

Curriculum: Building Trades II

Curricular Unit: Building Trades Safety

Instructional Unit: A. Identify and apply all personal and work place safety procedures

Standard Alignments (Section 2)

HECLE: HME.4.A
Knowledge: (H/PE) 6,7
CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4
NETS: 1c; 4b
Performance: 3.1, 4.7

Unit (Section 3)

Learning Targets:

- Demonstrate appropriate safety practices
- **Identify proper use and care of power and hand tools**
- Identify other construction hazards on your job site, including hazardous material exposures, environmental elements, welding and cutting hazards, confined spaces, and fires
- Explain fall protection, ladder, stair, and scaffold procedures and requirements
- Use pneumatic tools safely

Instructional Strategies:

- The teacher will model/demonstrate proper safety procedures
- Students will:
 - participate in teacher-led class discussions/demonstrations
 - demonstrate safe use and maintenance of the hand and power tools (e.g., power saw, hammer, table saw, etc.)

Assessments/Evaluations:

- Each student will take a formative quiz over each power and/or hand tool
- Formative quizzes are used as study guides for the Summative Safety Test
- Student demonstration of proper safety procedures – assessed using teacher observation

Sample Assessment Questions:

- Circular saws are equipped with blade guards (above) and below the base.

Instructional Resources/Tools:

- Current industry tools, such as:
 - hand tools
 - power tool
- Textbook: *Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004
- DVD/videos: *Fall Protection: It's No Game!*, Meridian Education Corporation © 2001

Cross Curricular Connections:

- ELA:
 - Technical reading
 - Writing
 - Discussion

Depth of Knowledge (Section 5)

DOK: 2

Curriculum: Building Trades II

Curricular Unit: Building Design and Print Reading

Instructional: B. Understand and demonstrate all the elements of building design

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 1,3 (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1; G-MG.1; G-MG.2. G-MG.3

NETS: 1a; 4a

Performance: 1.8, 1.10, 3.1, 3.5

Unit (Section 3)

Learning Targets:

- Explain the importance of having detail drawings before the start of construction
- **Draw a house plan to scale**
- Recognize and identify basic construction drawing terms and the different types of lines used on construction drawings
- Interpret and use drawing dimensions
- Explain building codes and discuss the process of obtaining a building permit

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper drafting techniques
- Student's activity: Read Textbook Ch. 27 – Floor Plans, pgs. 204-206 to determine the central idea of the text

Assessments/Evaluations:

- Formative:
 - Workbook assignment: Ch. 27 – Floor Plans, pgs. 103-106
 - Students will practice drawings of all types of dimension lines with markings
- Summative test:
 - Performance: Students will draw a scaled drawing of a 3-bedroom house with all construction lines and markings properly drawn
 - Written: Students will take a written test on the unit concepts

Sample Assessment Questions:

- Arrows are used on a floor plan to show the direction in which ceiling joists run. (T/F)

Instructional Resources/Tools:

- Current industry tools, such as drafting equipment
- Computer software: *Home and Landscape Design*, © 2009 Punch Software
- Textbook: *Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004

Cross Curricular Connections:

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

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: Establish Level-Grade using Appropriate Instrumentation

Instructional: C. Accurately lay out a building site to verify grades and elevations

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 1 (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1; G-MG.1;
G-MG.3

NETS: 1a; 2a; 6a

Performance: 1.8, 3.1, 4.1

Unit (Section 3)

Learning Targets:

- Describe common operations performed with builder's levels
- Identify common components of transit-levels
- **Review the procedure for setting up transit-levels**
- Establish level/grade using appropriate instrumentation

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper levels
- Student's activity: Read Textbook Ch. 33 – Builder's Levels, Automatic Level, and Transit-Levels, pgs. 240-256 to determine the central idea of the text

Assessments/Evaluations:

- Formative:
 - Workbook assignment: Ch. 33 – Builder's Levels, Automatic Level, and Transit-Levels, pgs. 121-125
 - Students practice setting up the transit level
- Summative test:
 - Performance: Students will work in pairs to shoot multiple grades and set up all the different types of levels
 - Written: Students take a written test on the unit concepts

Sample Assessment Questions:

- The tripod of a builder's level may have ____ legs.
 - A. adjustable
 - B. extension
 - C. three
 - D. all of the above**

