For your notes, copy & Paste each Module's Learning Objectives into a separate document & upload into Canvas

OLI Module 2 Quiz - Properties of Matter

Distinguish between elements and compounds ***Your notes, examples, etc…***
Distinguish between elements, compounds,pure substances, heterogeneous and homogeneous mixtures ***Your notes, examples, etc...***
In a qualitative manner, apply the conservation of mass to a chemical reaction ***Your notes, examples, etc...***
Distinguish among a solid, liquid and gas ***Your notes, examples, etc...***
Identify physical and chemical changes ***Your notes, examples, etc...***

Module 3 Quiz - Measurements

Compare the magnitude of various units ***Your notes, examples, etc...***
Carry out metric-to-metric length, volume and mass conversions ***Your notes, examples, etc...***
Carry out metric-to-English length, volume and mass conversions ***Your notes, examples, etc...***
Apply the rules for the determination of significant figures in calculations ***Your notes, examples, etc...***
Determine the number of significant figures in numerical data ***Your notes, examples, etc...***
Identify the steps of the scientific method ***Your notes, examples, etc...***
Convert square and cubic conversions ***Your notes, examples, etc...***
Determine the density of an irregular object by volume displacement ***Your notes, examples, etc...***
Apply the terms accuracy and precision to sets of data

Your notes, examples, etc...
Know how to associate systematic error and random error to sets of data ***Your notes, examples, etc...***
Convert ^{o}C to K ***Your notes, examples, etc...***
Convert ^{o}C to ^{o}F ***Your notes, examples, etc...***

Module 4 Quiz - Atomic Theory (one day)

Define the law of definite proportions ***Your notes, examples, etc...***
Apply the law of definite proportions ***Your notes, examples, etc...***
Know the discoveries and conclusions JJ Thomson made regarding atomic theory ***Your notes, examples, etc...***
Know the discoveries and conclusions E Rutherford made regarding atomic theory ***Your notes, examples, etc...***
Know the charges of electrons, protons, and neutrons ***Your notes, examples, etc...***
Use atomic numbers to identify an element ***Your notes, examples, etc...***
Determine the number of neutrons given a mass number and protons ***Your notes, examples, etc...***
Determine the number of electrons in a neutral atom ***Your notes, examples, etc...***
Determine the mass number of an atom given the identity of the atom and the number of neutrons ***Your notes, examples, etc...***

Module 5 Quiz - Elements and Compounds

Determine the number of protons, and electrons given the formula of a monatomic ion.

Your notes, examples, etc...
Determine the number of protons, neutrons, and electrons given the isotopic notation of an isotope ***Your notes, examples, etc...***
Know how to calculate the weight of an average atom given the weights and isotopic abundances ***Your notes, examples, etc...***
Determine the most abundant isotope of an element given atomic masses ***Your notes, examples, etc...***
Know the names of the different regions of the periodic table, metal vs nonmetals, alkali metal, alkaline earth, transition metals, halogens, noble gases ***Your notes, examples, etc...***
Know that elements in the same group names have similar chemical properties ***Your notes, examples, etc...***
Know the bonding nature of ionic bonds ***Your notes, examples, etc...***
Know how a cation and anion form ***Your notes, examples, etc...***
Know how to identify formulas of ionic and covalent compounds ***Your notes, examples, etc...***
Know how to name ionic and covalent compounds using the systematic rules for nomenclature ***Your notes, examples, etc...***

Module 10 Quiz - The Mole

Determine the mass of a compound given moles ***Your notes, examples, etc...***
Determine the number of atoms in a compound given the number of moles of the compound ***Your notes, examples, etc...***
Determine the number of moles of a compound given a number of molecules of the compound ***Your notes, examples, etc...***

Determine the mass of a compound given a number of formula units of the compound ***Your notes, examples, etc...***
Determine the % composition of an element in a compound ***Your notes, examples, etc...***
Determine the % composition of a polyatomic ion in an ionic compound ***Your notes, examples, etc...***
Determine the empirical formula of a compound given the % of each element in the compound ***Your notes, examples, etc...***
Determine the molecular formula of a compound given the % of each element in the compound and the empirical formula ***Your notes, examples, etc...***

Module 11 Quiz - Aqueous Solutions

Define & Identify the components of a solution as in the solute & the solvent ***Your notes, examples, etc...***
Identify weak, strong electrolytes, and nonelectrolytes given formulas ***Your notes, examples, etc...***
Calculate the molarity of a solution and the ions in solution given grams of a compound and volume of the solution ***Your notes, examples, etc...***
Calculate the grams of a compound required to prepare a solution volume of given molarity ***Your notes, examples, etc...***
Calculate the volume of stock solution required to prepare a dilute solution with a particular molarity ***Your notes, examples, etc...***
Calculate the molarity of a solution given the density of the solution, and % by mass of the solute. ***Your notes, examples, etc...***
Calculate the volume of a solution given the moles and molarity. ***Your notes, examples, etc...***
Calculate the volume of a solution given the molarity and grams of solute. ***Your notes, examples, etc...***

