

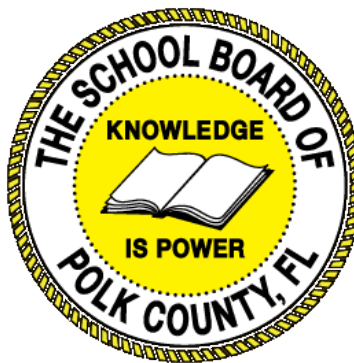
# Individual Test Item Specifications

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9005100 Digital Media Fundamentals

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2015



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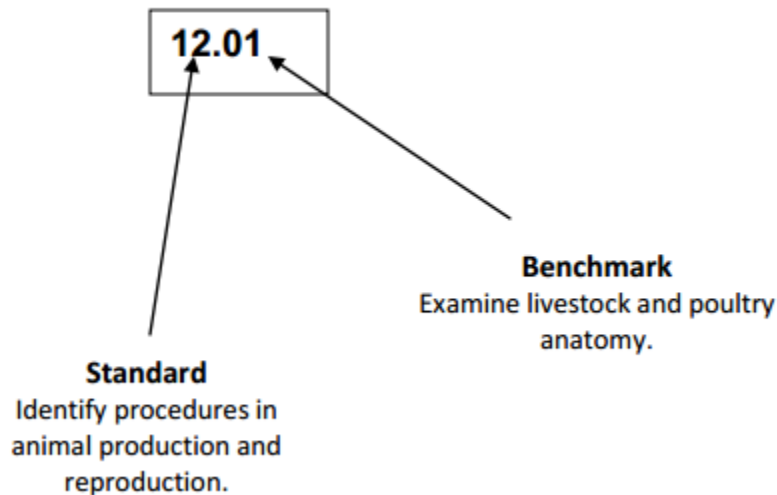
## I. Guide to the Individual Benchmark Specifications

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.

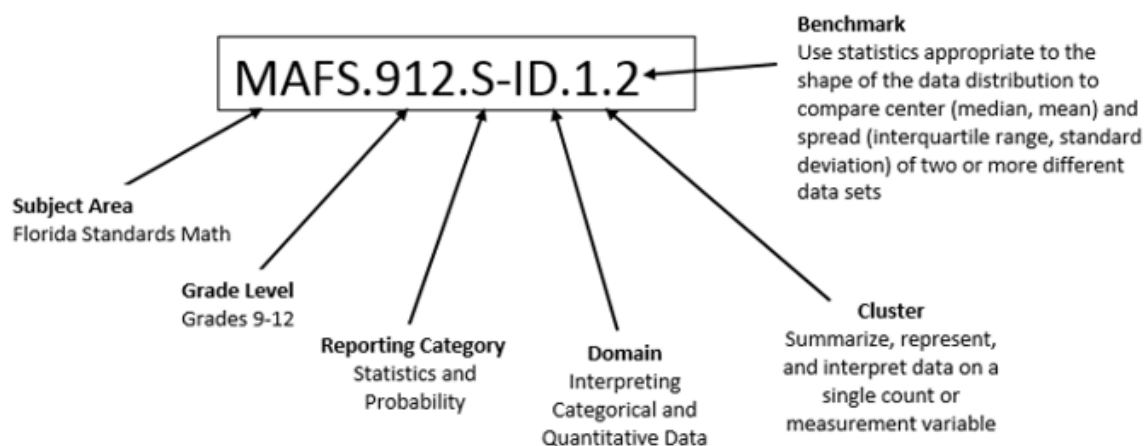
An example, from Agritechnology 1:



*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>	4.0 Describe characteristics of digital media relative to format, standards, encoding schemes, and origin.
<b>Benchmark</b>	4.01 Determine the meaning of symbols, key terms, and other domain-specific words and phrases.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	Low, moderate
<b>Benchmark Clarification</b>	The student will be able to understand the meanings of key terms in digital media.
<b>Content Focus</b>	Digital media, format, industry standards, encoding , symbols, key terms, domain
<b>Content Limits</b>	Items are limited to content about how to encode in a machine-readable 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 is a difference between analog and digital media? a. analog has a continuous range of values b. analog is based on discrete mathematics c. analog stores information in binary format d. analog has discontinuous representations of information Correct answer: a

