



# Objectives for Instructional Materials Alignment

## IC<sup>3</sup> Global Standard 4 (GS4)



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# Internet & Computing Core Certification

The Internet and Computing Core (IC<sup>3</sup>) credential provides an in-depth and dynamic standard and testing program on which to develop educational programs for broad-based Internet and computing skills. The purpose of the certification is to provide students and job seekers with the educational/training foundation to succeed not only in technical careers, but also in any field or job position requiring the use of computers.

## **IC<sup>3</sup> Exam Structure**

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The IC<sup>3</sup> program is structured around three individual examinations:

- Computing Fundamentals
- Key Applications
- Living Online

A candidate will earn their certification when he or she has completed the three examinations successfully. Whenever appropriate, testing an examinee's ability to use specific product functions (such as operating system file and system management functions) is administered with performance-based test items, providing examinees with an interactive simulation of the software product and requiring them to perform the functions exactly as they would with the real product. IC<sup>3</sup> uses up-to-date versions of the most commonly used applications. Testing of other types of skills and knowledge (such as knowledge of hardware and software) is administered with traditional selected response items (multiple-choice, multiple-response, matching, etc.). Each of the three exams will contain approximately 45 test items. Exams will be administered on-line in real time and will be timed to last 50 minutes.

## **Computing Fundamentals Examination**

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The Computing Fundamentals examination covers subjects needed for a foundational understanding of computing, including knowledge and use of computer hardware, software, and operating systems.

The user should be able to solve basic digital literacy problems, use basic productivity applications, and understand the structure of common technologies. The user should also be able to apply existing knowledge to deal with unfamiliar situations and scenarios.

The Certiport GS4 Computing Fundamentals Examinee should be able to navigate computers and software at the feature and functionality level, including:

- Common operating systems such as Microsoft Windows, Mac OS X, Linux, Android, iOS, etc.
- Office applications (Microsoft Office, OpenOffice, LibreOffice, Office 365, Google Docs, iWork, etc.) and standard computer productivity applications such as word processing, spreadsheet, presentation, multi-media, and file and data management

- Standard Web browser applications, including Microsoft Internet Explorer, Mozilla Firefox, Safari, Chrome, Opera, etc.
- Standard communication applications such as e-mail, instant messaging, and online tools
- General computer knowledge, including basic hardware, software, networking and troubleshooting

To pass this examination, the examinee must demonstrate knowledge in the following areas:

- Computer hardware, peripherals and troubleshooting
- Computer software
- Use of a computer operating system to perform everyday tasks (installing software, managing files, changing system settings, etc.)

For purposes of this examination, questions on computer hardware and software will cover a range of computer types and software systems. Performance-based questions on operating systems will be based on a specific operating system such as Microsoft Windows or the Macintosh OS.

The Computing Fundamentals module covers four domains of knowledge and skill:

Domain 1.0 – Operating System

Domain 2.0 - Computer hardware and concepts

Domain 3.0 - Computer software and concepts

Domain 4.0 - Troubleshooting

These domains are further broken down into objectives and skill sets as outlined in the detailed curriculum which follows.

# IC<sup>3</sup>—Module 1: Computing Fundamentals—Global Standard 4

Total Domains: 4 Total Objectives: 14

## Basic Digital Literacy Training Materials Correlation Verification: Not a Professional Content Review

Reference Number	Objectives & Skill Sets
<b>Domain 1.0:</b>	<b>Operating System Basics</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 1.1</b>	<b>What is an OS and what does it do?</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 1.1.1	Explain the differences between software applications and operating systems and demonstrate their uses.
IC <sup>3</sup> /GS4-1 1.1.2	Common OS features, explain each of their uses: <ul style="list-style-type: none"> <li>• Power On/Power Off</li> <li>• Log on/log off/switch user</li> <li>• Lock/Unlock</li> <li>• Differences between common OSs</li> </ul>
IC <sup>3</sup> /GS4-1 1.1.3	Explain how hardware can influence the Operating System and software and vice versa.
IC <sup>3</sup> /GS4-1 1.1.4	Software updates, security fixes, bugs, adaption to new hardware. Demonstrate how to update software, using manual and automatic settings.
<b>Objective 1.2</b>	<b>Manage computer files and folders</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 1.2.1	Directory and folder hierarchy and structure <ul style="list-style-type: none"> <li>• Menu, Toolbar, and Window Navigation</li> <li>• Expand and Collapse</li> <li>• Folder views</li> </ul>
IC <sup>3</sup> /GS4-1 1.2.2	File/Folder management <ul style="list-style-type: none"> <li>• Keyboard shortcuts</li> <li>• Copy</li> <li>• Paste</li> <li>• Delete</li> <li>• Move</li> <li>• Rename</li> <li>• Create shortcuts,</li> <li>• Search</li> </ul>
IC <sup>3</sup> /GS4-1 1.2.3	Identify file extensions and their associations such as .docx, .xlsx, .pdf, .mp3, etc.

