

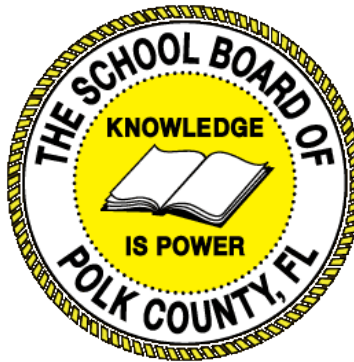
# Individual Test Item Specifications

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9009110 Information & Communications  
Technology Essentials

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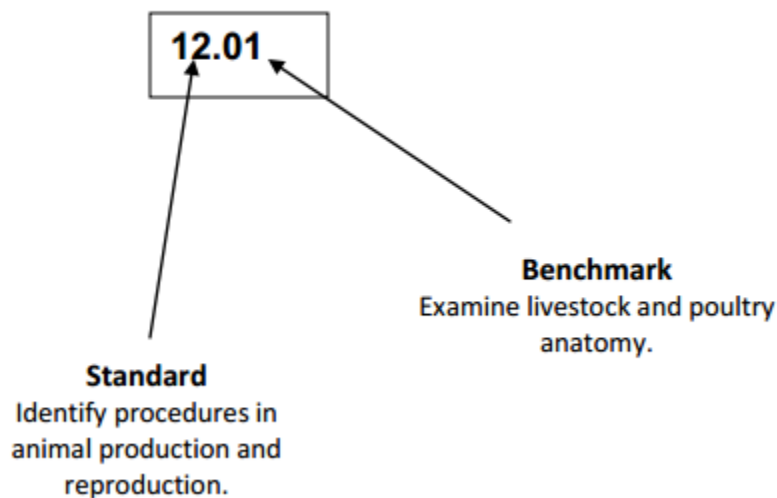
## I. Guide to the Individual Benchmark Specifications

Content specific guidelines are given in the *Individual Benchmark Specifications* for each course. The *Specifications* contains specific information about the alignment of items with the Florida Standards. It identifies the manner in which each benchmark is assessed, provides content limits and stimulus attributes for each benchmark, and gives specific information about content, item types, and response attributes.

### Benchmark Classification System

- Each Career and Technical Education course has its own set of course standards. The benchmarks are organized numerically, with two numbers separated by a decimal point. The first number is the standard number, and the second number is the benchmark number. You will see these numbers on the Item Specifications for each course.

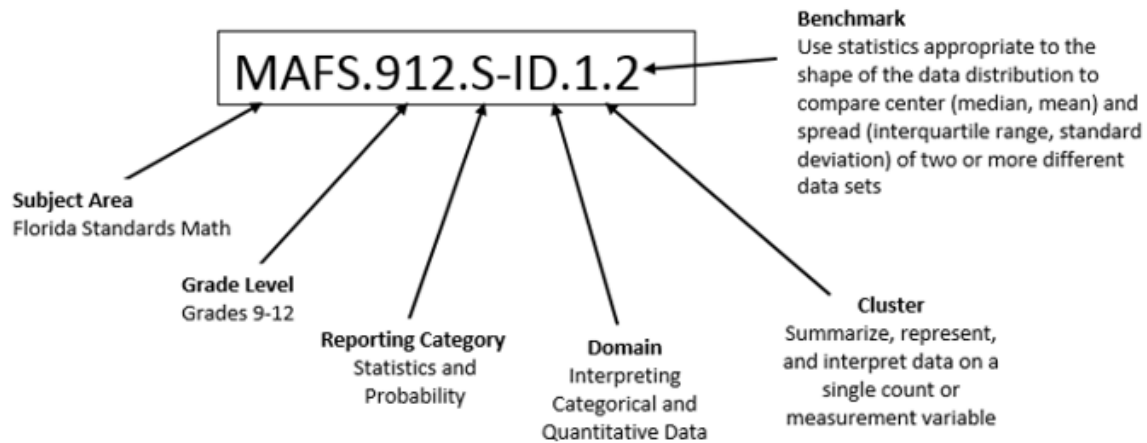
An example, from Agritechnology 1:



*The image above describes the components of a Career and Technical Education Standard and Benchmark classification system.*

Each MAFS benchmark is labeled with a system of letters and numbers.