<b>Standard</b>	4.0 Describe characteristics of digital media relative to format, standards, encoding schemes, and origin.
<b>Benchmark</b>	4.02 Identify and differentiate the appropriate use of digital media formats based on standard industry practices.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Low, moderate
<b>Benchmark Clarification</b>	The student will be able to understand the appropriate and acceptable uses of digital media.
<b>Content Focus</b>	Digital media, format, industry standards, encoding , symbols, key terms, domain, acceptable use
<b>Content Limits</b>	Items are limited to examples of the industry standards in digital media that can be created, viewed, distributed, modified and preserved on computers.
<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>	Short answer: What are two digital media formats used in image formats? Two types of digital media formats are exif and jpeg. 2 points: Student correctly identifies two types of digital formats. 1 point: Student correctly identifies one types of digital formats, 0 points: Student does not attempt of is incorrect.

<b>Standard</b>	4.0 Describe characteristics of digital media relative to format, standards, encoding schemes, and origin.
<b>Benchmark</b>	4.03 Identify and differentiate the appropriate use of encoding schemes based on project needs.
<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, moderate
<b>Benchmark Clarification</b>	The student will be able to understand standard industry vocabulary about code.
<b>Content Focus</b>	Encoding schemes, html, url, unicode, base64, Hex
<b>Content Limits</b>	Items are limited to types of code.
<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 element is not a part of dynamic HTML? a. CSS b. HTML c. javascript d. url Correct answer: d



<b>Standard</b>	4.0 Describe characteristics of digital media relative to format, standards, encoding schemes, and origin.
<b>Benchmark</b>	4.04 Identify the difference between digital media source files and digital media delivery systems.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to understand the difference between files and delivery methods of digital media.
<b>Content Focus</b>	Digital media, source files, delivery systems, .psd , .ai, video, streaming
<b>Content Limits</b>	Items are limited to types and common digital media delivery systems such as streaming 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: What is not a type of digital media delivery systems? a. Adobe Bridge b. Film Negatives c. Flickr d. Google+ Correct answer: b

<b>Standard</b>	5.0 Compare and contrast various forms of digital media delivery systems.
<b>Benchmark</b>	5.01 Identify the differences between fixed digital media formats and digital media streaming.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to understand the difference between fixed and streaming media.
<b>Content Focus</b>	Digital media, source files, delivery systems, .psd , .ai, video, streaming, fixed media
<b>Content Limits</b>	Items are limited to file types and common digital media delivery systems such as streaming, fixed media, 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: The term "streaming media" can apply to media other than video and audio. What is one example of streaming media other than video and audio? a. CD b. live closed captioning c. radio d. television Correct answer: a

<b>Standard</b>	5.0 Compare and contrast various forms of digital media delivery systems.
<b>Benchmark</b>	5.02 Identify the various forms of digital media content distribution.
<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, moderate
<b>Benchmark Clarification</b>	The student will be able to identify different ways to share digital media.
<b>Content Focus</b>	Types of digital media, types of distribution, content delivery, online distribution, streamed, downloaded, freestanding product
<b>Content Limits</b>	Items are limited to classified digital media and how it is shared.
<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 digital media distribution system does the government have the potential to influence? a. American Broadcasting Company b. Facebook c. National Broadcasting Radio d. National Public Radio Correct answer: d

<b>Standard</b>	5.0 Compare and contrast various forms of digital media delivery systems.
<b>Benchmark</b>	5.03 Describe the development of digital media technology as it pertains to digital signage.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to understand the changes to advertising with the advancement of digital signs.
<b>Content Focus</b>	Advertising, signage, LED, LCD, projection, digital images, video, streaming media, and information
<b>Content Limits</b>	Items are limited to the basic concept of advertising with signs and how it has changed.
<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 distribution system is used for digital signage? a. console controllers b. content management system c. mobile applications d. voice recognition software Correct answer: b

