Mount View High School/ 8th grade Science/Topics I Test, II Trimester/2018

*** You must memorize all of the formulas and the respective units used for each one.**

Topics	**Objectives**
Chapter 3. Work and machines Lesson 2. Understanding machines Pages: 76-83 Resources: Presentation, summary, practice from book. Vocabulary words: machine, input force, output force, mechanical advantage, efficiency.	- Describe, use, and apply knowledge of vocabulary words. - Explain how machines make work easier. - Calculate the mechanical advantage of a machine by applying the three following formulas: **MA: $\frac{\text{ouput force}}{\text{input force}}$** **$MA_{lever}$: $\frac{\text{length of input arm}}{\text{length of ouput arm}}$** **$MA_{ramp}$: $\frac{\text{ramp length}}{\text{ramp heigth}}$** - Calculate the efficiency of a machine by applying the following formula: **Efficiency: $\frac{\text{Output work}}{\text{Input work}}$ x 100** - Explain the difference between real and ideal machines.
Chapter 4. Energy Lesson 1. What is energy? Pages: 108-113 Resources: Presentation, summary, practice from book. Vocabulary words: energy, kinetic energy, potential energy, gravitational potential energy, elastic potential energy.	- Describe, use, and apply knowledge of vocabulary words. - Name and describe the two basic types of energy. - Explain how energy and work are related. - Describe the difference between the two types of potential energy. - Calculate kinetic energy by applying the following formula: **KE: ½ x mass x speed^2** - Calculate gravitational potential energy by applying the following formula: **GPE: weight x height**
Chapter 4. Energy Lesson 2. Forms of energy Pages: 114-119 Resources: Presentation, summary. Vocabulary words: mechanical energy, nuclear energy, thermal energy, electrical energy, electromagnetic energy, chemical energy.	- Describe, use, and apply knowledge of vocabulary words. - Explain how to detemine an object´s mechanical energy. - Calculate mechanical energy with the following formula: **ME= Potential energy + Kinetic energy** - List and identify other forms of energy.