1.0 Study Guide

1.1 Measurements
Lesson Objectives
I can:

☐ Appropriately read and record measurements with a digit of uncertainty.
☐ Determine the number of significant figures in a measurement.
☐ Write a number in both standard decimal notation and scientific notation.
☐ Carry out arithmetic operations (addition, subtraction, multiplication, and division) with numbers in standard decimal notation and scientific notation.
☐ Carry out arithmetic operations (addition, subtraction, multiplication, and division), expressing the result with the correct number of significant figures.
☐ Describe the accuracy or precision of a set of measurements.
☐ Calculate the average deviation or percent error of a set of measurements.

1.2 Dimensional Analysis
Lesson Objectives
I can:

☐ Identify the appropriate units for a measurement.
☐ Convert volumes between L and m³ units.
☐ Convert between Fahrenheit, Celsius, and Kelvin temperature scales.
☐ Explain the meaning of metric prefixes.
☐ Use dimensional analysis to convert like units (e.g. length → length).
☐ Use dimensional analysis with unlike relationships (ratios and rates) to convert unlike units.

1.3 Density
Lesson Objectives
I can:

☐ explain whether a property is physical or chemical, extensive or intensive, and give examples of each.
☐ can provide evidence for whether a process is physical or chemical.
☐ calculate the mass, volume, or density of an object using the density formula.
☐ compare the density of two objects quantitatively and conceptually.