

Transparency Worksheet

Name _____

Class _____ Date _____

Chemical Bonds

1. Define a *chemical bond*. _____
2. A covalent bond is characterized by _____.
3. Describe the potential energy changes that take place as a covalent bond forms between two hydrogen atoms.

4. Represent this covalent bonding between two hydrogen atoms by both electron dot symbols and orbital diagrams.

5. If a covalent bond forms between two unlike atoms (H and Cl), the electrons are unequally shared. Use an analogy from everyday life to describe the effects of this unequal sharing in a bond. _____

6. Represent covalent bonding between a hydrogen atom and a chlorine atom by both electron dot symbols and orbital diagrams. _____

7. Distinguish between polar and nonpolar covalent bonds. _____

8. What is meant by *electronegativity*? _____
9. Relate electronegativity to the arrangement of elements in the periodic table. _____

Critical Thinking

10. Classify the bonds in the following compounds as nonpolar covalent, polar covalent, or ionic: MgS,

Br₂, CH₄, Al₂O₃. _____
