

Standards Correlations

Plumbing I (8551)

Task	SOL Correlations	NCCER
Demonstrating Personal Qualities and Abilities		
Demonstrate creativity and innovation.	English: 6.1, 6.3, 6.4, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 8.2, 8.4, 8.6, 8.7, 8.11, 8.12, 8.17, 8.18, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, AII.9, COM.1, COM.3, COM.4, COM.5, COM.8, DM.7, DM.1*, DM.10, DM.2*, DM.3*, PS.3*, PS.4*, PS.7*, PS.9*, PS.10*	

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	Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1	
Demonstrate critical thinking and problem solving.	<p>English: 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.5, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.5, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1</p> <p>Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.10, 6.11, 7.2, 7.3, 7.8, 7.12, 7.13, 8.2, 8.4, 8.8, 8.9, 8.10, 8.11, A.8, A.9, G.1, G.13, G.14, AFDA.3, AFDA.5, AFDA.8, AII.9, AII.10, AII.11, COM.1, COM.3, COM.4, COM.5, COM.8, DM.4, DM.7, DM.1*, DM.2*, DM.3*, DM.9*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p>	
Demonstrate initiative and self-direction.	English: 6.1, 6.4, 6.6, 6.7, 6.9, 7.1, 7.4, 7.6, 7.7, 7.9, 8.1, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1,	

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	11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrate integrity.	English: 6.1, 7.1, 8.1, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrate work ethic.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1	
Demonstrating Interpersonal Skills		
Demonstrate conflict-resolution skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.4, 8.6, 8.7, 8.9, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, VUS.1	

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Demonstrate listening and speaking skills.	English: 6.1, 6.2, 6.4, 6.6, 7.1, 7.2, 7.4, 7.6, 8.1, 8.2, 8.4, 8.6, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrate respect for diversity.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, USII.9, VUS.1, VUS.13, WG.1, WHI.1, WHII.1	
Demonstrate customer service skills.	English: 6.1, 6.4, 6.7, 7.1, 7.4, 7.7, 8.1, 8.4, 8.7, 9.1, 9.5, 9.6, 10.1, 10.5, 10.6, 11.1, 11.5, 11.6, 12.1, 12.5, 12.6 History and Social Science: CE.1, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Collaborate with team members	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrating Professional Competencies		

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Demonstrate big-picture thinking.	English: 6.1, 6.4, 7.1, 7.4, 8.1, 8.4, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: CE.1, CE.4, CE.12, GOVT.1, GOVT.15, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrate career- and life-management skills.	English: 6.1, 6.7, 7.1, 7.7, 8.1, 8.7, 9.1, 9.6, 10.1, 10.6, 11.1, 11.6, 12.1, 12.6 History and Social Science: CE.1, CE.4, CE.12, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 8.4	
Demonstrate continuous learning and adaptability.	English: 6.1, 6.4, 6.7, 6.9, 7.1, 7.4, 7.7, 7.9, 8.1, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.3, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: BIO.1, CH.1, LS.1, PH.1, PH.4, PS.1	
Manage time and resources.	English: 6.1, 6.2, 6.4, 6.7, 6.9, 7.1, 7.2, 7.4, 7.7, 7.9, 8.1, 8.2, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.2,	

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	11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 8.4, 8.11, 8.12, 8.13, 8.14, 8.17, 8.18, A.4, A.5, A.8, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, COM.1, COM.3, COM.5, COM.8	
Demonstrate information- literacy skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.9, 9.2, 9.5, 9.6, 9.8, 10.2, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.8, 7.9, 8.11, 8.12, A.8, A.9, AFDA.3, AFDA.4, AFDA.6, AFDA.7, AFDA.8, DM.8, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*, PS.8*, PS.9*, PS.10*	

