Curriculum: Building Trades I

Curricular Unit: Basic Safety

Instructional Unit: A. Explain the safety obligations of workers to ensure a safe workplace

Standard Alignments (Section 2)

HEGLE: HME.4.A
Knowledge: (H/PE) 6,7 (SC) 8
CCSS: 11-12.SL.1; 11-12.SL.2; 11-12.RST.3; 11-12.RST.4
NETS: 3b; 4b
Performance: 2.1, 3.1, 4.7

Unit (Section 3)

Learning Targets:

- Explain the idea of a safety culture and its importance in the construction crafts
- Identify causes of accidents and the impact of accident costs
- Explain the role of OSHA in job-site safety
- Explain OSHA's general duty clause and 1926 CFR subpart C
- Understand hazard recognition and risk assessment techniques
- Explain fall protection, ladder, stair, and scaffold procedures and requirements
- Identify struck-by hazards and demonstrate safe working procedures and requirements
- Identify caught-in-between hazards and demonstrate safe working procedures and requirements
- **Define safe work procedures to use around electrical hazards**
- Demonstrate the use and care of appropriate personal protective equipment (PPE)
- Explain the importance of hazard communications (HazCom) and Material Safety Data Sheets (MSDSs)
- Identify other construction hazards on the job site, including hazardous material exposures, environmental elements, welding and cutting hazards, confined spaces, and fires
- Demonstrate an understanding of safety through the 10-hour safety course and assessment

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Instructional Strategies:

- The teacher will:
  - demonstration of safety practices
  - lecture/discuss safety practices guided by multimedia presentation
  - provide guided practice implementing safety practices
- Students will:
  - read pertinent chapter in the textbook and complete guided notes
  - complete CareerSafe online modules

Assessments/Evaluations:

- Teacher observation of safety techniques
- CareerSafe online assessment:
  - Practice tests – formative
  - Final tests – summative
- Unit quizzes – formative
- Summative:
  - Unit tests
  - Safety practices assessed on all coursework

Sample Assessment Questions:

Instructional Resources/Tools:

- *NCCER Core Curriculum*, Fourth Edition
- CareerSafe online module www.careersafeonline.com

Cross Curricular Connections:

- Health: Applying safety skills during physical activities
- ELA:
  - Technical reading
  - Writing
  - Discussion

Depth of Knowledge (Section 5)

DOK: 3

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Curriculum: Building Trades I

Curricular Unit: Math in Building Trades

Instructional: B. Basic operations of REAL numbers

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (MA) 1,2,4,5
CCSS: N-Q.1; N-Q.3; N-RN.1; G-MG.1; G-MGD.1; G-MGD.3; G-CO.12; A-CED.1; A-CED.4; A-REI.11; A-REI.13; F-BF.1
NETS: 1a; 4b
Performance: 1.10, 3.3

Unit (Section 3)

Learning Targets:

- Apply and extend previous understandings of adding/subtracting/multiplying/dividing of whole numbers to solve practical problems
- Apply and extend previous understandings of adding/subtracting/multiplying/dividing of fractions to solve practical problems
- Apply and extend previous understandings of adding/subtracting/multiplying/dividing of decimals to solve practical problems
- Apply and extend previous understandings of ratios, proportions, and percents to solve practical problems
- **Use a variety of tools and methods to solve and design problems. (i.e., standard/metric ruler, architect/engineer scale, t-square, voltmeter, ammeter, ohmmeter, Vernier caliper, micrometer, hydrometer, etc.)**
- Convert and apply measurements to solve real-life and mathematical problems
- Recognize the basic shapes (2D and 3D) used in industry and apply basic geometry to measure them
- Use and apply formulas to solve real-life and mathematical problems (e.g., Pythagorean Theorem, Volume, Area, etc.)
- Solve power and root equations as they apply to real-life and mathematical problems
- Explain the metric system and how it is important in the construction trade
- Recognize and use metric units of length, weight, volume, and temperature

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- COMPASS Test-Prep: Practice Algebra COMPASS test-prep targets ranging from Pre-Algebra through College Algebra

