FLORIDA DEPARTMENT OF EDUCATION
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Individual Test Item Specifications

9005120 Digital Media Production Systems

2015

THE SCHOOL BOARD OF POLK COUNTY, FL
KNOWLEDGE IS POWER

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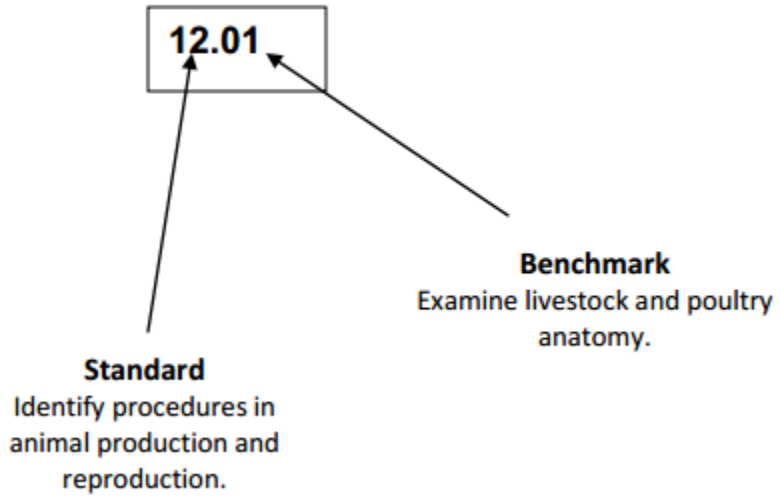
I. Guide to the Individual Benchmark Specifications

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.

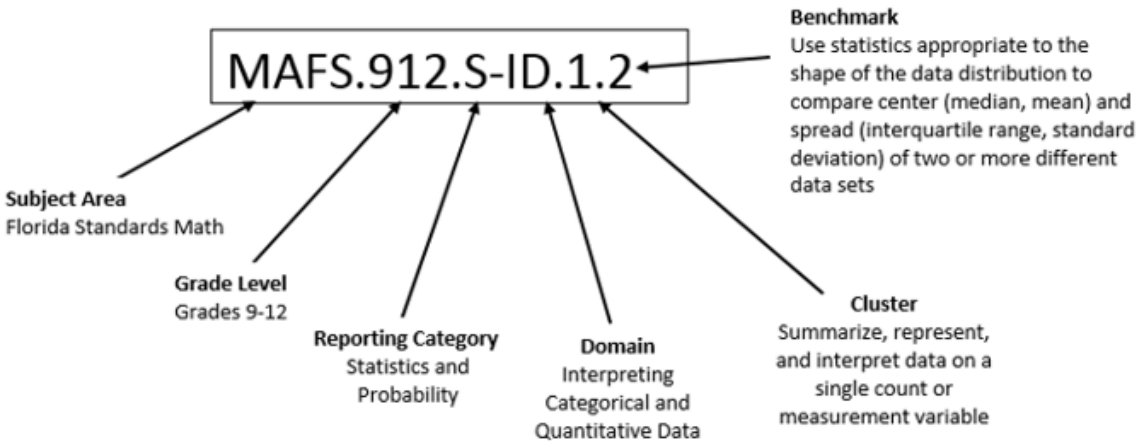
An example, from Agritechnology 1:



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.

Reporting Category	is a grouping of related benchmarks that can be used to summarize and report achievement.
Standard	refers to the standard statement presented in the Florida Standards.
Benchmark	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.
Item Types	are used to assess the benchmark or group of benchmark.
Cognitive Complexity	ideal level at which item should be assessed.
Benchmark Clarifications	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.
Content Limits	define the range of content knowledge and that should be assessed in the items for the benchmark.
Stimulus Attributes	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.
Response Attributes	define the characteristics of the answers that a student must choose or provide.
Content Focus	addresses the broad key terms and concepts associated with the examples found in the standards, benchmarks, or benchmark clarifications.
Sample Items	are provided for each type of question assessed. The correct answer for all sample items is provided.

