

# Plan of Work Chemistry

Grade 7

For examination from 2024



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**Prepared by:** DEPT OF CHEMISTRY

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## Introduction

### Prescribed textbooks:

- Science for Grade 7 (MIE)

### Recommended prior knowledge

Learners beginning this course are expected to have knowledge of the following topics:

	Topic
1	composition of air
2	air pollutants
3	changes of states

### Websites and videos

This plan of work includes website links providing direct access to internet resources. Modern College is not responsible for the accuracy or content of information contained in these sites. The inclusion of a link to an external website should not be understood to be an endorsement of that website or the site's owners (or their products/services).

The website pages referenced in this plan of work were selected when the plan of work was produced. Other aspects of the sites were not checked and only the particular resources are recommended.

## FIRST TERM [10/01/2024 – 05/04/2024]

### Topic: 1 Everything is about matter

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
a Recognise that everything around us (living and non-living) is made up of matter	Pg 60 Act. 3.1			
b State that matter has mass and occupies space	Pg 62 Act. 3.2	Pg 63 Act. 3.3	Pg 65 Act 3.4	<a href="https://youtu.be/vBBjeOpgxBU">https://youtu.be/vBBjeOpgxBU</a>
c Investigate the properties of the three states of matter	Pg 66 Act. 3.5	Pg 67 Act. 3.6	Pg 69 Act. 3.7	
d Compare and contrast the properties of the three states of matter			Pg 87 – 1-6 Pg 88 – 1,2,3	
e Infer that matter is made up of tiny particles	Pg 73 Act. 3.8			
f Use illustrations and models to represent and explain the arrangement and movement of particles in each of the three states of matter	Pg 75 Act. 3.9		Pg 89 – 4,5 Pg 90 – 6	<a href="https://youtu.be/bwGim-eceS8">https://youtu.be/bwGim-eceS8</a>
g Investigate how changes of states of matter are brought about by increase or decrease in temperature	Pg 78 Act. 3.10			
h Infer that matter can undergo changes through simple investigations		P 90 – 7		

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i	Demonstrate an understanding of physical and chemical changes			Pg 91 – 8	<a href="https://youtu.be/x49BtB5dOwg">https://youtu.be/x49BtB5dOwg</a>
j	Infer that a physical change does not lead to the formation of new substance(s)			Pg 91 – 9	<a href="https://youtu.be/jz0cP_K_CNA">https://youtu.be/jz0cP_K_CNA</a>
k	Identify chemical change as a change which leads to formation of new substance(s)			Pg 91 – 10	
l	Compare and contrast physical and chemical changes through simple experiments	Pg 80 Act. 3.11			
m	Explain why changes of states are physical changes		Pg 92 - 12	Pg 93 – 13	

## First Term Examinations

Component	Time Allocation	Type	Marks	weightage
single paper	45mins	MCQ + STRUCTURED	50	Combined with marks scored in biology/physics and scaled to 100%

Single paper **(45mins)** with 10 mcq's worth 10 marks + variable numbers of structured questions worth 40 marks.

Students may be asked to describe simple experiments and draw diagrams to test a given scientific concept in the structured questions

## SECOND TERM [22/04/2024 – 19/07/2024]

### Topic: Elements, Compounds & Mixtures

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
a Identify elements as the building blocks of matter	Pg 96 Act. 4.1			
b Demonstrate understanding of the terms elements and symbols	Pg 97 Act 4.2			<a href="https://youtu.be/l-oOVg8gtNU">https://youtu.be/l-oOVg8gtNU</a>
c Show understanding of the Berzelius system of representing elements by symbols		Pg 98 q. 1 Pg 99 q. 2 & 3		
d Recognise the Periodic Table as a classification of elements	Pg 100 Act. 4.3			<a href="https://youtu.be/Ttl8rdVtlgA">https://youtu.be/Ttl8rdVtlgA</a>
e Identify periods and groups in the Periodic Table		Pg 104 Act. 4.5		
f Locate metals and non-metals in the Periodic Table		Pg 105 q. 3	Pg 128 q. 9	
g Carry out simple investigations to compare and contrast the properties of metals and non-metals (e.g. physical appearance, ductility, malleability, conduction of electricity)		Pg 106 Act. 4.6	Pg 108 Act 4.7 Pg 110 Act 4.8	
h Identify some metals and non-metals and state their importance		Pg 113 Act. 4.9		
i Distinguish between mixtures and compounds	Pg 116 Act 4.10			<a href="https://youtu.be/Pe4KGVZNBFO">https://youtu.be/Pe4KGVZNBFO</a>

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j	Identify some common compounds and their constituent elements				
k	Infer that rusting results in the formation of new compound.	Pg 118 Act 4.11			
l	Explain why rusting is a chemical change			Pg 124 q. 1 - 13	<a href="https://youtu.be/VpkVqJZcqJw">https://youtu.be/VpkVqJZcqJw</a>
m	Identify some common mixtures and their components			Pg 125 q. 1 & 2 Pg 126 q. 3 - 6	

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## THIRD TERM [12/08/2024– 30 /10/2024]

### Topic: Air

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
a Identify the components of pure air and state their percentage composition				
b State the properties of pure air	Pg 198 Act. 7.1	Pg 199 Act. 7.2		
c Discuss the importance of air for burning, respiration and photosynthesis	Pg 203 Act. 7.5 Pg 205 Act. 7.6			<a href="https://youtu.be/k5j0cA0WFsQ">https://youtu.be/k5j0cA0WFsQ</a>
d State that air is a mixture				
e Discuss the uses of oxygen, nitrogen, carbon dioxide and the noble gases	Pg 211 Act. 7.9			
f Show presence of water vapour and carbon dioxide in air			Pg 200 Act. 7.3	<a href="https://youtu.be/pQ24NAyXogQ">https://youtu.be/pQ24NAyXogQ</a>
g Describe the laboratory preparation of oxygen and carbon dioxide	Pg 212 Act 7.10		Pg 222 q. 4 & 5	<a href="https://youtu.be/nkeniDKGs6Q">https://youtu.be/nkeniDKGs6Q</a> <a href="https://youtu.be/Du8Exmj9sW4">https://youtu.be/Du8Exmj9sW4</a>
h Investigate how the presence of oxygen and carbon dioxide can be tested		Pg 201 Act. 7.4	Pg 220 q. 1-20	
i Explain why respiration and photosynthesis are chemical changes		Pg 208 Act. 7.7 Pg 209 Act 7.8	Pg 221 q. 2 & 3	<a href="https://youtu.be/3XlyweZg6Sw">https://youtu.be/3XlyweZg6Sw</a>



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