Instructional Resources/Tools:

- Current industry tools, such as a:
 - tripod
 - transit level
 - leveling rod
- Textbook: *Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004

Cross Curricular Connections:

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

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: Foundation Designs, Form Construction, and Concrete

Instructional: D. Forms are properly constructed and braced to ensure proper concrete placement

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 3 (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1; G-MG.1;
G-MG.3, G-GMD.3, A-CED.4

NETS: 1a; 4b

Performance: 1.10, 3.1, 3.3, 4.7

Unit (Section 3)

Learning Targets:

- Describe the composition of concrete
- **Perform volume estimates for concrete quantity requirements**
- Identify types of concrete reinforcement materials and describe their uses
- Describe the common types and functions of foundation walls and footings
- Build and install forms for horizontal concrete (i.e., slab on grade)
- Pour and screed concrete to grade
- Identify, locate, and install specified reinforcement materials (i.e., rebar)

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper techniques
- Student's activity: Read Textbook Ch. 39 – Foundation Designs – Form Construction, pgs. 294-312 to determine the central idea of the text

Assessments/Evaluations:

- Formative: Workbook assignment: Ch. 39 – Foundation Designs – Form Construction, pgs. 143-145
- Formative/summative test:
 - Students will model/demonstrate the proper procedure introduced in this on the actual jobsite
 - Techniques introduced in this unit are observed and monitored every day by the teacher
 - Unit competencies are assessed throughout the entire building process
 - Written: Students take a written test on the unit concepts

Sample Assessment Questions:

- The concrete footings and walls of a low T-foundation are poured _____.
 - A. Footings first
 - B. Walls first
 - C. At the same time**
 - D. In no particular order

Instructional Resources/Tools:

- Current industry tools, such as:
 - forms
 - stakes
 - transits
- Textbook: *Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004
- DVD/videos: *Foundations*, Meridian Education Corporation © 2001

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 II

Curricular Unit: Lay Out Floor Joist System and Construction of Stairs

Instructional: E. Calculate and build a floor framing system and stairs

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 3 (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1; G-MG.3;
A-CED.4

NETS: 1a; 4b

Performance: 1.10, 3.1, 3.3, 4.7

Unit (Section 3)

Learning Targets:

- Identify the types of stairs
- Calculate rise and run for stair stringers
- **Layout and cut stringers, risers, and treads required for a stairway**
- List and recognize different types of floor joists
- Lay out and frame floor systems

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper techniques
- Student's activity: Read Textbook Ch. 42-Floor Framing, pgs. 324-350; Ch. 63-Types of Stairways, pgs. 644-652; and Ch. 64-Stairway Construction, pgs. 653-662 to determine the central idea of the text

Assessments/Evaluations:

- Formative:
 - Workbook assignment: Ch. 42-Floor Framing, pgs. 151-156; Ch. 63-Types of Stairways, pgs. 233-236; and Ch. 64-Stairway Construction, pgs. 237, 238
- Formative/summative test:
 - Students will model/demonstrate proper procedure introduced in this on the actual jobsite
 - Techniques introduced in this unit are observed and monitored every day by the teacher
 - Unit competencies are assessed throughout the entire building process
 - Written: Students take a written test on the unit concepts

Sample Assessment Questions:
<ul style="list-style-type: none"> Non-load-bearing beams must support the dead load and the live load of the floor system directly above. (T/F)
Instructional Resources/Tools:
<ul style="list-style-type: none"> Current industry tools, such as a: <ul style="list-style-type: none"> framing square power saw Textbook: <i>Carpentry Text: Carpentry, 4th Edition</i>, Leonard Koel © 2004 Resource guide: <i>Carpentry Resource Guide, 4th Edition</i>, ATP Staff © 2004 Workbook: <i>Carpentry Workbook, 4th Edition</i>, Thomas Proctor © 2004 DVD/videos: <ul style="list-style-type: none"> <i>Basic Stair Building</i>, Scott Schuttner © 1990 <i>Floor and Wall Framing</i>, Meridian Education Corporation © 2001
Cross Curricular Connections:
<ul style="list-style-type: none"> ELA: <ul style="list-style-type: none"> Technical reading Writing Discussion Math: <ul style="list-style-type: none"> Number sense Geometry concepts Using formulas

