



Unit title	Key concept	Related concepts	Global context	Statement inquiry	Objectives	ATL skills	Content
Unit 1 Exploring the periodic table 18 hrs	Change	Structure patterns	Orientations in space and time	Chemists look for patterns in the structure of periodic table in order to discover relationships and trends that help them to predict physical and chemical properties of elements in and out of Africa	A(I,ii,iii) D(I,ii,iv)	Research Skills: Collecting and analyzing information from diverse sources. Evaluating credibility and relevance of sources. Communication Skills: Organizing and presenting information effectively. Using appropriate media and tools for presentation. Thinking Skills: Critical thinking to understand and explain the periodic table's structure and	Periodic trends – groups and periods Atomic structure Electronic configuration and valence Acid and base Characteristics Chemical formula Chemical reactions and the conservation of mass Balancing equations Reversible reactions



						significance.	
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Unit 2 Acids, bases 18 hours	relationship	Function form	Fairness and development	The relationship between the function and form of acids and bases influence their role in maintaining balance to promote equitable access to resources in addressing global challenges	B i,ii,iii, C i,ii,iii,	<i>Thinking:</i> critical thinking, creative thinking, transfer <i>Self-management;</i> reflection, organization <i>Communication:</i> Research; information literacy <i>Social;</i> collaboration	Acids and bases Neutral solutions Acid/base reactions, pH and indicators Formation of salts Reactivity series Emissions and environmental implications
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Unit 3 <u>Atomic structure and bonding</u> 18 hrs	systems	Balance Models Form Patterns	personal and cultural expression dimensions of time and space	The understanding of atomic structure as a system reveals how evidence from scientific discoveries	A i,ii,iii D i,ii,iii,iv	<i>Thinking:</i> critical thinking, creative thinking, transfer <i>Self-management;</i> reflection, organization <i>Communication:</i>	Structure and bonding Electron configuration and valency Properties of elements and



				influences our cultural and personal perceptions of matter		<i>Research;</i> information literacy <i>Social;</i> collaboration	compounds Chemical formulae Alloys
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Unit 4 Pure and impure substances 18 hours	Relationship	Evidence form	Identities and relationship	Observing and describing the evidence from the form and properties of a substance helps us to understand its identity and how it interacts with the environment	B i,ii,ii C i,ii,ii	Thinking:critical thinking Social: collaboration Communication : communication Self-management: organization Self-management: affective Research: information literacy	States and properties of matter Characteristics of gases Solutions, colloids and suspensions Filtration and fractional distillation
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Unit 5 Energy and chemical change 18 hours	change	Interaction consequences	Scientific and technical innovation: the impact of scientific	A change in matter is a consequence of energy differences between	A(I,ii,ii) (Di,ii,iii,)	Thinking: critical thinking Self-management: reflection Thinking:	Endothermic and exothermic reactions Energy changes in a



			and technological advances on communities and environments	substances. Scientists and technicians make use of this to create a range of innovative products.		creative thinking Communication : communication Self-management: organization Research: information literacy Research: media literacy	reaction States and properties of matter Combustion of fuel
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Unit 6 atmosphere	Relationship	Balance transformation	Scientific and technical innovation	Scientific and technological advances are impacting upon then naturally balanced relationships provided by the effective transformations in environmental cycles.		Thinking critical thinking Self-management: reflection Communication : communication Social: collaboration Self-management: organization Research: information literacy	Metals and non-metals Transition metals Noble gases Fractional distillation of crude oil Alkanes, alkenes, alcohols Atmospheric Composition



						Research: media literacy	
MYP 5							
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Unit 7 <u>Chemical kinetics and equilibrium</u>	systems	Conditions	scientific and technical innovation	Scientific innovations advance a scientist ability to monitor changes in conditions and the effect they have on the rate of a chemical reaction	B i,ii,iii, C i,ii,iii,iv	<i>Thinking:</i> critical thinking, creative thinking, transfer <i>Self-management:</i> reflection, organization <i>Communication:</i> Research; information literacy <i>Social:</i> collaboration	Collision theory Chemical reaction kinetics rates Factors affecting rates – temperature, concentration, surface area, catalysts



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Unit 8 <u>Electrochemistry</u>	Change	movement	Scientific and technical innovation	The changes we observe in a chemical system can help us to infer information about the movement of molecules and their properties.	A i,ii,iii D i,ii,iii,iv	<i>Thinking:</i> critical thinking, creative thinking, transfer <i>Self-management;</i> reflection, organization <i>Communication:</i> Research; information literacy <i>Social;</i> collaboration	Redox reactions Reactivity series Electrochemical cell Uses of salts Corrosion Extraction Extraction of metals Diffusion
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Unit 9 <u>salts</u>	Relationships	function	Globalization and sustainability	The way in which matter functions is dependent on its properties and the relationship of the different systems within the environment.	A i,ii,iii D i,ii,iii,iv	<i>Thinking:</i> critical thinking, creative thinking, transfer <i>Self-management;</i> reflection, organization <i>Communication:</i> Research; information literacy	Formation of salts Filtration, distillation and chromatography The mole concept and chemical calculations



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Unit 10 Stoichiometry	systems	Balance and conversion	Scientific and technical innovation	Through understanding and applying stoichiometric systems, we can achieve balanced chemical reactions, driving innovations in scientific and technical fields to optimize resources and minimize waste.	B(i,ii,iii,iv) C(i,ii,iii,iv)	☐ Research skills: Investigating stoichiometric principles in real-world applications. ☐ Thinking skills: Problem-solving and critical analysis in calculations. ☐ Communication skills: Presenting stoichiometric data effectively.	The mole concept and chemical calculations – concentration Acid–base reactions, pH, titrations and indicators Structural formulae – carboxylic acids and esters



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Unit 11 Gas laws	Relationship	movement	Scientific and technical innovation	Understanding the relationship between pressure, volume, temperature, and the behavior of gases within systems helps drive scientific and technical innovations, enabling solutions to real-world challenges and maximising the resource use.	A i,ii,iii D i,ii,iii,iv	Thinking: Analyzing and solving problems using gas laws. Research: Investigating real-life phenomena involving gas laws. Communication: Explaining experimental findings and their significance.	Overview of gases and their properties. Relationship between temperature, pressure, and volume. Boyle's Law. Charles's Law. Boyle's, Charles's, aGay-Lussac's laws. Calculating molar mass and density using the ideal gas law. Conditions under which gases deviate from ideal behavior. Industrial applications.