

1. On the wave diagram below...
- a. Label a crest
 - b. Label a trough
 - c. Show and label a wavelength.



2. List all of the colors of light, in order of wavelength.
3. Does your list go from shortest to longest wavelength or from longest to shortest?
4. Rank these star colors from hottest to coolest (Hint: think about wavelengths).
White , Red, Yellow, Blue, Orange
Hottest : _____ : Coolest
5. White isn't exactly a color of light. What is it?
6. Black isn't exactly a color of light. What is it?
7. This describes a wave bouncing off a surface at the same angle at which it hit the surface.
a. Refraction b. Reflection c. Scattering
8. This describes a wave bouncing around randomly as it passes through some material.
a. Refraction b. Reflection c. Scattering
9. This describes light bending.
a. Refraction b. Reflection c. Scattering

10. Of the colors red, green and blue, the one that is least likely to get scattered by air, smoke, and dust is _____.

a. red b. green c. blue

11. Why is the sky blue?

12. Describe a time when the Sun looks red. Then explain why it looks red at that time.

13. Which set of sound waves has the highest pitch?

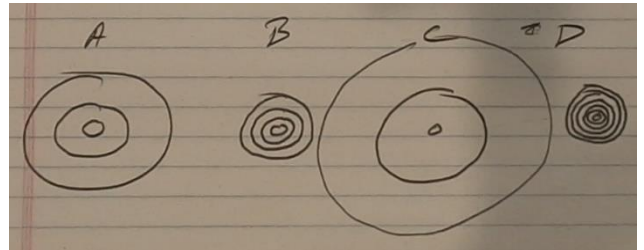
A B C D

14. Which set of sound waves has the highest frequency?

A B C D

15. Which set of sound waves has the longest wavelength?

A B C D



16. Draw an object moving to the left and giving off sound waves.

17. Draw an object moving to the right and giving off light waves (ahead of the object and behind it).

18. If an object has a red-shift, what does that tell us about the object?

19. If an object has a blue-shift, what does that tell us about the object?

20. What word goes with this definition?

_____ : An apparent change in the wavelength and frequency of waves, caused by movement of an object and or an observer. This can happen with sound or light.