Reference Number	Objectives & Skill Sets
<b>Objective 1.3</b>	<b>Manage computer configuration, Control Panel, OS drivers</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 1.3.1	Basic Desktop Customization <ul style="list-style-type: none"> <li>• Visual options</li> <li>• Languages</li> <li>• Date and Time</li> <li>• Accessibility options</li> </ul>
IC <sup>3</sup> /GS4-1 1.3.2	Describe the various states of operation available in a typical consumer-level OS. Include Shutdown, hibernation, standby, fully awake, etc.
IC <sup>3</sup> /GS4-1 1.3.6	User accounts and rights <ul style="list-style-type: none"> <li>• Group policy (specifically mobile)</li> <li>• Read/Write</li> <li>• Administrative vs. standard user</li> <li>• rights <ul style="list-style-type: none"> <li>◦ Install/uninstall applications</li> </ul> </li> </ul> File and Directory Permissions
<b>Domain 2.0:</b>	<b>Computer hardware and concepts</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 2.1</b>	<b>Common computer terminology</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 2.1.1	Define the terms and explain the differences between input/output devices. Hardware and Peripherals <ul style="list-style-type: none"> <li>• Processing <ul style="list-style-type: none"> <li>◦ Gigahertz</li> <li>◦ Hertz</li> <li>◦ CPU</li> </ul> </li> <li>• Input / Output <ul style="list-style-type: none"> <li>◦ Monitor and Projector</li> <li>◦ Mice</li> <li>◦ Keyboards</li> <li>◦ Stylus</li> <li>◦ Microphone</li> <li>◦ Speakers</li> <li>◦ Touchpad</li> </ul> </li> <li>• Printers</li> </ul>
IC <sup>3</sup> /GS4-1 2.1.2	Explain the different types of memory <ul style="list-style-type: none"> <li>• Volatile <ul style="list-style-type: none"> <li>◦ RAM</li> </ul> </li> <li>• Involatile <ul style="list-style-type: none"> <li>◦ SSD drive</li> <li>◦ Magnetic hard drive</li> <li>◦ ROM</li> <li>◦ Flash drives (USB, Jump, Thumb, etc.)</li> </ul> </li> <li>• Units of measurement <ul style="list-style-type: none"> <li>◦ Mega, giga, tera, peta</li> </ul> </li> </ul>

Reference Number	Objectives & Skill Sets
	Explain the difference between Bit vs. Byte
<b>Objective 2.2</b>	<b>Types of devices</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 2.2.1	Explain these different types of computers. Compare and contrast uses and capabilities. <ul style="list-style-type: none"> <li>• Server</li> <li>• Desktop</li> <li>• Laptop</li> <li>• Tablet</li> <li>• Smart Phone</li> </ul>
<b>Objective 2.3</b>	<ul style="list-style-type: none"> <li>○ <b>Computer performance</b></li> </ul> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 2.3.1	Specify criteria that could be used to evaluate the pros and cons of various computing devices and peripherals, Focus on performance issues.
IC <sup>3</sup> /GS4-1 2.3.2	Processing vs. memory vs. storage: Describe the concepts of Processing capacity, Processing speed, Memory capacity, Memory speed, Storage capacity, and Storage speed including how each interacts with the other to determine overall computing capacity, speed and power.
<b>Domain 3.0:</b>	<b>Computer software and concepts</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 3.1</b>	<b>Software management</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 3.1.1	Describe how to install, uninstall and reinstall various kinds of software, including application software, drivers and system software, upgrades and patches, on various types of personal computers and configure the environment for use.
<b>Objective 3.2</b>	<b>Licensing</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 3.2.1	Understand the various licensing models used for computer software such as operating systems, application programs, system software, databases, browsers, etc Freeware, shareware, open-source, premium applications
IC <sup>3</sup> /GS4-1 3.2.2	Demonstrate an understanding of the legal and ethical obligations associated with EULAs and the user's responsibilities, commitments, and benefits that can be derived by entering into a typical computer industry EULA.
IC <sup>3</sup> /GS4-1 3.2.3	Demonstrate an understanding of the concept of a single seat and site License options, how each party benefits, restrictions, obligations, etc.
<b>Objective 3.3</b>	<b>Software Usage</b> <b>This objective may include, but is not limited to, the following topics:</b>

Reference Number	Objectives & Skill Sets
<b>IC<sup>3</sup>/GS4-1 3.3.1</b>	Describe the dependencies and constraints that exist between hardware and software operation
IC <sup>3</sup> /GS4-1 3.3.2	Demonstrate an understanding of the similarities and differences between a basic, consumer-level relational database management system and a typical spreadsheet program, including an understanding of which situations would be better suited to which product.
IC <sup>3</sup> /GS4-1 3.3.3	Describe what desktop publishing is, how and when desktop publishing software should be used, and the general feature set included in a representative desktop publishing program.
IC <sup>3</sup> /GS4-1 3.3.4	Describe what a Presentation program is, its purpose, how it is used, and the general feature set included in a typical consumer-level presentation program.
IC <sup>3</sup> /GS4-1 3.3.5	Demonstrate how to use templates, default settings, and quick start aids to rapidly generate usable application user data.
IC <sup>3</sup> /GS4-1 3.3.6	Describe the purpose and use of a personal computer-based entertainment program. List the features that could be expected to be found in such a program and explain how they work.
IC <sup>3</sup> /GS4-1 3.3.7	Demonstrate how to edit, modify, or adjust (as appropriate) graphics, pictures, slides, audio and video.
<b>Objective 3.4</b>	<b>Software Tools</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 3.4.1	Explain what file compression is and how it works with various file types.
IC <sup>3</sup> /GS4-1 3.4.3	Explain how files are stored on a Hard Disk. Demonstrate how to organize, compress, defragment, and otherwise optimize a computer's hard disk performance.
IC <sup>3</sup> /GS4-1 3.4.4	Explain the danger posed by viruses and malware and how virus and malware scanning software work. List several common/popular brands and types of virus and malware scanning software.
<b>Domain 4.0:</b>	<b>Troubleshooting</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 4.1</b>	<b>Software</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 4.1.2	Explain the concepts associated with version control of Operating System (OS) software. Further explain how the OS version can affect the compatibility of other software on the PC.
IC <sup>3</sup> /GS4-1 4.1.3	Demonstrate how to identify and remove a virus or other malware from an infected PC.
IC <sup>3</sup> /GS4-1 4.1.4	Explain what 'safe mode' is in popular PC operating systems (OSs), and how and when it should be used when troubleshooting problems on a personal computer system.
IC <sup>3</sup> /GS4-1 4.1.5	Explain where and how to find information beyond that stored on the PC to help troubleshoot problems on a PC. List popular Knowledge base, forums, and self-help web sites and explain how to use them for troubleshooting.
IC <sup>3</sup> /GS4-1 4.1.6	Demonstrate how to invoke and interpret the information available in a PC's Task, Process, or Application Manager. Further demonstrate how to use this tool when troubleshooting a problem on