<b>Standard</b>	5.0 Compare and contrast various forms of digital media delivery systems.
<b>Benchmark</b>	5.04 Describe the impact of mobile and Wi-Fi technologies on the digital media development industry.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to understand how wifi works and how it has changed digital media and society.
<b>Content Focus</b>	Wifi, digital media, technology advancements
<b>Content Limits</b>	Items are limited to how wifi has changed the industry and workforce.
<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 did the invention of WiFi change the trucking industry? a. allows trucks to have a two way radio b. allows trucks to increase fuel economy c. allows trucks to eliminate licensing fees d. allows trucks to have accurate GPS fleet tracking Correct answer: d

<b>Standard</b>	6.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital video.
<b>Benchmark</b>	6.01 Identify digital image file types and their appropriate uses.
<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, moderate
<b>Benchmark Clarification</b>	The student will know how to determine the type of digital file by the file extension and what each type of file is used for.
<b>Content Focus</b>	File extensions, file uses, digital media
<b>Content Limits</b>	Items are limited to how file extensions change the use of the files and how the application can be determined by the file type.
<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 an example of raster files? a. .CGV b. .GIF c. .PPT d. .SVG Correct answer: b

<b>Standard</b>	6.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital video.
<b>Benchmark</b>	6.02 Compare and contrast the similarities and differences between analog and digital recording.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to understand the similarities and differences of analog and digital recording.
<b>Content Focus</b>	Recording, analog, digital, sampled, voltage, wave
<b>Content Limits</b>	Items are limited to the similarities and differences of analog and digital recording.
<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 is a digital recording is produced? a. by capturing intermittent sound signals b. by changing the variations in air pressure c. by changing sizes of the mircophone diaphragm d. by converting the original sound into a sequence of numbers Correct answer: d

<b>Standard</b>	6.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital video.
<b>Benchmark</b>	6.03 Describe the characteristics of digital video.
<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, moderate
<b>Benchmark Clarification</b>	The student will be able to identify the elements of digital video.
<b>Content Focus</b>	Digital video, elements, Common Protocol Stacks High Bit Rate, Long-lived Unicast, Multicast, bandwidth
<b>Content Limits</b>	Items are limited to how digital video works.
<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 not a type of video recording? a. composite video b. HDMI video c. S-Video d. signal video Correct answer: d



<b>Standard</b>	6.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital video.
<b>Benchmark</b>	6.04 Identify and describe the various application platforms used in digital video development.
<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, moderate
<b>Benchmark Clarification</b>	The student will be able to identify and explain how software is developed on both platforms and applications.
<b>Content Focus</b>	Application, software, developers, digital video, video equipment
<b>Content Limits</b>	Items are limited to the difference between platforms and applications and examples of each.
<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>Write 2-3 sentences explaining the difference between encoding and decoding video. Encoding is the process of putting a sequence of characters into a specialized format and decoding is taking the file sent and reassemble the video so it can be played. Encoding makes the file smaller for transmission and decoding makes it larger again for viewing.</p> <p>2 points: Student correctly identifies the two types of video in a complete sentence.  1 point: Student correctly identifies one of the two types of video or answers both types but not in a complete sentence,  0 points: Student does not attempt of is incorrect.</p>

