**Competency Cross-Reference - Collision Repair Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Directions:** Evaluate the student by recording the appropriate number to indicate the degree of competency. The rating for each task should reflect employability readiness rather than the grades given in class.

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| **Rating Scale (0-6):** |
| 0 | **No Exposure -** no experience/knowledge in this area; program/ course did not provide instruction in this area |
| 1 | **Unsuccessful Attempt -** unable to meet knowledge or performance criteria and/or required significant assistance |
| 2 | **Partial Demonstration** - met some of the knowledge or performance criteria with or without minor assistance |
| 3 | **Knowledge Demonstrated** - met knowledge criteria without assistance at least once |
| 4 | **Performance Demonstrated** - met performance criteria without assistance at least once |
| 5 | **Repetitive Demonstration** - met performance and/or knowledge criteria without assistance on multiple occasions |
| 6 | **Mastered** - successfully applied knowledge or skills in this area to solve related problems independently |
| N/A | Not observed or does not apply |

| ***Score*** | ***#*** | ***Competency*** | ***Academic / Technical Standards*** | ***SkillsUSA Framework*** | ***Instructional Strategy*** | ***Unit Plan Title(s)*** |
| --- | --- | --- | --- | --- | --- | --- |
| Safety (to be integrated throughout the program)  |
|  | 1 | Comply with personal and environmental safety practices associated with clothing and the use of gloves; respiratory protection; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations. Identify vehicle system hazard types (Supplemental Restraint System (SRS), hybrid/electric/alternative fuel vehicles), locations, and recommended procedures before inspecting or replacing components (ICAR, 2016). | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D, A2.DS.A.7 / Tech: IA-1G, VA4 | Technical Skills: Safety & Health | Demonstration, Online Modules, Guided Practice | All Units and Lessons |
|  | 2 | Select and use personal safety equipment. | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D / Tech: IA-1G, VA4 | Technical Skills: Safety & Health | Demonstration, Online Modules, Guided Practice | WKR01: Hazardous Materials, Personal Safety, and Refinish Safety; HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 3 | Identify and locate procedures and precautions that may apply to the vehicle being repaired. | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D / Tech: IA-1G, VA4 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Modules, Guided Practice | WKR01: Hazardous Materials, Personal Safety, and Refinish Safety; HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 4 | Identify safety and personal health hazards according to OSHA guidelines and the “Right to Know Law.” | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D, A2.DS.A.7 / Tech: IA-1G, VA4 | Technical Skills: Safety & Health | Demonstration, Online Modules, Guided Practice | WKR01: Hazardous Materials, Personal Safety, and Refinish Safety; HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 5 | Inspect spray environment and equipment to ensure compliance with federal state, and local regulations, and for safety and cleanliness hazards. | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D / Tech: IA-1G, VA4 | Technical Skills: Safety & Health | Demonstration, Online Modules, Guided Practice | WKR01: Hazardous Materials, Personal Safety, and Refinish Safety; HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 6 | Select and use a NIOSH approved air purifying respirator. Inspect condition and ensure fit and operation. Perform proper maintenance in accordance with OSHA regulation. | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D, A2.DS.A.7 / Tech: IA-1G, VA4 | Technical Skills: Safety & Health | Demonstration, Online Modules, Guided Practice | WKR01: Hazardous Materials, Personal Safety, and Refinish Safety; HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 7 | Select and use a NIOSH approved supplied air (Fresh Air Make-up) respirator system. Perform proper maintenance in accordance with OSHA Regulation 1910.134 and applicable state and local regulation. | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D, A2.DS.A.7 / Tech: IA-1G, VA4 | Technical Skills: Safety & Health | Demonstration, Online Modules, Guided Practice | WKR01: Hazardous Materials, Personal Safety, and Refinish Safety; HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 8 | Select and use the proper personal safety equipment for surface preparation, spray gun and related equipment operation, paint mixing, matching and application, paint defects, and detailing (gloves, suits, hoods, eye and ear protection, etc.). | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D / Tech: IA-1G, VA4 | Technical Skills: Safety & Health | Demonstration, Online Modules, Guided Practice | WKR01: Hazardous Materials, Personal Safety, and Refinish Safety; HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 9 | Select spray gun setup (fluid needle, nozzle, and cap) for product being applied. | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D, A2.DS.A.7 / Tech: IA-1G, VA4 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Modules, Guided Practice | HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 10 | Test and adjust spray gun using fluid, air and pattern control valves. | Tech: IA-1G, VA4 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Modules, Guided Practice | HAP01E: Hazardous Airborne Pollutant Reduction |