Reference Number	Objectives & Skill Sets
	the affected PC.
<b>Objective 4.2</b>	<b>Hardware</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 4.2.1	Explain how different versions of firmware affect performance of hardware subsystems on a PC and how that information may be used in troubleshooting a problem on a PC.
IC <sup>3</sup> /GS4-1 4.2.2	Explain the role of Cables and other connectors that connect the various parts of a computer together and what can happen when one or more cable or connector does not make the proper connection. Explain how this information may be used to troubleshoot problems on a personal computer
<b>Objective 4.3</b>	<b>Devices and Peripherals</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 4.3.1	Explain how different versions of firmware can affect performance of peripheral devices and hardware attached to a PC and how that information may be used in troubleshooting a problem on a PC.
IC <sup>3</sup> /GS4-1 4.3.3	Explain what a device driver is, how it fits into the operating system architecture, and how incompatibilities may lead to problems. Further explain how this information may be used in troubleshooting a problem on a PC.
<b>Objective 4.4</b>	<b>Backup / Restore</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-1 4.4.1	Demonstrate how to backup and then restore software and data to: <ul style="list-style-type: none"> <li>• Safe offsite location.</li> <li>• External drive</li> <li>• Cloud</li> </ul>
IC <sup>3</sup> /GS4-1 4.4.4	Explain the implications of versioning and re-cycling of backups in an incremental backup system. Explain how to properly restore from an incremental backup system.



## **Key Applications Examination**

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The Key Applications exam includes questions covering four applications (word processing, spreadsheet presentation, and database software) and includes questions on common features of all applications (starting, opening and saving files, etc.).

To pass this examination, the examinee must demonstrate knowledge in the following areas:

- The ability to use the common functions of application software (starting and exiting the program, creating, saving and managing files, common editing, formatting and printing functions)
- The ability to use the specific functions needed to operate a word processor at a basic level
- The ability to use the specific functions needed to operate a spreadsheet program at a basic level
- The ability to communicate with presentation software
- The ability to navigate and use database applications.

For purposes of this examination, common features are defined as features common to specific desktop applications (such as Microsoft Word, Excel, and PowerPoint). Features that are common to all applications (such as starting the program, opening and saving documents, cutting and pasting text and data, changing fonts, previewing and printing files) will be covered in the domain specific to common functionality. Features that are specific to an application (such as formatting word-processing documents with tables, analyzing tabular or graphical data in a spreadsheet, or modifying slides in a presentation program) will be covered in domains specific to those applications.

The user should be able to solve basic digital literacy problems, use basic productivity applications, and understand the structure of common technologies. The user should also be able to apply existing knowledge to deal with unfamiliar situations and scenarios.

The Certiport GS4 Examinee should be able to navigate computers and software at the feature and functionality level, including:

- Common operating systems such as Microsoft Windows, Mac OS X, Linux, Android, iOS, etc.
- Office applications (Microsoft Office, OpenOffice, LibreOffice, Office 365, Google Docs, iWork, etc.) and standard computer productivity applications such as word processing, spreadsheet, presentation, multi-media, and file and data management
- Standard Web browser applications, including Microsoft Internet Explorer, Mozilla Firefox, Safari, Chrome, Opera, etc.
- Standard communication applications such as e-mail, instant messaging, and online tools
- General computer knowledge, including basic hardware, software, networking and troubleshooting

The Key Applications module covers six domains of knowledge and skill:

Domain 1.0 - Common Application Features  
Domain 2.0 - Word Processing Activities  
Domain 3.0 - Spreadsheet Activities  
Domain 4.0 - Presentation Activities  
Domain 5.0 - Basic Database Interactions  
Domain 6.0 - Collaboration

These domains are further broken down into objectives and skill sets as outlined in the detailed curriculum which follows.

# IC<sup>3</sup>—Module 2: Key Applications—Global Standard 4

Total Domains: 6 Total Objectives: 14

Reference Number	Objectives & Skill Sets
<b>Domain 1.0:</b>	<b>Common Application Features</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 1.1</b>	<b>Common Features and Commands</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 1.1.1	Demonstrate the use of keyboard shortcut keys or “hot keys” to invoke application features in an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.
IC <sup>3</sup> /GS4-2 1.1.2	Demonstrate how to move, copy, and paste user data within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.
IC <sup>3</sup> /GS4-2 1.1.3	Demonstrate how to reveal or hide user data from view within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.
IC <sup>3</sup> /GS4-2 1.1.4	Demonstrate how to print user data from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product and control the configuration in which the data is presented or printed as listed in the objective. <ul style="list-style-type: none"> <li>• Basic print options <ul style="list-style-type: none"> <li>○ Sizing</li> <li>○ Pages per sheet</li> <li>○ Collation</li> <li>○ Layout</li> </ul> </li> <li>• Print Preview</li> </ul>
IC <sup>3</sup> /GS4-2 1.1.5	Demonstrate how to check spelling within user data, find and replace portions of user data, and use the Undo and Redo features to alter user data within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.
IC <sup>3</sup> /GS4-2 1.1.6	Demonstrate how to move user data using the Drag and Drop features within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.
IC <sup>3</sup> /GS4-2 1.1.7	Preferences, resets, customization. Demonstrate how to control presentation and configuration of user data within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application.

