Teacher : Mrs. Masters-Wheatley Academic year: 2025/2026

Ascot High School Science Department

September – December 2025

Grade 9 Chemistry Course Outline

National Goal: **Jamaicans are empowered to achieve their fullest potential**

General Objective: Understand that matter can be changed physically, chemically of both

UNIT	DURATION	TOPIC	SPECIFIC OBJECTIVES	SUGGESTED TEACHING / LEARNING ACTIVITIES	ASSESSMENT
Week 1 - Sept. 1 - 05		**GRADE ORIENTATION / DIAGNOSTIC TEST**			
Week 2 - Sept. 8-12		**DIAGNOSTIC TEST CONTINUATION**			
A Closer Look at Matter	**3 Weeks Sept.15-Oct. 3**	**Matter is made of Particles**	By the end of the lesson, students should be able to: 1. Describe and compare the arrangement, movement and energy of particles in the solids, liquids and gases. 2. Explain two **at least**	**Activity 1** In small groups, after interactive simulation using PhET States of Matter, students create posters comparing solids, liquids and gases using diagrams and keywords. **Activity 2** Teacher demonstrate simple diffusion and osmosis experiments to link to the idea of matter being made up of tiny invisible particles that are constantly moving. **Activity 3**	1. Practice questions during teaching week. (including but not limited to liveworksheets, quizziz etc.) 2. Graded classwork post teaching week **END OF UNIT TEST – 10%**

			(2) pieces of evidence that support the particle theory of matter (e.g., diffusion, osmosis). 3. Differentiate between the three (3) types of particles that make up matter.	In groups, provide students with cards with definitions, examples and diagrams of atoms, molecules and ions to match and discuss	
General Objective:			Be aware of the different laboratory apparatus used to conduct experiments		
Working Like a Chemist	**3 Weeks Oct. 6-24**	**Quantities, Units and Basic Laboratory apparatus**	By the end of the lesson, students should be able to: 1. Formulate a definition for the term "physical quantities" 2. Identify **at least 3** fundamental quantities in chemistry and	**Activity 1 -** In demonstration area, a sample of water will be placed along with several measuring instruments (e.g. measuring cylinder, balance, ruler, thermometer, stopwatch etc.) each group will **think-measure- share one** thing regarding water. Groups will share things about water they could not measure. Whole class identification with reasons, which of things shared are physical quantities. Suggest a definition for "physical quantity. **Prefix Conversion hands-on activity**	

			their base units. (length-**m**, mass-**kg**, time-**s**, temperature - **K**, amount of substance-**mol**) 3. Name **one** derived unit in chemistry (cm^3 - volume). 4. Use prefixes: micro, milli, centi, deci, kilo and mega appropriately and be able to carry out relevant calculations. 5. Identify basic laboratory apparatus and associate each	Students will practice converting between metric units using specified prefixes by completing real-life tasks **e.g.,** measuring length of a book, desk in metres; they will then convert length to **mm, cm, km** etc. **<u>Basic Laboratory apparatus</u>** View display of basic lab apparatus and participate in a teacher led discussion on their names and uses. In groups, students will use correct apparatus to measure the volume, mass and temperature of selected substances. Record results in a table using appropriate units - mL/cm^3, g and $°C$ respectively	Create a booklet consisting of neatly drawn diagrams of common laboratory apparatus, indicate what they are used for. **Graded homework -10%**

			with their correct functions. 6. Use appropriate apparatus to measure quantities such as volume, mass and temperature		**END OF UNIT TEST – 10%**
Weeks 7-8 - Oct. 20-31		**MID -TERM / SESSIONAL TEST**			
General Objectives: 1. Be familiar with the concept of the atom as the basic building block of matter 2. Appreciate the importance of the classification of elements using the Modern Periodic Table					
Atomic Structure and The Periodic Table	**4 Weeks Nov. 03 - 28**	**The Atom** **The 1st 20 elements (part 1-2)**	By the end of the lessons, students should be able to: 1. Draw and label the atom indicating: a. the two (2) parts of b. location of	**Atom Structure** Learners will watch video of the Atom https://youtu.be/zuQ469vjwgo?si=L8-oghAoNzAgQOo2 After watching the video, learners will a. use coloured paper or atom templates to build and label an atom.	

			the three (3) subatomic particles (electrons, protons and neutrons) in an atom. 2. State the properties of electrons, protons and neutrons. 3. Identify the chemical symbol and name of the first 20 elements of the periodic table. 4. Explain the term atomic symbol (chemical notation) in the representation of an atom of an element.	b. record the properties of electrons, protons and neutrons in a table **1st 20 Elements** Use the video to Identify and name the 1st 20 elements and their symbols. https://youtu.be/Vlae0SkweCk?si=FuU1TJLGkZlXu_eV Reinforce using element bingo or flash card drill game **Chemical Notation** Teacher led discussion on chemical notation using poster or other visual aids. Assess learners understanding by interpreting the chemical notations of various elements. **Shell diagrams** Using PhET simulation – atom builder, students will practice shell diagrams Draw shell diagrams and determine the electronic configurations of elements 1-20	**"Meet my element"- a creative element showcase.** **(PRACTICAL – 20%)** **Student Task:** Each group will **choose one of the 1st 20 elements** and present for display.

			5. State the meaning of each of the letter in the chemical notation in the form  6. Define the term atomic number and mass number in terms of the subatomic particles. 7. Draw the electronic structure (shell diagram) of the 1st 20 elements and determine		**Must-Haves:** 1. Element name and symbol 2. Atomic number and mass number 3. Number of protons, neutrons, and electrons 4. Electronic configuration 5. Interesting facts: e.g., common uses, discovery, state at room temperature 6. A creative component: o A 3D model of the atom using household items (e.g., beads, buttons,

			their electronic configuration (e.c)		wire, cardboard) ○ A poem, rap, or short skit **END OF UNIT TEST – 10%**
Weeks 13-14 -Dec.01-12	**REVISION / END OF TERM EXAMINATION – 40%**				