

Chapter Four Reading Study Guide

1. An atom is made up of _____, _____ and _____.
2. Protons and neutrons are in the center or _____ of the atom.
3. _____ are in regions _____ the nucleus.
4. A proton has a _____ charge.
5. A electron has a _____ charge.
6. A neutron has _____ charge.
7. The charge on a proton and electron are _____ the same size but opposite.
8. Another way of saying this is that the same or _____ charges _____ one another and _____ charges attract one another.
9. The electron _____ shows the region _____ the nucleus where the electron is most likely to be.
10. You can see evidence of _____ and _____ attracting and repelling each other when you make _____ electricity.
11. Rubbing a _____ and sticking it to a wall or using it to attract little pieces of paper is also evidence that _____ and _____ have opposite charge.
12. The _____ charged area of the paper is _____ to the _____ balloon and the paper moves to the balloon.
13. The _____ table shows all the _____ that everything in the known universe is made from.
14. Each _____ contains information about a different _____.
15. Each box in the periodic table contains basic information about each element-

16. An _____ is the smallest particle or _____ of a substance.
17. An _____ is a substance made up of all the same type of _____.
18. The _____ mass of an element is based on the _____ of the atoms that make up the _____.
19. The _____ of the proton and neutron are about the _____ but the mass of the _____ is much smaller.
20. For any _____ in the periodic table, the number of _____ in an atom always _____ the number of _____.
21. Atoms of the _____ element with _____ numbers of neutrons are called _____ of that element.
22. The _____ mass given in the periodic table is an _____ of the atomic mass of the isotopes of an element.
23. For the _____ of the first _____ elements, the number of _____ is either equal to or slightly greater than the number of _____.
24. All _____ atoms have one _____ but the vast majority have 0 _____.
25. Electrons surround the _____ of an atom in _____ dimensions making atoms _____.
26. These regions are called _____.
27. The _____ is represented by a dot in the center which contains both _____ and _____.
28. The _____ dots surrounding the nucleus represent _____ in the _____ levels.
29. Since _____ atoms in the periodic table have the _____ number of electrons as _____, this atom must have 8 protons.
30. The number of _____ is the same as the _____, so this atom's atomic number is 8, which is oxygen.

31. Energy Levels can hold how many electrons? What element ends the level?

1st - _____

2nd- _____

3rd- _____

32. The _____ going across the periodic table are called _____.

33. The _____ going up and down are called _____ or _____.

34. Number of energy levels in each period-

The atoms in the first period have electrons in _____ energy level.

The atoms in the second period have electrons in _____ energy levels.

The atoms in the third period have electrons in _____ energy levels.

The atoms in the fourth period have electrons in _____ energy levels.

35. If you look at the atoms in a _____, you will see that they have the same number of _____ in their _____ energy level.

36. Electrons in this level are called _____ electrons.

37. Valence _____ are important because they interact with other _____ and are responsible for many of the characteristic _____ of the atom.

38. In a _____ bond, electrons from each atom are attracted or _____ by _____ atoms.

39. Two or more atoms covalently bonded are called a _____.

40. Once bonded, the hydrogen _____ is more _____ than the individual hydrogen atoms.

41. Atoms will _____ bond to one another until each atom's _____ energy level is full.

42. Two _____ from each atom are shared forming a _____ bond.

43. There is another type of bond called an _____ bond.

44. The spheres with the “+” and “-“ signs on the are called _____.

45. Chlorine _____ an electron so that the chloride _____ has _____ electrons and _____ protons.

46. Since the chloride ions has one more electron than proton, chloride is a _____ ion with a charge of _____.
47. Sodium _____ an electron leaving it with only _____ electrons but _____ protons.
48. This makes sodium a _____ ion with a charge of _____.
49. Oppositely charged _____ attract each other forming an _____ bond.
50. When ions form, atoms _____ or _____ electrons until their _____ energy level is full.
51. The _____ ions are more _____ that the individual atoms were.