Science Infinity Chemistry 1 Syllabus 2018-19

The following syllabus is based on the book *Chemistry: 10th Edition*, by Zumdahl and Zumdahl. Here is a link to the book. If you are interested in more comprehensive lessons, I suggest that you acquire a copy of the book. The syllabus below will have labels that indicate which chapter/section of the book each topic can be found in, so that, if your child wants to explore more about the topic, they know where to go.

Chemistry 1 is meant as an introduction to chemistry. It is recommended that students take Chemistry 2 only after taking Chemistry 1. In addition, this syllabus will be a condensed version of the Honors Chemistry syllabus while Chemistry 2 will be a condensed version of the AP Chemistry syllabus.

Homework:

There will be some reading homework every time the class meets. This is only to help reinforce what has been learned during class, and to clear up any doubts during class. Additionally, students will be required to solve some of the review questions at the end of each chapter. This work should be legible, and in a notebook or loose-leaf notebook paper. These will be checked off, and will be peer graded in class. Any questions about the homework will also be addressed.

Quizzes/Tests:

There will be occasional tests and quizzes. Tests will be announced ahead of time, but there might be a few pop quizzes, so that the teachers can understand what needs to be retaught. These quizzes will take no longer than 10 minutes, so don't stress over this. The tests will take up a good chuck of class time, and will be graded and handed back either during the class itself, or the next class.

Chapter	Topic
2	Introduction to Chemistry Electrons, Protons, Neutrons, structure of nucleus
2	Elements and Molecules Definition of a molecule, distinguish atoms from molecules, definition of an element, brief history of chemistry
2	The Periodic Table Overview of structure of the periodic table, history of the periodic table, brief discussion of parts of the periodic table (atomic mass, atomic number, etc)
2	Physical and Chemical Properties Difference between physical and chemical properties, discussion of multiple physical properties and multiple chemical properties

4	Chemical Reaction Discussion of what a chemical reaction is, how to notate a chemical reaction, law of conservation of mass/atoms
4	Balancing Equations Reasoning behind the need for balancing equations (law of conservation of mass), steps to balance an equation, lots of practice
14/15	Electronic Structure Orbitals, Pauli exclusion principle, Aufbau Rule, Hund's Rule
15	Reactivity Valence electrons, origin or octet rule, lots of practice filling out orbital filling diagrams
6/17	Nomenclature How to name covalent and ionic compounds, including those with transition Metal cations
7/20/21	Representing Compounds Predicting chemical formulas, drawing Lewis structures, predicting charges, calculating formal charges
8/9/10	Bond types Covalent, ionic, metallic, coordinate bonds, determination of bond type, intermolecular and intramolecular forces, VSEPR theory, polarity and its consequences