Academic Year : 2025/2026

Ascot High School

Science Department

Chemistry Course Outline September - December, 2025

Grade 11

National Goals: 1. Jamaicans are empowered to achieve their fullest potential

General Objectives:

1. complete remaining SBA for the year two requirements;

2. understand the mole as the unit for comparison of amounts of matter;

UNIT	DURATION	TOPIC	SPECIFIC OBJECTIVE	SUGGESTED TEACHING AND LEARNONG ACTIVITIES	ASSESSMENT / COMMENTS
Week 1 - Sept. 1 - 05		**GRADE ORIENTATION / DIAGNOSTIC TEST**			
Week 2 - Sept. 8-12		**DIAGNOSTIC TEST CONTINUATION**			
Principles of Chemistry	**3 Weeks Sept.15-Oct. 3**	**Mole Concept**	By the end of the lesson, students should be able to: 1. Define the following terms giving examples: a. mole b. relative molecular mass c. relative formula mass d. molar mass.	The teacher will incorporate video resources, such as: • CSEC Chemistry - The Mole Concept 1	Students will complete a worksheet on mole concept. **Classwork and homework – 10% each**.

			2. Recall Avogadro's number and explain its significance in relation to the mole. 3. Use the relationship among mass, number of moles and number of particles to solve numerical problems. 4. Explain the terms percentage composition, empirical formula, and molecular formula, and calculate each from experimental or given data. 5. Solve problems involving moles and volume of gases at standard temperature and pressure (stp) or room temperature and pressure (rtp). 6. Apply the mole concept to balanced chemical equations using masses. 7. Apply the mole concept to balanced chemical equations using volumes. 8. Define the terms concentration and standard solution in the context of solution chemistry. 9. Calculate the concentration of solutions using the formula: $\text{Conc.} = \frac{\text{(Mol.) or (g)}}{\text{Vol. (dm}^3\text{)}}$	• CSEC Chemistry: Moles!!! and others, to support students in understanding the key concepts introduced in the unit. In addition, worksheets featuring a variety of past paper questions aligned with the learning objectives will be regularly used to reinforce understanding and build exam readiness.	**S.B.A's as specified by the syllabus will be done throughout the term.** **Topics to be covered are: 1. Volumetric analysis** **2. Qualitative analysis** **3. Saturated and unsaturated hydrocarbons** **4. Rate of reactions** **5. Redox Reaction** **6. Energetics** **7. Acids, bases and salt**

General Objective:		Appreciate that properties of chemicals will affect their reactions			
Acids, Bases and Salts	**2 Weeks Oct. 06 -17**	**Acids and their properties** **Acidity and Alkalinity** **Non – Oxidising Acids**	By the end of the lesson, students should be able to: 1. Define the terms: ○ *acid, acid anhydride, base, alkali, salt,* ○ *acidic, basic, amphoteric,* and *neutral oxides*. 2. Explain the relationship between acidity/alkalinity and the pH scale. 3. Differentiate between strong and weak acids and alkalis based on the extent of ionisation in solution. 4. Investigate and describe the reactions of acids with: ○ metals, ○ carbonates,	**Activity 1** Use simulations (e.g., PhET's "pH Scale") for virtual experiments to engage learners. Following this, teacher will use scenarios (e.g., stomach acid, bleach) and have students discuss where they fall on the pH scale and why. **Activity 2** Learners participate in teacher-led demonstrations of: a. Acids + metals (e.g., $Mg + HCl \rightarrow H_2$) b. Acids + carbonates (e.g., $HCl + CaCO_3 \rightarrow CO_2$) c. Acids + bases (neutralisation) Allow learners to record observations and write balanced equations for each reaction. **Bonus activity:** Let learners identify hydrogen (pop test) and carbon dioxide	**Practice questions / mini end of unit test - 10%** **Practical write up- 20%**

			○ hydrogen carbonates, and ○ bases. 5. Identify examples of acids that are found or function in living systems (e.g., stomach acid, citric acid, DNA).	(limewater test) gases. (**Sample qualitative analysis practical)** **<u>Acids in living systems</u>** **Mini-research assignment:** Each group of 4 learners will researches and presents one acid found in biological systems.	**Research / presentation – 10 %**
Weeks 7-8 - Oct. 20-31		**MID- TERM / SESSIONAL TEST**			
CSEC Laboratory Practicals	**4 Weeks Nov. 03 -28**	**Implementation of PD** **Rate of Reaction** **Redox reaction** **Qualitative Analysis**	By the of month, learners should: 1. Have perform **Most if not all** practical activities on the specific topics 2. Be completing or have completed all outstanding practical write up in lab books for submission on – **FRIDAY DECEMBER 05, 2025**		**S. B. A assessment**
Weeks 13-14 -Dec. 01- 13		**REVISION / END OF TERM EXAMINATION – 40%**			