II. Individual Benchmark Specifications

Standard	12.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital video.
Benchmark	12.01 Produce video files according to industry standard specifications using digital media development hardware and software applications.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)=X (P)=X (ER)=
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand the accepted standard for creating a digital media project from beginning to end.
Content Focus	Character animation, digital photography, internet publishing, motion graphics, production, file types, hardware, software, certificates
Content Limits	Items are limited to what the industry finds acceptable when creating a digital media project.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: Alex is importing her files into an animation software program. What part digital media development is this? a. creating b. planning c. storyboarding d. technical preparation Correct answer: a

Standard	12.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital video.
Benchmark	12.02 Identify and incorporate the appropriate use of digital video encoding based on industry standard practices.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)=X (P)=X (ER)=
Cognitive Complexity Level	moderate, high
Benchmark Clarification	The student will be able to understand what encoding is and use it appropriately in projects.
Content Focus	Digitized, encoded, re-encoded, transcoded, transrating, transsizing, transmuxing, streaming media, workflows
Content Limits	Items are limited to how to encode digital media.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: Encoding allows the information to be transmitted in a convenient form. What is a benefit of encoding? a. better quality b. bigger files c. less quality d. smaller files Correct answer: d

Standard	12.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital video.
Benchmark	12.03 Identify the various tools and procedures utilized in the conversion of digital media file types.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, moderate
Benchmark Clarification	The student will be able to understand how to convert media from and to different media.
Content Focus	Conversion, ADC, CDC, dither, digital distortion
Content Limits	Items are limited to the steps to convert digital video.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What is the process of converting media into a different file format to use it on a device other than the original one? a. format shifting b. interlace shifting c. target capture d. video capture Correct answer: a

Standard	12.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital video.
Benchmark	12.04 Demonstrate proficiency in the utilization of standard video production equipment.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand how to operate standard video production equipment.
Content Focus	Video camera, tripod, DSLR shoulder mount rig, camera light, three-point lighting kit, shotgun microphone, boom pole, portable digital audio recorder, wireless microphones, light reflector
Content Limits	Items are limited to how to use all of the equipment needed for a video production.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What type of audio recording would Hunter use if he wants to record a single channel for playback on his inexpensive MP3 player? a. monaural b. MP3 c. sampling d. stereo Correct answer: a

Standard	12.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital video.
Benchmark	12.05 Demonstrate proficiency in the connectivity and configuration of digital video equipment.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand how equipment connects and integrates together.
Content Focus	Video camera, tripod, DSLR shoulder mount rig, camera light, three-point lighting kit, shotgun microphone, boom pole, portable digital audio recorder, wireless microphones, light reflector, cables, computer, external hard drive
Content Limits	Items are limited to how video production components works together.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What tool is used to test a serial, parallel, USB, network, or other port? a. chip creek b. loopback c. media reader d. TV tuner Correct answer: b

Standard	12.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital video.
Benchmark	12.06 Identify and troubleshoot lighting issues as they pertain to the recording of digital video as well as describe common industry practices in the staging of light sources.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)=X (P)=X (ER)=
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand how to diagnose lighting problems.
Content Focus	Filters, flash, reflectors, position, diffused highlight, artificial and natural lighting
Content Limits	Items are limited to how to create different lighting using available resources.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: Jadalyz is on location filming an interview of a local celebrity. The video is too bright no matter what angle she chooses. What is a possible solution? a. add reflectors b. add direct light c. longer exposure d. neutral density filter Correct answer: d

Standard	13.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital audio.
Benchmark	13.01 Produce audio files according to industry standard specifications using digital media development hardware and software applications.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand how audio files are produced.
Content Focus	Bit layout, audio coding format, uncompressed or compressed, format, lossy compression, raw bitstream, container format or an audio data format, defined storage layer, analog, digital
Content Limits	Items are limited to how to record, import, edit, save and export audio according to the need of the production and the industry norm.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What audio format uses lossless compression? a. AIFF b. MP3 c. MPEG-4 SLS d. Vorbis Correct answer: b

