

Vehicle Maintenance and Repair Technologies, Other, Classification of Instructional Program (CIP) 47.0699

Units of Instruction and Task Grid Linked to Pennsylvania Core Standards

100 Workplace Safety

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>101 Interpret workplace safety and SDS sheets.</p> <p>102 Demonstrate how to lift and move heavy objects.</p> <p>103 Demonstrate how to handle and store flammable materials and toxic substances.</p> <p>104 Explain the purpose of OSHA and how it promotes safety on the job</p> <p>105 Demonstrate and explain appropriate safety precautions to take around job-site hazards.</p> <p>106 Demonstrate and properly wear personal protective equipment (safety goggles, hearing protection and respiratory protection.</p> <p>107 Describe fire prevention techniques.</p> <p>108 Follow safety rules for ECP (Exposure Control Procedures) for blood borne pathogens.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the internet, to produce, writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12</p>	<p>ALGEBRA Standard. 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard. 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard. 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard. 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>Standard CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>Standard CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>Standard CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p>

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		By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.		

200 Basic Electrical Principles and Circuit Testing

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<p>201 Demonstrate safe work habits when working with electrical systems.</p> <p>202 Demonstrate how to interpret electrical circuit and wiring diagrams while making correct electrical connections.</p> <p>203 Use a meter to measure resistance, continuity, amperage and voltage.</p> <p>204 Solve problems using Ohm's Law.</p> <p>205 Explain the proper procedure for battery disposal based on EPA and local ordinances and resistance.</p> <p>206 Describe series and parallel circuits and explain the different types of circuit failures.</p> <p>207 Identify terminals and connectors used in electrical systems.</p> <p>208 Describe and perform the diode test.</p> <p>209 Identify electrical wire sizes and selection based on an anticipated current load.</p> <p>210 Demonstrate applicable test procedures for testing series and parallel circuits.</p> <p>211 Check current flow in electrical systems and components</p> <p>212 Inspect, test and replace fusible links, fuses and circuit breakers.</p> <p>213 Demonstrate knowledge of American Wire Gauge (AWG) wiring codes.</p> <p>214 Inspect a low-oil alert system.</p> <p>215 Solder a current carrying wire.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i> Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	<p>ALGEBRA Standard. 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard. 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard. 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard. 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>Standard CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>Standard CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>Standard CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>Standard CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p>

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300 Cooling System Operating Principles, Troubleshooting, and Repair Procedures

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<p>301 Demonstrate knowledge of the concept of heat transfer and the purpose of a cooling system.</p> <p>302 Perform a cooling system flush and cleaning on a liquid cooled engine.</p> <p>303 Remove, service, replace a water pump hose, and replace the thermostat.</p> <p>304 Identify the components and function of a liquid cooled engine.</p> <p>305 Properly pressure-test a liquid-cooled cooling system.</p> <p>306 Describe major causes of liquid-cooled engine overheating.</p> <p>307 Inspect the cooling system for debris, leaks, and damage.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i> Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i> Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

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400 Fuel System Operating Principles, Troubleshooting, and Repair Procedures

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<p>401 Identify the basic types of fuel systems used in power equipment.</p> <p>402 Identify the function of each component in the fuel system including carburetor, fuel filter, fuel pump, and electronic fuel injector.</p> <p>403 Identify types of carburetor designs and their functions, using proper terms.</p> <p>404 Use proper terms to describe the function of vacuum-feed, diaphragm, float, rotary, and slide valve carburetors.</p> <p>405 Identify and describe the idle fuel circuit and the main fuel circuit.</p> <p>406 Use proper terms to describe the Venturi principle, and variable Venturi carburetors.</p> <p>407 Describe fuel enrichment devices including choke types, purging systems, and primers.</p> <p>408 Describe the function of a fixed orifice jet, high speed nozzle, emulsion tube, and purging system.</p> <p>409 Identify the common types of fuel filters and describe the difference between micron and mesh.</p> <p>410 Explain the theory, function, and components of electronic fuel injection (EFI).</p> <p>411 Explain the theory, function, and components of gaseous fuels.</p> <p>412 Identify types and grades of gasoline used in power equipment.</p> <p>413 Describe how fuel additives protect power equipment placed in seasonal storage.</p> <p>414 Inspect, disassemble, clean, and reassemble internal carburetor parts for wear.</p> <p>415 Remove, service, and replace a carburetor on a small gasoline engine.</p> <p>416 Remove, service, and replace a fuel system's air filter.</p> <p>417 Remove, service, and replace a fuel pump.</p> <p>418 Adjust carburetor choke linkage.</p> <p>419 Adjust carburetor mixture screws per</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i> Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