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: Layout Walls and Framing Members

Instructional: F. Calculate and build walls and all the framing members

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 3 (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1; G-MG.3

NETS: 1a; 4b

Performance: 1.10, 3.1, 3.3, 4.7

Unit (Section 3)

Learning Targets:

- **Describe the procedure for laying out a wood frame wall, including plates, corner posts, door and window openings, partition T's, bracings, and firestops**
- Construct, align, and brace stud partitions and walls
- Install exterior wall sheathing

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper techniques
- Student's activity: Read Textbook Ch. 43-Wall Framing, pgs. 351-381 to determine the central idea of the text

Assessments/Evaluations:

- Formative: Workbook assignment: Ch. 43-Wall Framing, pgs. 157-160
- Formative/summative test:
 - Students will model/demonstrate proper procedure introduced in this on the actual jobsite
 - Techniques introduced in this unit are observed and monitored every day by the teacher
 - Unit competencies are assessed throughout the entire building process
 - Written: Students take a written test on the unit concepts

Sample Assessment Questions:

- Headers are supported by (*trimmer*) studs, which fit between the sole plate and the bottom of the header.

Instructional Resources/Tools:

- Current industry tools, such as a:
 - hammer
 - power saw
- Textbook: *Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004
- DVD/videos: *Floor and Wall Framing*, Meridian Education Corporation © 2001

Cross Curricular Connections:

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

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: Layout, Cut and Install a Common Rafter System

Instructional: G. Calculate and build rafters for various roof-framing constructions

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 3 (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1; G-MG.3

NETS: 3b; 4b

Performance: 1.10, 3.1, 3.3, 4.7

Unit (Section 3)

Learning Targets:

- Understand the terms associated with roof framing
- Identify the roof framing members used in gable and hip roofs
- Demonstrate the usage of a rafter framing square and speed square in laying out a roof
- Identify the parts of a common rafter
- **Use various methods to calculate the length of a rafter**
- Frame a gable roof with vent openings
- Frame the roof opening
- Erect a gable roof
- Install roof sheathing

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper techniques
- Student's activity: Read Textbook Ch. 46-Basic Roof Types and Roof Theory, pgs. 412-417 and Ch. 47-Gable, Gambrel, and Shed Roofs, pgs. 418-434 to determine the central idea of the text

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> Formative: Workbook assignment – Ch. 46-Basic Roof Types and Roof Theory, pgs. 167-170 and Ch. 47-Gable, Gambrel, and Shed Roofs, pgs. 171-174 Formative/summative test: <ul style="list-style-type: none"> Students will model/demonstrate proper procedure introduced in this on the actual jobsite Techniques introduced in this unit are observed and monitored every day by the instructor Unit competencies are assessed throughout the entire building process Written: Students will take a written test on the unit concepts
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> A hip roof is easier to construct than a gable roof. (T/F)
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> Current industry tools, such as: <ul style="list-style-type: none"> framing square power saw Textbook: <i>Carpentry Text: Carpentry, 4th Edition</i>, Leonard Koel © 2004 Resource Guide: <i>Carpentry Resource Guide, 4th Edition</i>, ATP Staff © 2004 Workbook: <i>Carpentry Workbook, 4th Edition</i>, Thomas Proctor © 2004 Reference guide: <i>Full Length Roof Framer</i>, A.F.J. Rienchers © 1992 DVD/videos: <ul style="list-style-type: none"> <i>Basic Roof Cutting</i>, Steve Peters © 1998 <i>Ceiling and Roof Framing</i>, Meridian Education Corporation © 2001
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> ELA: <ul style="list-style-type: none"> Technical reading Writing Discussion Math: <ul style="list-style-type: none"> Number sense Geometry concepts

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular: Unit: Roof Finish

Instructional: H. Calculate and install roofing components

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1; G-MG.3

NETS: 1a; 4b

Performance: 1.10, 3.3, 4.7

Unit (Section 3)

Learning Targets:

- **Install roofing components consistent with industry and safety standards**
- Install roofing felt
- Install composite shingle systems

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper techniques
- Student's activity: Read Textbook Ch. 55-Roof Finish, pgs. 516-531 to determine the central idea of the text

Assessments/Evaluations:

