

DESE Model Curriculum

GRADE LEVEL/UNIT TITLE: 9-12 / Masonry — Materials and Tools

Course Code: CONSTRUCTION

COURSE INTRODUCTION: Masonry

This course is designed to give students practical experience within the masonry trade. Tools, materials, and techniques are discussed and demonstrated throughout the lessons. Units within this course include:

1. Materials and Tools
2. Basic Technique
3. Specialized Technique

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<p>UNIT DESCRIPTION: Materials and Tools These lessons are designed to introduce the masonry student to basic materials and tools used in the masonry trade.</p>		<p>SUGGESTED UNIT TIMELINE: 3 lessons Lesson 1: Tools and Equipment Lesson 2: Mortar, Grout, and Masonry Units Lesson 3: Metal Work and Other Reinforcement CLASS PERIOD (min.): 90 minutes each</p>				
<p>ESSENTIAL QUESTIONS:</p> <ol style="list-style-type: none"> 1. How do mortar and grout work with masonry units? 2. How are mortar, grout, and masonry units most efficiently used? 3. How are masonry structures most effectively used? 4. How is metal used in masonry? 5. What makes a given tool suitable for a given application? 6. Why are trade terms used within the masonry trade? 						
ESSENTIAL MEASURABLE LEARNING OBJECTIVES						
ESSENTIAL MEASURABLE LEARNING OBJECTIVES	CCSS LEARNING GOALS (Anchor Standards/Clusters)	CROSSWALK TO STANDARDS				
		GLEs/CLEs	PS	CCSS	NCCER	DOK
1. Students will demonstrate their knowledge of concepts and processes associated with mortar, grout, and masonry units.				L 9-10.1 L 9-10.2 L 9-10.4 L 9-10.6 L 11-12.1 L 11-12.2 L 11-12.4 L 11-12.6 RST 11-12.9	28104-04 28105-04 28202-05 28203-05	Level 2
2. Students will demonstrate their knowledge of concepts and terms associated with masonry hardware.				L 9-10.1 L 9-10.2 L 9-10.4 L 9-10.6 L 11-12.1 L 11-12.2 L 11-12.4	28203-05 28204-05	Level 1

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				L 11-12.6 RI 9-10.4 RI 11-12.4		
3. Students will demonstrate their knowledge of processes associated with reinforcement in masonry.				WHST 9-10.2 WHST 9-10.4 WHST 9-10.10 WHST 11-12.2 WHST 11-12.4 WHST 11-12.10 L 9-10.1 L 9-10.2 L 9-10.4 L 9-10.6 L 11-12.1 L 11-12.2 L 11-12.4 L 11-12.6 RST 9-10.3 RST 11-12.3 RST 11-12.9	28203-05 28204-05	Level 1
4. Students will distinguish among tools and equipment used in masonry and select suitable tools and equipment for given applications.				L 9-10.1 L 9-10.6 L 11-12.1 L 11-12.6 SL 9-10.1 SL 9-10.6 SL 11-12.1 SL 11-12.6	28102-04	Level 1
5. Students will describe the processes for assembling and disassembling scaffolds using trade and lay terminology.				WHST 9-10.2 WHST 9-10.4 WHST 9-10.10 WHST 11-12.2 WHST 11-12.4	28102-04	Level 1

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3	Assigned Questions
4	Games
UNIT RESOURCES: (include Internet addresses for linking) Support documents: <ul style="list-style-type: none">• [INFOGRAPHIC RUBRIC]• [PICTORIAL GLOSSARY CHECKLIST]• [PROCESS GUIDE RUBRIC]• [TRADE-LAY TERMS PROCESS WRITE-UP CHECKLIST] Internet resources: <ul style="list-style-type: none">• Vocational Information Center, Masonry Career Guide (http://www.khake.com/page24.html)• Mason Contractors Association of America (MCAA) (http://www.masoncontractors.org)• http://www.masonryforlife.com/HowToBasics.htm• www.cefga.org/documents/MasonryIllustrationsofToolsandBrickPlacementterms.ppt• http://www.infographiconly.com/aesthetic-and-environmental-advantages-of-stone-masonry/2086-robert-kirk-stone-masonry-01/• http://www.wellhome.com/blog/2010/12/understanding-insulation-infographic/• http://www.makeuseof.com/tag/awesome-free-tools-infographics/• www.masonrysystems.org/details/missouri• www.masonrysystems.org/knowledge/basics• http://www.concretefasteners.com/• http://www.strongtie.com/products/EAPR/#• http://www.thomasrental.com/images/assembly_scaffold.pdf• http://www.iscaffold.com.cn/news/news_1438.html Resources available from MCCE free loan library (www.mcce.org): <ul style="list-style-type: none">• Concrete Principles Resource Guide American Technical Publishers Staff, HOMEWOOD, IL, AMERICAN TECHNICAL PUBLISHERS, INC, 2003. KIT — The Concrete Principle Resource Guide is a valuable instructional tool designed for training in group settings. The Resource Guide provides an out-of-the-box approach designed for maximum flexibility. It is divided into sections for easy use in a classroom or seminar setting. The Resource Guide includes a CD ROM with Electronic Slides of all the illustrations from the textbook and web links to valuable instructional resources on the Internet. This is a complete instructional package for teaching concrete principles.	

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- Building Construction: Basic Masonry
CEV Multimedia, LUBBOCK, TX, CEV MULTIMEDIA. DVD ROM — An experienced agricultural education instructor teaches equipment identification, safety and masonry techniques as he demonstrates how to build a brick wall and a block wall. Follow along as he selects the building material, sets up guide lines, mixes mortar, "butters" the bricks and blocks, lays rows and explains cleanup procedures for building these standard construction structures. He points out the consequences of poor workmanship and gives tips on how create professional-looking masonry structures. A supplement is included. 46 minutes.