**Lesson Information**

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| Lesson: (5 of 5) Motors Length: 90 minutes  Unit: (2 of 3) System Elements  Course: Electrical |

**Content Assumptions**

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| Prior to this class, students have taken safety, math, and construction drawing courses. |

**Essential Questions**

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| 1. How are motors used in residential electrical systems? 2. How are motors used in commercial/industrial electrical systems? |

**Objectives Assessments**

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| After completing this lesson, students will be able to:   1. Use motor nameplate to make appropriate decisions for installing motors. 2. Demonstrate their knowledge of motor applications in residential versus commercial/industrial electrical systems. | 1. Motor nameplate write-up — checklist 2. Class discussion — Instructor observation |

**Activities/Instruction**

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| **Show and Tell** (60 minutes)  Using the guide listed in the Materials setion, if desired, Instructor explains how to read a motor nameplate, including how to use the information from motor nameplates to appropriately size conductors and circuit breakers/fuses for motors (30 minutes). Next, Instructor explains the application of motors within electrical systems and the differences in application from residential to commercial and industrial systems. Throughout this discussion, Instructor asks questions to ascertain student understanding.  **Motorin’!** (30 minutes)  Instructor distributes/displays various samples of motor nameplates. Students choose a nameplate and use it to size conductors and circuit breakers appropriately. They write these calculations out, along with a description of where the motor belongs within a residential system. |

**Materials**

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| For students:   * Examples of motor nameplates   For Instructor:   * http://www.vfds.com/how-to-read-a-motor-nameplate (Guide to reading motor nameplates) * [MOTOR NAMEPLATE WRITE-UP CHECKLIST] |