b>	<ul style="list-style-type: none"> <li>• Copy and move files and folders</li> <li>• Cut, copy and paste within documents and across documents and applications</li> </ul>	<ul style="list-style-type: none"> <li>• Create, name and rename folders</li> <li>• Cut, copy and paste within a document and across documents</li> </ul>		•
<b>5-6</b>	<ul style="list-style-type: none"> <li>• Use shortcuts/alias</li> </ul>	•	<ul style="list-style-type: none"> <li>• Create, name and rename folders and files</li> <li>• Create folders within folders (nested folders)</li> <li>• Copy and move files and folders</li> <li>• Cut, copy and paste within documents and across documents and applications</li> </ul>	•
<b>7-8</b>	•	•	<ul style="list-style-type: none"> <li>• Create, name and rename folders</li> <li>• Use a purposeful structure to embed folders within folders</li> <li>• Copy and move files and folders</li> </ul>	•
<b>9-12</b>	•	•	<ul style="list-style-type: none"> <li>• Copy/move files and folders</li> <li>• Create a duplicate/back up document in another location</li> </ul>	<ul style="list-style-type: none"> <li>• Compress and decompress files and folders</li> </ul>

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*Grade Expectations IT3: Students use technology/ productivity tools to enhance learning, increase productivity, and promote creativity*

<b><i>Word Processing/Data Bases and Spreadsheets</i></b>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>K-2</b>	<ul style="list-style-type: none"> <li>Enter and delete text, manipulating styles (bold face, font)</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Combine text with pictures on a single page (e.g. inserting clip art)</li> </ul>
<b>3-4</b>	<ul style="list-style-type: none"> <li>Add non-textual elements to a text document (e.g. arrows, lines, shapes)</li> <li>Manipulate a database including sorting criteria</li> </ul>	<ul style="list-style-type: none"> <li>Enter and delete text, manipulating styles (bold face, font)</li> <li>Combine text with pictures on a single page (e.g. inserting clip art)</li> <li>Enter data into an existing database and/or spreadsheet</li> </ul>	<ul style="list-style-type: none"> <li>Use spell check</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>5-6</b>		<ul style="list-style-type: none"> <li>Embed an original piece of art applying text wrap and resizing</li> <li>Create a table and spreadsheet from a blank page, including simple formulas and functions(SUM, AVG)</li> <li>Create a graphical representation of multiple series of numerical data</li> <li>Manipulate format in a spreadsheet (hiding grid, color etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Add non-textual elements to a text doc (arrows, lines)</li> <li>Manipulate styles and formats (headers, footers, borders)</li> <li>Use spell check and thesaurus</li> <li>Enter data into an existing database and/or spreadsheet</li> </ul>	<ul style="list-style-type: none"> <li>Identify components of a database including field, category, record and file</li> </ul>
<b>7-8</b>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Create a table</li> <li>Manipulate a database, by entering, sorting, searching/finding/querying and using multiple criteria (using simple flat-faced database software)</li> </ul>	<ul style="list-style-type: none"> <li>Manipulate styles and formats (e.g. headers, footers, borders)</li> <li>Create a spreadsheet from a blank page, including simple formulas and functions (SUM, AVG, MIN, MAX, MEDIAN, MODE)</li> </ul>	<ul style="list-style-type: none"> <li>Generate a report from a database</li> </ul>

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<b><i>Word Processing/Data Bases and Spreadsheets (cont.)</i></b>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>9-12</b>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Apply styles and formats (headers, footers, breaks, margins columns)</li> <li>• Merge from an external data source</li> <li>• Generate a report in a database</li> <li>• Create a spreadsheet from a blank page including formulas and functions (MIN,MAX, RND), formatting cells (numeric, monetary etc.)</li> <li>• Create a graphical representation appropriate to the numerical data (e.g. scatter plot, x-y)</li> <li>• Manipulate format (e.g. resizing rows and columns font colors hiding grid)</li> </ul>	<ul style="list-style-type: none"> <li>• Create/manipulate database by entering sorting, searching/ finding/ querying and using multiple criteria (using simple flat file database software)</li> <li>• Reference formulas from other worksheets</li> </ul>

