CBLT4: In general, define and explain molecules and molecular compounds.

Be able to define or explain the following:

- Molecule
- Covalent bond
- Diatomic molecule
- Molecular compound
- Molecular formula

Textbook:

- Page 216 #s 1, 2, 4, 6.
- Page 247 #s 39, 40, 41, 44.

CBLT5: Define and explain the different types of covalent bonds.

Be able to define or explain the following:

- Single covalent bond
- Structure formula
- Unshared pair
- Double covalent bond
- Triple covalent bond
- Coordinate covalent bond
- Polyatomic ion

Textbook:

- Page 229 #s 13 – 16, 20.
- Page 247 #s 42, 45, 47.

CBLT6: Model and identify covalent bonds with Lewis dot diagrams and structural diagrams.

Textbook:

- Page 220 #s 7, 8.
- Page 225 #s 9 – 12.
- Page 229 # 21.
- Page 247 – 249 #s 46, 63, 64, 70, 73, 79, 80.

CBLT7: Define, explain and identify sigma and pi bonds and molecular shapes using VSEPR theory.

Be able to define or explain the following:

- Molecular orbitals
- Bonding orbitals
- Sigma bond
- Pi bond
- Tetrahedral angle
- VSEPR theory

Textbook:

- Page 236 #s 23, 24, 27, 29.
- Page 247 #s 53, 54.
- Page 248 – 249 #s 65, 68, 75

CBLT8: Define, explain, identify and apply polar and non-polar bonds and the different types of intermolecular forces.

Be able to define or explain the following:

- Nonpolar covalent bond
- Polar covalent pond
- Polar bond
- Polar molecule
- Dipole
- Van der Waals forces
- Dipole interactions
- Dispersion forces
- Hydrogen bonds
- Network solids

Textbook:

- Page 239 #s 30, 31.
- Page 244 #s 32 – 38.
- Page 247 #s 57 – 61.
- Page 249 #s 72, 74 (research structures)

- *Additional question*: Explain why, at normal temperature and pressure, compounds of fluorine and chlorine are gases, bromine is a liquid and iodine is a solid.