



# Mason/Masonry, Classification of Instructional Program (CIP) 46.0101

*Units of Instruction and Task Grid Linked to Pennsylvania Core Standards*

## 100 Demonstrate Knowledge of the Masonry Training Lab

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><b>101</b> Identify masonry lab tools and equipment.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc.</p> <p><b>Standard CC.3.5.9-10.F</b></p>	<p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 9-10</b> <b>Standard CC.3.6.9-10.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 11-12</b> <b>Standard CC.3.6.11-12.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p>	

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		<p>Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words... <b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text. <b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.G.</b> Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). <b>Standard CC.3.5.9-10.H.</b> Assess the reasoning in a text to support the author's claim for solving a technical problem. <b>Standard CC.3.5.9-10.I.</b> Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.G.</b> Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. <b>Standard CC.3.5.11-12.H.</b> Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. <b>Standard CC.3.5.11-12.I.</b> Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING</b> <b>GRADES 9-10-11-12</b> <b>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b></p>		

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

## 200 Demonstrate Proper Safety Practices

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><b>201</b> Explain and use personal protection equipment.</p> <p><b>202</b> Demonstrate safe use and care of masonry hand tools.</p> <p><b>203</b> Demonstrate safe use and care of a mortar mixer.</p> <p><b>204</b> Erect and dismantle steel tubular scaffolding within OSHA guidelines.</p> <p><b>205</b> Place material and stock scaffolding properly.</p> <p><b>206</b> Demonstrate knowledge of Safety Data Sheets (SDS) information.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc.</p> <p><b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text.</p> <p><b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 9-10</b> <b>Standard CC.3.6.9-10.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 11-12</b> <b>Standard CC.3.6.11-12.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p>	

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		<p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</b>  <b>Standard CC.3.5.9-10.G.</b>            Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).  <b>Standard CC.3.5.9-10.H.</b>            Assess the reasoning in a text to support the author's claim for solving a technical problem.  <b>Standard CC.3.5.9-10.I.</b>            Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</b>  <b>Standard CC.3.5.11-12.G.</b>            Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.  <b>Standard CC.3.5.11-12.H.</b>            Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.  <b>Standard CC.3.5.11-12.I.</b>            Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING GRADES 9-10-11-12</b>  <b>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b>            By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>		

## 300 Read Blueprints

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>301 Identify types of blueprint plans. 302 Read and interpret blueprint plans.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc.... <b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc... <b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc.... <b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc... <b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words... <b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc. <b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words... <b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text. <b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p>		

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## 400 Demonstrate Safe and Proper Use of Masonry Hand Tools

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<p><b>401</b> Read and use a modular and spacing rule.</p> <p><b>402</b> Mark and use a masonry guide or corner pole.</p> <p><b>403</b> Demonstrate the ability to secure mason's line to line blocks, pins, and line stretchers.</p> <p><b>404</b> Discuss and set a trig properly.</p> <p><b>405</b> Demonstrate the use of a hammer and chisel to cut block and brick.</p> <p><b>406</b> Demonstrate proper trowel techniques.</p> <p><b>407</b> Demonstrate proper use of masonry jointers.</p> <p><b>408</b> Identify the various cutting blades for a masonry saw.</p>	<p><b>CLUSTER:</b> <i>Human Services</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6</p> <p><b>PATHWAY:</b> <i>Logistics and Inventory Control</i></p> <p>Choose Standards from: 1-2-3-4</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc.</p> <p><b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text.</p> <p><b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing</p>		

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## 500 Prepare a Building Site

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<p><b>501</b> Lay a building out, using a builder's level.</p> <p><b>502</b> Square a building using the 3-4-5 Pythagorean Theorem.</p>	<p><b>CLUSTER:</b> <i>Human Services</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6</p> <p><b>PATHWAY:</b> <i>Logistics and Inventory Control</i></p> <p>Choose Standards from: 1-2-3-4</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc.</p> <p><b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text.</p> <p><b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p>		<p><b>ALGEBRA</b> <b>Standard. 2.1.HS.F.2</b> Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p><b>Standard. 2.1.HS.F.4</b> Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p><b>Standard. 2.1.HS.F.5</b> Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p><b>Standard. 2.1.HS.F.6</b> Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p><b>StandardCC.2.2.HS.D.3</b> Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p><b>StandardCC.2.2.HS.D.5</b> Use polynomial identities to solve problems.</p> <p><b>StandardCC.2.2.HS.D.9</b> Use reasoning to solve equations and justify the solution method.</p> <p><b>Standard CC.2.1.HS.F.3</b> Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.</p> <p><b>GEOMETRY</b> <b>Standard CC.2.3.HS.A.1</b> Use geometric figures and their properties to represent transformations in the plane.</p> <p><b>Standard CC.2.3.HS.A.2</b> Apply rigid transformations to determine and explain congruence.</p> <p><b>Standard C.2.3.HS.A.3</b></p>

