



# Chemistry/ Honors Chemistry

The following learning targets represent the major concepts studied and assessed in this course.

## Semester 1:

### **Unit 1: Introduction to Chemistry**

- Learn the different branches.
- Use science and engineering design to design an investigation that centers on solving a real world problem.

### **Unit 2: Matter and Change**

- Distinguish between chemical and physical changes.
- Classify matter into different categories based on their properties.

### **Unit 3: Scientific Measurement**

- Accurately use scientific measurement and dimensional analysis to solve everyday problems and report the results with the correct degree of accuracy.

### **Unit 4: Atomic Structure**

- Understand the structure of the nuclear atom so I can determine the architecture of an undiscovered element.

### **Unit 5: Electrons in Atoms**

- Determine the electron structure of an undiscovered element.

### **Unit 6: Periodic Table**

- Determine the properties of an element based on its position on the periodic table.

### **Unit 7: Bonding**

- Engineer or design a compound; determining its molecules bond, model its structure, and predict its properties.

## Semester 2:

### **Unit 8: Chemical Names and Formulas**

- Predict the formulas of previously unknown compounds.
- Name compounds based on their chemical formulas.

### **Unit 9: Chemical Equations and Chemical Reactions**

- Balance chemical equations.
- Predict the outcomes of chemical reactions
- Identify the different types of chemical reactions based on their products and reactions

### **Unit 10: Chemical Quantities**

- Determine the types of atoms and the ratio of each in a compound in order to accurately identify the chemical formula.

### **Unit 11: Stoichiometry**

- Design an experiment to yield the desired amount of product.