

Chapter 6 Review

1. atomic mass On Mendeleev's periodic table, the elements were ordered according to increasing **atomic number / atomic mass**
2. Fluorine is the most electronegative element on the Periodic Table.
3. halogens Fluorine, chlorine, bromine, iodine, and astatine are in Group 17. Group 17 elements are also known as this.
4. electronegativity Periodic trend that measures the ability of an atom in a compound to attract electrons. Group – decreases from top to bottom within a group. Period – increases from left to right across a period *p. 6*
5. Lewis structures A diagram that shows valence electrons as dots. Also known as electron dot structures. Valence electrons are those electrons in the highest occupied energy level of an element's atoms.
6. metals Elements that are malleable and ductile. They are good conductors of heat and electric current. Will often have a luster.
7. nonmetals Elements that are poor conductors of heat and electric current.
8. Atomic radius Periodic trend that measures one-half of the distance between the nuclei of two atoms of the same element when the atoms are joined. Group – increases from top to bottom in a group. Period – decreases from left to right across a period *p. 6*
9. Ionic radius Periodic trend that measures the size of cations and anions compared to their neutral atoms. Group – ionic size increases from top to bottom within a group. Period – ionic size decreases from left to right across a period *p. 9*
10. ionization energy Periodic trend that measures the energy required to remove an electron from an atom. Group – tends to decrease from top to bottom within a group. Period – tends to increase from left to right across a period *p. 7*
11. atomic number On the modern Periodic Table, the elements are ordered according to increasing **atomic number / atomic mass**
12. Periodic Law This law states that the physical and chemical properties of the elements are functions of their atomic number.
13. octet rule This rule states that to form a compound, atoms tend to react so as to acquire the stable electron configuration of a noble gas.

Chapter 7 Review

14. ionic compounds Type of compounds that are composed of cations and anions but have an overall neutral charge.
15. Cations < neutral atoms < anions
16. oppositely charged In an ionic compound each positive ion is surrounded by negative ions and each negative ion is surrounded by positive ions. This results in an ionic compound containing ____ ions.
17. chloride Between a Sodium cation (Na^+) and a chloride (Cl^-), which would you expect to be a larger ion?

18. halide ion

The name for a negative ion that forms when a halogen atom gains an electron.

19. formula unit

The lowest whole number ratio of ions in an ionic compound.

20. 2.0

If the electronegativity difference is 2.0 or greater, it will be an ionic bond.

Element	Electronegativity
Hydrogen	2.1
Aluminum	1.5
Fluorine	4.0
Boron	2.0

21. No

Would an ionic bond form between hydrogen and boron? $2.1 - 2.0 = 0.1$

22. Yes

Would an ionic bond form between fluorine and boron? $4.0 - 2.0 = 2.0$

23. chemical formula

This shows the kinds and numbers of atoms in the smallest representative unit of a substance.

24. alloy

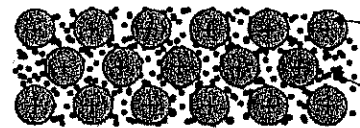
A mixture of two or more elements, in which at least one is a metal.

25. ionic compounds

Compounds that conduct electricity better in the melted or dissolved state than in the solid state.

26. metallic bonds

This type of bond is the result of the attraction of free-floating valence electrons for positively charged metal ions. The "sea of electrons" are moving freely between many positive nuclei.



27. ionic bond

As electrons are being lost by the Lithium ion and being gained by the Fluorine ion, what type of bond is being formed?

