Unit 7 Suspension

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

Summary

In this unit, students will learn about automobile tires, their construction, wear angles and sidewall markings. The student will also learn the proper way to change a flat, how to mount and balance a tire on a rim and how to diagnose simple tire-related problems. Emphasis will be on proper tire maintenance and safety.

The goal of this unit is to give students a basic understanding of how essential tires and wheels are on any vehicle and how they are used on many applications to perform various jobs. The content will be the understanding of how wheels are simple tools used as part of a complex machine. The content introduced will be in accordance with STEM learning and incorporate all the elements of the acronym. The Science (Physics) of how wheels assist in doing work. The Technology of how tires of various sizes are used in a complex machine. The Engineering of such a machine. The Art (Automotive). The Math in tire sizes.

Revised July 2025

Essential Questions

Essential Questions

What is an automotive suspension system?

How does an automotive suspension system contribute to a vehicle's safety, handling, and ride comfort by managing the forces between the wheels and the road?

In what ways do tire features and sidewall markings provide critical information about a tire's intended use, performance capabilities, and safety limitations?

Enduring Understandings

Students will understand the function, operation, components, and purpose of the automotive suspension, and its importance to the vehicle's overall operation.

The automotive suspension system is a vital link between the vehicle and the road, designed to absorb bumps, maintain tire contact, and control the vehicle's motion.

A tire is a highly engineered component that provides traction, supports the vehicle's weight, and absorbs road shock. The information encoded on its sidewall is essential for proper selection, maintenance, and safe

operation.

Objectives

Students Will Know

- **that the sidewall of a tire has pertinent information about the tires characteristics.**
- **the effects of improper maintenance of a tire**
- **where to access information from the vehicles manufacturer**

Students Will Be Skilled At

- **adjusting tire pressure**
- **changing a flat**
- **proper tire maintenance**

Learning Plan

Preview the essential questions and connect to learning throughout the unit.

Teacher-led discussion on what the electrical system's purpose is and how it operates.

Demonstration of the use and function of a Multi Meter and other electrical diagnostic equipment.

Video on automotive electrical system pausing frequently to engage students in discussion of key points.

Hands-on Task Sheets pertaining to the electrical system.

Written test on essential knowledge and lesson mastery.

Closing discussion and anticipatory set.

Assessment

Formative Assessment:

Participate in class discussions related to the suspension system is its purpose and how it works.

Use hands on job sheets to master this lesson and be able to apply the knowledge in real-life situations.

Test the electrical system using various applicable equipment.

Exit Tickets

Job Sheets.

Summative Assessment:

Written quizzes and tests on system function and operation.

Alternative Assessment

Presentation on suspension system

Benchmark Assessment:

Final Exam

Materials

Modern Automotive Technology text and workbook chapter 29

Internet

Database

Displays of components and parts

Standards

L	Language
9.2.12.CAP.2	Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
9.2.12.CAP.4	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.
1.1.5	Determine goals for life-long learning and leisure opportunities for all family members.

8.1.12.CS.4	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
9.2.12.CAP.5	Assess and modify a personal plan to support current interests and post-secondary plans.
1.1.6	Develop a life plan, including pathways to acquiring the knowledge and skills needed to achieve individual, family, and career goals.
R	Reading
W	Writing
8.1.12.AP.5	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
8.2.12.EC.1	Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.

Modifications

https://docs.google.com/spreadsheets/d/1AckQSTlNShzlM-rDV5YKYUFm2WMCxJQiS10rEZ4jCC8/edit?usp=sharing