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	Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1	
Demonstrate an understanding of information security.	English: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.8, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.8, 8.9, 9.1, 9.2, 9.5, 9.6, 9.8, 10.1, 10.2, 10.5, 10.6, 10.8, 11.1, 11.2, 11.5, 11.6, 11.8, 12.1, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: COM.10	
Maintain working knowledge of current information-technology (IT) systems.	English: 6.1, 6.3, 6.4, 6.6, 6.9, 7.1, 7.3, 7.4, 7.6, 7.9, 8.1, 8.3, 8.4, 8.6, 8.9 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 7.8, COM.1, COM.2, COM.7, COM.9, COM.10, COM.11, COM.16, COM.18, PS.17 Science: BIO.1, CH.1, ES.1, PH.1	
Demonstrate proficiency with	History and Social Science: CE.1, CE.4, CE.14, GOVT.1,	

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technologies, tools, and machines common to a specific occupation.	USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.9, 8.4, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AII.4, AII.7, AII.9, COM.1, COM.7, COM.10, COM.11, COM.12, COM.16 Science: CH.1, ES.1, LS.1, PH.1, PS.1	
Apply mathematical skills to job-specific tasks.	English: 6.4, 6.6, 6.7, 7.4, 7.6, 7.7, 8.4, 8.6, 8.7, 9.5, 9.6, 10.5, 10.6, 11.5, 11.6, 12.5, 12.6 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.5, 6.6, 6.12, 6.13, 6.14, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.8, 7.9, 7.11, 7.12, 7.13, 8.4, 8.5, 8.6, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16, 8.17, 8.18, A.1, A.3, A.4, A.5, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AFDA.8, AII.3, AII.7, AII.9, AII.10, COM.1, COM.7 Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1	

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Demonstrate professionalism.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrate reading and writing skills.	English: 6.1, 6.6, 6.7, 7.1, 7.6, 7.7, 8.1, 8.6, 8.7, 9.1, 9.5, 9.6, 9.7, 10.1, 10.5, 10.6, 10.7, 11.1, 11.5, 11.6, 11.7, 12.1, 12.5, 12.6, 12.7 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: 6.1, PH.1, PS.1	
Demonstrate workplace safety.	English: 6.4, 7.4, 8.4, 9.5, 10.5, 11.5, 12.5 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1	
Examining All Aspects of an Industry		
Examine aspects of planning within an industry/organization.	History and Social Science: GOVT.16	
Examine aspects of management within an industry/organization.		

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Examine aspects of financial responsibility within an industry/organization.		
Examine technical and production skills required of workers within an industry/organization.		
Examine principles of technology that underlie an industry/organization.		
Examine labor issues related to an industry/organization.	History and Social Science: GOVT.16	
Examine community issues related to an industry/organization.	History and Social Science: GOVT.16	
Examine health, safety, and environmental issues related to an industry/organization.	History and Social Science: GOVT.16	
Addressing Elements of Student Life		
Identify the purposes and goals of the student organization.		
Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.		

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Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.		
Identify Internet safety issues and procedures for complying with acceptable use standards.		
Exploring Work-Based Learning		
Identify the types of work-based learning (WBL) opportunities.		
Reflect on lessons learned during the WBL experience.		
Explore career opportunities related to the WBL experience.		
Participate in a WBL experience, when appropriate.		
Applying Basic Construction Safety Standards (Core Safety)		
Comply with federal, state, and local safety legal requirements.	English: 10.5, 11.5 History and Social Science: GOVT.1, GOVT.8, GOVT.9, GOVT.15, GOVT.16 Science: CH.1	NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of

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		<p>this module will award a Construction Site Safety Orientation credential.</p> <p>NCCER Plumbing Standards Level 1, Module 02102-12: Plumbing Safety</p> <p>This module reviews the common causes of plumbing-related accidents and injuries. Trainees will learn how to identify hazardous situations and unsafe conditions as well as how to handle and respond to these situations and conditions.</p>
<p>Identify PPE (personal protective equipment) requirements.</p>	<p>English: 10.5, 11.5</p>	<p>NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety</p> <p>Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.</p> <p>NCCER Plumbing Standards Level 1, Module 02102-12: Plumbing Safety</p> <p>This module reviews the common causes of plumbing-related accidents and injuries. Trainees will learn how to identify hazardous situations and unsafe conditions as well as how to handle and respond to these situations and conditions.</p>
<p>Maintain a safe working environment.</p>	<p>English: 10.5, 11.5 History and Social Science: GOVT.9, GOVT.14, GOVT.15, GOVT.16, VUS.8, WHII.8</p>	<p>NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety</p> <p>Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with</p>