- The four letters in the *first position* of the label identify the **Subject**.
- The number(s) in the *second position* represents the **Grade Level**.
- The letter(s) in the *third position* represents the **Category**.
- The number in the fourth position shows the **Domain**.
- The number in the *fifth position* identifies the **Cluster**.
- The number in the last position identifies the specific **Benchmark**.



*The image above describes the components of a Florida Standard and Benchmark classification system.*

## Definitions of Benchmark Specifications

The *Individual Benchmark Specifications* provides standard-specific guidance for assessment item development for the Florida Department of Education Career and Technical Education item banks. For each benchmark assessed, the following information is provided.

<b>Reporting Category</b>	is a grouping of related benchmarks that can be used to summarize and report achievement.
<b>Standard</b>	refers to the standard statement presented in the Florida Standards.
<b>Benchmark</b>	refers to the benchmark statement presented in the Florida Standards. In some cases, two or more related benchmarks are grouped together because the assessment of one benchmark addresses another benchmark.
<b>Item Types</b>	are used to assess the benchmark or group of benchmark.
<b>Cognitive Complexity</b>	ideal level at which item should be assessed.
<b>Benchmark Clarifications</b>	explain how achievement of the benchmark will be demonstrated by students. In other words, the clarification statements explain what the student will do when responding to questions.
<b>Content Limits</b>	define the range of content knowledge and that should be assessed in the items for the benchmark.
<b>Stimulus Attributes</b>	define the types of stimulus materials that should be used in the items, including the appropriate use of graphic materials and item context or content.
<b>Response Attributes</b>	define the characteristics of the answers that a student must choose or provide.
<b>Content Focus</b>	addresses the broad key terms and concepts associated with the examples found in the standards, benchmarks, or benchmark clarifications.
<b>Sample Items</b>	are provided for each type of question assessed. The correct answer for all sample items is provided.

## II. Individual Benchmark Specifications

<b>Standard</b>	01.0 Identify computer components and their functions. – The student will be able to:
<b>Benchmark</b>	01.01 Identify the internal components of a computer (e.g., power supply, hard drive, motherboard, I/O cards/ports, cabling).
<b>Item Types</b> <b>(MC)-Multiple Choice</b> <b>(SA)-Short Answer</b> <b>(P)-Performance</b> <b>(ER)-Extended Response</b>	(MC)=X (SA)= (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify various parts of a computer system.
<b>Content Focus</b>	Power supply, hard drive, motherboard, I/O cards/ports
<b>Content Limits</b>	Items are limited to internal parts of a standard computer system
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	What is used to store data? a. hard drive b. I/O card c. motherboard d. printer Correct answer: a

<b>Standard</b>	01.0 Identify computer components and their functions. – The student will be able to:
<b>Benchmark</b>	01.02 Identify various computer input devices (e.g., mouse, keyboard, phone, camera) and describe their use.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify input devices.
<b>Content Focus</b>	Mouse, keyboard, phone, camera, scanner
<b>Content Limits</b>	Items are limited to recognize basic standard desktop computer and mobile input devices
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	What is an input device? a. hard drive b. keyboard c. monitor d. printer Correct answer: b

<b>Standard</b>	01.0 Identify computer components and their functions. – The student will be able to:
<b>Benchmark</b>	01.03 Identify various computer output devices (e.g., monitor, printer, phone) and describe their use.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify output devices.
<b>Content Focus</b>	Monitor, printer, phone
<b>Content Limits</b>	Items are limited to recognize basic standard desktop computer output devices
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	What is an output device? a. fingerprint scanner b. keyboard c. monitor d. scanner Correct answer: c



