

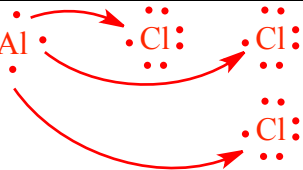
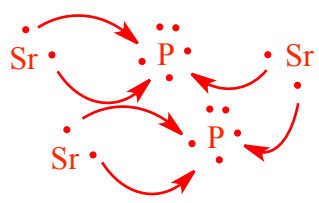
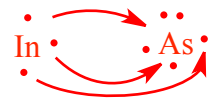
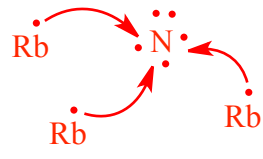


WKS
Ionic Bonding Worksheet

NAME Answer Key
Period _____ Date _____

- What is a chemical bond?
A force that holds two atoms together.
- Why do ions form?
Atoms gain more stable electron configurations by losing or gaining electrons.
- Describe the formation of both positive and negative ions.
Positive ions form when atoms lose valence electrons. Negative ions form when electrons are added to an atom to complete its valence shell.
- What is an ionic bond?
The electrostatic attraction between oppositely charged ions.
- List three physical properties associated with an ionic bond.
They exist as crystals; have high melting and boiling points; are hard, rigid, and brittle; are conductive when molten or dissolved but not solid.
- What is lattice energy and what does it indicate about an ion bond?
It is the energy given off when one mole of an ionic compound is formed from its ions and indicates that ionic bonds are very strong and stable.
- For the following questions draw the Lewis Dot structures before and after transferring electrons. Determine the formula of the resulting compound. Remember-- you may need to add extra atoms sometimes (continued on back)

Atoms	Before transferring electrons	After transferring electrons (Show charges on ions)	Formula of compound
a. K + S		$2 \text{K}^+ + \text{S}^{2-}$	K_2S
b. Ba + O		$\text{Ba}^{2+} + \text{O}^{2-}$	BaO
c. Al + Cl		$\text{Al}^{3+} + 3 \text{Cl}^-$	AlCl_3

Atoms	Before transferring electrons	After transferring electrons (Show charges on ions)	Formula of compound
d. Sr + P		$3 \text{ Sr}^{2+} + 2 \text{ P}^{3-}$	Sr_3P_2
e. In + As		$\text{In}^{3+} + \text{As}^{3-}$	InAs
f. Rb + N		$3 \text{ Rb}^+ + \text{N}^{3-}$	Rb_3N