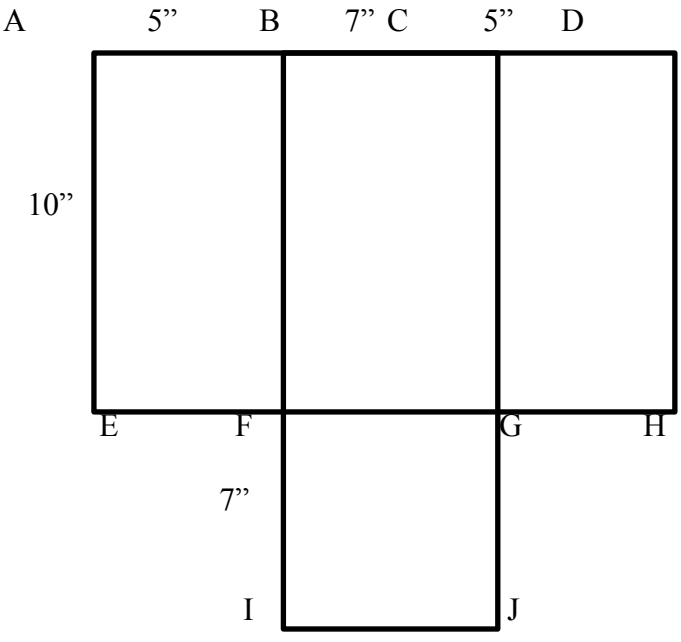
Instructional Strategies:

- The teacher will:
  - use classroom instruction and/or demonstrations to introduce or revisit targets required to practice the competency at hand
  - model appropriate work required to complete the task
  - direct students to appropriate resources when needed
  - provide:
    - examples of good vs. poor work
    - feedback during and at the conclusion of the assignment
    - small learning group opportunities when applicable

Assessments/Evaluations:

- Formative:
  - Projects/activities
  - Constructions
  - Worksheets
  - Quizzes
  - Games
- Summative: The only summative given is the Term Exam which is comprehensive of both the relevant math and the compass test-prep targets practiced

Sample Assessment Questions:



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Instructional Resources/Tools:

- Variety of textbooks/workbooks: *Practical Problems in Mathematics for Carpenters, 8th Edition*, Huth & Huth, 2006
- Internet sources (examples):
  - Ruler game: http://www.rulergame.net/
  - Edgnuity (Compass Test-Prep): https://learn.education2020.com/student/
- Supplies and tools, such as:
  - rulers
  - scales
  - t-square
  - drafting boards
  - triangles
  - compass
  - protractor
- Technology tools:
  - SMART Board
  - iPad
  - Laptop
  - Scanner
  - Student desktops
  - Printer

Cross Curricular Connections:

- Embedded Math

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular Unit: Orientation to the Trade

Instructional Unit: C. Reviews the history of the trade, describes the apprentice program, identifies career opportunities for carpentry and construction workers, and lists the skills, responsibilities, and characteristics a worker should possess

Standard Alignments (Section 2)

SSCLE: ECP.4.A,I
Knowledge: (CA) 5 (SS) 4
CCSS: 11-12.SL.3; 11-12.SL.5; 11-12.SL.6
NETS: 1d; 2b; 3b
Performance: 1.1, 2.1, 4.1

Unit (Section 3)

Learning Targets:

- Identify the training opportunities within the carpentry trade
- Identify the skills needed to be a successful carpenter
- Identify the responsibilities of a successful carpenter
- State the personal characteristics of a successful carpenter
- Summarize how to be connected to the industry through an organization like SkillsUSA
- Explain the importance of safety in the construction industry, and describe the obligations of the contractor and subcontractors to ensure a safe work environment

Instructional Strategies:

- The teacher will lecture/discuss the trade guided by a multi-media presentation
- Students will:
  - research topics related to the construction industry and present findings
  - read the pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

- Formative:
  - Informal class presentation using media
  - Unit quizzes
- Summative: Unit tests

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Sample Assessment Questions:

- A person who has achieved and continuously demonstrates the highest skill levels in the carpentry trade is a(n)_____.
  - Estimator
  - Journeyman carpenter
  - Master carpenter
  - apprentice

Instructional Resources/Tools:

- *NCCER Carpentry*, Level 1
- BLS Occupational Outlook Handbook (http://www.bls.gov/ooh/)
- Various online databases and websites for research
- Laptops or tablets with presentation applications