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## 600 Demonstrate the Safe Use of Power Tools

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<p><b>601</b> Safely operate a portable, masonry gas cut-off saw.</p> <p><b>602</b> Safely operate a mortar mixer.</p> <p><b>603</b> Safely operate a stationary or portable masonry saw.</p> <p><b>604</b> Safely operate a hammer drill.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc.</p> <p><b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text.</p> <p><b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</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><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</b>  <b>Standard CC.3.5.9-10.G.</b>            Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).  <b>Standard CC.3.5.9-10.H.</b>            Assess the reasoning in a text to support the author's claim for solving a technical problem.  <b>Standard CC.3.5.9-10.I.</b>            Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</b>  <b>Standard CC.3.5.11-12.G.</b>            Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.  <b>Standard CC.3.5.11-12.H.</b>            Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.  <b>Standard CC.3.5.11-12.I.</b>            Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING GRADES 9-10-11-12</b>  <b>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b>            By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>		

## 700 Use Masonry Fasteners

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><b>701</b> Identify different types of masonry fasteners and reinforcements.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc.... <b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc... <b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc.... <b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc... <b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words... <b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc. <b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words... <b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text. <b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 9-10</b> <b>Standard CC.3.6.9-10.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 11-12</b> <b>Standard CC.3.6.11-12.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</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><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</b>  <b>Standard CC.3.5.9-10.G.</b>            Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).  <b>Standard CC.3.5.9-10.H.</b>            Assess the reasoning in a text to support the author's claim for solving a technical problem.  <b>Standard CC.3.5.9-10.I.</b>            Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</b>  <b>Standard CC.3.5.11-12.G.</b>            Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.  <b>Standard CC.3.5.11-12.H.</b>            Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.  <b>Standard CC.3.5.11-12.I.</b>            Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING GRADES 9-10-11-12</b>  <b>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b>            By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>		

