

Chemistry Unit 3 Test

1. What is the term used for the number of protons in an element?
 - a. Mass number
 - b. Atomic number
 - c. Neutron number
 - d. Isotope
2. What is the average of the masses of all the element's isotopes (often displayed as a decimal number on the periodic table of the elements)
 - a. Atomic mass
 - b. Atomic number
 - c. Isotope number
 - d. Number of neutrons
3. The number of protons in a nucleus equals what?
 - a. Number of isotopes
 - b. Number of neutrons
 - c. Number of electrons
 - d. Number of neutrinos
4. What is the term for an element that has a different number of neutrons than normal?
 - a. Isotopes
 - b. Mass
 - c. Atomic number
 - d. Atomic mass
5. What is the total number of protons and neutrons in an atom called (electrons usually negligible due to their size)?
 - a. Isotope
 - b. Atomic number
 - c. Mass number
 - d. Neutrino number
6. What is the collective term for the particles in the nucleus of an atom?
 - a. Isotopes
 - b. Nucleus
 - c. Nucleon
 - d. Protons
7. A proton has what electrical charge?
 - a. Positive
 - b. Negative
 - c. No charge
8. A neutron has what electrical charge?

- a. Positive
 - b. Negative
 - c. No charge
9. An electron has what electrical charge?
- a. Positive
 - b. Negative
 - c. No charge
10. Who developed the first modern atomic theory?
- a. Einstein
 - b. Bohr
 - c. Dalton
 - d. Planck
11. Who postulated that electrons were in fixed paths in fixed energy levels; often the term used for the model of the atom?
- a. Einstein
 - b. Bohr
 - c. Dalton
 - d. Planck
12. Who postulated the term “quanta” to explain light?
- a. Einstein
 - b. Bohr
 - c. Dalton
 - d. Planck
13. What is the speed of light, used in many mathematical equation in science?
- a. 3×10^8
 - b. 3×10^2
 - c. 3×10^6
 - d. 3×10^7
14. What instrument allows you to see bands of color in a reaction?
- a. Microscope
 - b. Spectroscope
 - c. Magnifying glass
 - d. Graduated cylinder
15. What is the term for the region of space where an electron is likely to be found?
- a. Orbital
 - b. Home
 - c. Sector
 - d. Section

16. List three aspects of Dalton's Atomic Theory:

- a. _____
- b. _____
- c. _____

Complete the following table (use the periodic table):

Element	atomic number	protons	neutrons	electrons
17. Li	_____	_____	_____	_____
18. Fe	_____	_____	_____	_____
19. C-14	_____	_____	_____	_____
20. O-17	_____	_____	_____	_____

21. If a certain light has a frequency of 4 Hertz, what is the wavelength (m)?

22. Electrons in the lowest energy levels and closest to the nucleus is in what state?

- a. Excited level
- b. Ground level

23. When electrons that are in the excited state (due to heat or other stimuli) drop down to lower energy levels, they often produce:

- a. Light/color
- b. Heat
- c. Ice
- d. Explosion

24. What is the electron distribution for the following elements? (use your periodic table for number of electrons-subtract 5 points if you have to use your classroom electron distribution chart)

- a. He
- b. N
- c. Ca

25. What is the orbital notation for these elements?

- a. He
- b. N
- c. Ca

Extra Credit

What are the two modern views of light?

- 1. _____
- 2. _____