Unit 6 HEATING/COOLING

Content Area: **Applied Technology**
Course(s):
Time Period: **Marking Period 1**
Length: **10 - 15 class periods**
Status: **Published**

Brief Summary of Unit

Students will expand on their knowledge of the Heating and Cooling system by performing a variety of Job Sheets and live repairs. Information will be presented in the form of a teacher led discussion, videos and the use of the Modern Automotive Technology text book. Students will be broken into groups to diagnose and repair various problems in the system. Students will be required to use computer based software and textbooks for reference material. The objective of this course is instilling confidence in the student's critical thinking and diagnostic ability, as well as their problem solving skills and ability to function in a group atmosphere.

July 2022

ESESSENTIAL QUESTIONS/ ENDURING UNDERSTANDINGS

ESSENTIAL QUESTIONS

- How do the heating and cooling system interact with the engine's mechanical system and how do these interactions affect engine performance?
- What are the components and functions of an automotive heating/cooling system?
- What are problems related to heating/cooling systems, and how are they diagnosed and repaired?

ENDURING UNDERSTANDINGS

- Students will understand that proper care and maintenance of the heating/cooling system is crucial to automobile maintenance. They will understand that the repair of failed components should be diagnosed and repaired immediately to prevent damage to related components.
- Knowing how the system and its components operate will benefit them by saving them time when diagnosing a problem. They will understand what is meant by operating temperature, how it is reached quickly, and why it is important.

OBJECTIVES

STUDENTS WILL KNOW

- The components and functions of an automotive heating/cooling system, and how they operate and interact with each other.
- Various problems related to heating/cooling systems, and how they are diagnosed and repaired.
- How the heating and cooling system interact with the engine's mechanical system and how these interactions affect the engine performance.

STUDENTS WILL BE SKILLED AT

- Advanced diagnostic procedures, and repairs of the Heating and Cooling system
- Determining which test equipment to use for a particular complaint in the heating and cooling system.

LEARNING PLAN

- Teacher-led discussions on the purpose, function, and complexity of the Heating and Cooling system.
- Hands-on Job Sheets on component location, operation, and repair of the Heating and Cooling system.
- Use of the text and workbook Modern Automotive Technology.
- Written tests and writing prompts on related topics.
- Group discussions and essential questions throughout the lesson.

ASSESSMENT

Formative

Verbal questioning during Job Sheets and live jobs

Visual observations during shop work

Summative

Written tests on the heating and Cooling system

Hands on Job Sheets pertaining to the system.

Benchmark

Midterm/Final Exam

Alternative

Student presentation on the Heating and Cooling system.

MATERIALS

Text Book; Modern Automotive Technology

Job Sheets

Visual aids

Videos

Shop vehicles

All Data Automotive Internet Program

Google

Electrical, Pneumatic, and Hydraulic tools

Various hand tools

Accomodations

https://docs.google.com/spreadsheets/d/1CvoX6NXdGUPtTPcEqPOsnWbqpDLS4Ego1W1eaIrGYTo/