

- Identify an element based on group and period
- Find the names and formulas of ionic compounds and covalent molecules. Also determine missing oxidation numbers based on oxidation rules (you will be given a list of polyatomic ions)
- Describe Rutherford's gold foil experiment
- Calculate average atomic mass if given isotopes or determine percent abundance of each isotope if given average atomic abundance
- Calculate the molar mass of a compound
- Determine empirical or molecular formulas
- Determine the strength of intermolecular forces
- Determine which sample of a substance would have the greatest kinetic energy if various factors are changed.
- Identify common ions for various main group elements
- Determine the correct number of significant digits for a measurement

Short answer/problems

- Write chemical formulas if given the name of the compound
- Write the name of the compound if given the formula
- Balance equations if given formulas. Also determine the type of reaction
- Draw Lewis dot diagrams.
- Determine molecular shapes
- Convert moles to grams or grams to moles for elements and compounds

Breinlinger – Plot periodic trends on a graph
Hybridization of atoms

- DiBiasio – Choose 3 or 4 problems including :
- Writing equations if given names of compounds
 - Determining empirical formulas
 - Determining molecular formulas
 - Finding percent composition