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		<p>elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.</p> <p>NCCER Plumbing Standards Level 1, Module 02102-12: Plumbing Safety This module reviews the common causes of plumbing-related accidents and injuries. Trainees will learn how to identify hazardous situations and unsafe conditions as well as how to handle and respond to these situations and conditions.</p>
<p>Explain safe working practices around electrical hazards.</p>	<p>English: 10.5, 11.5 History and Social Science: GOVT.1, GOVT.9, GOVT.15, GOVT.16</p>	<p>NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.</p> <p>NCCER Plumbing Standards Level 1, Module 02102-12: Plumbing Safety This module reviews the common causes of plumbing-related accidents and injuries. Trainees will learn how to identify hazardous situations and unsafe conditions as well as how to handle and respond to these situations and conditions.</p>
<p>Identify emergency first-aid procedures.</p>	<p>English: 10.5, 11.5</p>	<p>NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and</p>

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		<p>how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.</p>
<p>Identify the types of fires and the methods used to extinguish them.</p>	<p>English: 10.5, 11.5 Science: CH.1</p>	<p>NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.</p>
<p>Inspect course-specific hand and power tools to visually identify defects.</p>	<p>English: 10.5, 11.5</p>	<p>NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.</p> <p>NCCER Plumbing Standards Level 1, Module 02102-12: Plumbing Safety This module reviews the common causes of plumbing-related accidents and injuries. Trainees will learn how to identify</p>

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		hazardous situations and unsafe conditions as well as how to handle and respond to these situations and conditions.
Demonstrate lifting and carrying techniques.	English: 10.5, 11.5	NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.
Demonstrate safe laddering techniques.		NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential. NCCER Plumbing Standards Level 1, Module 02102-12: Plumbing Safety This module reviews the common causes of plumbing-related accidents and injuries. Trainees will learn how to identify hazardous situations and unsafe conditions as well as how to handle and respond to these situations and conditions.
Demonstrate safe scaffolding techniques.		NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety

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Report personal injuries and environmental and equipment safety violations to the appropriate authority.	English: 10.1, 11.1 History and Social Science: GOVT.1, GOVT.7, GOVT.8, GOVT.9, GOVT.15, GOVT.16	NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.
Earn the Construction Industry OSHA 10 card.	English: 10.5, 11.5 History and Social Science: GOVT.7, GOVT.8, GOVT.9, GOVT.14, GOVT.15	NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.

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Pass a safety exam for lab/site safety and the use of tools and equipment specific to the construction industry.	English: 10.5, 11.5	NCCER Core Curriculum: Introductory Craft Skills, 2015 00101-15 Basic Safety Module One (00101-15) explains the importance of safety in the construction and industrial crafts. Trainees will learn how to identify and follow safe work practices and procedures and how to properly inspect and use safety equipment. Trainees will be able to describe the safety practices associated with elevated work; energy release; and various hazards encountered on job sites. NOTE: The successful completion of this module will award a Construction Site Safety Orientation credential.
Focusing on the Plumbing Profession		
Discuss the historical development of the plumbing trade.	English: 10.1, 10.5, 11.1, 11.5 History and Social Science: GOVT.9, VUS.14, WG.17, WHI.5, WHI.6, WHI.10, WHI.14, WHII.14	NCCER Plumbing Standards Level 1, Module 02101-12: Introduction to the Plumbing Profession This module introduces trainees to the plumbing profession. Trainees will become familiar with the tasks and responsibilities of professionals in the construction industry.
Describe the importance of plumbers in modern society.	English: 10.5, 11.5 History and Social Science: GOVT.9, VUS.14, WG.17, WHII.14	NCCER Plumbing Standards Level 1, Module 02101-12: Introduction to the Plumbing Profession This module introduces trainees to the plumbing profession. Trainees will become familiar with the tasks and responsibilities of professionals in the construction industry.
Explain the importance of code compliance to the profession.		
Discuss the role of teams in a plumbing trade.	English: 10.1, 10.5, 11.1, 11.5	NCCER Plumbing Standards Level 1, Module 02101-12: Introduction to the Plumbing Profession This module introduces trainees to the plumbing profession. Trainees will become familiar with the tasks and responsibilities of professionals in the construction industry.