<b>Reference Number</b>	<b>Objectives &amp; Skill Sets</b>
IC <sup>3</sup> /GS4-2 1.1.8	<p>Identify the various sources of help, built-in, online, context-sensitive, help lines, chat services, coworkers, help desks, etc. available to get assistance in learning how to use an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.</p> <p>Describe how each source of help is accessed, what kind of help can be found at each source, and which resources are available when.</p>
IC <sup>3</sup> /GS4-2 1.1.9	<p>Selecting</p> <ul style="list-style-type: none"> <li>• Select All</li> <li>• Select non-adjacent</li> <li>• Sorting</li> </ul> <p>Demonstrate how to select user data using the features listed in the objective within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.</p> <p>Demonstrate how to sort user data using the features built into an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.</p>
<b>Objective 1.2</b>	<p><b>Formatting</b>  <b>This objective may include, but is not limited to, the following topics:</b></p>
IC <sup>3</sup> /GS4-2 1.2.1	<p>Demonstrate how to organize, configure, and/or format user data from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product using a 'Styles' or 'Styles-like' feature in such a way as to control the look, feel, and other display characteristics with which the data is presented on-screen or printed.</p>
IC <sup>3</sup> /GS4-2 1.2.2	<p>Demonstrate how to control the font face display features listed in the objective from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product in such a way as to control the look, feel, and other display characteristics with which the user data is presented on-screen or printed.</p> <p>Basic text formatting</p> <ul style="list-style-type: none"> <li>• Bold</li> <li>• Italic</li> <li>• Underline</li> <li>• Font Size</li> </ul>
<b>Objective 1.3</b>	<p><b>Navigating</b>  <b>This objective may include, but is not limited to, the following topics:</b></p>
IC <sup>3</sup> /GS4-2	<p>Demonstrate how to launch and terminate an application such as a word processor, spreadsheet,</p>

<b>Reference Number</b>	<b>Objectives &amp; Skill Sets</b>
1.3.1	<p>presentation package, database manager, or other software application product.</p> <p>Further demonstrate how to open an application data file and make it available for editing within an application program and how to close an application data file so that it is no longer immediately available to an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.</p>
IC <sup>3</sup> /GS4-2 1.3.2	<p>Save vs. Save As</p> <p>Demonstrate how to save user data in an application data file using the same and/or different file names and path information from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.</p>
IC <sup>3</sup> /GS4-2 1.3.3	<p>Demonstrate how to create a new empty application data file, either blank, or using an available templates provided with the application from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.</p>
IC <sup>3</sup> /GS4-2 1.3.4	<p>Demonstrate how to manipulate OS and application windows to automatically resize while using an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.</p>
IC <sup>3</sup> /GS4-2 1.3.5	<p>Describe how to search for specific subsets of user data within a larger set of user data in an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.</p>
IC <sup>3</sup> /GS4-2 1.3.6	<p>Demonstrate how to display user data from within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product and control the size, orientation, portion of data displayed and other display configuration settings in which the data is presented as listed in the objective, including ways to save, change, and delete those settings.</p> <p>Views</p> <ul style="list-style-type: none"> <li>• Zoom</li> <li>• Switching</li> <li>• Read only, Protected Mode</li> </ul>
<b>Objective 1.4</b>	<p><b>Working with multimedia files</b></p> <p><b>This objective may include, but is not limited to, the following topics:</b></p>
IC <sup>3</sup> /GS4-2 1.4.1	<p>Demonstrate how to adjust the display of pictures, videos, audio, or other multimedia content within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product according to the action listed in the objective.</p> <ul style="list-style-type: none"> <li>• Resize,</li> <li>• Crop,</li> <li>• Rotate</li> </ul>
IC <sup>3</sup> /GS4-2 1.4.2	<p>Demonstrate how to incorporate and display pictures, videos, audio, or other multimedia content within an application such as a word processor, spreadsheet, presentation package, database</p>

<b>Reference Number</b>	<b>Objectives &amp; Skill Sets</b>
	manager, or other software application product according to the action listed in the objective. <ul style="list-style-type: none"> <li>• Insert,</li> <li>• attach,</li> <li>• working in the application</li> </ul>
<b>Domain 2.0:</b>	<b>Word Processing Activities</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 2.1</b>	<b>Organizing data</b> <b>This objective may include, but is not limited to, the following topics:</b>

IC <sup>3</sup> /GS4-2 2.1.1	Demonstrate how to organize text and data into tables within a word processor. Further demonstrate the ability to add columns, rows, merge and split cells within those tables.
IC <sup>3</sup> /GS4-2 2.1.2	Demonstrate how to organize text and data into lists within a word processor. Further demonstrate the ability to order and re-order those lists according to various criteria (alphabetize, lowest-to-highest, by date, etc.).
<b>Objective 2.2</b>	<b>Layout</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 2.2.1	Page Layout Demonstrate how to arrange user data and set options within a word processor so as to cause those text and data to display and print in a particular format or layout. Within that context control the attributes and structures listed in the objective to display and print as specified, including ways to save, change, and delete those saved configurations. <ul style="list-style-type: none"> <li>• Page Numbering</li> <li>• Columns</li> <li>• Margin</li> <li>• Alignment, text in paragraphs and tables</li> <li>• Tabs and Rulers</li> <li>• Orientation</li> </ul>
IC <sup>3</sup> /GS4-2 2.2.2	Demonstrate how to set line and paragraph spacing within a word processor.
IC <sup>3</sup> /GS4-2 2.2.3	Demonstrate how to indent text within a word processing program.
<b>Domain 3.0:</b>	<b>Spreadsheet Activities</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 3.1</b>	<b>Spreadsheet Layout</b> <b>This objective may include, but is not limited to, the following</b>