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<p>420 OEM specifications. Adjust carburetor float level, adjust carburetor metering levers, remove, replace, and repair fuel lines.</p> <p>421 Remove and replace a fuel tank, filters, caps and lines.</p> <p>422 Adjust an engine's idle speed after servicing a carburetor.</p> <p>423 Check the fuel pump pressure.</p> <p>424 Pressure-test the carburetor.</p> <p>425 Operate the engine to check for proper starting and acceleration.</p> <p>426 Differentiate hunting/surging symptom between the fuel system and governor system.</p> <p>427 Properly assemble an air intake.</p> <p>428 Remove and replace an intake manifold.</p>		<p>an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research. Standard CC.3.6.9-10.G. Gather relevant information. Standard CC.3.6.9-10.H. Draw evidence from informational texts.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research. Standard CC.3.6.11-12.G. Gather relevant information. Standard CC.3.6.11-12.H. Draw evidence from informational texts for research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I and Standard CC.3.5.11-12.I. Write over extended and shorter time frames, etc.</p>	

500 Exhaust System Operation and Repair Procedures

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<p>501 Describe equipment problems that can occur from operating equipment with a removed or damaged exhaust system.</p> <p>502 State the danger of operating a power product in a closed area.</p> <p>503 Describe the purpose of an exhaust deflector and describe the purpose of a spark arrestor screen.</p> <p>504 Describe exhaust system nomenclature and function as well as types and terms associated with exhaust systems.</p> <p>505 Describe the theory and function of a single stage catalyst (catalytic converters).</p> <p>506 Describe the proper service cleaning procedures for exhaust ports and spark arrestor screens.</p> <p>507 Inspect, remove, service and replace an exhaust system.</p> <p>508 Diagnose, service, and replace an oxygen sensor.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	<p>ALGEBRA Standard. 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard. 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard. 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard. 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>Standard CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>Standard CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>Standard CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>Standard CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p>

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600 Measuring and Trade Related Mathematics

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>601 Read a standard and a metric ruler</p> <p>602 Read and use a standard and metric micrometer</p> <p>603 Read and use a standard and metric dial indicator</p> <p>604 Use a standard and metric torque wrench</p> <p>605 Use a standard metric dial caliper.</p> <p>606 Calculate displacement and horse power.</p> <p>607 Calculate work, power, torque, area, and volume.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	<p>ALGEBRA Standard. 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard. 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard. 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard. 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>Standard CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>Standard CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>Standard CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>Standard CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p>

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700 Identify and Use Hand Tools

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>701 Identify and demonstrate the safe use of common hand tools used in the repair of outdoor power equipment.</p> <p>702 Identify and demonstrate the safe use of specialty tools used in the repair of outdoor power equipment.</p> <p>703 Identify and demonstrate the safe use of hand, electric, air, and hydraulic tools.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

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800 Identify and Use Fasteners

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<p>801 Identify, select, and install various fasteners according to specifications.</p> <p>802 Replace damaged internal threads using a thread repair system.</p> <p>803 Repair damaged internal and external threads, using a tap and die.</p> <p>804 Demonstrate the use of a thread extraction tool to remove a broken fastener.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10</p> <p>Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12</p> <p>Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10</p> <p>Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12</p> <p>Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10</p> <p>Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10</p> <p>Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12</p> <p>Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D</p> <p>Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

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900 Demonstrate Welding and Cutting Techniques

