**Lesson Information**

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| Lesson: (2 of 3) Cooling Length: 90 minutes  Unit: (1 of 3) System Basics  Course: HVAC |

**Content Assumptions**

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

**Essential Questions**

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| 1. How are the principles of the refrigeration cycle applied to cooling systems? 2. What are the different components of cooling systems, and how do they work together? |

**Objectives Assessments**

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| After completing this lesson, students will be able to:   1. Demonstrate their knowledge of the refrigeration cycle and cooling systems. | 1. Cooling system diagrams — rubric |

**Activities/Instruction**

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| **Show and Tell** (45 minutes)  Using guides as listed in the Materials section, if desired, Instructor explains the basics of the refrigeration cycle and cooling systems, including major components, accessories, and test equipment.  **Clearly Cooling** (45 minutes)  Using wet-erase markers and two blank sheets of transparency apiece, students draw two copies (designed to be overlaid) of a cooling system: one focusing on the refrigeration cycle, diagraming the flows of air, heat, and refrigerant; and the other focusing on cooling system components. When students are finished with both drawings, they can lay one on top of the other to see how the components of a cooling system match the principles of the refrigeration cycle. |

**Materials**

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| For students:   * Blank sheets of transparency, wet-erase markers in a variety of colors   For Instructor:   * http://www.air-conditioning-and-refrigeration-guide.com/refrigeration-cycle.html (Guide to explaining the refrigeration cycle) * http://www.hvacfun.com/a-understanding-the-basics-of-refrig-piping.htm (Guide to explaining refrigerant piping) * [COOLING SYSTEM DIAGRAM RUBRIC] |