	<b>topics:</b>
IC <sup>3</sup> /GS4-2 3.1.1	Insert/delete Demonstrate how to add, insert, remove, delete rows and columns in a spreadsheet environment.
IC <sup>3</sup> /GS4-2 3.1.2	Demonstrate how to adjust the size of cells and the amount of data displayed in a cell within a spreadsheet.
IC <sup>3</sup> /GS4-2 3.1.3	Demonstrate how to adjust the alignment and positioning of cells and the positioning and orientation of data as displayed in cells within a spreadsheet.
IC <sup>3</sup> /GS4-2 3.1.4	Navigation Demonstrate how to locate, move focus to, or otherwise activate cells within a worksheet. Demonstrate knowledge of the ramifications of using relative and/or absolute cell referencing. Further demonstrate the difference between a worksheet and a workbook and how to move between and among them.
IC <sup>3</sup> /GS4-2 3.1.5	Demonstrate how and when to merge or un-merge cells within a spreadsheet, including how to preserve, manage, and arrange data within the merged or un-merged cells.
<b>Objective 3.2</b>	<b>Data Management</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 3.2.1	Filter and sort Demonstrate how and when to filter data columns, including how to select what to display or hide in cells within the filtered range. Demonstrate how to sort ranges of data in various orders, custom and predetermined, vertically and horizontally.
IC <sup>3</sup> /GS4-2 3.2.2	Formulas and Functions Demonstrate how to construct formulas using standard mathematical operators (=, +, -, *, /). Demonstrate how to use formulas as arguments to functions and other functions as arguments to functions. Specifically demonstrate how to use the most common functions, such as SUM(), AVERAGE(), COUNT(), and so forth
IC <sup>3</sup> /GS4-2 3.2.3	Number format Demonstrate how to set formatting options associated with a cell or a range of cells so that cells display their data in specific formats, such as currency, dates, decimals, number of significant places, regional formats, and so forth.
IC <sup>3</sup> /GS4-2 3.2.4	Cell format Demonstrate how to set the formatting options associated with a cell or range of cells so that cells display their data in specific text formats, such as different font faces, font sizes, bolding, italicizing, stroke color, background colors, regional character settings, and so forth.
IC <sup>3</sup> /GS4-2 3.2.5	Charts, graphs Demonstrate how to create the types of charts and graphs commonly included in spreadsheet applications, including Pie charts, Line graphs, and bar graphs

	(histograms). Demonstrate how to insert graphs and charts into a spreadsheet, how to associate datasets with the graphs or charts, affecting how they display and how to move the component parts of the graph around within the graph or chart, and move the graph or chart around within a spreadsheet and within workbooks.
<b>Domain 4.0:</b>	<b>Presentation Activities</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 4.1</b>	<b>Inserting content</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 4.1.1	Demonstrate how to insert text into a presentation application so as to display properly and effectively in the desired font face, size and style in a slide show.
IC <sup>3</sup> /GS4-2 4.1.2	Demonstrate how to insert a table into or create a table and insert text into it in a presentation application so as to display properly and effectively in the desired font face, size and style in a slide show.
IC <sup>3</sup> /GS4-2 4.1.3	Demonstrate how to insert an audio, video, animations, and other media clips into a presentation application so as to display properly and effectively with the desired timing and control in a slide show presentation.
IC <sup>3</sup> /GS4-2 4.1.4	Demonstrate how to insert a chart into or create a chart and insert text, numbers, and shapes into it in a presentation application so as to display properly and effectively in the desired colors, layout, and format in a slide show presentation.
IC <sup>3</sup> /GS4-2 4.1.5	Demonstrate how to insert shapes, graphics, and pictures of various formats, file formats, sizes, palettes, etc. into or create shapes and graphics and insert content into them in a presentation application so as to display properly and effectively in the desired colors, layout, and format in a slide show presentation.
<b>Objective 4.2</b>	<b>Slide Management</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 4.2.1	Demonstrate how to add slides into or create slides within a presentation application.
IC <sup>3</sup> /GS4-2 4.2.2	Demonstrate how to delete slides from or remove slides from within a presentation application.
IC <sup>3</sup> /GS4-2 4.2.3	Describe how to alter the presentation order of slides or move them around within a presentation application.
<b>Objective 4.3</b>	<b>Slide Design</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 4.3.1	Layout Demonstrate how to position and re-position presentation elements on the slide background or palette within a presentation application.
IC <sup>3</sup> /GS4-2 4.3.2	Animations Demonstrate how to animate presentation elements and control their movement over, under, and among other slide elements and slide background within a presentation application.
IC <sup>3</sup> /GS4-2 4.3.3	Transitions



	Demonstrate how to invoke, remove, and control special effects associated with and defining how slides transition from one to another during the execution of a presentation application slide show.
<b>Domain 5.0:</b>	<b>Basic Database Interactions</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 5.1</b>	<b>Record Managements</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 5.1.1	Run Reports Demonstrate how to run pre-defined (or “canned”) reports from within a consumer-oriented, personal computer-based database management system.  Demonstrate how to create and successfully execute a simple report from within a consumer-oriented, personal computer-based database management system.
IC <sup>3</sup> /GS4-2 5.1.2	Search and use stored queries Demonstrate how to search a database by using pre-scripted queries stored within a consumer-oriented personal computer-based database management system.  Demonstrate how to use the features built into a consumer-oriented personal computer-based database management system to successfully search for and retrieve specific user data.
IC <sup>3</sup> /GS4-2 5.1.3	Input data (records) Demonstrate how to successfully create, modify, and delete new data records from within a consumer-oriented personal computer-based database management system.
<b>Domain 6.0:</b>	<b>Collaboration</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 6.1</b>	<b>Comments</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 6.1.1	Review comments Demonstrate the ability to review comments created by another regarding the user data and settings within an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.
IC <sup>3</sup> /GS4-2 6.1.2	Accept or Reject Demonstrate the ability to accept or reject changes, edits, additions, deletions, and so forth created by another and intended for you within the user data associated with an application such as a word processor, spreadsheet, presentation package, database manager, or other software application product.
IC <sup>3</sup> /GS4-2 6.1.3	Add comments Demonstrate the ability to add comments and edits intended for review or action by another to the user data associated with an application such as a word processor, spreadsheet, presentation package, database manager, or other software application

	product.
<b>Objective 6.2</b>	<b>Sharing files</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-2 6.2.1	Share using e-mail Demonstrate how to attach files of various sorts to email messages and send them successfully to another email recipient. Demonstrate an understanding of the implications of this sharing process on further edits to files shared in this particular way.
IC <sup>3</sup> /GS4-2 6.2.2	Network storage Demonstrate how to find, navigate to, access, and edit files of various sorts in a network storage environment. Demonstrate an understanding of the implications of multiple users sharing and editing user data files in this particular way.
IC <sup>3</sup> /GS4-2 6.2.3	Cloud Demonstrate how to find, navigate to, access, and edit files of various sorts in a cloud storage environment. Demonstrate an understanding of the implications of multiple users sharing and editing user data files in this particular way.