Standard	13.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital audio.
Benchmark	13.02 Demonstrate proficiency in the utilization of standard audio production equipment.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand how the different equipment for audio recording is operated.
Content Focus	Shotgun, wireless, boom, handheld, boundary, PZM, stereo, lavalier microphones, wind protection, separate recorder, hardware compressors and limiters, hardware dynamics processor, dedicated sound software, restoration software, EQ and mixing concept software
Content Limits	Items are limited to how to use the recording equipment used in the digital audio industry.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: Sebastian needs to turn down the intensity of the audio input. He can adjust a meter on the audio or mic mixer that indicates the signal strength or level. What type of meter should Sebastien use? a. analog meter b. rack meter c. VU meter d. voice meter Correct answer: c

Standard	13.0 Demonstrate proficiency configuring and operating equipment and software applications used in the creation and delivery of digital audio.
Benchmark	13.03 Demonstrate proficiency in the connectivity and configuration of digital audio equipment.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)= (SA)= (P)=X (ER)=
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand how audio equipment is configured.
Content Focus	Amplifiers (audio), analyzers, audio mixers / consoles, audio processors, audio production software, MIDI controllers, keyboards, samplers and synthesizers, related audio production products, stage boxes, studio monitors
Content Limits	Items are limited to how audio equipment components are arranged.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What type of cable provides the best audio quality and is used by professionals? a. firewire cable b. mini cable c. RCA cable d. XLR cable Correct answer: d

Standard	14.0 Apply industry standard workflow management methods applicable to the integration and synchronization of audio and video into a single digital media product.
Benchmark	14.01 Describe the various media integration systems and their appropriate uses in the development of digital media.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand how audio and digital systems work together.
Content Focus	Audiotape players & recorders, blu-ray players & recorders CD players & recorders, digital audio recorders, digital video recorders DVD players & recorders, related production recording products, video recorders, players and servers, videotape players & recorders
Content Limits	Items are limited to how digital and audio components connect.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What is vertical Integration? a. Exclusive possession or control of the supply or trade in digital media. b. When you buy your suppliers out, in order to control your own raw materials and businesses. c. A company created to buy and possess the shares of other companies, which it then controls. d. When different companies produce the same product so they just merge together to make one business. Correct answer: b

Standard	14.0 Apply industry standard workflow management methods applicable to the integration and synchronization of audio and video into a single digital media product.
Benchmark	14.02 Identify and describe the importance of version control in digital asset management.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Low, moderate
Benchmark Clarification	The student will be able to understand the need and use of versions in asset management.
Content Focus	Versions, variations, renditions, metadata, unique identifier
Content Limits	Items are limited to how versions affect digital asset management.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: You need to find the best way to archive digital video and sound clips. Which of the following system will work? A. digital asset management system B. knowledge network system C. metadata system D. VRML system Correct answer: a

Standard	14.0 Apply industry standard workflow management methods applicable to the integration and synchronization of audio and video into a single digital media product.
Benchmark	14.03 Identify and describe the various forms of digital audio / video synchronization and the tools and techniques used to sync digital audio and video.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Low, moderate
Benchmark Clarification	The student will be able to understand the methods to synchronize video and audio.
Content Focus	Clock reference, positional reference, time stamp rate, frames per second, black burst, house sync, Vertical Interval Time Code
Content Limits	Items are limited to how to synchronize video and audio using tools and techniques of the industry.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What reference tells sync devices such as black burst, video ref, or word clock, how fast to go? a. clock reference b. longitudinal reference c. positional reference d. vertical reference Correct answer: a