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Develop a list of tools and safety equipment to be carried in work vehicle.	English: 10.5, 10.6, 11.5, 11.6	NCCER Plumbing Standards Level 1, Module 02103-12: Tools of the Plumbing Trade This module reviews the basic plumbing tools used to measure, lay out, cut, drill, bore, and ream. Trainees will learn how to safely use, properly care for, and maintain plumbing tools.
Describe chemical risks associated with the plumbing occupation.	English: 10.5, 11.5 Science: CH.1	
Identify plumbing-related career and educational opportunities.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02101-12: Introduction to the Plumbing Profession This module introduces trainees to the plumbing profession. Trainees will become familiar with the tasks and responsibilities of professionals in the construction industry.
Identify how green technology is incorporated into plumbing.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02101-12: Introduction to the Plumbing Profession This module introduces trainees to the plumbing profession. Trainees will become familiar with the tasks and responsibilities of professionals in the construction industry.
Applying Basic Mathematics to the Plumbing Profession		
Measure pipe dimensions.		NCCER Plumbing Standards Level 1, Module 02104-12: Introduction to Plumbing Math This module introduces some of the basic math used by plumbers in the field. Trainees will learn how to use basic math to calculate pipe length.
Calculate fitting allowance.		NCCER Plumbing Standards Level 1, Module 02104-12: Introduction to Plumbing Math This module introduces some of the basic math used by plumbers in the field. Trainees will learn how to use basic math to calculate pipe length.

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Calculate offsets using the Pythagorean Theorem.	Mathematics: G.2, G.8	NCCER Plumbing Standards Level 2, Module 02201-13: Plumbing Math Two Module one (02201-13) explains the Pythagorean theorem, reviews methods for laying out square corners, and discusses the techniques used to calculate simple and rolling offsets, as well as offsets on parallel runs of pipe.
Calculate a 45-degree offset using the constant method.	Mathematics: G.2	NCCER Plumbing Standards Level 2, Module 02201-13: Plumbing Math Two Module one (02201-13) explains the Pythagorean theorem, reviews methods for laying out square corners, and discusses the techniques used to calculate simple and rolling offsets, as well as offsets on parallel runs of pipe.
Perform mathematical calculations using feet and inches as the unit of measure, including addition, subtraction, and conversion (feet to inches, inches to feet).	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02104-12: Introduction to Plumbing Math This module introduces some of the basic math used by plumbers in the field. Trainees will learn how to use basic math to calculate pipe length.
Convert decimals to fractions and fractions to decimals.		NCCER Plumbing Standards Level 1, Module 02104-12: Introduction to Plumbing Math This module introduces some of the basic math used by plumbers in the field. Trainees will learn how to use basic math to calculate pipe length.
Convert metric measurements to standard measurements.		NCCER Plumbing Standards Level 1, Module 02104-12: Introduction to Plumbing Math This module introduces some of the basic math used by plumbers in the field. Trainees will learn how to use basic math to calculate pipe length.
Reading Drawings for the Plumbing Profession		
Identify fixtures depicted on a blueprint.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02105-12: Introduction to Plumbing Drawings

Task	SOL Correlations	NCCER
		<p>This module introduces the types of construction drawings typically used in the plumbing trade, explains the relationship among these drawings, and discusses applicable code requirements. Trainees will learn how to read, interpret, and sketch construction drawings, as well as how to draw lines to scale.</p>
<p>Read an architect's scale.</p>		<p>NCCER Plumbing Standards Level 1, Module 02105-12: Introduction to Plumbing Drawings This module introduces the types of construction drawings typically used in the plumbing trade, explains the relationship among these drawings, and discusses applicable code requirements. Trainees will learn how to read, interpret, and sketch construction drawings, as well as how to draw lines to scale.</p>
<p>Develop an overhead and an isometric drawing.</p>		<p>NCCER Plumbing Standards Level 1, Module 02105-12: Introduction to Plumbing Drawings This module introduces the types of construction drawings typically used in the plumbing trade, explains the relationship among these drawings, and discusses applicable code requirements. Trainees will learn how to read, interpret, and sketch construction drawings, as well as how to draw lines to scale.</p>
<p>Develop fitting/material lists based on drawings.</p>	<p>English: 10.6, 11.6 Mathematics: A.1</p>	<p>NCCER Plumbing Standards Level 1, Module 02105-12: Introduction to Plumbing Drawings This module introduces the types of construction drawings typically used in the plumbing trade, explains the relationship among these drawings, and discusses applicable code requirements. Trainees will learn how to read, interpret, and</p>