## **Living Online Examination**

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The Living Online examination covers aspects of working in an Internet or networked environment, including basic knowledge of networks and the Internet, skills in specific applications such as electronic mail software and Web browsers, skills required to find and evaluate information, and an understanding of issues related to computing and the Internet being used at work, home and school (ergonomics, security, ethics, Internet "rules of the road" or "netiquette," etc.).

The Certiport GS4 Key Applications Examinee should be able to navigate computers and software at the feature and functionality level, including:

Common operating systems such as Microsoft Windows, Mac OS X, Linux, Android, iOS, etc.

Office applications (Microsoft Office, OpenOffice, LibreOffice, Office 365, Google Docs, iWork, etc.) and standard computer productivity applications such as word processing, spreadsheet, presentation, multi-media, and file and data management

Standard Web browser applications, including Microsoft Internet Explorer, Mozilla Firefox, Safari, Chrome, Opera, etc.

Standard communication applications such as e-mail, instant messaging, and online tools

General computer knowledge, including basic hardware, software, networking and troubleshooting

To pass this examination, the examinee must demonstrate knowledge in the following areas:

- How computers connect to communication networks and the Internet
- How electronic communication works and how to communicate using electronic mail, social networks and other communication methods
- Knowledge of the World Wide Web, how to use a Web browsing program and how to create, locate and evaluate online content
- Knowledge of the impact of computing and the Internet on society

The Living Online module covers six domains of knowledge and skill:

Domain 1.0 - Browsers

Domain 2.0 - Networking concepts

Domain 3.0 - Digital Communication

Domain 4.0 - Digital Citizenship

Domain 5.0 - Safe Computing

Domain 6.0 - Research Fluency

These domains are further broken down into objectives and skill sets as outlined in the detailed curriculum which follows.

# IC<sup>3</sup>—Module 3: Living Online—Global Standard 4

Total Domains: 6 Total Objectives: 14

Reference Number	Objectives & Skill Sets
<b>Domain 1.0:</b>	<b>Browsers</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 1.1</b>	<b>Internet vs. Browsers vs. WWW</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 1.1.1	Explain the concepts of: Internet, Browsers, WWW.
IC <sup>3</sup> /GS4-3 1.1.2	Explain the differences between: Internet, Browsers, WWW
IC <sup>3</sup> /GS4-3 1.1.3	Demonstrate how to use each: Internet, Browsers, WWW
<b>Objective 1.2</b>	<b>Navigation</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 1.2.1	Domains <ul style="list-style-type: none"> <li>• .org, .net, .com, .gov, .edu, etc.</li> <li>• Country codes</li> </ul> Explain the use/need and importance for each of the domains listed in the objectives. Briefly explain and demonstrate country codes
IC <sup>3</sup> /GS4-3 1.2.2	Explain how hyperlinks function in a web browser environment
IC <sup>3</sup> /GS4-3 1.2.3	Demonstrate how and why you would want to set a homepage.
IC <sup>3</sup> /GS4-3 1.2.4	Demonstrate how to move back, forward and refresh in a variety of browsers. Identify universal symbols used for each term
IC <sup>3</sup> /GS4-3 1.2.5	Explain why favorites/bookmarks are helpful. Describe how to establish, save, invoke, and delete a bookmark.
IC <sup>3</sup> /GS4-3 1.2.6	Explain what a plugin is and it's function. Describe how to find, install, configure, use, disable, enable, and delete a plugin.
IC <sup>3</sup> /GS4-3 1.2.7	Explain how the History function of a browser works and how to use it. Describe how to clear history
IC <sup>3</sup> /GS4-3 1.2.8	Demonstrate how to search using an internet browser, including the use of advanced features such as using basic Boolean logic including, Or, And, plus sign +, quotation marks "", etc.
IC <sup>3</sup> /GS4-3 1.2.9	Tabs Explain how to use multiple tabs and the benefits associated with using them. Describe how to activate/deactivate the feature and close tabs.
IC <sup>3</sup> /GS4-3 1.2.10	Downloading/Uploading Explain the differences between downloading and uploading, including speed on an asynchronous link and how internet speed can vary between them.