|  | 11 | Demonstrate an understanding of the operation of pressure spray equipment. | Tech: IA-1G, VA4 | Technical Skills: Job-Specific Skills | Demonstration, Online Modules, Guided Practice | HAP01E: Hazardous Airborne Pollutant Reduction |
| Non-Structural Analysis & Damage Repair |
|  | Vehicle Construction and Parts Identification |
|  | 1 | Identify type of vehicle construction (space frame, unibody, body-over frame). | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair; GE010E01/ Vehicle Construction Material Types; NEW16/Vehicle Technology and Trends |
|  | 2 | Recognize the different damage characteristics of space frame, unibody, and body-over-frame vehicles. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair; GE010E01/ Vehicle Construction Material Types; NEW16/Vehicle Technology and Trends |
|  | 3 | Identify impact energy absorbing components. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11,VA7, IIC11, IIB9, IIA3 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair; GE010E01/ Vehicle Construction Material Types; FOM01/ Automotive Foams |
|  | 4 | Identify steel types; determine reparability. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair; GE010E01/ Vehicle Construction Material Types |
|  | 5 | Identify aluminum/magnesium components; determine reparability. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair; GE010E01/ Vehicle Construction Material Types |
|  | 6 | Identify plastic/composite components; determine reparability. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair; GE010E01/ Vehicle Construction Material Types |
|  | 7 | Identify vehicle glass components and repair/replacement procedures. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair; GE010E01/ Vehicle Construction Material Types |
|  | 8 | Identify add-on accessories. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair; GE010E01/ Vehicle Construction Material Types; NEW16/Vehicle Technology and Trends |
|  | Preparation |
|  | 1 | Review damage report and analyze damage to determine appropriate methods for overall repair; develop, and document a repair plan. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 2 | Inspect, remove, label, store, and reinstall exterior trim and moldings. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: II2B2, II2B4-B6, II2C2 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | TRM03E/Removing and Installing Exterior Trim |
|  | 3 | Inspect, remove, label, store, and reinstall interior trim and components. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB3, IIB5-B6, IIE1-E4, VIID11 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | TRM02E Removing and Installing Hardware Interior |
|  | 4 | Inspect, remove, label, store, and reinstall body panels and components that may interfere with or be damaged during repair. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB3, IIB5-B6, IIE1-E4, VIID11 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | TRM02E Removing and Installing Hardware Interior; TRM03E Removing and Installing Exterior Trim |
|  | 5 | Inspect, remove, protect, label, store, and reinstall vehicle mechanical and electrical components that may interfere with or be damaged during repair. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB3, IIB5-B6, IIE1-E4, VIID11 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | TRM02E Removing and Installing Hardware Interior; TRM03E Removing and Installing Exterior Trim |
|  | 6 | Protect panels, glass, interior parts, and other vehicles adjacent to the repair area. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB3, IIB5-B6, IIE1-E4, VIID11 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | TRM02E Removing and Installing Hardware Interior |
|  | 7 | Soap and water wash entire vehicle; complete pre-repair inspection checklist. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIC10-C11, IIB9 | Technical Skills: Safety & Health | Demonstration, Online Module, & Guided Practice | CPS01 Corrosion Protection |
|  | 8 | Prepare damaged area using water-based and solvent-based cleaners. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIC10-C11, IIB9 | Technical Skills: Safety & Health | Demonstration, Online Module, & Guided Practice | CPS01 Corrosion Protection |
|  | 9 | Remove corrosion protection, undercoatings, sealers, and other protective coatings as necessary to perform repairs. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIC10-C11, IIB9 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | CPS01 Corrosion Protection |
|  | 10 | Inspect, remove, and reinstall repairable plastics and other components for off-vehicle repair. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIF1-F3 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | PLA03 Plastics and Composite Repair |
|  | Outer Body Panel Repairs, Replacements, and Adjustments |
|  | 1 | Inspect/locate direct, indirect, or hidden damage and direction of impact. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC1, IIC4, IIC7, IIC12 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | EXT03E Bolt on Exterior Parts #1 |
|  | 2 | Inspect, remove and replace mechanically fastened welded steel panel or panel assemblies. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC2, IIC5-9 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | EXT04E Bolt on Exterior Panels #2 |
|  | 3 | Determine the extent of damage to aluminum body panels; repair or replace | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC2, IIC5-9 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | EXT04E Bolt on Exterior Panels #2 |
|  | 4 | Inspect, remove, replace, and align hood, hood hinges, and hood latch. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC2, IIC5-9 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | EXT04E Bolt on Exterior Panels #2 |