Task	SOL Correlations	NCCER
		sketch construction drawings, as well as how to draw lines to scale.
Interpret the schedule on a blueprint.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02105-12: Introduction to Plumbing Drawings This module introduces the types of construction drawings typically used in the plumbing trade, explains the relationship among these drawings, and discusses applicable code requirements. Trainees will learn how to read, interpret, and sketch construction drawings, as well as how to draw lines to scale.
Interpret specifications on a blueprint.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02105-12: Introduction to Plumbing Drawings This module introduces the types of construction drawings typically used in the plumbing trade, explains the relationship among these drawings, and discusses applicable code requirements. Trainees will learn how to read, interpret, and sketch construction drawings, as well as how to draw lines to scale.
Describe how code requirements apply to certain drawings.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02105-12: Introduction to Plumbing Drawings This module introduces the types of construction drawings typically used in the plumbing trade, explains the relationship among these drawings, and discusses applicable code requirements. Trainees will learn how to read, interpret, and sketch construction drawings, as well as how to draw lines to scale.
Working with Plastic Pipe and Fittings		
Identify the types of plastic pipe.		NCCER Plumbing Standards Level 1, Module 02106-12: Plastic Pipe and Fittings

Task	SOL Correlations	NCCER
		This module introduces the various types of materials, schedules, and applications of plastic piping. Trainees will learn how to determine the appropriate types of fittings, valves, hangers, and supports needed for plastic piping. Trainees will learn to properly measure, cut, and join plastic piping.
Identify the material properties, storage, and handling requirements of plastic pipe.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02106-12: Plastic Pipe and Fittings This module introduces the various types of materials, schedules, and applications of plastic piping. Trainees will learn how to determine the appropriate types of fittings, valves, hangers, and supports needed for plastic piping. Trainees will learn to properly measure, cut, and join plastic piping.
Identify the types of fittings and valves used with plastic pipe.		NCCER Plumbing Standards Level 1, Module 02106-12: Plastic Pipe and Fittings This module introduces the various types of materials, schedules, and applications of plastic piping. Trainees will learn how to determine the appropriate types of fittings, valves, hangers, and supports needed for plastic piping. Trainees will learn to properly measure, cut, and join plastic piping.
Identify the techniques used in hanging and supporting plastic pipe.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02106-12: Plastic Pipe and Fittings This module introduces the various types of materials, schedules, and applications of plastic piping. Trainees will learn how to determine the appropriate types of fittings, valves, hangers, and supports needed for plastic piping. Trainees will learn to properly measure, cut, and join plastic piping.
Join plastic pipe.		NCCER Plumbing Standards Level 1, Module 02106-12: Plastic Pipe and Fittings

Task	SOL Correlations	NCCER
		<p>This module introduces the various types of materials, schedules, and applications of plastic piping. Trainees will learn how to determine the appropriate types of fittings, valves, hangers, and supports needed for plastic piping. Trainees will learn to properly measure, cut, and join plastic piping.</p>
<p>Identify the hazards and safety precautions associated with plastic pipe.</p>	<p>Science: CH.1</p>	<p>NCCER Plumbing Standards Level 1, Module 02106-12: Plastic Pipe and Fittings This module introduces the various types of materials, schedules, and applications of plastic piping. Trainees will learn how to determine the appropriate types of fittings, valves, hangers, and supports needed for plastic piping. Trainees will learn to properly measure, cut, and join plastic piping.</p>
Working with Copper Tube and Fittings		
<p>Identify types of copper tube.</p>		<p>NCCER Plumbing Standards Level 1, Module 02107-12: Copper Tube and Fittings This module discusses the materials, schedules, and properties of copper tube, fittings, and valves. Trainees will learn how to measure, ream, cut, join, and groove copper tube, as well as how to hang and support copper tube.</p>
<p>Identify the material properties, storage, and handling requirements of copper tube.</p>		<p>NCCER Plumbing Standards Level 1, Module 02107-12: Copper Tube and Fittings This module discusses the materials, schedules, and properties of copper tube, fittings, and valves. Trainees will learn how to measure, ream, cut, join, and groove copper tube, as well as how to hang and support copper tube.</p>
<p>Identify the types of fittings and valves used with copper tube.</p>		<p>NCCER Plumbing Standards Level 1, Module 02107-12: Copper Tube and Fittings This module discusses the materials, schedules, and properties of copper tube, fittings, and valves. Trainees will learn how to</p>