Reference Number	Objectives & Skill Sets
<b>Domain 2.0:</b>	<b>Networking concepts</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 2.1</b>	<b>Internet Connection</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 2.1.1	Speed Explain the units of measurement associated with an internet connection and what they mean – mbps, kbps. Explain the things that can limit or increase speed: multiple browsers open, wireless connection, etc.
IC <sup>3</sup> /GS4-3 2.1.2	Explain the differences between Dial up and broadband connections and the process each uses to establish a connection.
IC <sup>3</sup> /GS4-3 2.1.3	Wireless <ul style="list-style-type: none"> <li>• Security</li> </ul> Explain how wireless signals can be “stolen” and the importance of maintaining security with wireless access. Explain types of security including WEP, WPA and others.
IC <sup>3</sup> /GS4-3 2.1.4	Security <ul style="list-style-type: none"> <li>• Firewalls</li> <li>• Gateways</li> </ul> Explain the difference between the Firewalls and Gateways. Explain that the risks of networks are managed through careful procedures for allowing access to the network by network administrators and other security. Explain the concept of a port and how it may be opened (unblocked) or closed (blocked) and how those settings affect WAN and LAN network connections.
<b>Objective 2.2</b>	<b>Network types and features, capabilities</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 2.2.1	Explain the concepts associated with the Publicly switched networks
IC <sup>3</sup> /GS4-3 2.2.2	Explain the concepts associated with DNS (Domain Name Server)
IC <sup>3</sup> /GS4-3 2.2.3	Explain the concepts associated with Addressing.
IC <sup>3</sup> /GS4-3 2.2.4	Explain the concepts associated with and the difference between LAN vs. WAN
IC <sup>3</sup> /GS4-3 2.2.5	Explain the concepts associated with VPN
<b>Objective 2.3</b>	<b>Network troubleshooting</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 2.3.1	Demonstrate the ability to solve simple networking connectivity problems in various settings.
IC <sup>3</sup> /GS4-3 2.3.2	Explain methods of identifying common network problems.
IC <sup>3</sup> /GS4-3 2.3.3	Explain the concepts associated with Define IP Addressing

Reference Number	Objectives & Skill Sets
<b>Domain 3.0:</b>	<b>Digital Communication</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 3.1</b>	<b>E-mail communication</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 3.1.1	E-mail Account Settings <ul style="list-style-type: none"> <li>• Username</li> <li>• Password</li> <li>• Credentials</li> </ul> <p>Explain the objective terms. Explain the need for and demonstrate “secure” examples of usernames, passwords and credentials.</p>
IC <sup>3</sup> /GS4-3 3.1.2	Appropriate use of e-mail <ul style="list-style-type: none"> <li>• Subject Line</li> <li>• Body</li> <li>• Reply, Reply all, Forward</li> <li>• Attachments</li> <li>• Address Book (contact lists, group lists)</li> <li>• CC and BCC</li> </ul> <p>Explain what each of the objective terms are and how to properly use each of them. Reply vs. Reply all, CC and BC, etc.</p>
IC <sup>3</sup> /GS4-3 3.1.3	Managing e-mail communications <ul style="list-style-type: none"> <li>• Automated features <ul style="list-style-type: none"> <li>○ Auto-respond</li> <li>○ Out of office</li> <li>○ Auto-forwarding</li> <li>○ Signatures</li> </ul> </li> <li>• Personal Folders <ul style="list-style-type: none"> <li>○ Archive</li> </ul> </li> <li>• Junk mail</li> <li>• Spam</li> </ul> <p>Explain the concepts associated with each of the terms listed in the objective.</p> <p>Demonstrate how what goes into a proper Out of Office auto reply.</p> <p>Demonstrate what a signature should look like and why.</p> <p>Explain the why archiving email is useful.</p> <p>Explain how to limit exposure to spamming and how to dispose of junk mail.</p>
<b>Objective 3.2</b>	<b>Real-Time-communication</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 3.2.1	Text communication

Reference Number	Objectives & Skill Sets
	<ul style="list-style-type: none"> <li>• IM <ul style="list-style-type: none"> <li>○ Gmail Chat</li> <li>○ Skype</li> <li>○ ICQ, AIM, Windows Live Messenger, etc.</li> </ul> </li> <li>• SMS</li> </ul> <p>Explain the differences between each of the objective terms.</p> <p>Demonstrate the proper use of each of the listed modes of real-time digital communication.</p>
IC <sup>3</sup> /GS4-3 3.2.2	<p>Audio Visual communication</p> <ul style="list-style-type: none"> <li>• MMS</li> <li>• Real-time video</li> <li>• Chatting</li> <li>• Skype</li> <li>• VoIP</li> <li>• Video conferencing</li> </ul> <p>Demonstrate how to use each of the listed modes of real-time Audio-Visual communication</p> <p>Explain how each of the listed modes of communication work and when they should be used.</p>
IC <sup>3</sup> /GS4-3 3.2.3	<p>Telepresence (Social Media)</p> <ul style="list-style-type: none"> <li>• Change online status</li> <li>• Visible vs. invisible</li> <li>• Blogging</li> </ul> <p>Demonstrate how to configure and use features in various popular social media sites such as Facebook, LinkedIn, Twitter, and the like to show one’s current status, grant or limit accessibility to others, post information, or otherwise publish desired information to the public at large with immediacy.</p>
<b>Domain 4.0:</b>	<p><b>Digital Citizenship</b>  <i>This domain includes the knowledge and skills required to ...</i></p>
<b>Objective 4.1</b>	<p><b>Communication Standards</b>  <b>This objective may include, but is not limited to, the following topics:</b></p>
IC <sup>3</sup> /GS4-3 4.1.1	<p>Explain the difference between personal and professional communication and the importance of spelling and use of abbreviations in each type of communication</p>
IC <sup>3</sup> /GS4-3 4.1.2	<p>All capitals vs. standard capitalization</p> <p>Explain that all caps indicates “yelling” or an over importance</p>
IC <sup>3</sup> /GS4-3 4.1.3	<p>Verbal vs. Written, Professional vs. Personal communication</p> <ul style="list-style-type: none"> <li>• Differences and benefits</li> <li>• Suitable behavior in online interactions, Facebook</li> </ul> <p>Explain the differences between Phone calls, texting, email, social media postings and appropriate uses for each in both personal and professional communication.</p>