## 800 Demonstrate Proper Bricklaying 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><b>801</b> Identify brick types and bonds.  <b>802</b> Lay out proper dry bond of a brick wall.  <b>803</b> Lay brick to the line.  <b>804</b> Install window and door openings in brick walls (jambs).  <b>805</b> Install flashing for windows and doors.  <b>806</b> Install weep holes/vents.  <b>807</b> Demonstrate industry standards for laying bricks.  <b>808</b> Install a soldier course.  <b>809</b> Lay a brick and block composite wall.  <b>810</b> Build brick columns.  <b>811</b> Construct a brick veneer wall.  <b>812</b> Construct a brick cavity wall.  <b>813</b> Corbel a brick wall.  <b>814</b> Demonstrate cleaning a brick wall.  <b>815</b> Lay a course of rowlocks.  <b>816</b> Lay a course of headers.  <b>817</b> Construct a brick rack back lead.  <b>818</b> Construct a 4" brick inside corner.  <b>819</b> Construct a 4" brick outside corner.</p>	<p><b>CLUSTER:</b>  <b>Architecture and Construction-related Careers</b></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b>  <b>Construction Careers</b></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b>  <b>GRADES 9-10</b>  <b>Standard CC.3.5.9-10.A.</b>            Cite specific textual evidence, etc....  <b>Standard CC.3.5.9-10B &amp;</b>            Determine the central ideas or conclusions of a text; etc...  <b>Standard CC.3.5.9-10.C</b>            Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b>  <b>GRADES 11-12</b>  <b>Standard CC.3.5.11-12A</b>            Cite specific textual evidence, etc....  <b>Standard CC.3.5.11-12.B.</b>            Determine the central ideas or conclusions of a text; etc...  <b>Standard CC.3.5.11-12.C.</b>            Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b>  <b>GRADES 9-10</b>  <b>Standard CC.3.5.9-10.D.</b>            Determine the meaning of symbols, key terms, and other domain specific words...  <b>Standard CC.3.5.9-10.E</b>            Analyze the structure of the relationships among concepts in a text. etc.  <b>Standard CC.3.5.9-10.F</b>            Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b>  <b>GRADES 11-12</b>  <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...  <b>Standard CC.3.5.11-12.E.</b>            Analyze the structure of the relationships among concepts in a text.  <b>Standard CC.3.5.11-12.F</b>            Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p><b>TEXT TYPES AND PURPOSE</b>  <b>GRADES 9-10</b>  <b>Standard CC.3.6.9-10.A</b>            Write arguments focused on discipline specific content.  <b>Standard CC.3.6.9-10.B</b>            Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>TEXT TYPES AND PURPOSE</b>  <b>GRADES 11-12</b>  <b>Standard CC.3.6.11-12.A</b>            Write arguments focused on discipline specific content.  <b>Standard CC.3.6.11-12.B</b>            Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>PRODUCTION &amp; DISTRIBUTION OF WRITING</b>  <b>GRADES 9-10</b>  <b>Standard CC.3.6.9-10.C</b>            Produce clear and coherent writing...appropriate to task, purpose, and audience.  <b>Standard CC.3.6.9-10 D</b>            Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.  <b>Standard CC.3.6.9-10.E</b>            Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p><b>PRODUCTION &amp; DISTRIBUTION OF WRITING</b>  <b>GRADES 11-12</b>  <b>Standard CC.3.6.11-12 C</b>            Produce clear and coherent</p>	<p><b>ALGEBRA</b>  <b>Standard. 2.1.HS.F.2</b>            Apply properties of rational and irrational numbers to solve real world or mathematical problems.  <b>Standard. 2.1.HS.F.4</b>            Use units as a way to understand problems and to guide the solution of multistep problems.  <b>Standard. 2.1.HS.F.5</b>            Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.  <b>Standard. 2.1.HS.F.6</b>            Extend the knowledge of arithmetic operations and apply to complex numbers.  <b>StandardCC.2.2.HS.D.3</b>            Extend the knowledge of arithmetic operations and apply to polynomials.  <b>StandardCC.2.2.HS.D.5</b>            Use polynomial identities to solve problems.  <b>StandardCC.2.2.HS.D.9</b>            Use reasoning to solve equations and justify the solution method.  <b>Standard CC.2.1.HS.F.3</b>            Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.</p> <p><b>GEOMETRY</b>  <b>Standard CC.2.3.HS.A.1</b>            Use geometric figures and their properties to represent transformations in the plane.  <b>Standard CC.2.3.HS.A.2</b>            Apply rigid transformations to determine and explain congruence.  <b>Standard C.2.3.HS.A.3</b></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><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</b> <b>Standard CC.3.5.9-10.G.</b> Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). <b>Standard CC.3.5.9-10.H.</b> Assess the reasoning in a text to support the author's claim for solving a technical problem. <b>Standard CC.3.5.9-10.I.</b> Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</b> <b>Standard CC.3.5.11-12.G.</b> Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. <b>Standard CC.3.5.11-12.H.</b> Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. <b>Standard CC.3.5.11-12.I.</b> Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING GRADES 9-10-11-12</b> <b>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b> By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>writing...appropriate to task, purpose, and audience. <b>Standard CC.3.6.9-10 D</b> <b>Standard CC.3.6.11-12.D.</b> Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. <b>Standard CC.3.6.11-12.E.</b> Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p><b>RESEARCH GRADES 9-10</b> <b>Standard CC.3.6.9-10.F.</b> Conduct short and more sustained research to answer a question or solve a problem. <b>Standard CC.3.6.9-10.G.</b> Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. <b>Standard CC.3.6.9-10.H.</b> Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>RESEARCH GRADES 11-12</b> <b>Standard CC.3.6.11-12.F.</b> Conduct short and more sustained research to answer a question or solve a problem. <b>Standard CC.3.6.11-12.G.</b> Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. <b>Standard CC.3.6.11-12.H.</b> Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>RANGE OF WRITING</b></p>	<p>Verify and apply geometric theorems as they relate to geometric figures. <b>Standard CC.2.3.HS.A.4</b> Apply the concept of congruence to create geometric constructions. <b>Standard CC.2.3.HS.A.5</b> Create justifications based on transformations to establish similarity of plane figures. <b>Standard CC.2.3.HS.A.6</b> Verify and apply theorems involving similarity as they relate to plane figures. <b>Standard CC.2.3.HS.A.7</b> Apply trigonometric ratios to solve problems involving right triangles. <b>Standard CC.2.3.HS.A.8</b> Apply geometric theorems to verify properties of circles. <b>Standard CC.2.3.HS.A.9</b> Extend the concept of similarity to determine arc lengths and areas of sectors of circles. <b>Standard CC.2.3.HS.A.10</b> Translate between the geometric description and the equation for a conic section. <b>Standard CC.2.3.HS.A.11</b> Apply coordinate geometry to prove simple geometric theorems algebraically. <b>Standard CC.2.3.HS.A.12</b> Explain volume formulas and use them to solve problems. <b>Standard CC.2.3.HS.A.13</b> Analyze relationships between two dimensional and three dimensional objects. <b>Standard CC.2.3.HS.A.14</b> Apply geometric concepts to model and solve real world problems.</p>