Task	SOL Correlations	NCCER
		measure, ream, cut, join, and groove copper tube, as well as how to hang and support copper tube.
Identify the techniques used in hanging and supporting copper tube.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02107-12: Copper Tube and Fittings This module discusses the materials, schedules, and properties of copper tube, fittings, and valves. Trainees will learn how to measure, ream, cut, join, and groove copper tube, as well as how to hang and support copper tube.
Join copper tube.		NCCER Plumbing Standards Level 1, Module 02107-12: Copper Tube and Fittings This module discusses the materials, schedules, and properties of copper tube, fittings, and valves. Trainees will learn how to measure, ream, cut, join, and groove copper tube, as well as how to hang and support copper tube.
Identify the hazards and safety precautions associated with copper tube.	Science: CH.1	NCCER Plumbing Standards Level 1, Module 02107-12: Copper Tube and Fittings This module discusses the materials, schedules, and properties of copper tube, fittings, and valves. Trainees will learn how to measure, ream, cut, join, and groove copper tube, as well as how to hang and support copper tube.
Working with Cast-Iron Pipe and Fittings		
Identify types of cast-iron pipe.		NCCER Plumbing Standards Level 1, Module 02108-12: Cast-Iron Pipe and Fittings This module discusses proper and improper applications of cast-iron piping. Trainees will learn how to identify materials, schedules, and fittings used with cast-iron piping, as well as how to properly measure, cut, join, and support cast-iron piping.
Identify the material properties, storage, and handling requirements of cast-iron pipe.		NCCER Plumbing Standards Level 1, Module 02108-12: Cast-Iron Pipe and Fittings This module discusses proper and improper applications of cast-iron piping. Trainees will learn how to identify materials,

Task	SOL Correlations	NCCER
		schedules, and fittings used with cast-iron piping, as well as how to properly measure, cut, join, and support cast-iron piping.
Identify the types of fittings and valves used with cast-iron pipe.		NCCER Plumbing Standards Level 1, Module 02108-12: Cast-Iron Pipe and Fittings This module discusses proper and improper applications of cast-iron piping. Trainees will learn how to identify materials, schedules, and fittings used with cast-iron piping, as well as how to properly measure, cut, join, and support cast-iron piping.
Identify the techniques used in hanging and supporting cast-iron pipe.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02108-12: Cast-Iron Pipe and Fittings This module discusses proper and improper applications of cast-iron piping. Trainees will learn how to identify materials, schedules, and fittings used with cast-iron piping, as well as how to properly measure, cut, join, and support cast-iron piping.
Join cast-iron pipe.		NCCER Plumbing Standards Level 1, Module 02108-12: Cast-Iron Pipe and Fittings This module discusses proper and improper applications of cast-iron piping. Trainees will learn how to identify materials, schedules, and fittings used with cast-iron piping, as well as how to properly measure, cut, join, and support cast-iron piping.
Identify the hazards and safety precautions associated with cast-iron pipe.	Science: CH.1	NCCER Plumbing Standards Level 1, Module 02108-12: Cast-Iron Pipe and Fittings This module discusses proper and improper applications of cast-iron piping. Trainees will learn how to identify materials, schedules, and fittings used with cast-iron piping, as well as how to properly measure, cut, join, and support cast-iron piping.
Working with Steel Pipe and Fittings		