Cross Curricular Connections:

- ELA:
  - Listening
  - Technical reading
  - Research
  - Presentation skills
- Social Studies: Role of industry in the US and world economy

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular Unit: Introduction to Materials Handling, Fasteners, and Adhesives

Instructional Unit: D. Identify various types of building materials and describe their uses

Standard Alignments (Section 2)

SCCLE: SC1.1.A,B
Knowledge: (CA) 1,3 (MA) 1 (SC) 1
CCSS: 11-12.RST.3, 11-12.RST.6; 11-12.RST.SL.4; N-Q.1; N-Q.2; N-Q.3
NETS: 3a; 2b
Performance: 1.1, 2.1, 4.1

Unit (Section 3)

Learning Targets:

- Identify various types of building materials and describe their uses
- **Identify safety precautions associated with building materials**
- Describe the proper method of handling and storing building materials
- Explain how to calculate the quantities of lumber, panel, and concrete products using industry standard methods

Instructional Strategies:

- The teacher will:
  - demonstrate materials
  - lecture/discuss guided by a multimedia presentation
  - provide guided practice calculating material quantities
- Students will:
  - read the pertinent chapter in the textbook and complete guided notes
  - research and present on assigned building material
  - complete the CareerSafe online module over materials handling

Assessments/Evaluations:

- Formative:
  - Informal presentation introducing assigned building material
  - Unit quizzes
- Formative/summative: Material calculation assessment
- Summative: Unit tests
- CareerSafe online assessment:
  - Practice tests – formative
  - Summative tests – summative

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Sample Assessment Questions:

- Bags of cement contain one cubic foot of cement by volume and weigh approximately _____.
  - 25 pounds
  - 68 pounds
  - 86 pounds
  - 94 pounds

Instructional Resources/Tools:

- *NCCER Carpentry Level 1*
- CareerSafe online module: www.careersafeonline.com
- Various websites for research

Cross Curricular Connections:

- ELA:
  - Listening
  - Technical reading
  - Research
  - Presentation skills
- Science: Understanding properties of matter
- Math: Number sense

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular Unit: Introduction to Hand Tools

Instructional Unit: E. Introduces hand tools used in the construction industry

Standard Alignments (Section 2)

HEGLE: HME.4.A
Knowledge: (CA) 3 (H/PE) 6,7
CCSS: 11-12.RST.3; 11-12.L.6
NETS: 4c
Performance: 4.1, 4.7

Unit (Section 3)

Learning Targets:

- Recognize and identify some of the basic hand tools and their proper uses in the construction trade
- Visually inspect hand tools to determine if they are safe to use
- **Safely use hand tools**

Instructional Strategies:

- The teacher will:
  - lecture on/demonstrate each hand tool
  - provide a hand tool lab
- Students will:
  - read the pertinent chapter in the textbook and complete guided notes
  - complete CareerSafe online modules

Assessments/Evaluations:

- Teacher observation for each hand tool
- Formative: Unit quizzes
- Summative: Unit tests
- CareerSafe online assessment:
  - Practice tests – formative
  - Final tests – summative

Sample Assessment Questions:

- Which of the following tools is especially useful when laying out angle cuts for roof rafters?
  A. Try square
  B. Combination square
  C. Drywall square
  D. Speed square

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Instructional Resources/Tools:

- *NCCER Core*
- *NCCER Carpentry Level 1*

Cross Curricular Connections:

- Health: Apply safety skills during physical activities
- ELA:
  - Technical reading
  - Writing
  - Discussion

Depth of Knowledge (Section 5)

DOK: 2

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Curriculum: Building Trades I

Curricular Unit: Introduction to Power Tools

Instructional Unit: F. Introduces power tools used in the construction industry

Standard Alignments (Section 2)

GLE/CLE: HME.4.A
Knowledge: (CA) 3 (H/PE) 6,7
CCSS: 11-12.RST.3; 11-12.L.6
NETS: 4c
Performance: 4.1, 4.7

Unit (Section 3)

Learning Targets:

- Identify power tools commonly used in construction trades
- **Use power tools safely**
- Explain how to maintain power tools properly

Instructional Strategies:

- The teacher will:
  - demonstrate each power tool
  - lecture on/discuss characteristics of each power tool
- Students will:
  - read the pertinent chapter in the textbook and complete guided notes
  - complete CareerSafe online modules

Assessments/Evaluations:

- Teacher observation of power tool use
- CareerSafe online assessment:
  - Practice tests – formative
  - Final tests – summative
- Formative: Unit quizzes
- Summative: Unit tests

Sample Assessment Questions:

- Identify the parts of a circular saw.