<b>Standard</b>	01.0 Identify computer components and their functions. – The student will be able to:
<b>Benchmark</b>	01.04 Identify various storage devices (e.g., flash drive, iPod, phone, external hard drive).
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to recognize computer data storage devices.
<b>Content Focus</b>	Hard drive, flash drive, phone, mobile devices
<b>Content Limits</b>	Items are limited to recognize basic computer data storage devices
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	What can be described as a very small, portable, solid-state drive that can be inserted into a USB port for the purpose of storage and retrieval of data? a. flash drive b. internal hard drive c. I/O card d. save drive Correct answer: a

<b>Standard</b>	4.0 Demonstrate an understanding of Internet safety and ethics. – The student will be able to:
<b>Benchmark</b>	4.01 Describe cyberbullying and its impact on perpetrators and victims.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to recognize the signs of cyber-bullying and know the potential impact on both the bully and the victims.
<b>Content Focus</b>	Cyber-bullying , bully, victim, cyberbullying symptoms
<b>Content Limits</b>	Items are limited to understand the signs of cyberbullying
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	There are how many types of cyberbullying? a. 3 b. 4 c. 5 d. 6 Correct answer: c

<b>Standard</b>	4.0 Demonstrate an understanding of Internet safety and ethics. – The student will be able to:
<b>Benchmark</b>	4.02 Differentiate between viruses and malware, specifically their sources, ploys, and impact on personal privacy and computer operation, and ways to avoid infection.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Medium
<b>Benchmark Clarification</b>	The student will be able to understand the difference between viruses and malware and how they are created.
<b>Content Focus</b>	Viruses, malware, sources, effects, precaution
<b>Content Limits</b>	Items are limited to how malware works and how it affects privacy.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	<p>What is a program that appears to be legitimate application, utility, game, or screensaver and that performs activities without you knowing?</p> <p>a. adware b. Trojan horse c. virus d. worms</p> <p>Correct answer: b</p>

<b>Standard</b>	4.0 Demonstrate an understanding of Internet safety and ethics. – The student will be able to:
<b>Benchmark</b>	4.04 Describe risks associated with social networking sites (e.g., FaceBook, MySpace, and Twitter) and ways to mitigate these risks.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to know the potential problems using social networking sites.
<b>Content Focus</b>	Social network, FaceBook, Instagram, threats
<b>Content Limits</b>	Items are limited to how to determine the risks and know how to avoid or fix them.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	<p>Short Answer:          There are ten potential threats when using social media. In a complete sentence, what are three potential risks when using social media?          Potential social media threats include worms, phishing and trojans.</p> <p>Rubric:          3 points - Student gives 3 examples correctly in a complete sentence.          2 points - Student gives 2 examples correctly in a complete sentence.          1 points - Student gives 1 example or answers 2 or more but not in a complete sentence.          0 points, The student is incorrect or does not attempt</p>

<b>Standard</b>	5.0 Develop and apply word processing and document manipulation skills. – The student will be able to:
<b>Benchmark</b>	5.01 Apply and adjust margins, tabs, line spacing and paragraph indents.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand the function of margins, tabs, line spacing, and paragraph indents and know how to change them.
<b>Content Focus</b>	Margins, tabs, line spacing and paragraph indents, format, home tab, paragraph format
<b>Content Limits</b>	Items are limited to the function, where to locate the appropriate place to edit.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: The margin is the blank space between the edge of the paper and where the text. What determines how the lines in a paragraph appear in relation to the left and right margins? a. line spacing b. paragraph indents c. paragraph margin d. tab Correct answer: a

<b>Standard</b>	5.0 Develop and apply word processing and document manipulation skills. – The student will be able to:
<b>Benchmark</b>	5.02 Insert and manipulate text, graphics/images, and WordArt.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand the purpose of WordArt and how to move, change shape, and change the properties of text and graphics/images.
<b>Content Focus</b>	Word Art, text, edit, properties, editing tools, format, menus
<b>Content Limits</b>	Items are limited to the purpose of WordArt and how to move, change shape and change the properties of text and graphics/images.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice What are the small circles and squares that appear on each corner and side of an active text box? a. placeholder b. resize holders c. scale handles d. sizing handles Correct answer: d