<b>Standard</b>	7.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital audio.
<b>Benchmark</b>	7.01 Identify and describe the fundamental aspects of sound theory.
<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)=X (P)= (ER)=
<b>Cognitive Complexity Level</b>	Low, moderate
<b>Benchmark Clarification</b>	The student will be able to understand basic sound theory.
<b>Content Focus</b>	Oscillations and sound waves, simple oscillating systems, sound pressure, sound waves, the speed of sound, wavelength, frequency and pitch, sound pressure level, loudness, making sound, properties of musical sound versus “noise”, charge, current, voltage 7.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital audio.
<b>Content Limits</b>	Items are limited to basic sound theory.
<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 sound and audio? a. Sound travels in waves and audio a digital recording. b. Sound is a digital recording of a sound and audio travels in waves. c. Sound is made up of electric signal and audio is made up of frequencies. d. Sound travels in waves and audio is a medium such as gas, liquid or solid to become a sound. Correct answer: a

<b>Standard</b>	7.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital audio.
<b>Benchmark</b>	7.02 Compare and contrast the similarities and differences between analog and digital recording.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to understand the similarities and differences between two types of recording, digital and analog.
<b>Content Focus</b>	Multiple Choice: What unit of measurement is analog tape recording levels measured? a. decibel meter b. Hz levels c. kHz levels d. nanowebers per meter Correct answer: d
<b>Content Limits</b>	Items are limited to the similarities and differences of analog and digital recording.
<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 unit of measurement is analog tape recording levels measured? a. decibel meter b. Hz levels c. kHz levels d. nanowebers per meter Correct answer: d

<b>Standard</b>	7.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital audio.
<b>Benchmark</b>	7.03 Describe the characteristics of digital audio.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Low, moderate
<b>Benchmark Clarification</b>	The student will know the elements and facets of digital audio.
<b>Content Focus</b>	Digital audio, pulse-code modulation, Digital audio systems may include compression, storage, processing and transmission components,
<b>Content Limits</b>	Items are limited to how digital audio works.
<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 characteristic of digital audio? a. it is intermittent b. it has multiple tracks c. it is easily degradable d. it is stored on magnetic tape Correct answer: b

<b>Standard</b>	7.0 Demonstrate an understanding of the characteristics, development medium, and technical aspects of digital audio.
<b>Benchmark</b>	7.04 Identify and describe the various application platforms used in digital audio recording and editing.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to identify the appropriate platforms for both recording and editing audio.
<b>Content Focus</b>	Application, platform, sound, editing, recording, streaming, pandora, spotify, audacity
<b>Content Limits</b>	Items are limited to what applications are used for digital sound editing and recording.
<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 a software application that can be used in digital audio recording and editing? a. Adobe Audition b. Adobe Flash c. Adobe Illustrator d. Adobe Photoshop Correct answer: a

<b>Standard</b>	8.0 Explain the role of animation in digital media and the ways in which it is created and deployed.
<b>Benchmark</b>	8.01 Describe the process of developing animations and identify the industry standard platforms used in their creation.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to understand the steps needed to create animations.
<b>Content Focus</b>	Application, platform, animation, flash, after effect, design cycle
<b>Content Limits</b>	Items are limited to how to create an animation in industry standard applications.
<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 to be continuous motion but is actually a series of many different frames of the same graphic with a tiny amount of position change called? a. frame by frame animation b. morphing animation c. path animation d. stop motion animation Correct answer: a

<b>Standard</b>	8.0 Explain the role of animation in digital media and the ways in which it is created and deployed.
<b>Benchmark</b>	8.02 Describe the similarities and differences as well as industry standard platforms used in the development of 2D and 3D graphics.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)=X (SA)=X (P)= (ER)=X
<b>Cognitive Complexity Level</b>	Moderate, high
<b>Benchmark Clarification</b>	The student will be able to identify the benefits and challenges of the platforms and applications used to develop 2D and 3D graphics.
<b>Content Focus</b>	Application, platform, sound, editing, recording, streaming, pandora, spotify, audacity, 2D graphics, 3D graphics
<b>Content Limits</b>	Items are limited to how to create 2D and 3D graphics using a variety of industry standard applications.
<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 a leading graphics program designed specifically for creating and editing 3D images? a. Avid b. Blender c. Dreamweaver d. Microsoft Office Correct answer: b