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<i>Paint/ Draw</i>				
	Awareness	Guided Practice	Independent	Optional
<b>K-2</b>	•	•	•	• Illustrate a simple concept using paint application
<b>3-4</b>	•	• Illustrate a simple concept using paint application	•	•
<b>5-6</b>	• Save graphical images in multiple formats (e.g. jpg, tif, gif)	• Modify a digital image using flip, rotate, resize, crop	• Create original illustrations using paint applications	• Compare and contrast the uses of a paint and draw application
<b>7-8</b>	•	•	• Import/insert objects from other source • Select and use paint application appropriate to the task • Modify a digital image using flip, rotate, resize, crop, select, copy and paste	• Select and save images in the appropriate formate (e.g. jpg, tif, gif)
<b>9-12</b>	•	•	• Select/use paint application appropriate to the task • Modify a digital image using flip, rotate, resize, crop, select, copy, paste	• Select, save and convert images in the appropriate format

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<i>Visual Organizers</i>				
	Awareness	Guided Practice	Independent	Optional
<b>K-2</b>		•	•	• Enter information into a teacher created template (e.g. concept map)
<b>3-4</b>	•	• Illustrate a simple concept using concept web, bubbles, etc..	•	•
<b>5-6</b>	•	• Illustrate a concept with topic and subtopics selecting different shapes and colors to differentiate between various levels or processes (e.g. concept map, web, bubble, flowchart)	•	•
<b>7-8</b>	•	• Import an illustration • Link an element to appropriate files and URL(s)	• Illustrate a variety of relationships, ideas and topics (e.g. cause and effect, Venn diagram, organizational charts, flow charts)	•
<b>9-12</b>	•	•	• Chose and create effective visual organizers to illustrate a variety of relationships, ideas, and topics (e.g. cause and effect, Venn Diagram, organizational charts, flow charts) • Import an illustration • Link and element to appropriate files and Url(S)	•

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<i>Calculators</i>				
	Awareness	Guided Practice	Independent	Optional
<b>K-2</b>	•	•	•	•
<b>3-4</b>	•	•	• Perform grade appropriate operations	•
<b>5-6</b>	•	•	• Perform grade-appropriate operations and application/functions	•
<b>7-8</b>	•	• Use graphing calculator and grade appropriate applications/functions (e.g. graphing, statistics, tables)		•
<b>9-12</b>	•	•	• Use a graphing calculator and grade appropriate applications and functions (e.g. graphing, statistics, tables, equations)	•

## Strand Two: Communication

*Grade Expectations IT4: Students demonstrate the use of a variety of media and formats to communicate information and ideas effectively*

<b><i>Multi-Media</i></b>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>K-2</b>	•	•	•	•
<b>3-4</b>	•	• Create a slide presentation including title slide, graphics, text, voice, sound related to the topic and documentation of sources	•	•
<b>5-6</b>	<ul style="list-style-type: none"> <li>• Describe the components of a web address (e.g. .edu, .com)</li> <li>• Create a web page including text, graphics, tables and internal and external links</li> </ul>	• Create a linear or non-linear presentation including title slide, graphics, text, voice, sound related to topic, scanned or digital photo, animation, bibliography and table of contents	•	•
<b>7-8</b>	•	• Create a linear and non-linear presentation including title slide, graphics, text, voice, sound related to topic, scanned or digital photo, animation, bibliography and table of contents, video clip	•	• Contribute to a web project including text, graphics, tables and relative and absolute links
<b>9-12</b>	•	•	• Create linear and non-linear *multi-media presentations	• *Multi-media projects to include the following: title slide, graphics, text, voice, sound related to topic, scanned or digital photo, animation, bibliography, and table of contents, video clip

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<i><b>World-Wide Web</b></i>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>K-2</b>	•	•	•	•
<b>3-4</b>	• Describe a web page, home page and website	•	•	•
<b>5-6</b>	•	• Describe components of a web address (e.g. .edu. com etc)	•	•
<b>7-8</b>	•	•	• Describe components of a web address (e.g. .edu. com)	• Create a web page including text, graphics, tables and relative and absolute links
<b>9-12</b>				<ul style="list-style-type: none"> <li>• Create a web-page including text, graphics, tables and relative and absolute links, sound elements, graph imported from a spreadsheet, original digital pictures</li> <li>• Optimize graphics for faster downloads over slow connections</li> </ul>