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			<p><b>GRADES 9-10-11-12</b>  <b>Standard CC.3.5.9-10.I AND</b>  <b>Standard CC.3.5.11-12.I.</b>            Write routinely over extended time            frames and shorter time frames for a            range of tasks, purposes and            audiences...etc.</p>	

## 900 Demonstrate Proper Block Laying 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><b>901</b> Identify and construct various block types and bonds.</p> <p><b>902</b> Lay block to the line.</p> <p><b>903</b> Construct a brick ledge using various size block.</p> <p><b>904</b> Discuss and install a control joint.</p> <p><b>905</b> Install window and door openings in block walls.</p> <p><b>906</b> Set lintels.</p> <p><b>907</b> Construct block piers.</p> <p><b>908</b> Clean a block wall.</p> <p><b>909</b> Parge a block wall.</p> <p><b>910</b> Construct a jamb block lead.</p> <p><b>911</b> Construct a corner block lead.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc.</p> <p><b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text.</p> <p><b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 9-10</b> <b>Standard CC.3.6.9-10.A</b> Write arguments focused on discipline specific content.</p> <p><b>Standard CC.3.6.9-10.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 11-12</b> <b>Standard CC.3.6.11-12.A</b> Write arguments focused on discipline specific content.</p> <p><b>Standard CC.3.6.11-12.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>PRODUCTION &amp; DISTRIBUTION OF WRITING</b> <b>GRADES 9-10</b> <b>Standard CC.3.6.9-10.C</b> Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p><b>Standard CC.3.6.9-10 D</b> Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p><b>Standard CC.3.6.9-10.E</b> Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p><b>PRODUCTION &amp; DISTRIBUTION OF WRITING</b> <b>GRADES 11-12</b> <b>Standard CC.3.6.11-12 C</b> Produce clear and coherent</p>	<p><b>ALGEBRA</b> <b>Standard. 2.1.HS.F.2</b> Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p><b>Standard. 2.1.HS.F.4</b> Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p><b>Standard. 2.1.HS.F.5</b> Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p><b>Standard. 2.1.HS.F.6</b> Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p><b>StandardCC.2.2.HS.D.3</b> Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p><b>StandardCC.2.2.HS.D.5</b> Use polynomial identities to solve problems.</p> <p><b>StandardCC.2.2.HS.D.9</b> Use reasoning to solve equations and justify the solution method.</p> <p><b>Standard CC.2.1.HS.F.3</b> Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.</p> <p><b>GEOMETRY</b> <b>Standard CC.2.3.HS.A.1</b> Use geometric figures and their properties to represent transformations in the plane.</p> <p><b>Standard CC.2.3.HS.A.2</b> Apply rigid transformations to determine and explain congruence.</p> <p><b>Standard C.2.3.HS.A.3</b></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><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</b> <b>Standard CC.3.5.9-10.G.</b> Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). <b>Standard CC.3.5.9-10.H.</b> Assess the reasoning in a text to support the author's claim for solving a technical problem. <b>Standard CC.3.5.9-10.I.</b> Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</b> <b>Standard CC.3.5.11-12.G.</b> Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. <b>Standard CC.3.5.11-12.H.</b> Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. <b>Standard CC.3.5.11-12.I.</b> Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING GRADES 9-10-11-12</b> <b>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b> By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>writing...appropriate to task, purpose, and audience. <b>Standard CC.3.6.9-10 D</b> <b>Standard CC.3.6.11-12.D.</b> Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. <b>Standard CC.3.6.11-12.E.</b> Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p><b>RESEARCH GRADES 9-10</b> <b>Standard CC.3.6.9-10.F.</b> Conduct short and more sustained research to answer a question or solve a problem. <b>Standard CC.3.6.9-10.G.</b> Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. <b>Standard CC.3.6.9-10.H.</b> Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>RESEARCH GRADES 11-12</b> <b>Standard CC.3.6.11-12.F.</b> Conduct short and more sustained research to answer a question or solve a problem. <b>Standard CC.3.6.11-12.G.</b> Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. <b>Standard CC.3.6.11-12.H.</b> Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>RANGE OF WRITING</b></p>	<p>Verify and apply geometric theorems as they relate to geometric figures. <b>Standard CC.2.3.HS.A.4</b> Apply the concept of congruence to create geometric constructions. <b>Standard CC.2.3.HS.A.5</b> Create justifications based on transformations to establish similarity of plane figures. <b>Standard CC.2.3.HS.A.6</b> Verify and apply theorems involving similarity as they relate to plane figures. <b>Standard CC.2.3.HS.A.7</b> Apply trigonometric ratios to solve problems involving right triangles. <b>Standard CC.2.3.HS.A.8</b> Apply geometric theorems to verify properties of circles. <b>Standard CC.2.3.HS.A.9</b> Extend the concept of similarity to determine arc lengths and areas of sectors of circles. <b>Standard CC.2.3.HS.A.10</b> Translate between the geometric description and the equation for a conic section. <b>Standard CC.2.3.HS.A.11</b> Apply coordinate geometry to prove simple geometric theorems algebraically. <b>Standard CC.2.3.HS.A.12</b> Explain volume formulas and use them to solve problems. <b>Standard CC.2.3.HS.A.13</b> Analyze relationships between two dimensional and three dimensional objects. <b>Standard CC.2.3.HS.A.14</b> Apply geometric concepts to model and solve real world problems.</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><b>GRADES 9-10-11-12</b>  <b>Standard CC.3.5.9-10.I AND</b>  <b>Standard CC.3.5.11-12.I.</b>            Write routinely over extended time            frames and shorter time frames for a            range of tasks, purposes and            audiences...etc.</p>	