<b>Standard</b>	5.0 Develop and apply word processing and document manipulation skills. – The student will be able to:
<b>Benchmark</b>	5.06 Insert codes for current date and time.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand how to automatically insert codes for the current date and time.
<b>Content Focus</b>	Insert, format, date and time settings
<b>Content Limits</b>	Items are limited to the difference between inserting the date and time automatically once and inserting it so it changes each time the document is updated.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: In word processing, what do you need to do to if you want the date to automatically update? a. F9 b. right click and select date c. check the Auto complete option in the Date And Time dialog box d. check the Update Automatically option in the Date And Time dialog box Correct answer: d

<b>Standard</b>	5.0 Develop and apply word processing and document manipulation skills. – The student will be able to:
<b>Benchmark</b>	5.09 Create bulleted and numbered lists.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand how to insert bulleted and numbered lists.
<b>Content Focus</b>	Insert, format, bullet and numbered list, paragraph settings
<b>Content Limits</b>	Items are limited to how to insert bulleted and numbered lists and know how to change the formatting of the lists.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	<p>Short Answer: Explain in 2-3 sentences, how can you sort a bulleted list alphabetically? First select the text in a bulleted or numbered list and on the Home tab, in the Paragraph group, click sort and then click ascending.</p> <p>Rubric: 3 points - Student gives at least 4 of the 5 potential steps correctly in a complete sentence. 2 points - Student gives 3 of the 5 potential steps correctly in a complete sentence 1 point - Student gives 2 of the 5 potential steps or answers more than 2 steps correctly but not in a complete sentence. 0 points- The student is incorrect or does not attempt</p>



<b>Standard</b>	5.0 Develop and apply word processing and document manipulation skills. – The student will be able to:
<b>Benchmark</b>	05.14 Understand printing options including shrink to fit, gutters, and document orientation.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify the different options when printing documents.
<b>Content Focus</b>	Print, format, orientation, scale, gutters, margins
<b>Content Limits</b>	Items are limited to the different options when printing documents including how to scale an image larger or smaller, the direction of the print and how to change the default gutter settings.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What is the difference between a margin and a gutter? a. Gutters are used for printing, margins are used for determining line length. b. Gutters are used for determining line length, margins are used for printing. c. Gutters are used for determining line length, margins are used for paragraph indents. d. Gutters are used for paragraph indents, margins are used for determining line length. Correct answer: a

<b>Standard</b>	5.0 Develop and apply word processing and document manipulation skills. – The student will be able to:
<b>Benchmark</b>	05.16 Interpret basic proofreader marks and edit a report or essay accordingly.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand the meaning and usage of proofreader and edit symbols.
<b>Content Focus</b>	Proofreader, edit , symbols, format, review tab, comments5.0 Develop and apply word processing and document manipulation skills. – The student will be able to:
<b>Content Limits</b>	Items are limited to the meaning and usage of proofreader and edit symbols and make the necessary changes in reports, essays and documents.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	When proofreading a document, what do the letters “lc” mean? a. locate b. lock caps c. look carefully d. lowercase Correct answer: d

<b>Standard</b>	06.0 Develop and apply fundamental spreadsheet skills. – The student will be able to:
<b>Benchmark</b>	06.01 Describe a spreadsheet and the ways in which it may be used.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand the purpose of a spreadsheet and its typical uses.
<b>Content Focus</b>	Spreadsheet, examples, data, worksheets, formulas, cells, columns, rows
<b>Content Limits</b>	Items are limited to the purpose of a spreadsheet and its typical uses.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What is one way that spreadsheets are not used? a. budgets b. brochures c. inventory d. loan-amortization table Correct answer: b