Instructional Resources/Tools:

- *NCCER Core*
- *NCCER Carpentry Level 1*
- CareerSafe online module: www.careersafeonline.com

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Cross Curricular Connections:

- Health: Apply safety skills during physical activities
- ELA:
  - Technical reading
  - Writing
  - Discussion

Depth of Knowledge (Section 5)

DOK: 2

Curriculum: Building Trades I

Curricular Unit: Introduction to Construction Drawings

Instructional Unit: G. Interpret construction drawings, recognize classifications of drawings, and use drawing dimensions

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 3 (MA) 1,2
CCSS: 11-12.RST.4; 11-12.L.6; N-Q.1; G-MG.1; G-MG.2; G-MG.3
NETS: 1c; 4a
Performance: 1.8, 1.10, 2.1, 3.1

Unit (Section 3)

Learning Targets:

- **Recognize and identify basic construction drawing terms, components, and symbols**
- Relate information on construction drawings to actual locations on the print
- Recognize different classifications of construction drawings
- Interpret and use drawing dimensions

Instructional Strategies:

- The teacher will:
  - demonstration of construction drawings
  - lecture on/discuss construction drawing practices guided by a multimedia presentation
  - provide guided practice creating construction drawings
- Students will read the pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

- Formative:
  - Teacher observation of practice drawings
  - Unit quizzes
- Summative:
  - Shop Drawing – assessed using the Shop Drawing summative scoring guide
  - Unit test

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Sample Assessment Questions:

- The numbering system for *MasterFormat 2012* contains _____.
  - four digits
  - six digits
  - ten digits
  - sixteen digits

Instructional Resources/Tools:

- *NCCER Core*
- *NCCER Carpentry Level 1*

Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Math:
  - Number sense
  - Geometric/spatial sense

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular Unit: Floor Systems

Instructional Unit: H. Understanding materials and methods used in residential floor systems

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 3 (MA) 1,2
CCSS: 11-12.RST.2; 11-12.L.6; A-CED.4; N-Q.1; G-MG.3
NETS: 4b,c
Performance: 3.1, 3.2

Unit (Section 3)

Learning Targets:

- Read and interpret specifications and drawings to determine floor system requirements
- Identify the different types of framing systems
- Identify floor system components
- Describe the construction methods for floor systems, and identify floor system materials
- Estimate the amount of material needed for a floor assembly
- Identify some common alternative floor systems

Instructional Strategies:

- The teacher will:
  - demonstrate floor framing
  - lecture on/discuss floor framing
  - provide guided practice when building floor framing
- Students will read the pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

- Teacher observation using floor frame scoring guide
- Formative: Unit quizzes
- Summative: Unit tests

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Sample Assessment Questions:

- When installing joists, ensure the crown points _____.
  - To the left
  - Down
  - Up
  - To the right

Instructional Resources/Tools:

- *NCCER Carpentry Level 1*

Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Math:
  - Number sense
  - Using formulas
  - Geometry concepts

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular Unit: Wall Framing Systems

Instructional Unit: I. Identify, describe, and build wall-framing systems

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 3 (MA) 2
CCSS: 11-12.RST.3; N-Q.1; G-GMD.4; G-MG.3
NETS: 4b,c
Performance: 3.1, 3.2

Unit (Section 3)

Learning Targets:

- **Identify the components used of a wall system**
- Describe the procedure for laying out a wood frame wall, including plates, corner posts, door and window openings, partition T's, bracing, and fire stops
- Describe the correct procedure for assembling and erecting an exterior wall
- Identify the common materials and methods used for installing sheathing on walls
- Describe the correct procedure to estimate the materials required to frame walls
- Identify alternative wall systems
- Lay out, assemble, erect, and brace exterior walls for a frame building

