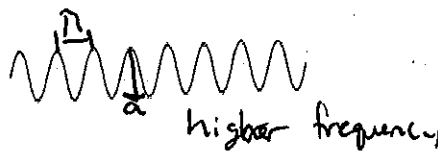
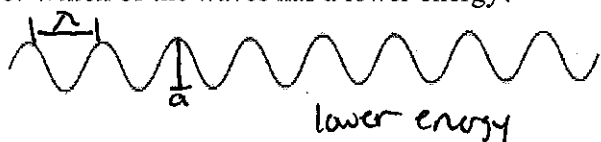


MODERN ATOMIC THEORY PART 2

1. What is wavelength? amplitude? frequency?
 λ = distance from crest to crest of a wave
 a = ~~height~~ height of wave
 f = # of waves that pass a point in 1 sec
2. List the colors of visible light in order of increasing energy.

ROYGBV

- 3a. Label the following wave diagrams with wavelength and amplitude.
- b. Which of the waves has a higher frequency?
- c. Which of the waves has a lower energy?



4. As wavelength gets shorter, frequency increases. As wavelength gets shorter, energy increases.

5. Describe the Bohr model of the atom.

- placed e- in a ring around nucleus (planetary model)



6. What is the difference between a bright line spectrum and a continuous spectrum? How do energy levels account for the appearance of bright line spectra? - electrons receive energy, bounce to higher energy levels, as e- falls back down, colored light is emitted
 BL - distinct colored lines
 CS - blend of colors (rainbow)

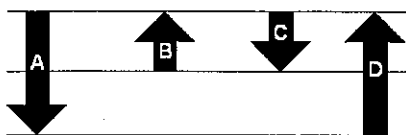
7. What is the electromagnetic (EM) spectrum? What is the highest energy wave? Lowest?

Radio, Microwave, Infrared, Visible, Ultraviolet, X-ray, gamma ray
 low high

8. Explain how electron movement between energy levels produces photons of light.



9. Consider this diagram of an atom with arrows representing electron movement.



Which two arrows correspond to energy absorption by the atom? BD

Which two arrows correspond to energy emission by the atom? AC

If violet and green light are produced by the movement illustrated here, which arrow represents emission of violet light? A green light? C