|  | 5 | Inspect, remove, replace, and align deck lid, lid hinges, and lid latch. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC2, IIC5-9 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | EXT04E Bolt on Exterior Panels #2 |
|  | 6 | Inspect, remove, replace, and align doors, latches, hinges, and related hardware. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC1, IIC4, IIC7, IIC12 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | EXT03E Bolt on Exterior Parts #1 |
|  | 7 | Inspect, remove, replace and align tailgates, hatches, liftgates and sliding doors. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC1, IIC4, IIC7, IIC12 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | EXT03E Bolt on Exterior Parts #1 |
|  | 8 | Inspect, remove, replace, and align bumpers, covers, reinforcements, guards, impact absorbers, and mounting hardware. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC2, IIC5-9 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | EXT04E Bolt on Exterior Panels #2 |
|  | 9 | Inspect, remove, replace and align fenders, and related panels. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC2, IIC5-9 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | EXT04E Bolt on Exterior Panels #2 |
|  | 10 | Restore corrosion protection during and after the repair. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC10-C11, IIB9 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | CPS01 Corrosion Protection |
|  | 11 | Restore sound deadeners and foam materials. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC10-C11, IIB9; VA7, IIB9, IIA3 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | CPS01 Corrosion Protection; FOM01 Automotive Foams |
|  | 12 | Diagnose and repair water leaks, dust leaks, and wind noise. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIC1, IIC4, IIC7, IIC12 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | EXT03E Bolt on Exterior Parts #1 |
|  | 13 | Identify one-time use fasteners. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair |
|  | Metal Finishing and Body Filling |
|  | 1 | Prepare a panel for body filler by abrading or removing the coatings; featheredge and refine scratches before the application of body filler. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 2 | Locate and repair surface irregularities on a damaged body panel using power tools, hand tools, and weld-on pulling attachments. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 3 | Demonstrate hammer and dolly techniques. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 4 | Shrink stretched panel areas to proper contour. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 5 | Identify body filler defects; correct the cause and condition. (Pinholing, ghosting, staining, over catalyzing, etc.). | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 6 | Identify different types of body fillers. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 7 | Shape body filler to contour; finish sand. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 8 | Identify proper metal finishing techniques for aluminum. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 9 | Identify proper application of body filler to aluminum. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | 10 | Straighten contours of damaged panels to a suitable condition for body filling or metal finishing using power tools, hand tools, and weld-on pulling attachments. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7, G.GMD.B, G.GM.A / Tech: IIB1, IID1-D10 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | STS01 Cosmetic Straightening Steel |
|  | Movable Glass and Hardware |
|  | 1 | Inspect, adjust, repair or replace window regulators, run channels, glass power mechanisms, and related controls. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIE1-E4 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | GLA01 Movable and Stationary Glass |
|  | 2 | Inspect, adjust, repair, remove, reinstall or replace weather-stripping. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIE1-E4 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | GLA01 Movable and Stationary Glass |
|  | 3 | Inspect, repair or replace, and adjust removable power operated roof panel and hinges, latches, guides, handles, retainer, and controls of sunroofs. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIE1-E4 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | GLA01 Movable and Stationary Glass |
|  | 4 | Initialize electrical components as needed. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIE1-E4 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | GLA01 Movable and Stationary Glass |
|  | Plastic and Adhesives |
|  | 1 | Identify the types of plastics; determine reparability. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIF1-F3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | PLA03 Plastics and Composite Repair |
|  | 2 | Clean and prepare the surface of plastic parts; identify the types of plastic repair procedures. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIF1-F3 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | PLA03 Plastics and Composite Repair |
|  | 3 | Repair rigid, semi-rigid, and flexible plastic panels. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A1.NQ.B, G.GMD.B, G.GM.A / Tech: IIF1-F3 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | PLA03 Plastics and Composite Repair |
| Painting & Refinishing  |
|  | Surface Preparation |
|  | 1 | Inspect, remove, store, protect, and replace exterior trim and components necessary for proper surface preparation. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking |
