

Name: _____ Period: _____

SOUND TEST: April 2

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.
- e. Relate the speed of sound to different mediums.
- f. Explain the Doppler Effect in terms of everyday interactions

SP4. Students will analyze the properties and applications of 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.
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1. Explain how pitch, loudness, and speed are related to speed.
 2. Illustrate, explain and identify examples of the Doppler effect
 3. Describe how sound is created and recorded.
 4. Recognize when two oscillators are in phase or out of phase
 5. Know the factor(s) that effect the speed of sound
 6. Know that the speed of sound changes in different medium.
 7. Recognize the importance of the wavelength of sound
 8. Describe sound interactions
 9. Calculate wave speed, wavelength and frequency using the relationship
$$v = f \lambda$$
 10. Compare superposition principle and Fournier's theorem
 11. Describe how sound is related to frequency and time.
 12. Describe the process of human hearing, including all anatomical parts.
 13. Describe the musical scale, consonance, dissonance, and beats in terms of sound waves.
 14. Learn the role harmonics in how instruments sound.

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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 30	21.1 p. 453-458	p. 474-475 UV: 1-6 RC: 1-6 SP: 1,2 Define vocabulary (see terms below)	
March 31	21.2 p. 459-464	p. 474-475 UV: 7,8 RC: 7-12 SP: 3-6	
April 1	21.1 p. 465-471	p. 475-476 UV: 9-14 RC: 13-18 SP: 7,8	

Lingo to be Learned-

Define:pitch, decibels, acoustics, subsonic, shock waves, Doppler effect, reverberation, Fourier's theorem, frequency spectrum, sonogram, cochlea, rhythm, musical scale, note, octave, beat, consonance, dissonance.intensity/loudness/volume, beats, resonance, overtone, fundamental frequency, sound,

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.