

## YEAR 9 A to F – CHEMISTRY

**WEEK 32 (25<sup>th</sup> April to 29<sup>th</sup> April)**

Work Sent to the students through Group email/ Google classroom

**Topic:– SC7d – Bonding Models (Reinforcement)**

**Resources:** Text book, Worksheet, Boardworks, GCSE science free lesson video, power point.

Date	Lesson	Topic	Mode of Teaching	
25 <sup>th</sup> April Sunday (girls)	6	<b>Learning Objective : Reinforce</b> <ul style="list-style-type: none"> <li>Explain why some elements and compounds can be classified as  <b>a</b> ionic  <b>b</b> covalent, simple molecular  <b>c</b> covalent, giant molecular  <b>d</b> metallic</li> </ul>	<b>Zoom</b>	PPT / Video on Bonding Models
26 <sup>th</sup> April Monday (boys)	7	<b>Success Criteria:</b> <ul style="list-style-type: none"> <li>Compare the structure and bonding in ionic, covalent and metallic structures.</li> <li>Compares the physical properties like melting and boiling point in these structures.</li> </ul>		
26 <sup>th</sup> April Monday (girls)	5	<b>Learning Objective : Reinforce</b> <ul style="list-style-type: none"> <li>What different types of structure and bonding models are used to describe substances?</li> </ul>	<b>Zoom</b>	PPT / Video on Bonding Models
26 <sup>th</sup> April Monday (boys)	8	<b>Success Criteria:</b> <ul style="list-style-type: none"> <li>How the structure and bonding of these types of substances results in different physical properties, including relative melting point and boiling point, relative solubility in water and ability to conduct electricity (as solids and in solution)</li> <li>Explain why we use models to represent structure and bonding.</li> </ul>		
26 <sup>th</sup> April Monday (girls)	6	<b>Learning Objective : Reinforce</b> <ul style="list-style-type: none"> <li>How do models help explain the properties of substances</li> <li>What are the limitations of models that we use to show structure and bonding?</li> </ul>	<b>GC</b>	Worksheet SC7d (2)
28 <sup>th</sup> April Wednesday – (boys)	1	<b>Success Criteria:</b> <ul style="list-style-type: none"> <li>Represent structures and bonding using a variety of different models (dot and cross, ball and stick, 2D, 3D).</li> <li>Describe the limitations of the different models used to represent structure and bonding (dot and cross, ball and stick, 2D, 3D).</li> </ul>		

## YEAR 10 A/D/E–CHEMISTRY (girls)

WEEK 32 (25<sup>th</sup> April to 29<sup>th</sup> April)

Work Sent to the students through Google classroom

**Topic:** Tests for ions

**Resources:** Text book, Worksheet, power point.

Date	Lesson	Topic	Mode of Teaching	
25/4/2021 Sunday	3	<p><b>Learning Objective:</b></p> <p>1.Explain why the test for any ion must be unique.</p> <p>2.Describe tests to identify the following ions in solids or solutions as appropriate: a aluminium ion, <math>Al^{3+}</math> , calcium ion, <math>Ca^{2+}</math>,copper ion, <math>Cu^{2+}</math> , iron(II) ion, <math>Fe^{2+}</math>,iron(III) ion, <math>Fe^{3+}</math> , ammonium ion, <math>NH_4^+</math> using sodium hydroxide solution.</p> <p><b>Learning Outcome:</b></p> <ul style="list-style-type: none"> <li>• Recall some metal hydroxide precipitate colours.</li> <li>• Describe how to identify metal ions using sodium hydroxide solution.</li> <li>• Describe how to identify ammonium ions and ammonia.</li> </ul>	<b>Zoom</b>	Teacher uses powerpoint presentation to explain the identification tests for positive ions using NaOH
28/4/2021 Wednesday	3	<p><b>Learning Objective:</b></p> <p>1.Write balanced equation for the precipitation reactions including state symbols</p> <p>2.Analyse the test of adding excess sodium hydroxide for identifying calcium and aluminium ions.</p> <p><b>Learning Outcome:</b></p> <ul style="list-style-type: none"> <li>• Define precipitate, precipitation reactions</li> <li>• Identify the chemical formula of the precipitate</li> <li>• Identify the colours and predicts the ions responsible for the formation of the precipitate.</li> </ul>	<b>Zoom</b>	Teacher uses powerpoint presentation that contains Interactive questions.
29/4/2021 Thursday	2  3	<p><b>Learning Objective:</b></p> <p>1. Describe tests to identify the following ions in solids or solutions as appropriate: <b>a</b> carbonate ion, <math>CO_3^{2-}</math> , using dilute acid and identifying the carbon dioxide evolved <b>b</b> sulfate ion, <math>SO_4^{2-}</math> , using dilute hydrochloric acid and barium chloride solution <b>c</b> chloride ion, <math>Cl^-</math> , bromide ion, <math>Br^-</math> , iodide ion, <math>I^-</math> , using dilute nitric acid and silver nitrate solution.</p> <p><b>Learning Outcome:</b></p> <ul style="list-style-type: none"> <li>• How are carbonate ions and carbon dioxide detected?</li> <li>• How are sulfate ions detected?</li> <li>• How are halide ions identified?</li> </ul> <p><b>Learning Objective:</b></p> <p>To answer the questions, in the worksheet.</p> <p><b>Learning outcome:</b></p> <p>Students will be able to reinforce the concepts learned by answering the questions in the worksheet.</p>	<b>Zoom</b>	Teacher uses powerpoint presentation to explain the identification tests for negative ions  Instruction will be given in the Google classroom to complete the Worksheet.