|  | 2 | Soap and water wash entire vehicle; use appropriate cleaner to remove contaminants. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking |
|  | 3 | Remove dust from the area to be refinished, including cracks or moldings of adjacent areas. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking |
|  | 4 | Remove, with a tack rag, any dust or lint particles from the area to be refinished. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking |
|  | Spray Gun & Related Equipment Operation |
|  | 1 | Inspect, clean, and determine condition of spray guns and related equipment (air hoses, regulators, air lines, air source, and spray environment). | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: IIIB1-B4 | Technical Skills: Safety & Health | Demonstration, Online Module, & Guided Practice | REF01E Refinish Program 1 Refinish Equipment |
|  | 2 | Select spray gun setup (fluid needle, nozzle, and cap) for product being applied. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: IIIB1-B4 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | REF01E Refinish Program 1 Refinish Equipment |
|  | 3 | Test and adjust spray gun using fluid, air and pattern control valves. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: IIIB1-B4 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF01E Refinish Program 1 Refinish Equipment |
|  | 4 | Demonstrate an understanding of the operation of pressure spray equipment. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: IIIB1-B4 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | REF01E Refinish Program 1 Refinish Equipment |
|  | Paint Mixing, Matching, & Applying |
|  | 1 | Identify color code by manufacturer’s vehicle information label. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 2 | Identify, locate, & interpret a Technical Data Sheet (TDS).  | Acad: A2.DS.A.7, RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 3 | Shake, stir, reduce, catalyze/activate, and strain refinish materials. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 4 | Apply finish using appropriate spray techniques (gun arc, angle, distance, travel speed, and spray pattern overlap) for the finish being applied. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 5 | Apply selected product on test or let-down panel; check for color match. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 6 | Apply single stage topcoat. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 7 | Apply basecoat/clearcoat for panel blending and panel refinishing. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 8 | Remove nibs or imperfections from basecoat. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 9 | Refinish plastic parts. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 10 | Identify multi-stage coats for panel blending and overall refinishing. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 11 | Identify and mix paint using a formula.  | Acad: 6.RP.A, 7.RP.A, RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 12 | Identify poor hiding colors; determine necessary action. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | 13 | Identify the materials, equipment, and preparation differences between solvent and waterborne technologies.  | Acad: A2.DS.A.7, RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: III A1-A4, IIIB1-B4, IIIC1-C13 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | REF02E Refinish Program 2 - Surface Preparation and Masking; REF07 Waterborne Products, Systems and Application |
|  | **Paint Defects – Causes & Cures** |
|  | 1 | Identify paint defects; correct the causes and the conditions. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 2 | Identify sanding marks or sandscratch swelling; correct the cause(s) and the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 3 | Identify contour mapping/edge mapping; correct the cause(s) and the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 4 | Identify post-refinishing problems; correct the causes and the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 5 | Identify water spotting; correct the cause(s) and the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 6 | Identify finish damage caused by bird droppings, tree sap, and other natural causes; correct the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 7 | Identify finish damage caused by airborne contaminants (acids, soot, rail dust, and other industrial-related causes); correct the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 8 | Identify die-back conditions (dulling of the paint film showing haziness); correct the cause(s) and the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 9 | Identify chalking (oxidation); correct the cause(s) and the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 10 | Identify buffing-related imperfections (swirl marks, wheel burns); correct the condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A.7 / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | **Final Detail** |
|  | 1 | Apply decals, nameplates, & emblems. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 2 | Sand, buff and polish fresh or existing finish to remove defects as required. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 3 | Clean interior, exterior, and glass. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 4 | Clean body openings (door jambs and edges, etc.). | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 5 | Remove overspray. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