- Formative: Workbook Assignment: Ch. 55-Roof Finish, pgs. 203-206
- Formative/summative test:
 - Students will model/demonstrate proper procedure introduced in this on the actual jobsite
 - Techniques introduced in this unit are observed and monitored every day by the teacher
 - Unit competencies are assessed throughout the entire building process
 - Written: Students take a written test on the unit concepts

Sample Assessment Questions:

- Distance that one shingle overlaps a shingle two courses below it. (*Exposure*)

Instructional Resources/Tools:

- Current industry tools, such as a(n):
 - air-nailer
 - roofing hammer
- Textbook: *Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004
- DVD/Videos: “*Roofing and Siding*” © 2005 Hometime Video Publishing, Inc.

Cross Curricular Connections:

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

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: Exterior Wall Finish

Instructional: I. Calculate and install a variety of materials including siding, brick, and finish systems

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 3 (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1; G-MG.3

NETS: 1a; 4b

Performance: 1.10, 3.3, 4.7

Unit (Section 3)

Learning Targets:

- Identify vinyl siding accessories
- Identify and select masonry products
- **Install a variety of exterior wall materials including siding, brick, and finish systems**

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper techniques
- Student's activity: Read Textbook Ch. 57-Exterior Wall Finish, pgs. 547-570 to determine the central idea of the text

Assessments/Evaluations:

- Formative: Workbook Assignment: Ch. 57-Exterior Wall Finish, pgs. 213-217
- Formative/summative test:
 - Students will model/demonstrate proper procedure introduced in this on the actual jobsite
 - Techniques introduced in this unit are observed and monitored every day by the teacher
 - Unit competencies are assessed throughout the entire building process
 - Written: Students take a written test on the unit concepts

Sample Assessment Questions:

- Joints between lengths of vinyl siding should be vertically aligned. (T/F)

Instructional Resources/Tools:

- Current industry tools, such as a:
 - hammer
 - power saw
- Textbook: “*Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004
- DVD/videos: *Roofing and Siding*, Hometime Video Publishing, Inc. © 2005

Cross Curricular Connections:

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

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: Finish Drywall

Instructional: J. Calculate and install interior finishes

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (CA) 5 (MA) 1,2

CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4; N-Q.1, G-MG.3,
A-CED.4

NETS: 3a; 4b

Performance: 3.1, 3.3, 4.7

Unit (Section 3)

Learning Targets:

- Identify the different types of drywall and their uses
- Measure, cut, and install gypsum board
- Estimate square footage for materials needed in drywall installation
- **Explain how Gypsum Board is finished**

Instructional Strategies:

- Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper techniques
- Student's activity: Read Textbook Ch. 58-Interior Wall Finish, pgs. 572-589 to determine the central idea of the text

Assessments/Evaluations:

- Formative: Workbook Assignment: Ch. 58-Interior Wall Finish, pgs. 219-222
- Formative/summative test:
 - Students will model/demonstrate proper procedure introduced in this on the actual jobsite
 - Techniques introduced in this unit are observed and monitored every day by the teacher
 - Unit competencies are assessed throughout the entire building process
 - Written: Students take a written test on the unit concepts

Sample Assessment Questions:

- Joint (compound) is used to cover taped joints and nail dimples.

Instructional Resources/Tools:

- Current industry tools, such as:
 - 6-inch taping knife
 - banjo
- Textbook: *Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004
- DVD/videos: *Drywall*, Hometime Video Publishing, Inc. © 1998

Cross Curricular Connections:

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

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: Scaffolding and Ladders

Instructional: K. Demonstrate and assemble proper use of scaffolding and ladders

Standard Alignments (Section 2)

HEGLE: HME.4.A Knowledge: (H/PE) 4 CCSS: 11-12.SL.1; 11-12.RST.3; 11-12.RST.4; 11-12.WHST.4 NETS: 1a Performance: 3.2, 3.3, 4.7

Unit (Section 3)