Standard	15.0 Apply industry standard asset management methods applicable to development of a digital media product.
Benchmark	15.01 Identify and describe the standard practices for storing and archiving digital media assets.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Low, moderate
Benchmark Clarification	The student will be able to understand the industry practices for keeping media assets.
Content Focus	Digital preservation, media systems, difference between backup and archive, Open Archival Information System, metadata, PREMIS15.0 Apply industry standard asset management methods applicable to development of a digital media product.
Content Limits	Items are limited to how to store and archive digital media assets.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: Your computer is taking a long time backing up and you want to move the data that is no longer actively used from primary storage to a low-cost secondary storage. What type of storage should you get? a. data archiving b. DVD/CD's c. hard drive partition d. memory chip Correct answer: b

Standard	15.0 Apply industry standard asset management methods applicable to development of a digital media product.
Benchmark	15.02 Identify and describe the standard practices for retrieving digital media assets both on local and remote work stations / networks.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Low, moderate
Benchmark Clarification	The student will be able to understand the process for reclaiming data in storage.
Content Focus	Local accounts, remote work stations, networks, queries, asset management system
Content Limits	Items are limited to how to reacquire data that has been stored or archived.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: When looking for a stored or archived file on an on-site asset management system, what is the first step? a. backup files b. connect to the FTP server c. create a query d. load backup storage Correct answer: c

Standard	15.0 Apply industry standard asset management methods applicable to development of a digital media product.
Benchmark	15.03 Describe the standard practices for establishing digital asset security.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand the accepted practices for digital asset security.
Content Focus	Encryption, firewall, passwords, security policy and/or protocol, cookies, acceptable use policy, digital certificate, public key infrastructure, registration authority, PKI
Content Limits	Items are limited to how to create and install a digital asset security protocol.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What is called an electronic "passport" allowing a secure exchange of information over the Internet using the public key infrastructure (PKI)? a. certificate authority b. certificate repository c. digital certificate d. registration authority Correct answer: c

Standard	15.0 Apply industry standard asset management methods applicable to development of a digital media product.
Benchmark	15.04 Describe the purpose and function of metadata as it pertains to the management of digital assets.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, high
Benchmark Clarification	The student will be able to understand the purpose of metadata and its role in digital media.
Content Focus	Descriptive, structural, administrative, rights management, preservation, recovery, organizing, identifying, archiving
Content Limits	Items are limited to what metadata is and its function in digital media.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What is one function that is not specific to administrative metadata? a. acquisition information b. cataloging records c. documentation of legal access requirements d. location information Correct answer: c

Standard	16.0 Explain the importance of calibration in the production of digital media and the means by which it is accomplished.
Benchmark	16.01 Identify the necessity and effects of calibration on various digital media systems.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Low, moderate
Benchmark Clarification	The student will be able to understand the need for calibration and its purpose.
Content Focus	Analog, thresholds and limits, parameters, measure, playback equipment
Content Limits	Items are limited to know the purpose of calibration and its effects.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: What task should you perform to maximize the color management and make allowances for any variances? a. calibration b. decrease waveform c. head cleaning d. increase waveform Correct answer: a

Standard	16.0 Explain the importance of calibration in the production of digital media and the means by which it is accomplished.
Benchmark	16.02 Identify standard practices in calibrating digital media production equipment.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Low, moderate
Benchmark Clarification	The student will be able to understand how to calibrate digital media equipment.
Content Focus	Reference standards, measurements, International Standards, Volt; Ampere; Watt; metre; litre
Content Limits	Items are limited to how to calibrate equipment.
Stimulus Attributes	Worksheets, observations, hands on assignments, examples and non examples, simulations, role playing
Response Attributes	None specified
Sample Item	Multiple Choice: When calibrating a high definition LCD screen without using software or DVD, what is the best method? a. reset to factory defaults b. check color with test patterns in its lowest resolution c. check color with test patterns immediately after turning on the monitor d. go to the Control Panel and search for "calibrate." under display colors Correct answer: d