|  | 6 | Perform vehicle clean-up; complete quality control using a checklist.  | Acad: A2.DS.A.7, RI.1.B, G.GMD.B, G.MG.A / Tech: IIID1-D10, IIIE2-E6 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | REF04 Detailing |
| **Mechanical & Electrical Components** |
|  | **Suspension & Steering** |
|  | 1 | Perform visual inspection and measuring checks to identify steering and suspension collision damage. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 2 | Identify one–time use fasteners. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair |
|  | 3 | Reinstall wheels and torque lug nuts. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IIA1-A8,IIF1,IIC1,IIC13,IVC1,IVE1-E2,VIID1-D11, | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | Intro Series/Intro to Collision Repair |
|  | **Electrical** |
|  | 1 | Check for available voltage, voltage drop and current, and resistance in electrical wiring circuits and components with a DMM (digital multimeter). | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IVB1-B5 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | LSC04E Automotive Lighting |
|  | 2 | Repair wiring and connectors. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IVB1-B5 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | LSC04E Automotive Lighting |
|  | 3 | Inspect, clean, repair or replace battery, battery cables, connectors clamps. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IVB1-B5 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | LSC04E Automotive Lighting |
|  | 4 | Check operation and aim headlamp assemblies and fog/driving lamps; determine needed repairs. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IVB1-B5 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | LSC04E Automotive Lighting |
|  | 5 | Utilize a scan tool. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IVB1-B5 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | LSC04E Automotive Lighting |
|  | **Heating and Air Conditioning** |
|  | 1 | Identify and comply with environmental regulations relating to refrigerants and coolants. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IV4C1, IVD3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | HWD01E Hazardous Material Storage and Disposal  |
|  | 2 | Locate and identify A/C system service ports. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IV4C1, IVD3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | HWD01E Hazardous Material Storage and Disposal  |
|  | 3 | Select refrigerant, evacuate, and recharge an A/C system; check for leaks. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IV4C1, IVD3 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | HWD01E Hazardous Material Storage and Disposal  |
|  | **Cooling** |
|  | 1 | Check engine cooling and heater system hoses and belts; determine necessary action | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IV4C1, IVD3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | HWD01E Hazardous Material Storage and Disposal  |
|  | 2 | Inspect, test, remove, and replace radiator, pressure cap, coolant system components, and water pump. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IV4C1, IVD3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | HWD01E Hazardous Material Storage and Disposal  |
|  | 3 | Recover, refill, and bleed system with proper coolant and check level of protection; leak test system and dispose of materials in accordance with EPA regulations | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: IV4C1, IVD3 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | HWD01E Hazardous Material Storage and Disposal  |
|  | **Restraint Systems** |
|  | 1 | Identify & inspect seatbelt and shoulder harness assembly and components. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 2 | Identify & inspect deployed and non-deployed airbag(s) and pretensioners. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 3 | Demonstrate an understanding of advanced restraint systems. | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 4 | Identify components of Supplemental Restraint Systems (SRS). | Acad: RI.1.B, G.GMD.B, G.MG.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
| **Welding, Cutting, & Joining**  |
|  | 1 | Identify the considerations for cutting, removing, and welding various types of steel, aluminum, and other metals. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 2 | Determine the correct GMAW welder type, electrode/wire type, diameter, and gas to be used in a specific welding situation. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 3 | Set up, attach work clamp (ground), and adjust the GMAW welder to “tune” for proper electrode stickout, voltage, polarity, flow rate, and wire-feed speed required for the substrate being welded. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 4 | Store, handle, and install high-pressure gas cylinders; test for leaks. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Safety & Health | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 5 | Determine the proper angle of the gun to the joint and direction of gun travel for the type of weld being made. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 6 | Protect adjacent panels, glass, vehicle interior, etc., from welding and cutting operations. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 7 | Identify hazards; foam coatings and flammable materials prior to welding/ cutting procedures. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17; VA7, IIC11, IIB9, IIA3 | Technical Skills: Safety & Health | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA; FOM01 Automotive Foams |
