Wave Unit Test Study Guide

Name: Key Core: ____ Date: _____

Directions: Answer the questions on this sheet to help you prepare for Friday's test. Please remember, though, that this is a guide. Use it to help you get an understanding of the concepts that will be covered, and make sure you review ALL of the vocabulary for this unit. Also, beside each question, I want you to write whether you found it in your "notes" or the "textbook" – if it is the book, write the page number beside the number! Good Luck! ☺

1. A wave is any type of disturbance that carries energy.
2. Wavelength is the distance between successive crests or troughs of a wave.
3. What are the two main types of waves? EM & mechanical
4. These waves can travel through empty space because they do not require a medium: EM
5. In this wave, the motion of the medium is parallel to the motion of the wave. (The energy is being carried by the wave back and forth.) longitudinal
6. For this wave, the motion of the medium is perpendicular to the motion of the wave. (The energy and matter move at a 90 degree angle.) transverse
7. As the wavelength of a wave increases, the pitch decreases. TRUE OR FALSE
8. Sound waves travel faster through air than through water. TRUE OR FALSE
9. As the amplitude of a wave increases, the volume decreases. TRUE OR FALSE
10. The primary colors of light are red, blue, and green. TRUE OR FALSE
11. A lens that is thinner in the middle and thicker at the edges is called: concave
12. This is the part of the eye that is responsible for detecting an image with its photoreceptive cells: retina
13. This is the part of the eye that changes shape to focus the light entering the eye onto the retina: lens
14. This is the measure of the average molecular motion within an object: temperature
15. This is the type of heat transfer that occurs through direct contact: conduction
16. This type of heat transfer provides the majority of our energy on Earth: radiation
17. A type of material that easily allows the transfer of heat to occur is: conductor
18. Heat transfer only goes from a warmer object to a cooler one. TRUE OR FALSE

19. An object that allows some light to pass through, but makes it hard to clearly see an image through, is called: translucent

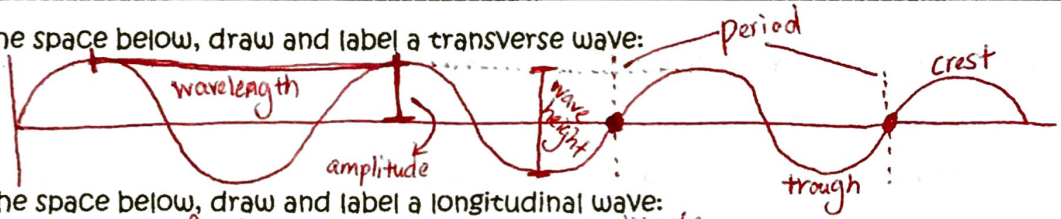
20. If a disturbance occurs in space, does it make a sound? Explain. no. sound is a longitudinal/mechanical wave ∴ needs a medium to travel.

21. Why does heat rise? (Hint: Density!!!) As (air) gas is heated, the molecules spread out, making their volume increase and density decrease. Less dense things float.

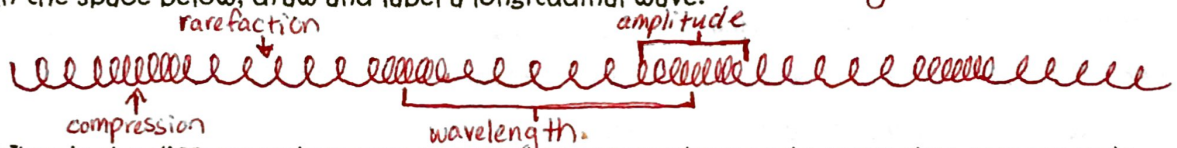
22. From light source to your brain, explain the process of you reading this question in at least five steps. ① Source emits light waves. ② Light waves reflect off the papers. ③ Cornea is 1st to refract light into eye. ③ Light is again refracted by lens to focus an inverted image on the retina. ④ Info. is sent to brain by optic nerve. ⑤ Brain decodes image & flips.

23. Using what you know about light and color, explain why black clothes appear to have a "slimming effect." Black color absorbs all light - less is being reflected back.

24. In the space below, draw and label a transverse wave:



25. In the space below, draw and label a longitudinal wave:



26. What is the difference between a wave that appears blue and a wave that appears red? they have different wavelengths. Red's is longer than blues λ.

27. Why does the sky appear blue? because the particles in the atmosphere scatter the light.

28. What determines the amount of energy a wave has? frequency (as freq. ↑, energy ↑)

29. What is the only difference between the different waves on the EM Spectrum? they all have diff wavelength = diff. frequency = different amounts energy

30. Explain the process that forms a rainbow: white light is bent (refracted) by a prism to form waves w/ the wavelengths of ROY G BIV.

** Remember to review ALL of the vocabulary words and their definitions!!! **