**Honors Chemistry- Chapters 1-3 objectives**

On a separate sheet of paper, complete the following objectives. These objectives and problems need to be **handwritten** on loose-leaf paper that can be handed in. *They should be as thorough and detailed as possible*.

\*\*\*Note: you must complete the objectives **AND** the questions below, not just the questions\*\*\*

**Chapter 1- Introduction to Chemistry**

* + 1. Identify the five traditional areas of study in chemistry
    2. Identify and describe the steps in the scientific method

**Chapter 2- Matter and Change**

2.1.1 Differentiate between intensive and extensive properties

2.1.2 Define a physical property and list several common physical properties of substances

2.1.3 Differentiate among the three states of matter

2.1.4 Describe a physical change

2.2.1 Describe how to categorize a sample of matter as a substance or a mixture

2.2.2 Distinguish between homogeneous and heterogeneous samples of matter

2.2.3 Describe two ways that components of mixtures can be separated

2.3.1 Explain the difference between an element and a compound

2.3.2 Describe how element’s names are represented as symbols and give three examples

2.4.1 Describe what happens during a chemical change

2.4.2 Identify four clues that a chemical change has taken place

2.4.3 Define the law of conservation of mass and explain how it applies to chemical reactions

**Chapter 3- Scientific Measurement**

3.1.1 Describe how to put a number into and out of scientific notation

3.1.2 Distinguish among accuracy, precision and error of a measurement

3.2.1 List SI units of measurement and common SI prefixes

3.2.2 Describe how to convert between Celsius and Kelvin temperature scales

3.3.1 Describe how to solve problems by using dimensional analysis

3.4.1 Explain density

3.4.2 Describe how density varies with temperature

\*\*\*In addition, the following chapter problems are required. These can be found at the end of each chapter (**For any problems that require a calculation, make sure you show your work!!)**

Chapter 1 (chapter questions: 34, 45, 46, 48, 55, 56, 64, 65, 73)

Chapter 2 (chapter questions: 40, 41, 45, 48, 50, 52, 55, 57, 60, 62, 63-66, 73, 77, 78, 79)

Chapter 3 (chapter questions: 66, 74 a and b only, 80, 83\*, 84\*, 87-89)

*\*Use chart on page 81 to help with these questions*