I. WORK, POWER, ENERGY
   a. Work
   b. Power
   c. Energy

VOCABULARY / CONCEPTS

I. WORK, POWER, ENERGY

a. <u>Work</u>
   - W = Force x distance = Fd
   - Units: Joules = Newton x meter

- Efficiency = W_{output} / W_{input}
- W_{output} < W_{input}

b. <u>Power</u>
   - P = Work / Time
   - Units: Watts = Joules / second

c. <u>Energy</u>
   - Ability to do work
     - Units: Joules

- <u>Potential: stored</u>
   - Gravitational = mgh
   - Stored mechanical
   - Chemical
   - Nuclear

- <u>Kinetic: motion</u>
   - Mechanical = ½ mv^2
   - Thermal
   - Radiant
   - Audio
   - Electrical

- Law of Conservation of Energy

DIAGRAMS

I. WORK, POWER, ENERGY

1. Ball thrown into the air
2. Ball rolling down hills (roller coaster)
3. Ball rolling down two sides of a hill (steep and shallow)

GRAPHS / CHARTS

PROBLEMS / CALCULATIONS

1. W = Fd
2. Efficiency = W_{output} / W_{input}
3. P = W / t
4. Potential Energy = mgh
5. Kinetic Energy = ½ mv^2