**Lesson Information**

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| Lesson: (3 of 3) Metal Work and Other Reinforcement Length: 90 minutes  Unit: (1 of 3) Materials and Tools  Course: Masonry |

**Content Assumptions**

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**Essential Questions**

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| 1. How are masonry structures most effectively reinforced? 2. How is metal used in masonry? |

**Objectives Assessments**

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| After completing this lesson, students will be able to:   1. Demonstrate their knowledge of concepts and terms associated with masonry hardware. 2. Demonstrate their knowledge of processes associated with reinforcement in masonry. | 1. Pictorial glossary — checklist 2. Process guide — rubric |

**Activities/Instruction**

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| **Show and Tell** (45 minutes)  Instructor displays samples of masonry hardware and discusses each piece, including information about its function and installation. While Instructor is lecturing, students are to draw and define each piece shown, creating a pictorial glossary of all hardware used in masonry.  **Plan it Out** (45 minutes)  Instructor divides the class into four groups and assigns each of them one of the following structural elements: vertical reinforcement, horizontal reinforcement, sills, or lintels. Using classroom, library, and/or Internet resources (such as those listed in the Materials section), students are to research their assigned structural element and write a process guide entry for its installation. Process guide entries are to include the installation process, tools and materials required, and any pertinent background information (such as helpful tips or potential problems). |

**Materials**

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| For students:   * Classroom/library resources * Internet resources, such as: * www.masonrysystems.org/details/missouri (Resource for a variety of masonry construction concepts) * www.masonrysystems.org/knowledge/basics (Resource for a variety of masonry construction concepts) * http://www.concretefasteners.com/ (Manufacturer’s Web site for concrete anchors and masonry screws) * http://www.strongtie.com/products/EAPR/# (Manufacturer’s Web site for embedded angles, plates, and rails)   For Instructor:   * Samples of masonry hardware (anchors, ties, hollow metal plates, fasteners, embedded items, etc.) * [PICTORIAL GLOSSARY CHECKLIST] * [PROCESS GUIDE RUBRIC] |