|  | 8 | Protect computers and other electronics/wires during welding procedures. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 9 | Clean and prepare the metal to be welded, assure good metal fit-up, apply weld-through primer if necessary, clamp or tack as required. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 10 | Determine the joint type (butt weld with backing, lap, etc.) for weld being made. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 11 | Determine the type of weld (continuous, stitch weld, plug, etc.) for each specific welding operation. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 12 | Perform the following welds: plug, butt weld with and without backing, and fillet, etc., in the flat, horizontal, vertical, and overhead positions. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 13 | Perform visual evaluation and destructive test on each weld type. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 14 | Identify the causes of various welding defects; make necessary adjustments. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 15 | Identify cause of contact tip burn-back and failure of wire to feed; make necessary adjustments. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 16 | Identify cutting process for different substrates and locations; perform cutting operation. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
|  | 17 | Identify different methods of attaching structural components (squeeze type resistance spot welding (STRSW), riveting, structural adhesive, MIG bronze, etc.). | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VA1-A17 | Technical Skills: Job-Specific Skills | Demonstration, Online Module, & Guided Practice | WCS01 Welding Steel GMA |
| **Leadership & Employability Skills**  |
|  | **Leadership Skills** |
|  | 1 | Actively participate in CTSOs (i.e., SkillsUSA).  | Acad: W.2.A, W.3.A (a-e), SL.1.A-C, SL.2.A-C / Tech: VIA-D and VIE1-E11 | Workplace Skills: Teamwork | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 2 | Demonstrate appropriate industry work ethics. | Acad: W.2.A, W.3.A (a-e), SL.1.A-C, SL.2.A-C / Tech: VIA-D and VIE1-E11 | Personal Skills: Work Ethic | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | **Customer Relations & Sales Skills** |
|  | 1 | Acknowledge and/or greet customer/client. | Acad: SL.2.A-B / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 2 | Listen to customer/client; collect information and identify customers/client's concerns, needs and expectations.  | Acad: SL.1.A, SL.2.A-B / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 3 | Establish cooperative attitude with customer/client.  | Acad: SL.1.A / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 4 | Identify yourself to customer/client; offer assistance.  | Acad: SL.1.A / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 5 | Deal with angry customer/client.  | Acad: SL.1.A, SL.2.A-B / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 6 | Identify customer/client preferred communication method; follow up to keep customer/client informed about parts and the repair process.  | Acad: W.3.a-e / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 7 | Recognize basic claims handling procedures; explain to customer/client. W.3.a | Acad: W.3.a / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 8 | Project positive attitude and professional appearance.  | Acad: SL.2.B / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 9 | Provide and review warranty information.  | Acad: RI.3.D / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 10 | Provide and review technical and consumer protection information. | Acad: RI.3.D / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 11 | Demonstrate negotiation skills to obtain a mutual agreement.  | Acad: SL.1.A, SL.2.A-B / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | 12 | Address regional needs based on industry/advisory board feedback (i.e., marine repair/fiberglass, heavy duty commercial trucks, recreational vehicles/camper/RV) | Acad: RI.3.D / Tech: VIA-D and VIE1-E11 | Technical Skills: Service Orientation | Demonstration, Online Module, & Guided Practice | Leadership/Academic and Employability Skills |
|  | **Damage Analysis** |
|  | 1 | Determine the direction, point(s) of impact, and extent of direct, indirect, and inertia damage. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 2 | Gather details of the incident/accident necessary to determine the full extent of vehicle damage. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 3 | Identify and record pre-existing damage. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 4 | Identify and record prior repairs. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 5 | Perform visual inspection of structural components.  | Acad: G.GM.A, RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 6 | Identify structural damage using measuring tools and equipment.  | Acad: A1.NQ.B, RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 7 | Perform visual inspection of non-structural components. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 8 | Determine parts, components, material type(s) and procedures necessary for a proper repair. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 9 | Identify type and condition of finish; determine if refinishing is required. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 10 | Identify damage to add-on accessories and modifications. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 11 | Identify single (one time) use components. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | **Estimating** |