Task	SOL Correlations	NCCER
Identify types of steel pipe.		NCCER Plumbing Standards Level 1, Module 02109-12: Steel Pipe and Fittings This module discusses the types of steel pipe and fittings used in plumbing applications. Trainees will learn about common fittings and valves; measuring, cutting, and joining steel pipe; and the hangers and supports used with steel pipe.
Identify the material properties, storage, and handling requirements of steel pipe.		NCCER Plumbing Standards Level 1, Module 02109-12: Steel Pipe and Fittings This module discusses the types of steel pipe and fittings used in plumbing applications. Trainees will learn about common fittings and valves; measuring, cutting, and joining steel pipe; and the hangers and supports used with steel pipe.
Identify the types of fittings and valves used with steel pipe.		NCCER Plumbing Standards Level 1, Module 02109-12: Steel Pipe and Fittings This module discusses the types of steel pipe and fittings used in plumbing applications. Trainees will learn about common fittings and valves; measuring, cutting, and joining steel pipe; and the hangers and supports used with steel pipe.
Identify the techniques used in hanging and supporting steel pipe.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02109-12: Steel Pipe and Fittings This module discusses the types of steel pipe and fittings used in plumbing applications. Trainees will learn about common fittings and valves; measuring, cutting, and joining steel pipe; and the hangers and supports used with steel pipe.
Join steel pipe.		NCCER Plumbing Standards Level 1, Module 02109-12: Steel Pipe and Fittings This module discusses the types of steel pipe and fittings used in plumbing applications. Trainees will learn about common fittings and valves; measuring, cutting, and joining steel pipe; and the hangers and supports used with steel pipe.

Task	SOL Correlations	NCCER
Identify the hazards and safety precautions associated with steel pipe.		<p>NCCER Plumbing Standards Level 1, Module 02102-12: Plumbing Safety This module reviews the common causes of plumbing-related accidents and injuries. Trainees will learn how to identify hazardous situations and unsafe conditions as well as how to handle and respond to these situations and conditions.</p> <p>Level 1, Module 02109-12: Steel Pipe and Fittings This module discusses the types of steel pipe and fittings used in plumbing applications. Trainees will learn about common fittings and valves; measuring, cutting, and joining steel pipe; and the hangers and supports used with steel pipe.</p>
Performing Pipe Cutting and Joining		
Cut and deburr copper tubing.		<p>NCCER Plumbing Standards Level 1, Module 02107-12: Copper Tube and Fittings This module discusses the materials, schedules, and properties of copper tube, fittings, and valves. Trainees will learn how to measure, ream, cut, join, and groove copper tube, as well as how to hang and support copper tube.</p>
Operate torches commonly used in the plumbing trade.	English: 10.5, 10.8, 11.5, 11.8	
Construct a copper tubing assembly using solder joints.		<p>NCCER Plumbing Standards Level 1, Module 02107-12: Copper Tube and Fittings This module discusses the materials, schedules, and properties of copper tube, fittings, and valves. Trainees will learn how to measure, ream, cut, join, and groove copper tube, as well as how to hang and support copper tube.</p>
Install press fittings.		
Installing Drainage, Waste, and Vent (DWV) Systems		
Identify the steps of roughing-in a DWV (drainage, waste, and vent) assembly of PVC/ABS, for	English: 10.5, 11.5	<p>NCCER Plumbing Standards Level 1, Module 02111-12: Introduction to Drain, Waste, and Vent (DWV) Systems</p>

Task	SOL Correlations	NCCER
the following: water closet, lavatory, bathtub, shower, kitchen or bar sink, washing machine, bidet, urinal, indirect waste.		This module explains the factors that influence DWV system design and how different types of drains, fittings, vents, and pipe are used to move waste out of a building. Trainees will learn installation requirements that prevent malfunctions in the system.
Explain how waste moves from a fixture through the drain system to the environment.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02111-12: Introduction to Drain, Waste, and Vent (DWV) Systems This module explains the factors that influence DWV system design and how different types of drains, fittings, vents, and pipe are used to move waste out of a building. Trainees will learn installation requirements that prevent malfunctions in the system.
Identify the major components of a drainage system and their functions.		NCCER Plumbing Standards Level 1, Module 02111-12: Introduction to Drain, Waste, and Vent (DWV) Systems This module explains the factors that influence DWV system design and how different types of drains, fittings, vents, and pipe are used to move waste out of a building. Trainees will learn installation requirements that prevent malfunctions in the system.
Identify types of traps and their components.		NCCER Plumbing Standards Level 1, Module 02111-12: Introduction to Drain, Waste, and Vent (DWV) Systems This module explains the factors that influence DWV system design and how different types of drains, fittings, vents, and pipe are used to move waste out of a building. Trainees will learn installation requirements that prevent malfunctions in the system.
Identify significant code and health issues, violations, and	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02111-12: Introduction to Drain, Waste, and Vent (DWV) Systems