# 1000 Mix and Spread Mortar

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><b>1001</b> Describe various types of mortars and their characteristics.</p> <p><b>1002</b> Mix mortar by hand.</p> <p><b>1003</b> RESERVED</p> <p><b>1004</b> Demonstrate procedures for tempering mortar.</p> <p><b>1005</b> Spread mortar for various masonry units.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc.</p> <p><b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text.</p> <p><b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 9-10</b> <b>Standard CC.3.6.9-10.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 11-12</b> <b>Standard CC.3.6.11-12.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</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><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10</b>  <b>Standard CC.3.5.9-10.G.</b>            Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).  <b>Standard CC.3.5.9-10.H.</b>            Assess the reasoning in a text to support the author's claim for solving a technical problem.  <b>Standard CC.3.5.9-10.I.</b>            Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12</b>  <b>Standard CC.3.5.11-12.G.</b>            Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.  <b>Standard CC.3.5.11-12.H.</b>            Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.  <b>Standard CC.3.5.11-12.I.</b>            Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING GRADES 9-10-11-12</b>  <b>Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b>            By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>		

# 1100 Construct Residential Chimneys and Fireplaces

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><b>1101</b> Identify parts of a chimney and fireplace.</p> <p><b>1102</b> Describe how to construct a fireplace, including foundation, firebox, lintel, damper, throat, smoke chamber, hearth, clean-out and mantel.</p> <p><b>1103</b> Construct a brick chimney.</p> <p><b>1104</b> Construct a block chimney.</p> <p><b>1105</b> Discuss and install flashing methods where the chimney meets the roof.</p> <p><b>1106</b> Describe the proper dimensions of a footer or foundation for a chimney or fireplace.</p> <p><b>1107</b> Explain how to determine the proper dimensions of a firebox.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc.... <b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc... <b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc.... <b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc... <b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words... <b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc. <b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words... <b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text. <b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 9-10</b> <b>Standard CC.3.6.9-10.A</b> Write arguments focused on discipline specific content. <b>Standard CC.3.6.9-10.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>TEXT TYPES AND PURPOSE</b> <b>GRADES 11-12</b> <b>Standard CC.3.6.11-12.A</b> Write arguments focused on discipline specific content. <b>Standard CC.3.6.11-12.B</b> Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>PRODUCTION &amp; DISTRIBUTION OF WRITING</b> <b>GRADES 9-10</b> <b>Standard CC.3.6.9-10.C</b> Produce clear and coherent writing...appropriate to task, purpose, and audience. <b>Standard CC.3.6.9-10 D</b> Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. <b>Standard CC.3.6.9-10.E</b> Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p><b>PRODUCTION &amp; DISTRIBUTION OF WRITING</b> <b>GRADES 11-12</b> <b>Standard CC.3.6.11-12 C</b> Produce clear and coherent</p>	<p><b>ALGEBRA</b> <b>Standard. 2.1.HS.F.2</b> Apply properties of rational and irrational numbers to solve real world or mathematical problems. <b>Standard. 2.1.HS.F.4</b> Use units as a way to understand problems and to guide the solution of multistep problems. <b>Standard. 2.1.HS.F.5</b> Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. <b>Standard. 2.1.HS.F.6</b> Extend the knowledge of arithmetic operations and apply to complex numbers. <b>StandardCC.2.2.HS.D.3</b> Extend the knowledge of arithmetic operations and apply to polynomials. <b>StandardCC.2.2.HS.D.5</b> Use polynomial identities to solve problems. <b>StandardCC.2.2.HS.D.9</b> Use reasoning to solve equations and justify the solution method. <b>Standard CC.2.1.HS.F.3</b> Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.</p> <p><b>GEOMETRY</b> <b>Standard CC.2.3.HS.A.1</b> Use geometric figures and their properties to represent transformations in the plane. <b>Standard CC.2.3.HS.A.2</b> Apply rigid transformations to determine and explain congruence. <b>Standard C.2.3.HS.A.3</b></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><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G.</b> Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). <b>Standard CC.3.5.9-10.H.</b> Assess the reasoning in a text to support the author's claim for solving a technical problem. <b>Standard CC.3.5.9-10.I.</b> Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G.</b> Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. <b>Standard CC.3.5.11-12.H.</b> Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. <b>Standard CC.3.5.11-12.I.</b> Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b> By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>writing...appropriate to task, purpose, and audience. <b>Standard CC.3.6.9-10 D</b> <b>Standard CC.3.6.11-12.D.</b> Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. <b>Standard CC.3.6.11-12.E.</b> Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p><b>RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F.</b> Conduct short and more sustained research to answer a question or solve a problem. <b>Standard CC.3.6.9-10.G.</b> Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. <b>Standard CC.3.6.9-10.H.</b> Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F.</b> Conduct short and more sustained research to answer a question or solve a problem. <b>Standard CC.3.6.11-12.G.</b> Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. <b>Standard CC.3.6.11-12.H.</b> Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>RANGE OF WRITING</b></p>	<p>Verify and apply geometric theorems as they relate to geometric figures. <b>Standard CC.2.3.HS.A.4</b> Apply the concept of congruence to create geometric constructions. <b>Standard CC.2.3.HS.A.5</b> Create justifications based on transformations to establish similarity of plane figures. <b>Standard CC.2.3.HS.A.6</b> Verify and apply theorems involving similarity as they relate to plane figures. <b>Standard CC.2.3.HS.A.7</b> Apply trigonometric ratios to solve problems involving right triangles. <b>Standard CC.2.3.HS.A.8</b> Apply geometric theorems to verify properties of circles. <b>Standard CC.2.3.HS.A.9</b> Extend the concept of similarity to determine arc lengths and areas of sectors of circles. <b>Standard CC.2.3.HS.A.10</b> Translate between the geometric description and the equation for a conic section. <b>Standard CC.2.3.HS.A.11</b> Apply coordinate geometry to prove simple geometric theorems algebraically. <b>Standard CC.2.3.HS.A.12</b> Explain volume formulas and use them to solve problems. <b>Standard CC.2.3.HS.A.13</b> Analyze relationships between two dimensional and three dimensional objects. <b>Standard CC.2.3.HS.A.14</b> Apply geometric concepts to model and solve real world problems.</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
			<b>GRADES 9-10-11-12</b> <b>Standard CC.3.5.9-10.I AND</b> <b>Standard CC.3.5.11-12.I.</b> Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.	

