

Honors Physics – SLO Assessment Review Project

Due: Wednesday, May 14, 2014 (3A) and Thursday, May 15, 2014 (1B)

Description:

You will be creating a SLO Assessment Study Guide for Physics. The product of the review must be in the form of a PowerPoint Presentation or a booklet. This assignment is worth 10% of your final grade and must be submitted at the beginning of class on the date provided above. The purpose of this assignment is to review the concepts, formulas, graphs and diagrams that we have learned throughout the school year.

Requirements:

For each topic listed you must provide definitions, formulas, units, graphs/diagrams, and examples associated with it.

Topics:

1. One-Dimensional Motion

Distance, displacement, speed, velocity, acceleration, vector, scalar, position vs. time graph, velocity vs. time graph, free fall, gravitational acceleration, kinematic equations

2. Newton's Laws

Inertia, force (definition/types), free body diagram, net force, Newton's 1st Law, equilibrium, Newton's 2nd Law, Newton's 3rd Law

3. Momentum and Impulse

Momentum, change in momentum, impulse, conservation of momentum

4. Work, Power, and Energy

Work, potential energy, kinetic energy, mechanical energy, power

5. Periodic Motion

Wave, transverse wave, longitudinal wave, mechanical wave, amplitude, wavelength, speed, frequency, period, pendulum, period of a pendulum, spring force, potential energy of a spring, reflection, interference, refraction

6. Sound Waves

Node, antinode, pitch, loudness, standing wave*, open-ended pipe*, closed-ended pipe*

*harmonics, $\lambda \rightarrow L$, $L \rightarrow \lambda$

7. Charge and Electric Force

Charge (types), proton, electron, Coulomb's Law, electric force

Score Rating:

2 points – Complete

- Clear definition
- Identifies variable and units
- States formula(s)
- Graph/diagram (if applicable)
- Examples

1 point – Partial

- Missing one or two aspects from **Complete**

0 point – Incomplete

Missing three or more aspects from **Complete** or not included

Rubric:

Topic	Score (0 – 2)
Distance	
Displacement	
Speed	
Velocity	
Acceleration	
Vector	
Scalar	
p vs. t Graph	
v vs. t Graph	
Free Fall	
Gravit. Accel.	
Kinematic Eqn.	
Inertia	
Force	
FBD	
Net force	
Newton's 1 st Law	
Equilibrium	
Newton's 2 nd Law	
Newton's 3 rd Law	
Momentum	
Change on Mom.	
Impulse	
Conserv. of Mom.	
Work	
PE	
KE	
ME	
Power	
Wave	
Trans. Wave	
Longit. Wave	

Topic	Score (0 – 2)
Mech. Wave	
Amplitude	
Wavelength	
Speed	
Frequency	
Period	
Pendulum	
Period of Pendul.	
Spring Force	
PE of Spring	
Reflection	
Interference	
Refraction	
Node	
Antinode	
Pitch	
Loudness	
S. Wave (Harm)	
S. Wave ($\lambda \rightarrow L$)	
S. Wave ($L \rightarrow \lambda$)	
OE Pipe (Harm)	
OE Pipe ($\lambda \rightarrow L$)	
OE Pipe ($L \rightarrow \lambda$)	
CE Pipe (Harm)	
CE Pipe ($\lambda \rightarrow L$)	
CE Pipe ($L \rightarrow \lambda$)	
Charge	
Proton	
Electron	
Coulomb's Law	
Electric force	
Total:	/ 95