**Lesson Plan: Lecture 5**

**The Molecule**

**Description**

In this lecture, students will be introduced to molecules and how to properly draw and assign nomenclature. This lecture will focus on the fundamental ways to identify molecules and extrapolate to organic nomenclature. Since the majority of the content in later lectures will focus on organic molecules and their functional groups, it is important that student have the skills to name and draw organic structures.

**Prior to Lecture**

Readings:

* Readings from Instructors Chemistry textbook are encouraged. The majority of the content found in this lecture is readily available in all chemistry textbooks, so we highly recommend that the instructor assign the textbook they are most familiar with teaching. The addition of more PowerPoint slides to the lecture is also encouraged.

Videos:

* [Introduction to Molecules](https://www.youtube.com/watch?v=hj9RTDiZBrA&feature=youtu.be)
* [Drawing and Naming Molecules](https://www.youtube.com/watch?v=Fzm_desW2Ag&feature=youtu.be)
* [Naming Simple Alkanes](https://www.khanacademy.org/science/organic-chemistry/bond-line-structures-alkanes-cycloalkanes/naming-alkanes/v/naming-simple-alkanes)
* [Functional Groups](https://www.khanacademy.org/science/organic-chemistry/bond-line-structures-alkanes-cycloalkanes/functional-groups/v/functional-groups-first)

**Topics to Cover in Lecture**

* Molecules and Compounds
  + Ionic and Covalent
* Drawing molecules
  + Lewis dot structures
  + Organic
* Nomenclature of molecules
* Functional Groups

**Class Exercises**

This week’s exercise have been incorporated into the PowerPoint presentation. Animate slides according to your preference.

**Homework:** Molecules and Nomenclature

**Supplementary Material:**

* Chemical Hazard Awareness
* Molecules Class Exercise
* Polymers and Molecular Models Activity

**Handouts**

* IUPAC Naming System
* Organic Compound Nomenclature
* Organic Molecule Nomenclature Steps and Examples