

Atoms and Bonding ▪ Chapter 5 Pre-Assessment

Write the letter of the correct answer on the line at the left.

- _____ 1. An atom is made up of protons, electrons, and
a. valence electrons. b. neutrons.
c. molecules. d. ions.
- _____ 2. The most reactive metals in the periodic table are found in
a. Group 1. b. Group 2.
c. Group 17. d. Group 18.
- _____ 3. During a chemical or physical change,
a. matter is created.
b. matter is destroyed.
c. matter is neither created nor destroyed.
d. atomic nuclei release particles and energy.
- _____ 4. Compounds are formed by
a. combining two or more different elements.
b. bombarding atoms with high-speed particles.
c. combining two or more different nuclei.
d. dissolving a solid in a liquid.

Atoms and Bonding ▪ Section 5.1 Quiz

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

- _____ 1. The number of neutrons in an atom of an element determines the ways in which the atom can bond with other atoms.
- _____ 2. Atoms of most elements are more stable when they have eight electrons.
- _____ 3. Elements within a group have similar properties because they all have the same number of valence electrons in their atoms.
- _____ 4. All the inert gases except krypton have eight valence electrons.
- _____ 5. Hydrogen is placed above Group 1 in the periodic table because it has only two protons.

Atoms and Bonding ▪ Section 5.2 Quiz

Fill in the blank to complete each statement.

1. Most atoms with one, two, or three valence electrons can _____ electrons and become more stable.
2. When an atom gains an electron, it gains a _____ charge and becomes a _____ ion.
3. You can tell the ratio of ions in an ionic compound by looking at the compound's _____.
4. Ionic compounds form solids by building up _____ of ions.
5. When ionic crystals dissolve in water, the bonds between ions are broken, so the solution _____ electric current.

Name _____ Date _____ Class _____

Atoms and Bonding ▪ Section 5.3 Quiz

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

1. Covalent bonds usually form between atoms of a metal and nonmetal.
2. The attraction of each atom's nucleus for the shared pair of electrons holds atoms together in a covalent bond.
3. Double and triple bonds can form when atoms share more than one pair of electrons.
4. Compared to ionic compounds, molecular compounds generally have higher boiling points and melting points.
5. The unequal sharing of electrons in a polar bond makes the atom with the stronger pull slightly negative.

Atoms and Bonding ▪ Section 5.4 Quiz

Fill in the blank to complete each statement.

1. Most metals you see in everyday life are made of _____.
2. Iron is often alloyed to make steel because iron objects _____ when they are exposed to air.
3. Most metals are _____ solids.
4. Many properties of solid metals can be explained by the _____ model of metallic bonding.
5. Five properties of metals that are related to the behavior of valence electrons are _____, _____, _____, _____, and _____.