

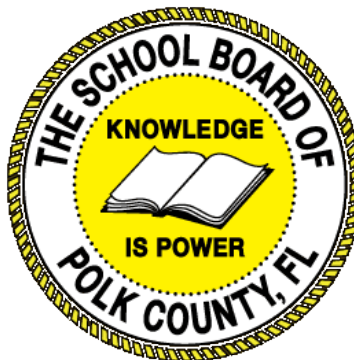
# Individual Test Item Specifications

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8709010- Automotive Collision  
Repair & Refinishing 1

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2015



*The contents of this document were developed under a grant from the United States Department of Education. However, the content does not necessarily represent the policy of the United States Department of Education, and you should not assume endorsement by the federal government.*

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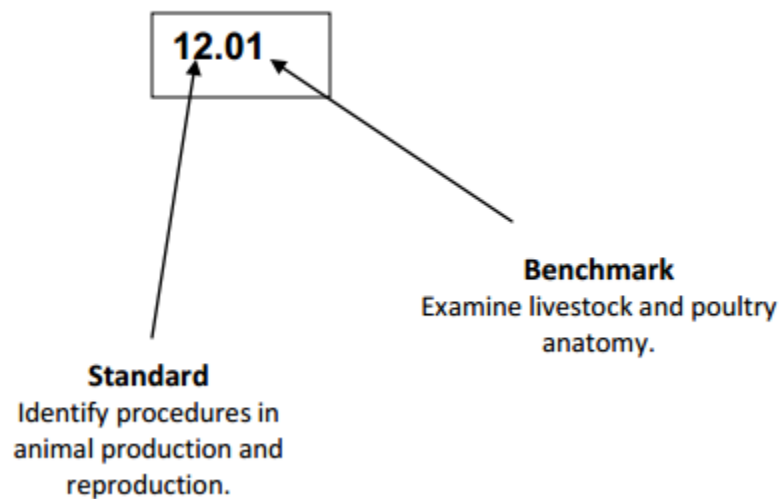
## I. Guide to the Individual Benchmark Specifications

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>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.01 Comply with safety rules established by OSHA, NIOSH, EPA, and DER regarding chemicals and hazardous materials. LAFS.910.RI.1.2; 2.4; 3.7
<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>	L, M
<b>Benchmark Clarification</b>	The student will comply with safety rules from industry regulators regarding chemicals and hazardous materials.
<b>Content Focus</b>	OSHA, NIOSH, EPA, DER, hazardous materials, MSDS, toxic, reactive, corrosive, flammable
<b>Content Limits</b>	Items may include safety rules pertaining to the automotive collision repair and refinishing industry.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Where would a technician look to find information about treating an injured coworker for exposure to a hazardous chemical? A. EPA B. DER C. MSDS D. OSHA  Answer C

<b>Standard</b>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.02 Comply with safety rules established by OSHA and NIOSH regarding personal clothing and devices. LAFS.910.RI.1.2; 2.4; 3.7
<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>	L, M
<b>Benchmark Clarification</b>	The student will comply with safety rules from OSHA and NIOSH regarding personal clothing and devices.
<b>Content Focus</b>	OSHA, NIOSH, PPE, personal protective equipment, respirator
<b>Content Limits</b>	Items may include safety rules pertaining to the automotive collision repair and refinishing industry.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Which of the following is not a requirement for employees when it comes to personal protective equipment (PPE)? A. properly wear PPE B. attend PPE training C. care for and maintain your PPE D. hazard assessment of required PPE Answer D

<b>Standard</b>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.03 Comply with safety rules regarding hand tools and power equipment and use them properly, including fire extinguishers. LAFS.910.RI.1.2; 2.4; 3.7
<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>	L, M
<b>Benchmark Clarification</b>	The student will comply with safety rules regarding tool use and use them properly, including fire extinguishers.
<b>Content Focus</b>	hand tools, power tools, fire extinguisher, fire types
<b>Content Limits</b>	Items may include safety rules pertaining to the automotive collision repair and refinishing industry.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	How often should a fire extinguisher be inspected? A. annually B. daily C. monthly D. semi-annual Answer C