Learning Targets:
<ul style="list-style-type: none">• Identify the components of a scaffold assembly and construct them• Identify common types of scaffolds• List and describe basic requirements for scaffold construction• List common safety precautions for scaffolds
Instructional Strategies:
<ul style="list-style-type: none">• Content is introduced by the teacher through guided lecture/discussion prior to the demonstration of the proper techniques• Student's activity: Read Textbook Ch. 20-Scaffolds and Ladders, pgs. 138-159 to determine the central idea of the text
Assessments/Evaluations:
<ul style="list-style-type: none">• Formative: Workbook assignment: Ch. 20-Scaffolds and Ladders, pgs. 77-80• Formative/summative test:<ul style="list-style-type: none">• Students will model/demonstrate proper procedure introduced in this on the actual jobsite• Techniques introduced in this unit are observed and monitored every day by the teacher• Written: Students take a written test on the unit concepts
Sample Assessment Questions:
<ul style="list-style-type: none">• All scaffolds more than 6' above the ground must have a guardrail system. (T/F)

Instructional Resources/Tools:

- Current industry tools, such as:
 - scaffolds
 - ladders
- Textbook: *Carpentry Text: Carpentry, 4th Edition*, Leonard Koel © 2004
- Resource guide: *Carpentry Resource Guide, 4th Edition*, ATP Staff © 2004
- Workbook: *Carpentry Workbook, 4th Edition*, Thomas Proctor © 2004

Cross Curricular Connections:

- ELA:
 - Technical reading
 - Writing
 - Discussion

Depth of Knowledge (Section 5)

DOK: 2

Curriculum: Embedded Math (T&I Courses)

Curricular Unit: Math in Building Trades

Instructional Unit: L. Apply math skills required in industry

Standard Alignments (Section 2)

GLE/CLE: N/A

Knowledge: (MA) 1,2,4,5

CCSS: 11-12.RST.3; 11-12.RST.4; 11-12.RST.9; 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, 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
- COMPASS Test-Prep: Practice Algebra COMPASS test-prep targets ranging from Pre-Algebra through College Algebra

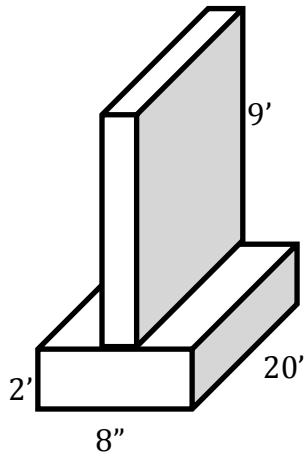
Instructional Strategies:

- 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:



$$V = \underline{\hspace{2cm}} \text{ ft}^3$$
$$V = \underline{\hspace{2cm}} \text{ yd}^3$$

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/>
 - Edgenuity (COMPASS Test-Prep): <https://learn.education2020.com/student/>

- Supplies and tools, such as:

- rulers
- scales
- t-squares
- drafting boards
- triangles
- compasses
- protractors

- Technology tools, such as:

- SMART Boards
- iPads
- laptops
- scanners
- student desktops
- printers

Cross Curricular Connections:

- Embedded Math
- ELA:
 - Following directions
 - Applying previously learned concepts to synthesize information into a coherent understanding of a process/procedure

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: 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
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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/discuss over basic communication skills guided by a multimedia presentation
 - provide guided practice:
 - presenting to the class
 - drafting work summary statements for log books
- Students will read pertinent chapter in the textbook and complete guided notes

Assessments/Evaluations:

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

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
 - Speaking and listening

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Building Trades II

Curricular Unit: Writing for Employment

Instructional Unit: N. Write 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
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Unit (Section 3)

Learning Targets:

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| <ul style="list-style-type: none">• 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 |
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Instructional Strategies:

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| <ul style="list-style-type: none">• Students will:<ul style="list-style-type: none">• investigate job postings in the auto tech field• identify and discuss most common desired employee requirements and qualities• construct job objectives and qualification statements based on results of investigation• The teacher will:<ul style="list-style-type: none">• discuss components of a functional résumé and cover letter• guide the creation and revision of résumés and cover letters |
|---|

Assessments/Evaluations:

- | |
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| <ul style="list-style-type: none">• Formative:<ul style="list-style-type: none">• Construction Target Job Requirements Partner Research Guide• Résumé and cover letter drafts• Summative: Résumé and cover letter final draft |
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Sample Assessment Questions:

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| <ul style="list-style-type: none">• 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 field. Try to choose different ones 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:
 - Writing: résumés and cover letters
 - Reading: job postings

Depth of Knowledge (Section 5)

DOK: 3