

Senior Chemistry 2018 Coach Conference Presentation Notes

General topics the students need to know:

Periodic Table:

Locations of various groups and periods (names of families, transition metals, alkali, alkaline earth)

Information available on table (Mass number, number of protons, neutrons, electrons) and calculations of the number of each given partial information.

Location of non-metals, metals, metalloids (semi-metals) and properties of each group

Definitions such as isotopes, isomers, isobars

Reactivities based on electron configurations

Relative size of atoms and ions

Names of compounds based on position within table (includes common ions)

Names and symbols of elements, and know which elements have more than one combining number

Periodicity:

Definitions of properties: electronegativity, ionization energy, electron affinity

Trends across a period and within a family for each of the above

Relationship between electron configuration and each of the above

Identify size of atoms and ions based on relative position of them on the periodic table

There are no "pure" electron configuration questions (such as what is the electron configuration of sulfur; but there may be questions as to what is similar about electron configurations of elements in the same family.)

Types of Chemical Reactions

Recognize and classify reactions as one of the five types: Synthesis (combination), decomposition, single replacement, double replacement and combustion

Recognize that reactions may be both synthesis and combustion

Know how oxidation-reduction reactions fit in the five types of reactions.

Predict products of various reactions and know why those reactions occur.

Know products of combustion reactions of hydrocarbons

There are no balancing questions; assume all equations are correctly balanced

There are no stoichiometry calculations from equations.

There are no questions on moles.

Sources:

AP Chemistry text books; some regular high school level texts may have some of the initial periodic table information.

There are many examples of tests and practice sheets on the internet that can be used. Many don't give background information about the topics, but can provide examples of the types of things which may be asked. There are too many to list as references. Khan Academy website may provide information for teachers/coaches who are unfamiliar with the topics being studied.