Academic Year 2016/2017
Mrs. Lucy Penenian

Grade 8
Chemistry

Contents	Learning objectives
Pure substances	- identify Pure substances -Compare between elements and compounds -Compare between the physical and chemical properties of metals and nonmetals
Structure of matter	-Recognize that atoms are the smallest form of elements -Describe atomic structure and how that structure determines an element's identity. -Identify the atomic number , and atomic mass number of atoms -Define isotopes -Write electronic configuration atoms -Indicate the group and the period of the elements from the electronic configuration -Identify the valence and the valence electrons of an atom. -Draw the Lewis Dot structure of the atoms.
Covalent Bonding	-Explain how electrons are involved in chemical bonding -Describe the different types of covalent bonds. Draw the structural formulas of compounds and indicate if the bond is single covalent bond, double covalent bond or triple covalent bond.
Ions	-Describe how atoms are formed - Identify two types of ions; anions and cations. -Study some monoatomic and some polyatomic ions
Ionic bonding	-Describe how ionic compounds are formed -Determine the chemical formula of the ionic compounds and their names. -Compare the physical and chemical properties between ionic and covalent compounds
Chemical Reactions	-Compare between chemical and physical reactions. -Recognize the evidence of chemical changes and describe how these changes occur. -Recognize that a chemical equation represents a chemical reaction. -Chemical equations must be balanced. Describe the steps

	of balancing chemical equations. -Identify the different types of chemical reactions.
Rates of chemical reactions	-Infer through an experiment how the rate of a reaction can be changed . -Indicate the factors affecting the rate of a chemical reaction.
Acids and Bases	-Explain what acids and bases are -Determine if a solution is acidic or basic -Describe how acids and bases react with each other
Metal Alloys	-Describe how metal alloys are made -Identify how a variety of alloys are used on modern society -Explain why different alloys have different uses
Hydrocarbons	Recognize how carbon based molecules are obtained from petroleum -Explain what are hydrocarbons -Identify the three hydrocarbons: Alkanes, alkenes and alkynes - Identify the types of the bond and the general formula of each hydrocarbon -Draw structural and condensed structural formula of the hydrocarbons