<b>Standard</b>	06.0 Develop and apply fundamental spreadsheet skills. – The student will be able to:
<b>Benchmark</b>	06.09 Sum the numeric values of multiple cells.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Moderate
<b>Benchmark Clarification</b>	The student will be able to understand the functions of a spreadsheet and apply using formulas to a variety of cells.
<b>Content Focus</b>	Spreadsheet, data, worksheets, formulas, cells, columns, rows, sum, vertical, horizontal empty cells
<b>Content Limits</b>	Items are limited to how to apply the sum function both vertically and horizontally.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What appears as the last row of a table to display summary statistics, such as a sum? a. calculation row b. formula row c. sum row d. total row Correct answer: d

<b>Standard</b>	06.o Develop and apply fundamental spreadsheet skills. – The student will be able to:
<b>Benchmark</b>	06.10 Use the sort function to alphabetize a table of information.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Moderate
<b>Benchmark Clarification</b>	The student will be able to understand spreadsheet functions and know how to select a variety of cells and sort.
<b>Content Focus</b>	Spreadsheet, data, worksheets, formulas, cells, columns, rows, sort, data, vertical, horizontal, preferences, defaults
<b>Content Limits</b>	Items are limited to how to sort selected cells and the difference between sort and filter.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What is the difference between sort and filter? a. Sort organizes by letter only, filter converts data. b. Sort converts data, filter organizes by letter only. c. Sort organizes by a certain metric or letter, filter hides irrelevant data. d. Sort hides irrelevant data, filter organizes by a certain metric or letter. Correct answer: c

<b>Standard</b>	06.o Develop and apply fundamental spreadsheet skills. – The student will be able to:
<b>Benchmark</b>	06.16 Create and print a table that displays and sums the quantities or values of different categories of data.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	High
<b>Benchmark Clarification</b>	The student will be able to identify and explain how to insert a table in a spreadsheet and use functions such as sum or difference to a selected string of data.
<b>Content Focus</b>	Spreadsheet, data, worksheets, formulas, cells, columns, rows, tables, insert
<b>Content Limits</b>	Items are limited to how to insert a table into a spreadsheet and its purpose.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	<p>Short Answer:</p> <p>In 2-3 complete sentences, explain how to insert a 4X5 table that calculates the sum of the data entered horizontally?</p> <p>To insert a table click on Insert&gt;table and then choose a 4X5 box. To calculate the sum of each column, highlight the top cell of the column, select the box using the bottom right corner, highlight the boxes and click the Sigma sign.</p> <p>Rubric:</p> <p>3 points - Student gives at least 4 of the 5 potential steps correctly in a complete sentence.</p> <p>2 points - Student gives 3 of the 5 potential steps correctly in a complete sentence</p> <p>1 point - Student gives 2 of the 5 potential steps or answers more than 2 steps correctly but not in a complete sentence.</p> <p>0 points- The student is incorrect or does not attempt</p>

<b>Standard</b>	07.0 Demonstrate proficiency in using presentation software. – The student will be able to:
<b>Benchmark</b>	07.01 Describe presentation software and the ways in which it may be used.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand the purpose of presentation software and know typical uses for presentation software.
<b>Content Focus</b>	Presentation software, slide show, text, graphics, animations
<b>Content Limits</b>	Items are limited to the purpose of presentation software and know typical uses for presentation software.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What type of presentation enables you to create a more sophisticated presentation that includes audio and video sequences? a. business b. graphics c. multimedia d. slideshow Correct answer: c

<b>Standard</b>	07.0 Demonstrate proficiency in using presentation software. – The student will be able to:
<b>Benchmark</b>	07.02 Create a Slide Master.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify how to create a slide that can be used over and over throughout the presentation.
<b>Content Focus</b>	Presentation software, slide show, text, graphics, animations, template, slide master
<b>Content Limits</b>	Items are limited to the purpose for a master slide and be able to create an appropriate slide using the various tools such as text, graphics, backgrounds etc.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: How do you create a slide with a consistent look in a presentation? a. edit slide b. handout slide c. master slide d. notes slide Correct answer: c