Task	SOL Correlations	NCCER
consequences related to DWV systems.		This module explains the factors that influence DWV system design and how different types of drains, fittings, vents, and pipe are used to move waste out of a building. Trainees will learn installation requirements that prevent malfunctions in the system.
Exploring Rough-in of Water Distribution Components		
Describe the installation of a water distribution system of hard drawn copper, CPVC, and PEX.	English: 10.5, 11.5	NCCER Plumbing Standards Level 1, Module 02112-12: Introduction to Water Distribution Systems This module discusses the processes in which water is distributed. Trainees will learn to identify the components and functions of a water distribution system, as well as explain the relationships among the components.
Describe air- and water-pressure tests.		NCCER Plumbing Standards Level 2, Module 02206-13: Installing and Testing Water Supply Piping Module Six (02206-13) provides trainees with the proper techniques for locating, installing, and testing complete water service and distribution systems, including meters, water heaters, water softeners, and hose bibbs. The module also introduces basic backflow prevention and water hammer prevention, and discusses the installation of shower and tub valves, ice maker and washing machine boxes, and pipe stubouts and supports
Introduction to Plumbing Fixtures		
Identify the basic types of materials used in the manufacture of plumbing fixtures.		NCCER Plumbing Standards Level 1, Module 02110-12: Introduction to Plumbing Fixtures This module discusses the materials commonly used to make fixtures, the most common types of fixtures, and the types of faucets available. Trainees will learn how each type of fixture

Task	SOL Correlations	NCCER
		and faucet operates, as well as how to choose the proper fixtures and faucets for a variety of installations.
Identify common types of sinks, lavatories, and faucets.		<p>NCCER Plumbing Standards Level 1, Module 02110-12: Introduction to Plumbing Fixtures This module discusses the materials commonly used to make fixtures, the most common types of fixtures, and the types of faucets available. Trainees will learn how each type of fixture and faucet operates, as well as how to choose the proper fixtures and faucets for a variety of installations.</p>
Identify common bathtubs and showers.		<p>NCCER Plumbing Standards Level 1, Module 02110-12: Introduction to Plumbing Fixtures This module discusses the materials commonly used to make fixtures, the most common types of fixtures, and the types of faucets available. Trainees will learn how each type of fixture and faucet operates, as well as how to choose the proper fixtures and faucets for a variety of installations.</p>
Identify common toilets, urinals, and bidets.		<p>NCCER Plumbing Standards Level 1, Module 02110-12: Introduction to Plumbing Fixtures This module discusses the materials commonly used to make fixtures, the most common types of fixtures, and the types of faucets available. Trainees will learn how each type of fixture and faucet operates, as well as how to choose the proper fixtures and faucets for a variety of installations.</p>
Identify common drinking fountains and water coolers.		<p>NCCER Plumbing Standards Level 1, Module 02110-12: Introduction to Plumbing Fixtures This module discusses the materials commonly used to make fixtures, the most common types of fixtures, and the types of faucets available. Trainees will learn how each type of fixture and faucet operates, as well as how to choose the proper fixtures and faucets for a variety of installations.</p>

Task	SOL Correlations	NCCER
Identify common types of appliances connected by a plumber.		<p>NCCER Plumbing Standards Level 1, Module 02110-12: Introduction to Plumbing Fixtures This module discusses the materials commonly used to make fixtures, the most common types of fixtures, and the types of faucets available. Trainees will learn how each type of fixture and faucet operates, as well as how to choose the proper fixtures and faucets for a variety of installations.</p>