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>901 State and follow safety rules for using an electric welder.</p> <p>902 Wear personal protective equipment.</p> <p>903 Adjust welding amperage for a specific welding repair.</p> <p>904 Weld a broken metal part on a piece of outdoor power equipment.</p> <p>905 Light and adjust the flame on a cutting torch.</p> <p>906 Heat and cut with an oxyacetylene torch.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

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		<p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research. Standard CC.3.6.9-10.G. Gather relevant information. Standard CC.3.6.9-10.H. Draw evidence from informational texts.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research. Standard CC.3.6.11-12.G. Gather relevant information. Standard CC.3.6.11-12.H. Draw evidence from informational texts for research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I and Standard CC.3.5.11-12.I. Write over extended and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1000 2-Stroke Cycle Engine Operating Principles, Troubleshooting, and Repair Procedures

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1001 Diagnose performance problems in a 2-cycle gasoline engine.</p> <p>1002 Explain a manufacturer's model number, serial number and engine type number for two-cycle engines.</p> <p>1003 Check engine for top end compression.</p> <p>1004 Check engine for base/ primary compression (bottom end).</p> <p>1005 Identify the component parts in a short block of a 2-cycle engine and explain their purposes.</p> <p>1006 Inspect the fuel system for proper operation.</p> <p>1007 Explain 2- cycle engine operating theory.</p> <p>1008 Perform a carburetor pressure test.</p> <p>1009 Inspect the ignition system for proper operation using a spark tester.</p> <p>1010 Identify the types of 2-stroke cycle valves.</p> <p>1011 Inspect the exhaust port for carbon obstructions.</p> <p>1012 Operate the engine to check for proper starting and power output under load.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research. Standard CC.3.6.9-10.G. Gather relevant information. Standard CC.3.6.9-10.H. Draw evidence from informational texts.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research. Standard CC.3.6.11-12.G. Gather relevant information. Standard CC.3.6.11-12.H. Draw evidence from informational texts for research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I and Standard CC.3.5.11-12.I. Write over extended and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1100 4-Stroke Cycle Engine Operating Principles, Troubleshooting, and Repair Procedures

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1101 Disassemble the block.</p> <p>1102 Explain a manufacturer's model number, serial number and engine type number for 4-cycle engines.</p> <p>1103 Explain 4-cycle engine operating theory.</p> <p>1104 Remove, inspect, and replace an oil seal.</p> <p>1105 Inspect balance system; inspect shaft(s) and bearings for damage and wear valve guides for wear.</p> <p>1106 Inspect and measure camshaft bearings for wear and damage.</p> <p>1107 Measure crankshaft end play and run-out, and repair crankshaft if damaged.</p> <p>1108 Inspect rings and valve train parts; valves, rocker arms, lifters, studs, and push rods.</p> <p>1109 Inspect valve guides for wear.</p> <p>1110 Inspect valves and valve seals; resurface or replace.</p> <p>1111 Replace valve stem seals.</p> <p>1112 Use a valve spring compressor to install valve springs.</p> <p>1113 Adjust valves (mechanical), and hydraulic lifters.</p> <p>1114 Measure cylinder bore and compare against OEM specifications</p> <p>1115 Ream a cylinder ridge and deglaze.</p> <p>1116 Perform a cylinder balance test and demonstrate understanding of findings</p> <p>1117 Perform a cylinder compression test.</p> <p>1118 Perform a cylinder leak-down test.</p> <p>1119 Install a new crankshaft, with bearings, if needed.</p> <p>1120 Install a piston using a ring compressor.</p> <p>1121 Install new rings; check end and side clearance.</p> <p>1122 Verify camshaft timing according to manufacturer's specifications.</p> <p>1123 Install all gaskets where needed, according to specifications.</p> <p>1124 Torque fasteners according to manufacturer's specifications</p> <p>1125 Install and adjust linkages and controls.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	<p>ALGEBRA Standard. 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard. 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard. 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard. 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>Standard CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>Standard CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>Standard CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>Standard CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p>

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1126 Initiate start-up procedures for test run.</p>		<p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research. Standard CC.3.6.9-10.G. Gather relevant information. Standard CC.3.6.9-10.H. Draw evidence from informational texts.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research. Standard CC.3.6.11-12.G. Gather relevant information. Standard CC.3.6.11-12.H. Draw evidence from informational texts for research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I and Standard CC.3.5.11-12.I. Write over extended and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1200 Conduct an Engine Failure Analysis