<b>Standard</b>	07.0 Demonstrate proficiency in using presentation software. – The student will be able to:
<b>Benchmark</b>	07.08 Adjust slide transition to include animation.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify how what an animation is and how to apply it to slides.
<b>Content Focus</b>	Presentation software, slide show, text, graphics, animations, tab, timing
<b>Content Limits</b>	Items are limited to adding an animation and adjust timing, opacity etc.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: Which commonly used animation effect makes text on a slide appear in the presentation? a. effect b. emphasis c. target d. title Correct answer: b

<b>Standard</b>	07.0 Demonstrate proficiency in using presentation software. – The student will be able to:
<b>Benchmark</b>	07.09 Insert and adjust sound settings and timing in presentation.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand how to use timings for a slide presentation and how to adjust audio.
<b>Content Focus</b>	Presentation software, slide show, text, graphics, animations, tab, timings, audio, play controls
<b>Content Limits</b>	Items are limited to how to adjust timing on individual slides and the whole presentation and also know how to adjust audio to play on single slides, multiple slides and the whole presentation.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	<p>Short Answer:</p> <p>In presentation software you can communicate your information without a presenter using a self-running presentation. In 1-2 sentences, describe what tool would allow software to self-running presentation and describe the tools options.</p> <p>A presentation can be set to presenter mode with advancement at a set time or it can be customized with the rehearse and record slide show setting. There is also a kiosk mode which would make navigation and links available to the user.</p> <p>Rubric:</p> <p>2 points - Student gives both how to set up automatic presentation and possible tools correctly in a complete sentence.</p> <p>1 point - Student gives either how to set up automatic presentation or the possible tools correctly in a complete sentence.</p> <p>0 points- The student is incorrect or does not attempt.</p>

<b>Standard</b>	08.o Demonstrate proficiency in using graphics software. – The student will be able to:
<b>Benchmark</b>	08.01 Describe graphics software and the ways in which it may be used.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand what graphic software is and know examples of appropriate uses.
<b>Content Focus</b>	Graphic software, examples, manipulate visual images, raster graphics and vector graphics
<b>Content Limits</b>	Items are limited to visual imaging and editing.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: Computer graphics can be classified into distinct categories. Visual images are a part of what category? a. animation b. presentation c. static d. video Correct answer: c

<b>Standard</b>	o8.o Demonstrate proficiency in using graphics software. – The student will be able to:
<b>Benchmark</b>	o8.o2 Compare and contrast vector and bitmap images.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Medium
<b>Benchmark Clarification</b>	The student will be able to understand the difference between vector and bitmap formats.
<b>Content Focus</b>	Images, vector, bitmap, scalable vector graphics and pixel-based bitmap images.
<b>Content Limits</b>	Items are limited to the strengths and weaknesses of each format.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: Which is a type of graphics in which the image is created using a series of pixels? a. bitmap b. document c. EPS d. vector Correct answer: d

<b>Standard</b>	o8.o Demonstrate proficiency in using graphics software. – The student will be able to:
<b>Benchmark</b>	o8.o3 Demonstrate knowledge of image formats related to photos and graphics on the Internet (e.g., Graphic: TIFF, BMP, EPS, Web: JPEG, GIF, PNG).
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand the difference between TIFF, BMP, EPS, Web: JPEG, GIF, PNG and other formats.
<b>Content Focus</b>	Images, TIFF, BMP, EPS, Web: JPEG, GIF, PNG, files, formats
<b>Content Limits</b>	Items are limited to the advantages and disadvantages of each format
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What file format would be used for simple web graphics with limited colors? a. .BMP b. .GIF c. .PDF d. .TIFF Correct answer: a