# 1200 Perform Arch Construction

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 Discuss arch terminology.                      1202 Identify types of arches.                      1203 Demonstrate arch construction.                      1204 Describe basic types of arch construction.</p>	<p><b>CLUSTER:</b>  <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b>  <i>Construction Careers</i>                      Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b>  <b>GRADES 9-10</b>  <b>Standard CC.3.5.9-10.A.</b>                      Cite specific textual evidence, etc....  <b>Standard CC.3.5.9-10B &amp;</b>                      Determine the central ideas or conclusions of a text; etc...  <b>Standard CC.3.5.9-10.C</b>                      Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b>  <b>GRADES 11-12</b>  <b>Standard CC.3.5.11-12A</b>                      Cite specific textual evidence, etc....  <b>Standard CC.3.5.11-12.B.</b>                      Determine the central ideas or conclusions of a text; etc...  <b>Standard CC.3.5.11-12.C.</b>                      Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b>  <b>GRADES 9-10</b>  <b>Standard CC.3.5.9-10.D.</b>                      Determine the meaning of symbols, key terms, and other domain specific words...  <b>Standard CC.3.5.9-10.E</b>                      Analyze the structure of the relationships among concepts in a text. etc.  <b>Standard CC.3.5.9-10.F</b>                      Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b>  <b>GRADES 11-12</b>  <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...  <b>Standard CC.3.5.11-12.E.</b>                      Analyze the structure of the relationships among concepts in a text.  <b>Standard CC.3.5.11-12.F</b>                      Analyze the author's purpose in providing an explanation, describing a procedure...</p>	<p><b>TEXT TYPES AND PURPOSE</b>  <b>GRADES 9-10</b>  <b>Standard CC.3.6.9-10.A</b>                      Write arguments focused on discipline specific content.  <b>Standard CC.3.6.9-10.B</b>                      Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>TEXT TYPES AND PURPOSE</b>  <b>GRADES 11-12</b>  <b>Standard CC.3.6.11-12.A</b>                      Write arguments focused on discipline specific content.  <b>Standard CC.3.6.11-12.B</b>                      Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p><b>PRODUCTION &amp; DISTRIBUTION OF WRITING</b>  <b>GRADES 9-10</b>  <b>Standard CC.3.6.9-10.C</b>                      Produce clear and coherent writing...appropriate to task, purpose, and audience.  <b>Standard CC.3.6.9-10 D</b>                      Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.  <b>Standard CC.3.6.9-10.E</b>                      Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p><b>PRODUCTION &amp; DISTRIBUTION OF WRITING</b>  <b>GRADES 11-12</b>  <b>Standard CC.3.6.11-12 C</b>                      Produce clear and coherent</p>	<p><b>ALGEBRA</b>  <b>Standard. 2.1.HS.F.2</b>                      Apply properties of rational and irrational numbers to solve real world or mathematical problems.  <b>Standard. 2.1.HS.F.4</b>                      Use units as a way to understand problems and to guide the solution of multistep problems.  <b>Standard. 2.1.HS.F.5</b>                      Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.  <b>Standard. 2.1.HS.F.6</b>                      Extend the knowledge of arithmetic operations and apply to complex numbers.  <b>StandardCC.2.2.HS.D.3</b>                      Extend the knowledge of arithmetic operations and apply to polynomials.  <b>StandardCC.2.2.HS.D.5</b>                      Use polynomial identities to solve problems.  <b>StandardCC.2.2.HS.D.9</b>                      Use reasoning to solve equations and justify the solution method.  <b>Standard CC.2.1.HS.F.3</b>                      Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.</p> <p><b>GEOMETRY</b>  <b>Standard CC.2.3.HS.A.1</b>                      Use geometric figures and their properties to represent transformations in the plane.  <b>Standard CC.2.3.HS.A.2</b>                      Apply rigid transformations to determine and explain congruence.  <b>Standard C.2.3.HS.A.3</b></p>