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1201 Classify failures into 5 major categories; electrical, fuel, ignition, lubrication, and compression.</p> <p>1202 Identify the effects of insufficient lubrication on engine components; piston cylinders, etc.</p> <p>1203 Identify and describe engine failures caused by the breakdown of fuel.</p> <p>1204 Identify the effects of overheating on engine component parts.</p> <p>1205 Define detonation, pre-ignition and effects on engine components.</p> <p>1206 Identify engine failure caused by lean mixture of fuel.</p> <p>1207 Identify the effects of over speeding on engine component parts.</p> <p>1208 Identify the signature "breakage" of a connecting rod on a failed engine.</p> <p>1209 Identify exhaust port piston scoring and large end bearings due to over speeding.</p> <p>1210 Identify the effects of excessing vibration on engine block and mounting base.</p> <p>1211 Inspect a damaged engine and identify the symptoms, types, and causes of failures.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	<p>ALGEBRA Standard. 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard. 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard. 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard. 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>Standard CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>Standard CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>Standard CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>Standard CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p>

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1300 Service Electrical and Manual Starting Systems

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1301 Identify and describe the parts of a recoil starting system.</p> <p>1302 Disassemble starter housing.</p> <p>1303 Replace a starter spring.</p> <p>1304 Replace a manual starter rope.</p> <p>1305 Troubleshoot a starting/safety interlock circuit.</p> <p>1306 Remove, service, and replace a Direct Current starter.</p> <p>1307 Remove, service, and replace an Alternating Current starter.</p> <p>1308 Identify and describe the components of a DC starting system.</p> <p>1309 Perform a 12-volt DC starter motor current draw test.</p> <p>1310 Remove, test, and replace a starter relay or solenoid.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	<p>ALGEBRA Standard. 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p>Standard. 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p>Standard. 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>Standard. 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>Standard CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>Standard CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p>Standard CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.</p> <p>Standard CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.</p>

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research. Standard CC.3.6.9-10.G. Gather relevant information. Standard CC.3.6.9-10.H. Draw evidence from informational texts.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research. Standard CC.3.6.11-12.G. Gather relevant information. Standard CC.3.6.11-12.H. Draw evidence from informational texts for research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I and Standard CC.3.5.11-12.I. Write over extended and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1400 Ignition System Operating Principles, Failure Diagnosis, and Repair Procedures

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1401 Identify, remove, service, and replace battery ignition system components.</p> <p>1402 Identify, remove, service, and replace electronic ignition system components.</p> <p>1403 Remove, test, and replace a coil or electronic ignition.</p> <p>1404 Check and set ignition timing.</p> <p>1405 Check engine RPM.</p> <p>1406 Test an ignition system using a spark tester.</p> <p>1407 Inspect the engine for a partially-sheared flywheel key.</p> <p>1408 Remove, inspect, and replace points and condenser.</p> <p>1409 Remove, replace, and test an ignition armature assembly (ignition coil, ignition).</p> <p>1410 Test and replace high tension lead(s).</p> <p>1411 Test the solid-state transistor-controlled discharge system.</p> <p>1412 Test a capacitive discharge ignition system.</p> <p>1413 Demonstrate timing procedure for an engine with ignition points.</p> <p>1414 Demonstrate timing procedures on an engine with a solid state/ electronic ignition system.</p> <p>1415 Measure primary and secondary resistance.</p> <p>1416 Check/replace an engine ignition kill switch.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
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1500 Charging System Operating Principles, Failure Diagnosis, and Repair Procedures

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1501 Explain storage battery theory and perform maintenance.</p> <p>1502 Identify types of charging systems including an under flywheel alternator and a belt drive alternator.</p> <p>1503 Perform a current drain test using a DC shunt or its equivalent.</p> <p>1504 Troubleshoot a charging circuit.</p> <p>1505 Test a charging system.</p> <p>1506 Test a voltage regulator.</p> <p>1507 Test an alternator's output.</p> <p>1508 Remove and replace an alternator, a voltage rectifier, and a diode.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
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1600 Lubrication System Operating Principles, Failure Diagnosis, and Repair Procedures