Instructional Strategies:

- The teacher will:
  - demonstrate wall framing
  - lecture on/discuss wall framing practices guided by a multimedia presentation
  - provide guided practice building wall framing systems
- Students will:
  - read the pertinent chapter in the textbook and complete guided notes
  - create a wall framing blueprint

Assessments/Evaluations:

- Formative: Unit quizzes
- Summative:
  - Teacher observation using Wall Framing scoring guide
  - Wall framing blueprint from teacher model using Wall Framing Blueprint scoring guide
  - Unit tests

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Sample Assessment Questions:

- When nailing framing members together for a 2 x 6 wall, use _____.
  - Two 8d nails
  - Three 8d nails
  - Three 12d nails
  - Three 16d nails

Instructional Resources/Tools:

- *NCCER Carpentry, Level 1*

Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Math:
  - Number sense
  - Geometry concepts

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular: Ceiling Joist and Roof Framing

Instructional Unit: J. Understand methods and procedures used in ceiling and roof framing

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 3 (MA) 2
CCSS: 11-12.RST.3; N-Q.1; G-GMD.4; G-MG 3
NETS: 4b,c
Performance: 3.1, 3.2

Unit (Section 3)

Learning Targets:

- Identify the components of ceiling and roof framing
- Identify common types of roofs used in residential construction
- Identify the components and define the terms associated with roof framing
- Describe the methods used to lay out a common rafter
- Describe how to erect a gable roof
- Describe how to frame a basic gable end wall
- Recognize the use of trusses in basic roof framing
- Describe the basics of roof sheathing installation
- Describe how to perform a material takeoff for a roof
- Cut and install ceiling joists on a wood frame building

Instructional Strategies:

- The teacher will:
  - demonstrate ceiling and roof framing
  - lecture on/discuss ceiling and roof framing practices guided by a multimedia presentation
  - provide guided practice implementing ceiling and roof framing practices
- Students will read the pertinent chapter in the textbook and complete guided notes

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Assessments/Evaluations:

- Teacher observation using the Ceiling and Roof Installation scoring guide
- Formative: Unit quizzes
- Summative: Unit tests

Sample Assessment Questions:

- A hip rafter has _____.
  A. Two sloping sides
  B. Four sloping sides
  C. Four sloping sides, each with a double slope
  D. Two sloping sides, each with a double slope

Instructional Resources/Tools:

- *NCCER Carpentry Level 1*

Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Math:
  - Number sense
  - Geometry concepts

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular Unit: Roofing Materials & Methods

Instructional Unit: K. Understand methods and procedures used in roofing applications

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 3 (MA) 1
CCSS: 11-12.RST.3; N-Q.1; N-Q.2; N-Q.3
NETS: 4b,c
Performance: 3.1, 3.2

Unit (Section 3)

Learning Targets:

- List the covering materials commonly used for sloping roofs
- Define roofing terms
- Describe how to prepare and install the roof deck
- Describe reroofing procedures for asphalt shingles
- Demonstrate correct nailing patterns
- Select appropriate roofing materials for various slopes and conditions
- Explain how various roofing products are applied
- Estimate materials needed for a specific roofing job
- Lay out and install three-tab shingles

Instructional Strategies:

- The teacher will:
  - demonstrate roofing materials and methods
  - lecture on/discuss roofing materials and method practices guided by a multimedia presentation
  - provide guided practice implementing roofing materials and methods
- Students will read the pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

- Teacher observation of installation using Roofing Materials and Methods scoring guide
- Formative: Unit quizzes
- Summative: Unit tests

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Sample Assessment Questions:
• _____ is a self-sealing barrier applied to the eaves in cold climates.
Instructional Resources/Tools:
• *Modern Carpentry, 11th Edition*
Cross Curricular Connections:

• ELA:
  • Technical reading
  • Writing
  • Discussion
• Math: Number sense

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular: Cabinetmaking

Instructional Unit: L. Identify, demonstrate, explain, and implement the concepts in cabinet making and installation

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 3 (MA) 1,2
CCSS: 11-12.RST.3; N-Q.1; N-Q.2; N-Q.3; G-GMD 4; G-MG.1; G-MG.3
NETS: 4b,c
Performance: 3.1, 3.2

