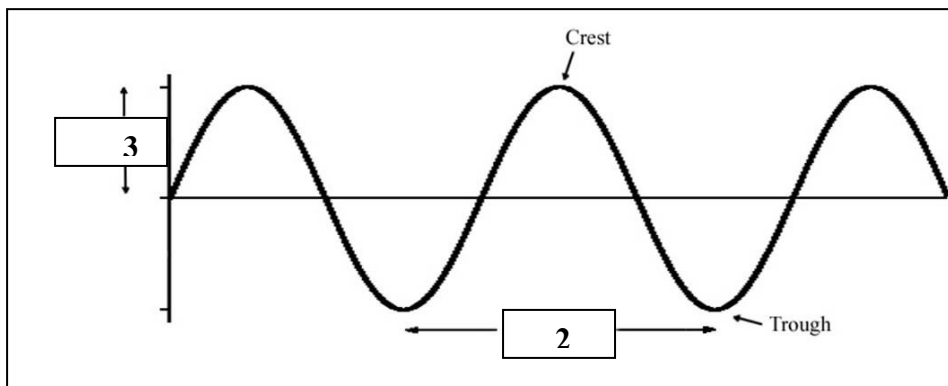


Quiz #10

Chapter 5.1 reading

1. Which of the following is described as a form of energy that exhibits wavelike behavior as it travels through space?
 - A. Wavelength
 - B. Electromagnetic radiation
 - C. Amplitude
 - D. Quantum
 - E. Photoelectric effect

For #2 and #3, on the drawing below, label each number with the correct names from the list:



- A. Frequency
- B. Amplitude
- C. Wavelength
- D. Speed

4. From this list below, which of the following has the *highest amount of energy* associated with it?
 - A. radio waves
 - B. visible light
 - C. ultraviolet waves
 - D. microwaves
 - E. gamma rays
5. Which of the following is described as *the minimum amount of energy that can be gained or lost by an electron*?
 - A. frequency
 - B. photon
 - C. quantum
 - D. ultraviolet radiation
 - E. electron
6. According to Max Planck's theory, for a given frequency of light:
 - A. matter can emit or absorb energy only in whole number multiples
 - B. matter can absorb energy only as it travels less than the speed of light
 - C. matter emits energy proportional to its frequency
 - D. matter is made up of red and blue light energies
 - E. matter is $2\pi r$ the speed of light

7. Which of the following is described as *a particle of electromagnetic radiation with no mass and carries a quantum of energy?*

- A. photon
- B. neutron
- C. electron
- D. proton
- E. boson

8. Which of the following is described as *the set of frequencies of the electromagnetic waves emitted by atoms of an element?*

- A. photon
- B. electromagnetic radiation
- C. atomic emission spectrum
- D. photoelectric effect
- E. wavelength

9. Which of the following would likely be the *black line emission spectrum for hydrogen?*

