Name:_____ Period: _____

WAVE TEST: March 27

SPS9. Students will investigate the properties of waves.

a. Recognize that all waves transfer energy.

b. Relate frequency and wavelength to the energy of different types of electromagnetic waves and mechanical waves.

c. Compare and contrast the characteristics of electromagnetic and mechanical (sound) waves.

d. Investigate the phenomena of reflection, refraction, interference, and diffraction.

SP4. Students will analyze the properties and applications of waves.

a. Explain the processes that results in the production and energy transfer of electromagnetic waves.

b. Experimentally determine the behavior of waves in various media in terms of reflection, refraction, and diffraction of waves.

c. Explain the relationship between the phenomena of interference and the principle of superposition.

d. Demonstrate the transfer of energy through different mediums by mechanical waves.

1. Know the relationship between period and frequency.
2. Understand how to identify and measure amplitude.
3. Interpret graphs of harmonic motion to recognize a cycle, amplitude and period
4. Recognize when two oscillators are in phase or out of phase
5. Know the factor(s) that effect the period of pendulum
6. Describe and distinguish between transverse and longitudinal waves
7. Draw, label and identify the parts of transverse and longitudinal waves
8. Identify properties of waves and wave motion
9. Calculate wave speed, wavelength and frequency using the relationship
   $v = f \lambda$
10. Identify fundamental and harmonics of a standing wave.
11. Describe how waves propagate
12. Analyze wave interactions with matter including reflection, refraction, diffraction, interference, and polarization
13. Describe the superposition principle and constructive and destructive inference
14. Distinguish natural frequency and resonance
15. Learn the relationship between wavelength energy and its properties

Harmonics & Wave Motion TEST- March, 27th

Name: _____ Period:_____

Use this sheet to keep track of reading & homework assignments from your textbook. Due dates for all assignments are noted on this sheet and assignments must be turned in on time to receive credit. Late homework will NOT be accepted.

The story is pretty simple. Homework is the one grade you have FULL control of. Homework is graded on QUALITY and COMPLETION, not accuracy. Homework is exercise for your brain and preparation for quizzes and tests. If you are in pursuit of a good grade, not doing homework is not the route to take. Your grade will gradually go down as you fail to do homework despite the fact that it is only 10% of your grade. On a larger scale, the effect of not doing homework will be realized on the test grade.

The choice of doing or not doing homework lies completely with you. Know that old homework zeros cannot be made up at any time. That is completely unfair to those that sacrifice other things and time to do the assignments by the due dates. Look at the schedule below and budget your time. It is always an option to do the work ahead of schedule. Do not wait until the last minute.

Textbook Reference – Physics A First Course – CPO Science

Textbook Homework

UV*-Understanding Vocabulary* ***RC-****Reviewing Concepts* ***SP****- Solving Problems* ***AYK-*** *Applying Your Knowledge*

Due Date	Read	Assignment	Teacher Signature
March 20	19.1 p. 413-418	p. 430-431 **UV:** 1-9 **RC:** 1,3-7 **SP:** 1,2,4,5 Define vocabulary (see terms below)	
March 23	19.2 p. 419-422 19.3 p. 423-427	p. 430-432 **UV:** 10-13 **RC:** 10-14 **SP:** 6-11	
March 24	20.1 p. 433-440	p. 450-451 **UV:** 1-6 **RC:** 1-8 **SP:** 1-3 & 5-8	
March 25	20.2 p. 441-443	p. 450-451 **UV:** 7-10 **RC:** 9-13 **SP:** 9	
March 26	20.3 p. 444-447	p. 450-452 **UV:** 11&12 **RC:** 14- 16 **SP:**10 &11	

Lingo to be Learned- Due

Define:crest, trough, wavelength, rest position, wave interference, medium, fundamental frequency, compression, harmonic motion, frequency, period, oscillation, hertz, cycle, damping, amplitude, resonance, constructive interference, destructive interference, longitudinal/compressional waves, transverse waves, reflection, diffraction, refraction, node, anti-node

Check the class Website to get updates or to print out a new assignment sheet or other docs.

www.waltonhigh.org → Departments→ Science →Honors Freshmen Physics → Spring Handouts → Current unit.