Unit (Section 3)

Learning Targets:

- Build and install a plastic laminate surface
- Estimate a cut sheet from blueprints
- Apply finishes and precautions to a cabinet
- Identify the parts of a cabinetry system
- **Build a cabinet from a prescribed blueprint**
- Install a cabinet system

Instructional Strategies:

- The teacher will:
  - demonstrate cabinetmaking
  - lecture on/discuss cabinetmaking practices guided by a multimedia presentation
  - provide guided practice implementing cabinetmaking techniques
- Students will read the pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

- Teacher observation using Cabinetmaking and Methods scoring guide
- Formative: Unit quizzes
- Summative: Unit tests

Sample Assessment Questions:

- Vertical members used to face a cabinet are called _____.

Instructional Resources/Tools:

- Modern Carpentry 11th Edition

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Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Math:
  - Number sense
  - Geometry concepts

Depth of Knowledge (Section 5)

DOK: 3

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Curriculum: Building Trades I

Curricular Unit: Basic Communication Skills

Instructional Unit: M. Interpret information in written and verbal form and communicate effectively using written and verbal skills

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 1,4,6
CCSS: 11-12.SL.4; 11-12.WHST.8; 11-12.W.8
NETS: 2a,b
Performance: 2.1, 2.2, 2.7

Unit (Section 3)

Learning Targets:

- Interpret information and instructions presented in both verbal and written form
- Communicate effectively on-the-job situations using verbal and written skills
- Communication effectively on the job using electronic communication devices

Instructional Strategies:

- The teacher will:
  - lecture on/discuss basic communication skills guided by a multimedia presentation
  - provide guided practice presenting to the class
- Students will read the pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

- Presentation skills assessed throughout course
- Class presentations incorporated in several curricular units
- Formative: Unit quizzes
- Summative: Unit tests

Sample Assessment Questions:

- Good communication on the job site _____.
  A. affects safety, schedules, and budgets
  B. will make you popular
  C. takes too much time
  D. cannot be learned

Instructional Resources/Tools:

- *NCCER Core Curriculum, Fourth Edition*

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Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular Unit: Writing for Employment

Instructional Unit: N. Writing résumés and cover letters

Standard Alignments (Section 2)

GLE/CLE: ECP.4.A
Knowledge: (CA) 1,4,7 (SS) 6
CCSS: 11-12.WHST.4; 11-12.WHST.5; 11-12.WHST.6
NETS: 1b; 6a,b
Performance: 1.4, 1.8, 1.10, 2.1

Unit (Section 3)

Learning Targets:

- Explain the role of an employee in the construction industry
- Understand purpose and audience in employment writing
- Use precise, effective word choice
- Organize information for clarity and purpose
- Revise writing effectively
- Collaborate to improve writing of peers and self

Instructional Strategies:

- Students will:
  - investigate job posting in the auto tech field
  - identify and discuss most common desired employee requirements and qualities
  - construct a job objective and qualifications statement based on results of investigation
- The teacher will:
  - discuss components of a functional résumé and cover letter
  - guide creation and revision of résumés and cover letters

Assessments/Evaluations:

- Formative:
  - Construction Target Job Requirements Partner Research Guide
  - Résumé and cover letter drafts
- Summative: Résumé and cover letter final draft

Sample Assessment Questions:

- Visit the three websites listed below. Under <u>each site</u>, list three different job requirements or desired employee qualities you find in postings for positions in the construction trades. Try to choose different requirements or qualities from each site.

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Instructional Resources/Tools:

- Websites:
  - MidMoCareers.com
  - Monster.com
  - Careerbuilder.com
  - BLS Occupational Outlook Handbook (online)
- Google Drive and Docs
- Computer

Cross Curricular Connections:

- Social Studies: Apply economic concepts such as unemployment and full employment
- ELA:
  - Researching
  - Reading
  - Writing – forms

Depth of Knowledge (Section 5)

DOK: 3

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Curriculum: Building Trades I

Curricular Unit: Basic Rigging

Instructional Unit: O. Introduce slings and common rigging hardware, basic inspection techniques, hitch configurations, and load-handling safety practices, as well as how to use American National Standards Institute hand signals

