

Chapter 8: Energy

Text:

Chapter 8 (skip sections 8.7 to 8.9)

Think and Explain: 1-4

Think and Solve: 1-3

Vocabulary:

Work, energy, Joule, Watt, kinetic energy, potential energy, mechanical energy, power, Conservation of Energy

Equations:

$$W = Fd$$

$$P = \frac{W}{t}$$

$$KE = \frac{1}{2}mv^2$$

$$PE = mgh$$

Key Objectives:*Concepts*

- Relate the direction of force and distance to the work done on an object.
- Recognize when work is done against a force.
- Define power and state the units of power.
- Distinguish between mechanical energy and other forms of energy.
- Distinguish between potential energy and kinetic energy.
- Understand the concept of Conservation of Energy.

Problem Solving

- Calculate the work done by a force acting over a distance.
- Calculate power in watts.
- Convert watts to kilowatts.
- Calculate the kinetic energy, potential energy, and total energy.
- Apply principle of energy conservation to problem solving.
- Make and interpret graphs of KE, PE and Total Energy vs time.