|  | 1 | Determine and record customer/vehicle owner information. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 2 | Identify and record vehicle identification number (VIN) information, including nation of origin, make, model, restraint system, body type, production date, engine type, and assembly plant. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 3 | Identify and record vehicle mileage and options, including trim level, paint code, transmission, accessories, and modifications. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 4 | Identify safety systems; determine replacement items. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 5 | Apply appropriate estimating and parts nomenclature (terminology). | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 6 | Determine and apply appropriate estimating sequence. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 7 | Utilize estimating guide procedure pages. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 8 | Apply estimating guide footnotes and headnotes as needed. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 9 | Identify operations requiring labor value judgment. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 10 | Select appropriate labor value for each operation (structural, non-structural, mechanical, and refinish). | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 11 | Select and price OEM parts; verify availability, compatibility, and condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 12 | Select and price alternative/optional OEM parts; verify availability, compatibility and condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 13 | Select and price aftermarket parts; verify availability, compatibility, and condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 14 | Select and price recyclable/used parts; verify availability, compatibility, and condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 15 | Select and price remanufactured, rebuilt, and reconditioned parts; verify availability, compatibility and condition. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 16 | Determine price and source of necessary sublet operations. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 17 | Determine labor value, prices, charges, allowances, or fees for non-included operations and miscellaneous items. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 18 | Recognize and apply overlap deductions, included operations, and additions. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 19 | Determine additional material and charges. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 20 | Determine refinishing material and charges. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 21 | Apply math skills to establish charges and totals. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 22 | Identify procedural differences between computer generated and manually written estimates. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 23 | Identify procedures to restore corrosion protection; establish labor values, and material charges. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 24 | Determine the cost effectiveness of the repair and determine the approximate vehicle retail, and repair value. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 25 | Recognize the differences in estimation procedures when using different information provider systems. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
|  | 26 | Verify accuracy of estimate compared to the actual repair and replacement operations. | Acad: RI.1.A,B,C,D, RI.3.D, RI.2.C, 3.RA.D.10, 7.EEI.B.3.b, A2.DS.A, A1.NQ.B, G.GMD.B, G.GM.A / Tech: VIIE1-E26, VIID1-D11, IVE1-E4, IVD1-D3 | Workplace Skills: Planning, Organizing & Management | Demonstration, Online Module, & Guided Practice | Estimating and Damage Appraisal |
| **Academic Skills - English/Language Arts**  |
|  | 1 | Gather, analyze, evaluate and use information from a variety of sources. | Acad: W.1.A, W.2.A, W.2.B, W.3.A | Workplace Skills: Communication | Included in lessons |  |
|  | 2 | Read, analyze, evaluate, and apply job and task-related information | Acad: RI.1.A-D, RI.2.A-D, RI.3.A-D | Workplace Skills: Decision Making | Included in lessons |  |
|  | 3 | Participate in formal and informal presentation and discussion of issues and ideas | Acad: SL.1.A-C, SL.2.A-C | Workplace Skills: Communication | Included in lessons |  |
| **Academic Skills - Math**  |
|  | 1 | Represent and analyze data | Acad: A2.DS.A / Tech:  | Workplace Skills: Decision Making | Included in lessons |  |
|  | 2 | Evaluate reports based on data. | Acad: A2.DS.A.7 | Workplace Skills: Decision Making | Included in lessons |  |
|  | 3 | Use units to solve problems. | Acad: A1.NQ.B | Technical Skills: Job-Specific Skills | Included in lessons |  |
|  | 4 | Solve problems using numerical and algebraic expressions and equations. | Acad: EEI.B.3.b | Technical Skills: Job-Specific Skills | Included in lessons |  |
|  | 5 | Visualize relationships between two-dimensional and three-dimensional objects | Acad: GM.B-C, RP.A, G.GMD.B | Technical Skills: Job-Specific Skills | Included in lessons |  |
|  | 6 | Draw and describe geometrical figures and describe the relationships between them. | Acad: G.GM.A | Technical Skills: Job-Specific Skills | Included in lessons |  |
|  | 7 | Interpret the reasonableness of answers using mental computation and estimation strategies including rounding. | Acad: RA.D.10 | Technical Skills: Job-Specific Skills | Included in lessons |  |
|  | 8 | Perform operations and solve problems with fractions and decimals | Acad: NF.A-B | Technical Skills: Job-Specific Skills | Included in lessons |  |
|  | 9 | Understand and use ratios to solve problems | Acad: RP.A | Technical Skills: Job-Specific Skills | Included in lessons |  |