Home work: Solve S1 and E1 questions (pg no.199)

## YEAR 10 B/C/F–CHEMISTRY (Boys)

**WEEK 32 (25<sup>th</sup> April to 29<sup>th</sup> April)**

**Work Sent to the students through Google classroom**

**Topic:** Tests for ions

**Resources:** Text book, Worksheet, power point.

Date	Lesson	Topic	Mode of Teaching	
25/4/2021 Sunday	0	<p><b>Learning Objective:</b> 1.Explain why the test for any ion must be unique. 2.Describe tests to identify the following ions in solids or solutions as appropriate: a aluminium ion, <math>\text{Al}^{3+}</math>, calcium ion, <math>\text{Ca}^{2+}</math>,copper ion, <math>\text{Cu}^{2+}</math>, iron(II) ion, <math>\text{Fe}^{2+}</math>,iron(III) ion, <math>\text{Fe}^{3+}</math>, ammonium ion, <math>\text{NH}_4^+</math> using sodium hydroxide solution.</p> <p><b>Learning Outcome:</b></p> <ul style="list-style-type: none"> <li>• Recall some metal hydroxide precipitate colours.</li> <li>• Describe how to identify metal ions using sodium hydroxide solution.</li> <li>• Describe how to identify ammonium ions and ammonia</li> </ul>	<b>Google Meet</b>	Teacher uses powerpoint presentation to explain the identification tests for positive ions using NaOH.
26/4/2021 Monday	1&2	<p><b>Learning Objective:</b> 1. Describe tests to identify the following ions in solids or solutions as appropriate: <b>a</b> carbonate ion, <math>\text{CO}_3^{2-}</math>, using dilute acid and identifying the carbon dioxide evolved <b>b</b> sulfate ion, <math>\text{SO}_4^{2-}</math>, using dilute hydrochloric acid and barium chloride solution <b>c</b> chloride ion, <math>\text{Cl}^-</math>, bromide ion, <math>\text{Br}^-</math>, iodide ion, <math>\text{I}^-</math>, using dilute nitric acid and silver nitrate solution.</p> <p><b>Learning Outcome:</b></p> <ul style="list-style-type: none"> <li>• How are carbonate ions and carbon dioxide detected?</li> <li>• How are sulfate ions detected?</li> <li>• How are halide ions identified?</li> </ul>	<b>Google Meet</b>	Teacher uses powerpoint presentation to explain the identification tests for negative ions
28/4/2021 Wednesday	4	<p><b>Learning Objective:</b> To answer the questions, in the worksheet.</p> <p><b>Learning outcome:</b> Students will be able to reinforce the concepts learned by answering the questions in the worksheet.</p>	<b>GC</b>	Instruction will be given in the Google classroom to complete the Worksheet.