Module 16 Quiz - Chemical Equations

Balance chemical equations ***Your notes, examples, etc...***
Determine the solubility of ionic compounds ***Your notes, examples, etc...***
Write the net and total ionic equation given two reactants ***Your notes, examples, etc...***
Determine the oxidation number(state) of atoms in compounds and polyatomic ions ***Your notes, examples, etc...***
Given a chemical equation, determine which substance is reduced and oxidized ***Your notes, examples, etc...***
Determine/identify a chemical equation as either; acid-base, REDOX, precipitation ***Your notes, examples, etc...***

Module 17 Quiz - Reaction Stoichiometry

Given an equation, volume & molarity calculate the amount of excess reactant remaining and the amount of product produced. ***Your notes, examples, etc...***
Calculate the number of molecules produced given the moles of reactants and an equation ***Your notes, examples, etc...***
Calculate the grams of reactant required to produce a particular amount of product given a description of the reaction ***Your notes, examples, etc...***
Calculate the moles of product produced given an amount of reactant and a description of the reaction ***Your notes, examples, etc...***
Calculate the mass of product produced given a chemical equation, and the volume of and molarities of reactants ***Your notes, examples, etc...***
In an acid-base titration, calculate the molarity of titrant given the volume of titrant, and the volume and concentration of analyte ***Your notes, examples, etc...***
Calculate the amount of precipitate produced and the amount of excess reactant remaining given the volume and molarity of one reactant, and the grams of the other

Your notes, examples, etc...

Module 25 Quiz - Calorimetry

Apply the words exothermic and endothermic in context ***Your notes, examples, etc...***
Know differences among, heat, thermal energy, and temperature ***Your notes, examples, etc...***
Calculate the specific heat of a substance given the amount of heat transferred, the weight of the substance, and the initial and final temperatures ***Your notes, examples, etc...***
Use specific heat to identify a metal ***Your notes, examples, etc...***
Given the initial and final temps of a sample of water, the weight of the water, the weight of an object, and the specific heat of an object, predict the final temp of water after a hot object is placed in the water ***Your notes, examples, etc...***
Calculate q (the amount of heat) released by a chemical reaction in an aqueous solution, given the initial and final temp of the water, and the weight of the solution. ***Your notes, examples, etc...***
Know the difference between heat capacity and specific heat. ***Your notes, examples, etc...***
Calculate the heat transferred in a chemical reaction using a coffee cup calorimeter ***Your notes, examples, etc...***

Module 26 Quiz - Enthalpy

Calculate the ΔH_{rxn} for a reaction given a balanced chemical equation and an amount of heat transferred based on the balanced equation ***Your notes, examples, etc...***
Calculate the amount heat released when for a reaction given the amount of reactant and the ΔH_{rxn} for the reaction ***Your notes, examples, etc...***
Write the formation equation for a substance ***Your notes, examples, etc...***
Given a balanced chemical equation, determine the ΔH_f

Your notes, examples, etc...
Given a balanced chemical equation, calculate the ΔH_{rxn} using ΔH_f values ***Your notes, examples, etc...***
Calculate ΔH_f for a reactant or product given the ΔH_{rxn} and the ΔH_f for other substances ***Your notes, examples, etc...***
Use Hess's Law to calculate the ΔH_{rxn} ***Your notes, examples, etc...***

Module 29 Quiz - Electromagnetic Energy and the Bohr Model of the Atom (one day)

Calculate the frequency given a wavelength ***Your notes, examples, etc...***
Determine which colors of light have the least and highest energies ***Your notes, examples, etc...***
Calculate the energy of a photon given a wavelength ***Your notes, examples, etc...***
Calculate the energy of a mole of photons given a wavelength (hint: multiply by 6.02×10^{23}) ***Your notes, examples, etc...***
Understand the Bohr model and what conclusions were drawn ***Your notes, examples, etc...***
Predict which spectral line is produced given an n-to-n transition in an H atom ***Your notes, examples, etc...***
Apply the photoelectric effect ***Your notes, examples, etc...***

Module 30 Quiz - Quantum Theory

Assign quantum numbers to a given subshell ***Your notes, examples, etc...***
Determine the max number of electrons that can occupy an orientation ***Your notes, examples, etc...***
Identify an atomic orbital given a figure ***Your notes, examples, etc...***
Know Hund's Rule ***Your notes, examples, etc...***
Identify an incorrect set of quantum numbers ***Your notes, examples, etc...***
Write complete electron configurations for ground-state atoms & ions ***Your notes, examples, etc...***
Write noble gas electron configurations for ground-state atoms & ions ***Your notes, examples, etc...***
Write orbital box diagrams ***Your notes, examples, etc...***
Determine the number of unpaired electrons in an atom ***Your notes, examples, etc...***
Determine the number of valence electrons in an atom ***Your notes, examples, etc...***
Know that elements of either metals or nonmetals in the same group are likely to have similar physical and chemical properties ***Your notes, examples, etc...***

Module 34 Quiz - Lewis Structures

Draw Lewis and resonance structures given molecular formulas ***Your notes, examples, etc...***
Know which atoms must follow and may not follow the octet rule ***Your notes, examples, etc...***
Use bond energies to determine the ΔH_{rxn} ***Your notes, examples, etc...***

Module 35 Quiz - Molecular Structure and Polarity

Determine the electron-pair geometries of covalent compounds given formulas ***Your notes, examples, etc...***
Determine the bond angles in small molecules ***Your notes, examples, etc...***
Determine if a covalent compound is polar or nonpolar ***Your notes, examples, etc...***