Unit 9: Vehicle Maintenance

Content Area: **Applied Technology**
Course(s):
Time Period: **Marking Period 4**
Length: **2-3 weeks**
Status: **Published**

Summary

This unit will focus on vehicle maintenance and the purchasing of a used automobile. They will then learn how to check and determine the level and condition of all automobile fluids. Students will review basic mechanical checks such as tire pressure and condition, battery inspection, under-car inspections, and inspection of belts and hoses. Students will then learn to apply knowledge of car maintenance when choosing a used car. They will then learn how to determine the value of a car and how to read a title before actually buying a car. Emphasis will be placed on safety and proper use of shop equipment.

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Essential Questions/Enduring Understandings

Essential Questions:

- Why is it important to care for and maintain a motor vehicle?
- How will understanding how the major systems in a vehicle operate assist you when purchasing a used vehicle?

Enduring Understandings:

- proper vehicle maintenance and care is a vehicle owner's responsibility and key to avoid potential problems.
- the ability to do basic vehicle inspection and maintenance will save time and money.
- when purchasing a used car knowing what to look for and how to find it will ensure getting the most for your money.

Objectives

Students Will Know:

- the safety concerns and procedures related to general automotive maintenance.
- the specialized vocabulary related to general automotive maintenance.
- what labor rates are and how they affect the cost of service.
- the different fluids that need to be inspected when doing a vehicle maintenance inspection
- why it is important to keep these fluids at their proper level and in good condition.
- how to perform various inspections, understand their findings and apply their findings toward the purchase of a used vehicle

Students Will Be Skilled At:

- negotiating a fair deal when shopping for a vehicle
- determining the different values of a vehicle and which one is the fair price to pay.
- performing minor maintenance on their vehicle

Learning Plan

- Preview the essential questions and connect them to learning throughout the unit.
- Teacher presentation and student research into vehicle maintenance.
- Modern Automotive Technology workbook and textbook assignments.
- Hands on job sheet on vehicle maintenance and purchase.
- Complete research on used cars; this will include web searches, newspaper ads, and a task sheet on pertinent questions to ask when doing the research.
- Writing prompt on vehicle maintenance and purchase.
- Written test on vehicle maintenance.
- Use of a cooperative learning technique to evaluate unit mastery.
- Closing discussion.

Assessment

- **Formative**
- answer the essential questions
- participate in research and discussion activities on the purpose and benefit of vehicle maintenance and how it pertains to the purchase of a used vehicle.
- participate in hands on tasks that will demonstrate knowledge of basic vehicle maintenance. (I.e. vehicle maintenance inspection).
- complete textbook reading and workbook pages related to the unit of study.
- job sheets
- **Alternative**
- perform web and newspaper based research on used cars.

- **Summative**
- complete a writing prompt on selecting a used car for purchase.
- complete a written test on proper vehicle maintenance.

Materials

- Modern Automotive Technology; Text and Workbooks
- Job Sheets
- Auto tools and parts: tires, belts , hoses and other equipment that will need inspection

Standards

Standards

- NJ Learning Standards
  ELA.L.KL.9–10.2 Apply knowledge of language to make effective choices for meaning, or style and to comprehend more fully when reading, writing, speaking or listening.
  ELA.L.KL.9–10.2.A Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level.
  ELA.L.KL.9–10.2.C Demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

- Computer Science and Design
  CS.9-12.8.1.12.CS.3 [*Performance Expectation*] - Compare the functions of application software, system software, and hardware.
  CS.9-12.8.1.12.CS.4 [*Performance Expectation*] - Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
  CS.9-12.8.2.12.EC.1 [*Performance Expectation*] - Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.

- NJ Career Readiness
  WRK.9.2.12.CAP.4 [*Performance Expectation*] - Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
  WRK.9.2.12.CAP.5 [*Performance Expectation*] - Assess and modify a personal plan to support current interests and post-secondary plans.
  WRK.9.2.12.CAP.2 [*Performance Expectation*] - Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.

- Mathematics
  MATH.9-12.F.BF.A.1 [*Standard*] - Write a function that describes a relationship between two quantities

- ELA Practices
  ELA.L.SS.9–10.1 Demonstrate command of the system and structure of the English language when writing or speaking.
  ELA.L.KL.9–10.2 Apply knowledge of language to make effective choices for meaning, or style and to comprehend more fully when reading, writing, speaking or listening.
  ELA.L.VL.9–10.3.E Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
  ELA.RL.CR.9–10.1 Cite a range of thorough textual evidence and make relevant connections to strongly support analysis of multiple aspects of what a literary text says explicitly and inferentially, as well as including determining where the text leaves matters uncertain.

Integrated Accommodations and Modifications

https://docs.google.com/spreadsheets/d/1lEj-WZghahz_kVoSbGd5jrLwq1j70EoM4UU5jXISQZs/edit?usp=sharing