Home work: Solve S1 and E1 questions (pg no.199)

## YEAR 11 A/D/E – CHEMISTRY (Girls)

WEEK 32 (25<sup>th</sup> April to 29<sup>th</sup> April)

Work Sent to the students through Google classroom

Date	Topic	
<b>25.02.21</b> Sunday 8 <sup>th</sup> period  <b>Mode of Teaching:</b> GC	<b>Learning Objective:</b> Evaluate the data to explain the necessity, for Contact process of reaching a compromise between yield and rate of reaction.	Use Year 11 textbooks and Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>26.02.21</b> Monday 4 <sup>th</sup> period  <b>Mode of Teaching:</b> GC	<b>Learning Objective:</b> Write short notes on Alternative fuels such as Biodiesel  Bioethanol  Bioalcohol  Hydrogen	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>28.02.21</b> Wednesday 8 <sup>th</sup> period  <b>Mode of Teaching:</b> GC	<b>Learning Objective:</b> Compare between fossil fuels and Biofuels.	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>29.02.21</b> Thursday 5 <sup>th</sup> and 6 <sup>th</sup> Period  <b>Mode of Teaching:</b> GC	<b>Learning Objective:</b> Research on shells and subshells present in atom with examples.	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC

## YEAR 11 B/C/F – CHEMISTRY (Boys)

WEEK 32 (25<sup>th</sup> April to 29<sup>th</sup> April)

Work Sent to the students through Google classroom

Date	Topic	
<b>25.02.21</b> Sunday 1 <sup>st</sup> and 2 <sup>nd</sup> Period  <b>Mode of Teaching:</b> GC	<b>Learning Objective:</b> Research on shells and sub shells present in atom with examples.	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>26.02.21</b> Monday 3 <sup>rd</sup> Period  <b>Mode of Teaching:</b> GC	<b>Learning Objective:</b> Write short notes on Alternative fuels such as Biodiesel  Bioethanol  Bioalcohol  Hydrogen	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>27.02.21</b> Tuesday 7 <sup>th</sup> Period  <b>Mode of Teaching:</b> GC	<b>Learning Objective:</b> Compare between Fossil fuels and Biofuels.	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>29.02.21</b> Thursday 4 <sup>th</sup> Period <b>Mode of Teaching:</b> GC	<b>Learning Objective:</b> Evaluate the data to explain the necessity, for Contact process of reaching a compromise between yield and rate of reaction.	Use Year 11 textbooks and Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC

## YEAR 11 G/H-CHEMISTRY (IGCSE)

WEEK 32 (25<sup>th</sup> April to 29<sup>th</sup> April)

Work Sent to the students through Google classroom

Date	Topic	
<b>25.02.2021</b> Sunday 6 <sup>th</sup> period  <b>Mode of Teaching:</b> GC	<b>Lesson Objective:</b> Write short notes on Alternative fuels such as Biodiesel  Bioethanol  Bioalcohol  Hydrogen	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>26.02.2021</b> Monday 5 <sup>th</sup> period <b>Mode of Teaching:</b> GC	<b>Lesson Objective:</b> Compare between fossil fuels and Biofuels.	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>27.02.2021</b>  Tuesday 1 <sup>st</sup> & 2 <sup>nd</sup> <b>Mode of Teaching:</b> GC	<b>Lesson Objective:</b> Research on shells and sub shells present in atom with examples.	Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC
<b>29.02.2021</b> Thursday 4 <sup>th</sup> period <b>Mode of Teaching:</b> GC	<b>Lesson Objective:</b> Evaluate the data to explain the necessity, for Contact process of reaching a compromise between yield and rate of reaction.	Use Year 11 textbooks and Pictures of Year 12 textbook pertaining to the topics will be given as reference in GC