<b>Standard</b>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.04 Comply with locally developed shop safety rules and regulations. LAFS.910.RI.1.2; 2.4; 3.7; SC.912.L.14.44
<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>	L, M
<b>Benchmark Clarification</b>	The student will comply with locally developed shop safety rules and regulations.
<b>Content Focus</b>	None Specified
<b>Content Limits</b>	Items may include safety rules pertaining to the automotive collision repair and refinishing industry.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	<p>What are two safety rules that should be followed in the shop?</p> <p>Sample response: The spray booth needs to be washed down regularly to prevent particles getting in the paint. Also, air hoses need to be wrapped up when not in use so as to not cause a tripping hazard.</p>

<b>Standard</b>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.05 Identify sources of airborne contamination and other hazards. LAFS.910.RI.1.2; 2.4 LAFS.910.L.3.4; SC.912.P.12.10
<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>	L, M
<b>Benchmark Clarification</b>	The student will identify sources of airborne contamination and other hazards.
<b>Content Focus</b>	Asbestos, carcinogen, respirator
<b>Content Limits</b>	Items may include safety rules pertaining to the automotive collision repair and refinishing industry.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	What are two sources of airborne hazards in an autobody shop?  Sample response: Airborne hazards can come from sanding rust from the body of a car. Also, particles from paints and primers can be harmful.

<b>Standard</b>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.06 Select proper spray mask; inspect the spray mask to insure proper fit and operation; inspect the condition of the mask filters and other components.
<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>	M, H
<b>Benchmark Clarification</b>	The student will select a proper spray mask, inspect the mask condition, and make sure the mask fits properly.
<b>Content Focus</b>	Respirator, spray mask
<b>Content Limits</b>	Items may include spray masks related to automotive collision repair and refinishing.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	What are two reasons a respirator must be rechecked for proper fitment? Sample response: If you grow a beard or facial hair the respirator should be checked for fit. Also, if you lose or gain a lot of weight, you need to recheck fit.

<b>Standard</b>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.07 Explain the "Right to Know Law" as applicable to auto body repair occupations. LAFS.910.L.3.6, 4 LAFS.910.W.3.7, 9 LAFS.910.SL.1.1
<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>	M, H
<b>Benchmark Clarification</b>	The student will explain the "Right to Know Law" as applicable to auto body repair occupations.
<b>Content Focus</b>	Right to Know Act
<b>Content Limits</b>	Items may include the Right to Know Act pertaining to the auto body industry.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	What does the "Right to Know" refer to in the workplace? A. benefits of the company B. chemical hazards in the workplace C. pay structure of the techs D. your duties to be performed Answer B

<b>Standard</b>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.08 Identify vehicle parts by name, location and function.
<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>	M, H
<b>Benchmark Clarification</b>	The student will identify vehicle parts by name, location and function.
<b>Content Focus</b>	None Specified
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	<p>What are the differences in the drivetrain setup between a front wheel drive (FWD) vehicle and a rear wheel drive (RWD) vehicle?</p> <p>Sample response: FWD has an engine and transaxle mounted sideways. A RWD has the engine and transmission mounted longitudinally connecting to a differential.</p>

<b>Standard</b>	04.0 Demonstrate vehicle and industry knowledge, business management and shop and occupational safety skills--The student will be able to:
<b>Benchmark</b>	4.09 Read and explain damage reports. LAFS.910.RI.1.2; 2.4; 3.7 LAFS.910.L.3.4, 6 LAFS.910.W.3.7, 9 LAFS.910.SL.1.1
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will read and explain damage reports.
<b>Content Focus</b>	Estimate, visual damage report
<b>Content Limits</b>	items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	What are two types of information that would be found on a damage report?  Sample response: The damage report list the areas of the vehicle that have damage. The damage report contains a part and labor estimate of repair.

<b>Standard</b>	05.0 Prepare vehicles for repair and refinishing by applying creative techniques--The student will be able to:
<b>Benchmark</b>	5.01 Remove, replace and align damaged outside trim and moldings.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will remove, replace, and align damaged outside trim and moldings.
<b>Content Focus</b>	Weatherstrip, weatherstrip glue, applique molding, trim
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	On the vehicle provided in the shop, demonstrate to your instructor how to remove and reinstall the rear vehicle emblem.