Standard Alignments (Section 2)

HEGLE: HME.4.A
Knowledge: (H/PE) 6,7 (SC) 8
CCSS: 11-12.SL.1; 11-12.SL.2; 11-12.RST.3; 11-12.RST.4
NETS: 3b; 4b
Performance: 2.1, 3.1, 4.1

Unit (Section 3)

Learning Targets:

- Identify and describe the use of slings and common rigging hardware
- Describe basic inspection techniques and rejection criteria used for slings and hardware
- Describe basic hitch configurations and their proper connections
- Describe basic load-handling safety practices
- Demonstrate proper use of American National Standards Institute (ANSI) hand signals
- Explain safety practices related to basic rigging practices

Instructional Strategies:

- The teacher will:
  - demonstration of basic rigging
  - lecture on/discuss basic rigging practices guided by a multimedia presentation
- Students will:
  - read the pertinent chapter in the textbook and complete guided notes
  - complete CareerSafe online modules

Assessments/Evaluations:

- CareerSafe online assessments:
  - Practice tests – formative
  - Final tests – summative
- Formative: Unit quizzes
- Summative: Unit tests

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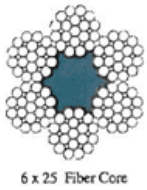
Sample Assessment Questions:

- **A fiber core wire rope has _____ breaking strength than a wire rope with an independent wire rope core.**



a. the same
b. more
c. less

Instructional Resources/Tools:

- *NCCER Core Curriculum, Fourth Edition*
- CareerSafe online module www.careersafeonline.com

Cross Curricular Connections:

- Health: Apply safety skills during physical activities
- ELA:
  - Technical reading
  - Writing
  - Discussion

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades I

Curricular: Introduction to Building Envelope Systems

Instructional Unit: P. Understand and explain the components of the building envelope

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 3
CCSS: 11-12.RST.3; 11-12.RST.7; 11-12.RST.9
NETS: 4b
Performance: 3.7, 3.8

Unit (Section 3)

Learning Targets:

- Identify the components of the building envelope
- State the requirements for proper window installation
- State the requirements for proper door installation
- Identify the various types of locksets used on exterior doors and explain how they are installed

Instructional Strategies:

- The teacher will lecture/discuss the building envelope system guided by a multimedia presentation
- Students will read the pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

- Formative: Unit quizzes
- Summative: Unit tests

Sample Assessment Questions:

- The framework around the glass in a window is the _____.
  A. Schenker
  B. Sash
  C. Casing
  D. Header

Instructional Resources/Tools:

- *NCCER Carpentry, Level 1*

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Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion

Depth of Knowledge (Section 5)

DOK: 2

Curriculum: Building Trades I

Curricular: Basic Stair Layout

Instructional Unit: Q. Introduces the materials and methods used to construct interior and exterior wooden stairs

Standard Alignments (Section 2)

GLE/CLE: N/A
Knowledge: (CA) 3 (MA) 1,2
CCSS: 11-12.RST.3; 11-12.L.6; N-Q.1; G-MG.3; A-CED.4
NETS: 1a; 6a
Performance: 1.6, 3.1

Unit (Section 3)

Learning Targets:

- Identify the types of stairways
- Identify the various components associated with stairs
- Identify terms associated with stair framing
- Describe the procedure used to determine the total rise, number and size of risers, and number and size on treads required for a stairway
- Describe the procedure to layout and cut stringers, risers, and treads
- Construct a stair stringer

Instructional Strategies:

- The teacher will:
  - lecture on/discuss stair layout guided by a multimedia presentation
  - provide guided practice constructing a stair stringer
- Students will read the pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

- Formative: Unit quizzes
- Summative: Unit tests
- Teacher observation using the Stair Layout scoring guide

Sample Assessment Questions:

- Explain why geometrical stairways can be potentially dangerous if not properly constructed.

Instructional Resources/Tools:

- *NCCER Carpentry, Level 1*

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Cross Curricular Connections:

- ELA:
  - Technical reading
  - Writing
  - Discussion
- Math:
  - Number sense
  - Geometry concepts
  - Using formulas

Depth of Knowledge (Section 5)

DOK: 3

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