## YEAR 12 G /D – CHEMISTRY

**WEEK 32 (25<sup>th</sup> April to 29<sup>th</sup> April)**

**Work Sent to the students through Zoom Learning Platform / Google classroom**

**Topic:**– Addition reactions of alkenes and mechanisms

**Resources:** Text book, Worksheet file, video, power point presentations.

Date	Topic	
26.04.2021 Monday 3 <b>12D</b>  27.04.2021 Tuesday 1 <b>12G</b>  <b>Mode of Teaching:</b> Zoom	<b>Lesson Objective:</b> Describe the addition reactions of alkenes, limited to: i. the addition of hydrogen with a nickel catalyst to form an alkane ii. the addition of halogens to produce di-substituted halogenoalkanes iii. the addition of hydrogen halides to produce mono-substituted halogenoalkanes iv. oxidation of the double bond by potassium manganate (VII) to produce a diol  <b>Learning Outcome:</b> <ul style="list-style-type: none"> <li>• Compares the reaction of Cl<sub>2</sub>, Br<sub>2</sub>, HCl and HBr with simple alkenes. (Markovnikoff's rule required);</li> <li>• Writes the equation for the reactions with chlorine, bromine, hydrogen chloride.</li> <li>• Write the equation for the reaction of ethene with potassium manganate</li> </ul>	Teacher uses PowerPoint presentation that contains interactive questions.
27.04.2021 Tuesday 2 <b>12G</b>  7 <b>12D</b>  <b>Mode of Teaching:</b> Zoom	<b>Lesson Objective:</b> Describe the mechanism, giving evidence where possible, of: i. the electrophilic addition of bromine and hydrogen bromide to ethene ii. the electrophilic addition of hydrogen bromide to propene  <b>Learning Outcome:</b> <ul style="list-style-type: none"> <li>• Writes the mechanism of the reaction between HBr and ethene viewed as electrophilic addition.</li> <li>• Understand the term heterolytic fission.</li> </ul>	Teacher uses PowerPoint presentation that contains interactive questions.
28.04.2021 Wednesday 2 <b>12G</b>  29.04.2021 Thursday 7 <b>12D</b>  <b>Mode of Teaching:</b> GC	<b>Lesson Objective:</b> To answer the exam - style questions based on Addition reactions of alkenes and mechanisms  <b>Learning Outcome:</b> Students will be able to reinforce the concepts learned in the previous lesson by answering the questions.	Work assigned through GC. Instruction will be given in the GC to complete the work.

**HOMEWORK:** Complete the textbook questions Q1 – Q2, on page 190 and 193.

## YEAR 12 D/G– CHEMISTRY

WEEK 32 (25<sup>th</sup> April to 29<sup>th</sup> April)

Work Sent to the students through Zoom Learning Platform / Google classroom

**Topic 6D: Halogenoalkanes**

**Resources:** Text book, Worksheet, Video, Board works, power point

Date	Topic	
27.04.21 Tuesday 8 12D	<b>Learning Objective:</b> mechanism of nucleophilic substitution.  <b>Learning Outcome: students will be able to:</b>	Teacher uses power point to show various examples of halogenoalkane reactions .  Lesson will be developed with many examples.
26.04.21 Monday 6 12G  <b>Mode of Teaching – Zoom</b>	Represent mechanism of nucleophilic substitution reactions in haloalkanes, using following examples for reaction of haloalkane with:  i aqueous potassium hydroxide  potassium cyanide to produce nitriles (where the cyanide ion acts as a nucleophile) ammonia to produce primary amines (where the ammonia molecule acts as a nucleophile)	
26.04.21 Monday 7- 12G  28.04.21 Wednesday 7- 12D <b>Mode of Teaching – ZOOM</b>	<b>Learning Objective:</b> Elimination reaction of haloalkanes.  <b>Learning Outcome: students will be able to:</b> Write balanced chemical reaction for elimination reaction for various haloalkane. Recall the conditions for the reaction. State the function of hydroxide ion. Show mechanism using curly arrows.	Teacher uses power point presentation for various reactions.  Teacher uses worksheet that based on various types of reactions of haloalkanes.
28.04.21 Wednesday 8- 12D 1-12G <b>Mode of Teaching – zoom</b>	<b>Learning Objective:</b> Hydrolysis of haloalkanes  <b>Learning Outcome: students will be able to:</b>  <b>Plan an experiment to study the rate of hydrolysis of various haloalkanes.</b>  understand that experimental observations and data can be used to compare the relative rates of hydrolysis of:  i primary, secondary and tertiary halogenoalkanes  ii chloro-, bromo-, and iodoalkanes using aqueous silver nitrate in ethanol	Teacher uses questions from various past papers.  Teacher uses worksheet that exam style questions from text book.

**HOMEWORK:** Solve exam style questions from given work sheet.