

Name: _____
Mr. Willis
Conceptual Physics: _____
Date: _____

Unit IV
Work, Power and Machines
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IV

Portfolio Directions and Unit Syllabus

Objective: Assemble the assignments for the unit into a booklet. Then use the booklet to complete review questions and prepare for the test. (SC 2, 1.5, 1.6, 3.5)

The following items should be put in the following order in the portfolio (complete assignment = 20pts):

- ___ Portfolio Directions and Unit Syllabus (this sheet)
- ___ Vocabulary _____
- ___ Classwork/Daily Log _____
- ___ Video: Work and Energy _____
- ___ Reading Assignment Chapter 14, Sections 1, 2, 3 & 4 _____
- ___ Calculating Work and Power _____
- ___ Work & Power Stations _____
- ___ Calculating Mechanical Advantage _____
- ___ Pendulum Lab _____
- ___ Efficiency of Machine Lab _____
- ___ Compound Machine Lab _____
- ___ Unit Review _____

Portfolio Grade

- cover (out of 5) _____ (Neatness, effort, and color are important.)
- objectives (out of 5) _____
- concepts (out of 5) _____ (You may use words, symbols, diagrams on each.)
- contents (out of 5) _____ (All assignments must be included and in order.)
- total (out of 20) _____

Test Grade

The Front Cover

Write the unit title on the cover. "Unit IV – Work, Power and Machines"
Decorate the front cover with drawings of concepts from the chapter.

The Inside Front Cover

Write "Objectives" at the top of the page. List the following unit objectives:

- State the Law of Conservation of Energy.
- Describe work in terms of force and distance.
- Distinguish between work and power.
- State the formulas for work and power and be able to calculate both.
- Compare ideal mechanical advantage and actual mechanical advantage.
- Be able to calculate efficiency and describe how efficiency affects the function of a machine.
- Explain how machines make work easier and/or faster.
- List the six simple machines.
- Explain why a machine's efficiency can never equal 100%.

Inside Back Cover

Write "Concepts" at the top of the page. Divide the page into nine squares.
Explain the answers to the unit objectives with words and diagrams.

Back Cover Write your name – last name, first name and class in the lower right hand corner.