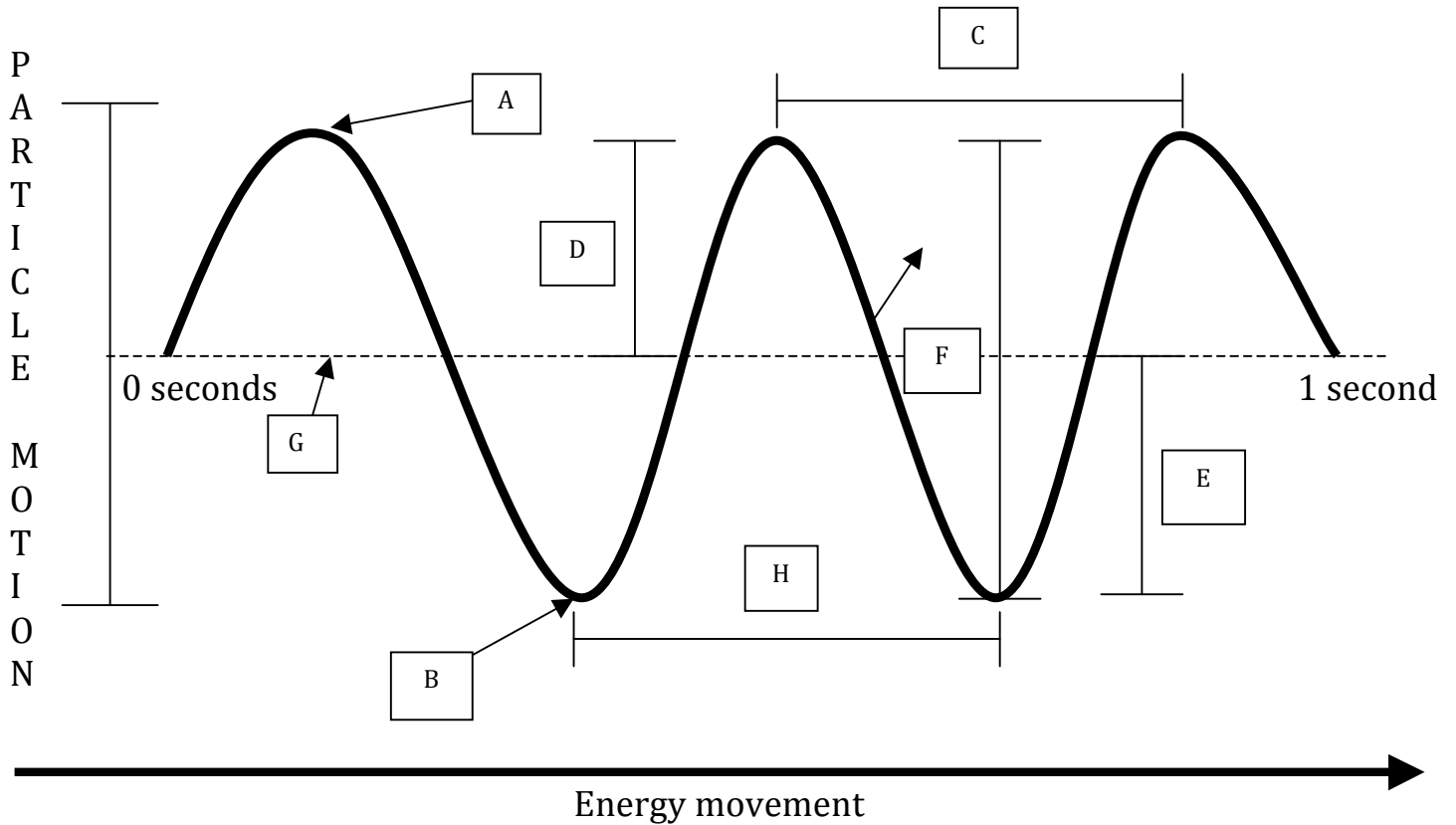


_____ 13. The waves with the longest wavelengths in the electromagnetic spectrum are

- _____ 14. The visible light spectrum ranges between
- radar waves and X-rays.
 - television waves and infrared rays.
 - infrared rays and ultraviolet rays.
 - ultraviolet rays and gamma rays.

Completion *Complete each statement.*

15. To compare the energy of different waves, measure the _____ of the waves.
16. Waves in a rope are transverse waves because the medium's vibration is _____ to the direction in which the wave travels.
17. Light is produced when _____ change energy levels in an atom.
18. The electromagnetic waves with the shortest wavelengths are _____ ray
19. To determine the speed of a wave, you must know the wave's wavelength and _____.
20. Electromagnetic waves are _____ waves consisting of changing electric and magnetic fields.
21. Electromagnetic waves can travel through a(an) _____.
22. In a transverse wave, _____ is measured from crest to crest or from trough to trough.
23. Microwaves have a higher _____ than radio waves have.
24. Instead of crests and troughs, as in an ocean wave, a longitudinal wave has compressions and _____.



Answers:

A. _____

G. _____

B. _____

H. _____

C. _____

of waves = _____

D. _____

What is the frequency _____
(include units)

E. _____

Is the above wave... Transverse or Longitudinal

F. _____

If the above is a water wave then it is a _____
wave because it requires a _____ to travel
through.

Word Bank (words can be used more than once, some won't be used)				
Medium	Longitudinal	Transverse	Wavelength	Amplitude
Normal/Rest	Wave height	3.0 Hz	2.5 Hz	Lambda
3 waves	2.5 waves	Mechanical	Crest	Trough

Use the Electromagnetic Spectrum to answer the following questions:

1. These waves can burn our skin and give us skin cancer:
2. We use these waves to cook with:
3. These waves can kill cancer cells:
4. We “see” with these waves:
5. We use these two waves for communications:
6. We can “see in the dark” with these waves:
7. These waves are used to see our bones:

Exceeds:

Hints: Now the parts of longitudinal and transverse waves, how to measure them, and determine frequency.