<b>Reference Number</b>	<b>Objectives &amp; Skill Sets</b>
IC <sup>3</sup> /GS4-3 4.1.4	Explain the terms: Spamming, flaming, bullying and the harm that each can cause. Explain how they are not faceless, harmless electronic actions.
IC <sup>3</sup> /GS4-3 4.1.5	Explain the terms Libel and Slander and the real life legal consequences of each.
<b>Objective 4.2</b>	<b>Legal and responsible use of computers</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 4.2.1	Explain what censorship is. Contrast its benefits and drawbacks
IC <sup>3</sup> /GS4-3 4.2.2	Explain what filtering is. Contrast its benefits and drawbacks
IC <sup>3</sup> /GS4-3 4.2.3	Explain Intellectual Property, its real value and the implications of its misuse.
IC <sup>3</sup> /GS4-3 4.2.4	Explain Piracy, how to protect yourself from it and the ethical issues surrounding it.
IC <sup>3</sup> /GS4-3 4.2.5	Explain what a copyright is, how it is obtained, the legal ramifications surrounding a copyright and its value to its holder.
IC <sup>3</sup> /GS4-3 4.2.6	<p>Licensing</p> <p>Explain that software must be legitimately licensed before it can be used and that there are different ways software can be distributed and licensed.</p> <p>Explain traditional licensing and installation of software on a standalone computer (single-user license) or network (network licensing).</p> <p>Explain the benefits of network licensing (cost, shared resources, etc.)</p> <p>Explain that software is increasingly being sold as a service (Software as a Service or SaaS, or Application Service Provider or ASP licensing).</p> <p>Explain that this involves licensing a product that is accessed via a network, Intranet or the Internet, normally via a user logon.</p> <p>Explain alternative methods of distributing and licensing software beyond traditional purchasing, including Open Source software, Freeware and Shareware, and software bundled free with hardware purchases.</p> <p>Explain the user (or system administrator's) responsibilities to only use legitimately licensed software and how users and administrators can stay informed about product licensing and other issues.</p>
IC <sup>3</sup> /GS4-3 4.2.7	Explain what Creative Commons is, the licensing availability and legal issues surrounding it, as well



Reference Number	Objectives & Skill Sets
	as the benefits to the community.
<b>Domain 5.0:</b>	<b>Safe Computing</b> <i>This domain includes the knowledge and skills required to ...</i>
<b>Objective 5.1</b>	<b>Secure online communication or activity</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 5.1.1	Identity Protection
IC <sup>3</sup> /GS4-3 5.1.2	<p>Explain Data Protection including the following: Residual files left on hard drives, flash drives, portable drives</p> <ul style="list-style-type: none"> <li>• Keeping Your Computer Secure and Updated</li> <li>• Personal Firewall</li> <li>• Cookies</li> <li>• Protection programs / utilities / practices <ul style="list-style-type: none"> <li>○ Downloads</li> <li>○ Virus protection</li> <li>○ Spyware protection</li> </ul> </li> </ul> <p>Explain how to completely remove data from hard drives, portable memory, digital devices.</p> <p>Explain how to secure the data on your computer and keep it updated by backing up data to other sources – cloud, backup hard drives</p> <p>Describe how to use protection programs and the value of these services. Also describe the harm that can come from not using these products and services.</p>
<b>Objective 5.2</b>	<b>Ergonomics</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 5.2.1	Explain and demonstrate proper ergonomics. Problems that come from improper ergonomics in relation to monitor height and angle.
IC <sup>3</sup> /GS4-3 5.2.2	Explain and demonstrate proper ergonomics. Problems that come from improper ergonomics in relation to mouse and keyboard shapes and use.
IC <sup>3</sup> /GS4-3 5.2.3	Explain the ergonomics around proper chair height and settings, arms, lumbar support, etc.
IC <sup>3</sup> /GS4-3 5.2.4	Explain the issues around poor lighting, short term and long term eye problems.
IC <sup>3</sup> /GS4-3 5.2.5	Explain the physical issues surrounding poor body posture, especially with prolonged time in the same position(s).
<b>Domain 6.0:</b>	<b>Research Fluency</b> <i>This domain includes the knowledge and skills required to ...</i>

Reference Number	Objectives & Skill Sets
<b>Objective 6.1</b>	<b>Using Search Engines</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 6.1.1	Explain how to use search engines to acquire information. The value of the resources available on the internet.
IC <sup>3</sup> /GS4-3 6.1.2	Demonstrate how to use search engines to answer questions and solve problems by using good search terms to get specific information from reputable sources.
<b>Objective 6.2</b>	<b>Evaluate search results</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 6.2.1	Forums Explain the value and problems with internet forums.  Forum users are just individuals with an interest in the forum topic, this does not make them experts, but information <i>can</i> be very useful  Explain how to be a good forum participant, only post good info, no “flaming” other users, etc.
IC <sup>3</sup> /GS4-3 6.2.2	Explain that ads are paid messages from companies that want to interest you in their products. Messages are not necessarily factual.
IC <sup>3</sup> /GS4-3 6.2.3	Explain that sponsored links are a form of advertising and not to be relied on as an informational resource.
IC <sup>3</sup> /GS4-3 6.2.4	Explain that a knowledge base is a collection of data around a particular subject. Include examples like Help menus available from software and hard good manufacturers.
IC <sup>3</sup> /GS4-3 6.2.5	Explain how to determine the validity of various sources, including but not limited to domain names/domain, published journals, government sites and documents vs. forums, blogs, personal websites.
IC <sup>3</sup> /GS4-3 6.2.6	Explain that articles can be both factual and made up. Articles are created for a number of reasons including, reviews of products that may or may not have been given to the reviewer, personal opinion, or well researched documenting of fact.
<b>Objective 6.3</b>	<b>Using advanced features of search engines</b> <b>This objective may include, but is not limited to, the following topics:</b>
IC <sup>3</sup> /GS4-3 6.3.1	Search types <ul style="list-style-type: none"> <li>• File</li> <li>• Media</li> <li>• Category</li> <li>• Size</li> </ul> Explain how to search for different types of media by using file types and searching applicable databases. Examples include: youtube, flickr, itunes, etc.