## Strand Three: Research, Problem Solving and Decision Making, Social, Ethical and Human Issues

*Grade Expectations IT2: Students demonstrate responsible use of technology systems, Information and software*

<i>Intellectual Property</i>				
	Awareness	Guided Practice	Independent	Optional
<b>K-2</b>	•	•	•	•
<b>3-4</b>	•	<ul style="list-style-type: none"> <li>Document sources of information obtained through electronic resources</li> </ul>	•	•
<b>5-6</b>	•	<ul style="list-style-type: none"> <li>Document sources of information obtained through electronic resources using acceptable formats</li> <li>Demonstrate an understanding of copyright and fair use guidelines for educational purposes</li> </ul>	•	•
<b>7-8</b>	•	<ul style="list-style-type: none"> <li>Apply copyright and fair use guidelines in student work</li> <li>Explain the relevancy of the content</li> </ul>	<ul style="list-style-type: none"> <li>Document sources of information obtained through electronic resources using acceptable formats</li> </ul>	•
<b>9-12</b>	•	•	<ul style="list-style-type: none"> <li>Document sources of information obtained through electronic resources using acceptable formats</li> <li>Compare and contrast copyright and fair use and plagiarism guidelines for education and other purposes</li> </ul>	•

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<i>Acceptable Use</i>				
	Awareness	Guided Practice	Independent	Optional
<b>K-2</b>	<ul style="list-style-type: none"> <li>Practice responsible use of technology (e.g. don't bang on the keyboard)</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>3-4</b>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Describe basic issues related to the responsible and safe use of technology (e.g. respect for others' electronic property, maintaining confidentiality)</li> <li>Describe personal consequences of inappropriate use</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>5-6</b>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Exhibit safe, legal and ethical behaviors when using technology</li> <li>Describe personal and interpersonal consequences of inappropriate use</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>7-8</b>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Describe societal consequences of inappropriate use (<i>see I-SAFE or similar program</i>)</li> </ul>	<ul style="list-style-type: none"> <li>Exhibit safe, legal and ethical behaviors when using technology</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>9-12</b>			<ul style="list-style-type: none"> <li>Defining, defending and demonstrating safe, legal and ethical behaviors among peer and community regarding the use of technology information</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>

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<i>Working with Content/Information</i>				
	Awareness	Guided Practice	Independent	Optional
<b>K-2</b>	•	•	•	•
<b>3-4</b>	•	•	•	•
<b>5-6</b>	•	• Articulate and provide examples of relevant, reliable, and unreliable Internet resources	•	•
<b>7-8</b>	•	• Compare and contrast information found on the internet for relevancy, accuracy, and reliability	•	•
<b>9-12</b>	•	•	• Compare and contrast information found on the internet for relevancy, accuracy and reliability	•

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*Grade Expectations IT5: Students demonstrate use of technology for research*

<b>Digital Resources</b>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>K-2</b>	•	•	•	•
<b>3-4</b>	•	<ul style="list-style-type: none"> <li>• Access information from a workstation, LAN or internet based electronic encyclopedia</li> <li>• Use multiple resources including library catalog, electronic resources, Internet web pages</li> </ul>	•	•
<b>5-6</b>	•	<ul style="list-style-type: none"> <li>• Locate information that is accurate, relevant and appropriate, using a variety of electronic resources including digital encyclopedias, specialized CDs and the internet</li> </ul>	•	•
<b>7-8</b>	•	<ul style="list-style-type: none"> <li>• Locate information that is accurate, relevant, appropriate and identify possible bias (opinion vs. fact) using a variety of elec resources)</li> </ul>	•	•
<b>9-12</b>	•	•	<ul style="list-style-type: none"> <li>• Locate information from specialized online databases (e.g. post-secondary resources, virtual libraries, periodic databases and others)</li> <li>• Locate information that is accurate, relevant, appropriate and identify possible bias (opinion vs. fact) using a variety of electronic resorces</li> </ul>	•

