**Test date: Friday April 14**

**Physical Science**

**Chapter 9 Study Guide – Work and Energy**

* **Equations (Given on Test)**
* **Vocabulary**
  + Work
  + Power
  + Simple machine
    - Lever
      * 1st class
      * 2nd class
      * 3rd class
    - Pulley
    - Wheel and axle
    - Incline plane
    - Wedge
    - Screw
  + Compound machine
  + Mechanical advantage
    - Ideal mechanical advantage
    - Actual mechanical advantage
  + Efficiency
  + Potential energy
  + Kinetic energy
  + Law of Conservation of energy
* **Objectives**
  + Solve problems involving work (including those with unit conversions and finding an alternate variable) using the work equation.
  + Solve problems involving power (including those with unit conversions and finding an alternate variable) using the power equation.
  + Classify simple machines and levers
  + Use the concept of mechanical advantage to explain how machines make doing work easier
  + Differentiate between ideal and actual mechanical advantage
  + Calculate the ideal, and actual mechanical advantage of various simple machines.
  + Calculate and analyze the efficiency of various simple machines
  + Define potential energy and kinetic energy and give examples of each
  + Calculate kinetic energy and gravitational potential energy
  + Explain the law of conservation of energy