

OREL VINE SCHOOL

Course Outlines

Year 9

Cambridge Science

CHEMISTRY

<i>Term I</i>		<i>Term II</i>		<i>Term III</i>	
<i>Topic/Subtopic</i>	Objectives	<i>Topic/Subtopic</i>	Objectives	<i>Topic/Subtopic</i>	Objectives
<p>Unit 9.1 <i>Chemical bonding</i> <i>(11 hours)</i></p>	<ul style="list-style-type: none"> • 9Cm.02 Understand that a molecule is formed when two or more atoms join together chemically, through a covalent bond. • 9Cm.03 Describe a covalent bond as a bond made when a pair of electrons is shared by two atoms (limited to single bonds). • 9Cm.04 Describe an ion as an atom which has gained at least one electron to be negatively charged or lost at least one electron to be positively charged. 	<p>Unit 9.3 <i>Chemical structures and properties</i> <i>(10 hours)</i></p>	<ul style="list-style-type: none"> • 9Cm.01 Understand that the structure of the Periodic Table is related to the atomic structure of the elements and the Periodic Table can be used to predict an element's structure and properties. • 9Cp.01 Understand that the groups within the Periodic Table have trends in physical and chemical properties, using group 1 as an example. • 9Cp.04 Know that elements and compounds exist in structures (simple or giant), 	<p>Unit 9.7 <i>Chemical reactions</i> <i>(12 hours)</i></p>	<ul style="list-style-type: none"> • 9Cc.01 Use word equations and symbol equations to describe reactions (balancing symbol equations is not required). • 9Cc.05 Understand that in chemical reactions mass and energy are conserved. • 9Cc.02 Identify examples of displacement reactions and predict products (limited to reactions involving calcium, magnesium, zinc, iron, copper, gold and silver salts). • 9Cc.03 Describe how to prepare some common salts by the reactions of metals with acids, and metal

	<ul style="list-style-type: none"> • 9Cm.05 Describe an ionic bond as an attraction between a positively charged ion and a negatively charged ion. 		<p>and this influences their physical properties.</p> <ul style="list-style-type: none"> • 9Cp.02 Describe how the density of a substance relates to its mass in a defined volume. • 9Cp.03 Calculate and compare densities of solids, liquids and gases. • 9Pf.01 Use density to explain why objects float or sink in water. 		<p>carbonates with acids, and purify them, using filtration, evaporation and crystallisation.</p> <ul style="list-style-type: none"> • 9Cc.04 Describe the effects of concentration, surface area and temperature on the rate of reaction, and explain them using the particle model.
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Resources

- Cambridge Lower Secondary Science Stage 9 Student's work book.
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- Cambridge Lower Secondary Science past papers
- LMS e-learning platform.

Methodology

- Discovery method
- Experimentation
- Field study
- Integration of Information technology (IT)
- Research work
- Use of primary and secondary data from various sources

Mode of assessment

- Daily exercises from the coursebook

- End of month tests
- End of unit tests set from Cambridge Lower Secondary Science Stage 9 past papers
- Mid - term & end of term assessments
- Quizzes and assignments on the LMS
- Weekly homework assignments