## Franklin West Supervisory Union Technology Framework

<i>Searching/Search Engines</i>				
	Awareness	Guided Practice	Independent	Optional
<b>K-2</b>	•	•	•	•
<b>3-4</b>	<ul style="list-style-type: none"> <li>Recognize that different search strategies are necessary (e.g. library catalogs, on-line database, internet search engines)</li> </ul>	<ul style="list-style-type: none"> <li>Prepare an off-line search strategy using a teacher prepared form</li> <li>Use an age-appropriate (e.g. Yahoo!igans) search engine predetermined by the teacher implementing the search strategy noted above</li> </ul>	•	•
<b>5-6</b>	•	<ul style="list-style-type: none"> <li>Prepare an off-line search strategy</li> <li>Implement a search strategy using "Boolean logic" (e.g. and, or, not, +, -)</li> </ul>	•	•
<b>7-8</b>	•	<ul style="list-style-type: none"> <li>Compare and contrast directories, search engines and meta-search engines</li> </ul>	<ul style="list-style-type: none"> <li>Implement a search strategy using "Boolean logic" (e.g. and, or, not, +, -)</li> </ul>	•
<b>9-12</b>			<ul style="list-style-type: none"> <li>Select an appropriate tool for locating information on the Internet</li> <li>Implement a search strategy using full Boolean logic with parentheses (e.g. behavior and cats or felines)</li> </ul>	•

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<b><i>Browser</i></b>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>K-2</b>	•	•	•	•
<b>3-4</b>	•	<ul style="list-style-type: none"> <li>• Navigate to various websites by typing a URL into a browser or using a list of links identified by the teacher</li> <li>• Navigate using forward and back, home and refresh</li> <li>• Using hyperlinks to navigate the WWW</li> </ul>	•	•
<b>5-6</b>	•	•	<ul style="list-style-type: none"> <li>• Navigate to various websites by typing a URL into a browser or using a list of links identified by the teacher</li> <li>• Navigate using forward and back, home and refresh</li> <li>• Using hyperlinks to navigate the WWW</li> <li>• 5/6 bookmarking and/or using other strategies to organize and save links(e.g. cut and paste browsers into a word document)</li> </ul>	•
<b>7-8</b>	•	<ul style="list-style-type: none"> <li>• Import and export bookmarks/favorites and organize sites into categories</li> </ul>	•	•
<b>9-12</b>	• <i>Not applicable at this level</i>			

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<b><i>Problem Solving and Decision Making</i></b>				
	<b>Awareness</b>	<b>Guided Practice</b>	<b>Independent</b>	<b>Optional</b>
<b>K-2</b>	•	•	•	•
<b>3-4</b>	•	<ul style="list-style-type: none"> <li>Identify decisions made (e.g. representing data, formatting, criteria for search, visual organizer)</li> </ul> <p><i>Example: What key words did you use in your internet search?</i></p>	•	•
<b>5-6</b>	<ul style="list-style-type: none"> <li>Apply technology skills to learn unfamiliar technologies</li> </ul> <p>Example: What are the first steps you might take to use a new technology?</p> <ul style="list-style-type: none"> <li>Use electronic help to solve a problem</li> </ul>	<ul style="list-style-type: none"> <li>Identify and justify decisions made (e.g. representing data, formatting, setting up formula, selecting criteria for search, visual organizer)</li> </ul> <p>Example: What key words did you use and why? Are there other words that might have worked better?</p> <ul style="list-style-type: none"> <li>Select appropriate tools and technology resources to address a variety of tasks and problems (e.g. spreadsheet vs. data base, word processing vs. presentation program)</li> </ul>		•
<b>7-8</b>	<ul style="list-style-type: none"> <li>Use electronic help to solve a problem or to learn something new</li> </ul>	<ul style="list-style-type: none"> <li>Justify decisions made (e.g. representing data, formatting, setting up a formula, selecting criteria for search)</li> <li>Select and justify the appropriate tools and technology to address a variety of tasks and problems (e.g. spreadsheet vs. data base, word processing vs. presentation program)</li> </ul>	<ul style="list-style-type: none"> <li>Apply technology skills to learn unfamiliar technologies</li> </ul> <p>Example: What are the first steps you might take to use a new technology?</p> <ul style="list-style-type: none"> <li></li> </ul>	•
<b>9-12</b>		<ul style="list-style-type: none"> <li>Create and use simulations or models (e.g. spreadsheets to design “what if” scenarios)</li> </ul>	<ul style="list-style-type: none"> <li>Justify decisions made</li> <li>Justify the appropriate tools and technology resources to address a variety of tasks and problems</li> </ul>	•