**Lesson Information**

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| Lesson: (5 of 5) Compressors and Heat Pump Length: 90 minutes  Unit: (2 of 3) System Components  Course: HVAC |

**Content Assumptions**

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**Essential Questions**

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| 1. What are the operating principles associated with compressors? With heat pumps? 2. How do compressors and heat pumps work within HVAC systems? |

**Objectives Assessments**

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| After completing this lesson, students will be able to:   1. Demonstrate their knowledge of compressors, heat pumps, and the principles and regulations associated with them. | 1. Notes, inventory notebook — Instructor observation, rubric |

**Activities/Instruction**

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| **Show and Tell** (30 minutes)  Instructor gives an introduction to the principles and regulations associated with compressors and heat pumps (e.g., compression, reverse-cycle heating, compressor capacity, geothermal water loops, any relevant regulations, etc.). Students take notes.  **Checking Inventory** (60 minutes)  Instructor displays samples/photos of compressors, heat pumps, and related accessories. Instructor distributes copies of [INVENTORY SHEET] — one per student, per product. Using [INVENTORY SHEET] as a guide, students ask questions about each product to ascertain where it belongs in an HVAC system, how it is installed, how it is rated, and how it is maintained. Students turn in sheets to Instructor to be graded; Instructor may return them later for students’ reference. |

**Materials**

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| For students:   * Copies of [INVENTORY SHEET] — for each student, as many as there are products   For Instructor:   * Samples/photos of compressors, heat pumps, and related accessories * http://hvacfun.com/fcomp-index.htm (Overview of compressors) * http://hvacfun.com/f-heat-pumps.htm (Overview of heat pumps) * [INVENTORY SHEET RUBRIC] |