- 1. B ionic bonds as a general rule are considered stronger than covalent bonds, so A is incorrect. C describes an ionic bond.
- 2. C For Mg and Cl the electronegativity difference is 1.8, pointing to a bond primarily ionic in character. For all others the electronegativity difference is much less.
- 3. D The three other species have ten electrons. Argon has eighteen.
- 4. B The large electronegativity difference between oxygen hydrogen causes the molecules to be very polar. This contributes to the strength of hydrogen bonding in water; these strong intermolecular attractions cause the temperature at whihc water boils to be high.
- 5. B A molecule with six regions of electron density around a central atom is octahedral.
- 6. C There are three regions of electron density around SO<sub>2</sub> leading to a geometry based on trigonal planar: bent or angular.



- 7. D Flourine has the greatest electronegativity, so the electronegativity difference in product will be greatest with this reaction, leading to a stronger bond, more exothermic.
- 8. B Because sodium has a lower electronegativity than most other metallic species, the compound, sodium chloride (a molecule of large electronegativity difference) will be a very energy favorable product. Substitution of sodium for the other metal will tend to occur.