

1. atom	Basic unit of matter	25. plasma	a state of matter in which atoms have been stripped of their electrons
2. proton	Positively charged particle in the nucleus of an atom	26. half-life	the time it takes for half of the atoms of a radioactive element to decay
3. electron	A subatomic particle that has a negative charge; found orbiting the nucleus of an atom	27. periodic table	A chart of the elements showing the repeating pattern of their properties
4. neutron	A subatomic particle that has no charge and that is found in the nucleus of an atom	28. period	A horizontal row of elements in the periodic table
5. nucleus	an atom's central region, which is made up of protons and neutrons	29. group	Elements in the same vertical column of the periodic table; also called family.
6. atomic number	The number of protons in an atom	30. periodic law	Physical and chemical properties are functions of their atomic numbers
7. mass number	the sum of the number of neutrons and protons in an atomic nucleus	31. atomic mass unit	a unit of mass that describes the mass of an atom or molecule
8. isotopes	Atoms of the same element that have different numbers of neutrons.	32. metals	Elements that are good conductors of electric current and heat.
9. energy levels	the possible energies that electrons in an atom can have	33. transition metals	Middle of the table. Non-reactive metals. Variety of different metals.
10. orbital	a region in an atom where there is a high probability of finding electrons	34. nonmetals	Elements that are poor conductors of heat and electric current
11. electron configuration	the arrangement of electrons in the orbitals of an atom	35. metalloids	elements with properties that fall between those of metals and nonmetals
12. ground state	a state in which all the electrons in an atom have the lowest possible energies	36. valence electron	Electrons on the outermost energy level of an atom
13. radioactivity	a form of energy released as atoms decay	37. alkali metals	the elements in Group 1A of the periodic table, not including hydrogen; very reactive
14. radioisotope	radioactive form of an element	38. alkaline earth metals	any metal in Group 2A of the periodic table; reactive
15. nuclear radiation	particles or electromagnetic radiation emitted from the nucleus during radioactive decay	39. halogens	Contains nonmetals, 7 valence electrons in its outermost energy level. Very reactive
16. alpha particle	a positively charged particle, emitted by certain radioactive nuclei, made up of two protons and two neutrons; a helium nucleus	40. noble gases	unreactive nonmetals that are colorless and odorless gases at room temperature
17. beta particle	an electron emitted by an unstable nucleus		
18. gamma ray	a penetrating form of radiation emitted by an unstable nucleus		
19. background radiation	nuclear radiation that occurs naturally in the environment		
20. strong nuclear force	the powerful attractive force that binds protons and neutrons together in the nucleus		
21. fission	The splitting of an atomic nucleus to release energy.		
22. chain reaction	series of repeated fission reactions caused by the release of neutrons in each reaction		
23. critical mass	Amount of fissionable material required to continue a reaction at a constant rate		
24. fusion	the energy-releasing combination of light nuclei forming heavier ones; ex.: 2 hydrogen atoms --> 1 helium atom		