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1601 Identify types of filters used on power equipment.</p> <p>1602 Interpret charts that outline oil applications.</p> <p>1603 Change engine oil and filter on a variety of outdoor power equipment.</p> <p>1604 Select proper oil and grade.</p> <p>1605 Prepare a fuel/oil mixture for a 2-cycle engine.</p> <p>1606 Service a crankcase breather assembly.</p> <p>1607 Describe lubrication systems and their functions.</p> <p>1608 Describe API oil ratings and the meaning of SAE viscosity ratings.</p> <p>1609 Describe the standard classification of 2-cycle oils.</p> <p>1610 List common oil contaminants.</p> <p>1611 Describe differences between splash lubrication systems and a pressure lubrication system.</p> <p>1612 Describe the operation of an oil filtration system.</p> <p>1613 Describe methods of checking the oil level in an engine.</p> <p>1614 Explain the need for positive crank case ventilation.</p> <p>1615 Identify the components and function of a crankcase ventilation breather assembly.</p> <p>1616 Perform an oil pressure test.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i> Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i> Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc. Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text. Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed. Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed. Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

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1700 Governor System Operating Principles, Failure Diagnosis, and Repair Procedures

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1701 Perform static and dynamic governor adjustments.</p> <p>1702 Remove, service, and replace pneumatic and mechanical governor.</p> <p>1703 Check top, no-load speed, object governor as needed.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research. Standard CC.3.6.9-10.G. Gather relevant information. Standard CC.3.6.9-10.H. Draw evidence from informational texts.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research. Standard CC.3.6.11-12.G. Gather relevant information. Standard CC.3.6.11-12.H. Draw evidence from informational texts for research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I and Standard CC.3.5.11-12.I. Write over extended and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1800 Brake System Operating Principles, Failure Diagnosis, and Repair Procedures

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1801 Inspect, remove, service, and repair mechanical brake systems.</p> <p>1802 Inspect, remove, service, and repair hydraulic brake systems.</p> <p>1803 Inspect, remove, service, and repair drum and disc brakes.</p> <p>1804 Demonstrate knowledge of the hydraulic theory</p> <p>1805 Change hydraulic fluid.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
		<p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research. Standard CC.3.6.9-10.G. Gather relevant information. Standard CC.3.6.9-10.H. Draw evidence from informational texts.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research. Standard CC.3.6.11-12.G. Gather relevant information. Standard CC.3.6.11-12.H. Draw evidence from informational texts for research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I and Standard CC.3.5.11-12.I. Write over extended and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

1900 Clutch and Drive System Operating Principles, Failure Diagnosis, and Repair Procedures

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>1901 Inspect, service, or replace belts and tensioning devices.</p> <p>1902 Inspect, service, or replace centrifugal clutches.</p> <p>1903 Inspect, service, or replace clutch discs.</p> <p>1904 Inspect, service, or replace sprockets and chains.</p> <p>1905 Inspect, service, or replace an electric power take-off.</p> <p>1906 Inspect, service, or replace universal joints.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
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2000 Parts Management, Invoicing, and Recordkeeping

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>2001 Interpret illustrations, graphs, diagrams, and tables in repair manuals.</p> <p>2002 Use reference materials, service manuals, and parts tables to find parts.</p> <p>2003 Take inventory of parts in stock.</p> <p>2004 Determine parts and specifications using a computerized or microfiche parts reference database.</p> <p>2005 Complete a service order form.</p> <p>2006 Interpret time and flat rate information.</p> <p>2007 Order materials and supplies from a catalog.</p>	<p>CLUSTER: <i>Transportation, Distribution and Logistics</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-</p> <p>PATHWAY: <i>Facility and Mobile Equipment Maintenance Careers</i></p> <p>Choose Standards from: 1 and/or 2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc...</p> <p>Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.9-10.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6...11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed.</p> <p>Standard CC.3.6.11-12.E. Use technology, including the internet, to...share writing products.</p> <p>RESEARCH</p>	

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