<b>Standard</b>	08.0 Demonstrate proficiency in using graphics software. – The student will be able to:
<b>Benchmark</b>	08.09 Save and export a photograph in the format that provides the best image quality and file size for Internet use.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify how to save and export images using the appropriate settings for the internet.
<b>Content Focus</b>	Visuals, formats, save functions, different formats such as TIFF, BMP, EPS, Web: JPEG, GIF, PNG, appropriate internet settings
<b>Content Limits</b>	Items are limited to the best settings for the internet.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What is not a recommended file format for a web page? a. .gif b. .jpg c. .png d. .tiff Correct answer: d

<b>Standard</b>	09.0 Demonstrate an understanding of web page construction, operation, and function. – The student will be able to:
<b>Benchmark</b>	09.01 Categorize websites according to their purpose and domain.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)= (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand how to determine what the purpose of a website by their address and domain names.
<b>Content Focus</b>	Domains, classifications, internet, categories
<b>Content Limits</b>	Items are limited to what each domain is used for.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What two types of domains are used for commercial purposes? a. .com and .edu b. .com and .gov c. .net and.com d. .net and .org Correct answer: c

<b>Standard</b>	09.0 Demonstrate an understanding of web page construction, operation, and function. – The student will be able to:
<b>Benchmark</b>	09.02 Identify elements of a web page.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify the parts of a web page.
<b>Content Focus</b>	Webpage, elements, parts, typography, design, navigation, visuals
<b>Content Limits</b>	Items are limited to what makes up a webpage.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: What is one element that every web page must have? a. images b. java script c. navigation d. video Correct answer: c



<b>Standard</b>	11.0 Demonstrate proficiency in fundamental computer programming and logic. – The student will be able to:
<b>Benchmark</b>	11.01 Define programming and discuss its role in computing.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand what programming language is and how it is used in all aspects of computing.
<b>Content Focus</b>	Computer programming, elements, uses, purpose, sets of instruction
<b>Content Limits</b>	Items are limited to how programming uses a set of instructions to accomplish a task.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: The term programmer can be used to refer to a software developer, Web developer, mobile applications developer, embedded firmware developer, software engineer, computer scientist, or software analyst. What do these jobs have in common? a. they all need a college degree b. they all use computer languages c. they all need an engineering background d. they all have been around since the turn of the century. Correct answer: b

<b>Standard</b>	11.0 Demonstrate proficiency in fundamental computer programming and logic. – The student will be able to:
<b>Benchmark</b>	11.02 Understand the binary representation of data and programs in computers.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to understand that computer data takes two forms and how binary data is written in programs.
<b>Content Focus</b>	Computer programming, binary, text, base system, bit
<b>Content Limits</b>	Items are limited to the Base 2 number system used by computers and how it uses the digits 1 & 0 only.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	<p>Short Answer:</p> <p>Computers can only use binary code which uses only 0 and 1's. In a complete sentence explain how binary code represents different letter, numbers and symbols</p> <p>Exemplar</p> <p><i>Each letter, number and symbol has a unique combination of eight 0's and 1's which equals a byte. When this bytes are strung together it creates letters, numbers and symbols.</i></p> <p>Rubric</p> <p>2 points: Student correctly identifies that the code is a unique set of eight 0's and 1's in a complete sentence.</p> <p>1 point: Student correctly identifies that the code is a unique set of eight 0's and 1's but not in a complete sentence.</p> <p>0 points: The student does not attempt or does not answer correctly.</p>

<b>Standard</b>	11.0 Demonstrate proficiency in fundamental computer programming and logic. – The student will be able to:
<b>Benchmark</b>	11.03 Define the term algorithm and its application to problem-solving.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low
<b>Benchmark Clarification</b>	The student will be able to identify and explain what an algorithm is and how it is used to solve problems.
<b>Content Focus</b>	Computer programming, algorithm, computational, values, sequence, input, output, analysis
<b>Content Limits</b>	Items are limited to how an algorithm takes data or a value, computes it, and presents an answer for analysis.
<b>Stimulus Attributes</b>	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Multiple Choice: A rubik's cube can be solves easily using a set of simple computations over and over. What are the computations called? a. algorithm b. basic c. C++ d. geometry Correct answer: a