<b>Standard</b>	05.0 Prepare vehicles for repair and refinishing by applying creative techniques--The student will be able to:
<b>Benchmark</b>	5.02 Remove, replace and align damaged or necessary inside trim and moldings.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will remove and align damaged or necessary inside trim and moldings.
<b>Content Focus</b>	A pillar, B pillar, C pillar, trim, moldings, sill panel
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	On the vehicle provided in the shop, demonstrate to your instructor how to remove and reinstall the B pillar molding.



<b>Standard</b>	05.0 Prepare vehicles for repair and refinishing by applying creative techniques--The student will be able to:
<b>Benchmark</b>	5.03 Remove, replace and align damaged, non-structural body panels and components that may interfere with or be damaged during repair.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will remove, replace, and align damaged, non-structural body panels and components that may interfere with or be damaged during repair.
<b>Content Focus</b>	Fender, quarter panel, door panel, hood, deck lid
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	During frame repairs the drivetrain is often removed. It is simpler to remove the drivetrain up through the top on some vehicles. Demonstrate to your instructor how to remove the hood for this purpose. Then re-install the hood and align it.

<b>Standard</b>	05.0 Prepare vehicles for repair and refinishing by applying creative techniques--The student will be able to:
<b>Benchmark</b>	5.04 Protect panels and parts adjacent to repair area to prevent damage.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will protect panels and parts adjacent to repair area to prevent damage.
<b>Content Focus</b>	None Specified
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	The rear quarter panel is being spotted in. Demonstrate to your instructor how to protect the areas of the vehicle that will not be painted.

<b>Standard</b>	05.0 Prepare vehicles for repair and refinishing by applying creative techniques--The student will be able to:
<b>Benchmark</b>	5.05 Remove dirt, grease and wax from those areas to be repaired.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will remove dirt, grease and wax from those areas to be repaired.
<b>Content Focus</b>	Solvent, stripper
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	You are doing the prep work on a vehicle for the painter. Demonstrate to your instructor how to remove any dirt, grease or wax from the rear bumper in preparation for painting.

<b>Standard</b>	05.0 Prepare vehicles for repair and refinishing by applying creative techniques--The student will be able to:
<b>Benchmark</b>	5.06 Remove dirt, corrosion, under coatings, sealers, and/or other protective coatings necessary to perform repairs to structural areas.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will remove dirt, corrosion, under coating, sealers, and other protective coatings necessary to perform structural repairs.
<b>Content Focus</b>	Frame, chassis, under coat, corrosion
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	On the vehicle on the service lift, demonstrate to your instructor how to remove and treat corrosion on the frame to prepare it for structural repair.

<b>Standard</b>	05.0 Prepare vehicles for repair and refinishing by applying creative techniques--The student will be able to:
<b>Benchmark</b>	5.07 Remove, replace, and align repairable plastics and other parts that are recommended for off-car repair.
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will remove, replace, and align repairable plastics and other parts that are recommended for off-car repair.
<b>Content Focus</b>	None Specified
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	Your instructor will provide you access to a vehicle with a plastic bumper. The bumper is damaged. Demonstrate to your instructor how to repair the plastic bumper.

<b>Standard</b>	05.0 Prepare vehicles for repair and refinishing by applying creative techniques--The student will be able to:
<b>Benchmark</b>	5.08 Locate, read and interpret automobile manufacturers' data plates. LAFS.910.RI.1.2 LAFS.910.L.3.4
<b>Item Types</b> (MC)-Multiple Choice (SA)-Short Answer (P)-Performance (ER)-Extended Response	(MC)= (SA)=X (P)=X (ER)=
<b>Cognitive Complexity Level</b>	M, H
<b>Benchmark Clarification</b>	The student will locate, read and interpret automobile data plates.
<b>Content Focus</b>	RPO codes, VIN, paint code
<b>Content Limits</b>	Items should be limited to passenger vehicles and light duty trucks.
<b>Stimulus Attributes</b>	None Specified
<b>Response Attributes</b>	None Specified
<b>Sample Item</b>	On the vehicle provided in the stall, locate the paint code, record the paint code, and provide it to your instructor.