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		<p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G.</b> Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). <b>Standard CC.3.5.9-10.H.</b> Assess the reasoning in a text to support the author's claim for solving a technical problem. <b>Standard CC.3.5.9-10.I.</b> Compare and contrast findings presented in a text to those from other sources, etc...</p> <p><b>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G.</b> Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. <b>Standard CC.3.5.11-12.H.</b> Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. <b>Standard CC.3.5.11-12.I.</b> Synthesize information from a range of sources into a coherent understanding.</p> <p><b>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J.</b> By the end of grades 9-10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>writing...appropriate to task, purpose, and audience. <b>Standard CC.3.6.9-10 D</b> <b>Standard CC.3.6.11-12.D.</b> Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. <b>Standard CC.3.6.11-12.E.</b> Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p><b>RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F.</b> Conduct short and more sustained research to answer a question or solve a problem. <b>Standard CC.3.6.9-10.G.</b> Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. <b>Standard CC.3.6.9-10.H.</b> Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F.</b> Conduct short and more sustained research to answer a question or solve a problem. <b>Standard CC.3.6.11-12.G.</b> Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. <b>Standard CC.3.6.11-12.H.</b> Draw evidence from informational texts to support analysis, reflection, and research.</p> <p><b>RANGE OF WRITING</b></p>	<p>Verify and apply geometric theorems as they relate to geometric figures. <b>Standard CC.2.3.HS.A.4</b> Apply the concept of congruence to create geometric constructions. <b>Standard CC.2.3.HS.A.5</b> Create justifications based on transformations to establish similarity of plane figures. <b>Standard CC.2.3.HS.A.6</b> Verify and apply theorems involving similarity as they relate to plane figures. <b>Standard CC.2.3.HS.A.7</b> Apply trigonometric ratios to solve problems involving right triangles. <b>Standard CC.2.3.HS.A.8</b> Apply geometric theorems to verify properties of circles. <b>Standard CC.2.3.HS.A.9</b> Extend the concept of similarity to determine arc lengths and areas of sectors of circles. <b>Standard CC.2.3.HS.A.10</b> Translate between the geometric description and the equation for a conic section. <b>Standard CC.2.3.HS.A.11</b> Apply coordinate geometry to prove simple geometric theorems algebraically. <b>Standard CC.2.3.HS.A.12</b> Explain volume formulas and use them to solve problems. <b>Standard CC.2.3.HS.A.13</b> Analyze relationships between two dimensional and three dimensional objects. <b>Standard CC.2.3.HS.A.14</b> Apply geometric concepts to model and solve real world problems.</p>

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			<p><b>GRADES 9-10-11-12</b>  <b>Standard CC.3.5.9-10.I AND</b>  <b>Standard CC.3.5.11-12.I.</b>            Write routinely over extended time            frames and shorter time frames for a            range of tasks, purposes and            audiences...etc.</p>	

# 1300 Estimate Masonry Work

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<p><b>1301</b> Estimate mortar, number of units, and material costs for brick work.</p> <p><b>1302</b> Estimate mortar, number of units, and material costs for block work.</p> <p><b>1303</b> Estimate the area, volume, and cost of ready-mixed concrete.</p>	<p><b>CLUSTER:</b> <i>Architecture and Construction-related Careers</i></p> <p>Choose Cluster Standards from: 1-2-3-4-5-6-7</p> <p><b>PATHWAY:</b> <i>Construction Careers</i></p> <p>Choose Standards from: 1-2-3-4-5-6-7-8-9</p>	<p><b>KEY IDEAS/DETAILS</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.A.</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.9-10B &amp;</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.9-10.C</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>KEY IDEAS/DETAILS</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12A</b> Cite specific textual evidence, etc....</p> <p><b>Standard CC.3.5.11-12.B.</b> Determine the central ideas or conclusions of a text; etc...</p> <p><b>Standard CC.3.5.11-12.C.</b> Follow precisely a complex multistep procedure, etc...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 9-10</b> <b>Standard CC.3.5.9-10.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.9-10.E</b> Analyze the structure of the relationships among concepts in a text. etc.</p> <p><b>Standard CC.3.5.9-10.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p> <p><b>CRAFT &amp; STRUCTURE</b> <b>GRADES 11-12</b> <b>Standard CC.3.5.11-12.D.</b> Determine the meaning of symbols, key terms, and other domain specific words...</p> <p><b>Standard CC.3.5.11-12.E.</b> Analyze the structure of the relationships among concepts in a text.</p> <p><b>Standard CC.3.5.11-12.F</b> Analyze the author's purpose in providing an explanation, describing a procedure...</p>		<p><b>ALGEBRA</b> <b>Standard. 2.1.HS.F.2</b> Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p> <p><b>Standard. 2.1.HS.F.4</b> Use units as a way to understand problems and to guide the solution of multistep problems.</p> <p><b>Standard. 2.1.HS.F.5</b> Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p><b>Standard. 2.1.HS.F.6</b> Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p><b>Standard CC.2.2.HS.D.3</b> Extend the knowledge of arithmetic operations and apply to polynomials.</p> <p><b>Standard CC.2.2.HS.D.5</b> Use polynomial identities to solve problems.</p> <p><b>Standard CC.2.2.HS.D.9</b> Use reasoning to solve equations and justify the solution method.</p> <p><b>Standard CC.2.1.HS.F.3</b> Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.</p> <p><b>GEOMETRY</b> <b>Standard CC.2.3.HS.A.1</b> Use geometric figures and their properties to represent transformations in the plane.</p> <p><b>Standard CC.2.3.HS.A.2</b> Apply rigid transformations to determine and explain congruence.</p> <p><b>Standard C.2.3.HS.A.3</b></p>

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