

YEAR 9 A to F – CHEMISTRY

WEEK 25 (14th Feb to 18th Feb)

Work Sent to the students through Group email/ Google classroom

Topic:– SC5b – Ionic Lattices

Resources: Text book, Worksheet, Board works, GCSE science free lesson video, power point.

Date	Lesson	Topic	Mode of Teaching	
14 th Feb Sunday (girls)	6	Learning Objective : Explain the use of the endings –ide and –ate in the names of compounds	Zoom	PPT/Video on Ionic Lattices and formulae
15 th Feb Monday (boys)	7	Success Criteria: <ul style="list-style-type: none"> • Differentiate between simple and compound ions. • Writes the formulae of some compound ions. 		
15 th Feb Monday (girls)	5	Learning Objective : Deduce the formulae of ionic compounds (including oxides, hydroxides, halides, nitrates, carbonates and sulfates) given the formulae of the constituent ions	Zoom	PPT / Video on Ionic Lattices and formulae
15 th Feb Monday– (boys)	8	Success Criteria: Reinforcement <ul style="list-style-type: none"> • Write the formulae of some ionic compounds. • Write the names of ionic compounds from the given formulae 		
15 th Feb Monday (girls)	6	Learning Objective : Explain the structure of an ionic compound as a lattice structure a) consisting of a regular arrangement of ions b) held together by strong electrostatic forces (ionic bonds) between oppositely-charged ions	GC	Worksheet SC5b
17 th Feb Wednesday – (boys)	1	Success Criteria: Reinforcement <ul style="list-style-type: none"> • Define lattice • Describe NaCl crystal lattice. 		

Homework : Write down the positive and negative Ions and Ion formulae in the notebook from the table on page #s 36, 36 of the textbook

YEAR 10 A/D/E–CHEMISTRY (girls)

WEEK 25 (14th Feb to 18th Feb)

Work Sent to the students through Google classroom

Topic: Products from electrolysis.

Resources: Text book, Worksheet, power point.

Date	Lesson	Topic	Mode of Teaching	
14/2/2021 Sunday	3	<p>Learning Objective: Explain the formation of the products in the electrolysis, using inert electrodes, of a variety of common compounds and solutions (copper chloride solution, sodium chloride solution)</p> <p>Learning Outcome:</p> <ul style="list-style-type: none"> • Recall electrolysis. • Identify the products of electrolysis. • Write half equations for reactions occurring at the anode and cathode in electrolysis. 	Zoom	Teacher uses Power point presentation to explain the formation of the products in the electrolysis, using inert electrodes,
17/2/2021 Wednesday	3	<p>Learning Objective: Explain the formation of the products in the electrolysis, using inert electrodes, of a variety of common compounds and solutions (sodium sulfate solution, acidified water, molten lead bromide)</p> <p>Learning Outcome:</p> <ul style="list-style-type: none"> • How do you explain and represent the reactions taking place at the electrodes in electrolysis? • Draws diagrams for the set up of electroplating. • Describe the electrolysis of different electrolytes. 	Zoom	Teacher uses ppt that contains interactive questions on ionic half equations to explain the products formed at different electrodes
18/2/2021 Thursday	2	<p>Learning Objective: Explain the formation of the products in the electrolysis of copper sulfate solution, using copper electrodes, and how this electrolysis can be used to purify copper..</p> <p>Learning Outcome:</p> <ul style="list-style-type: none"> • How is copper purified using electrolysis? • Analyse the formation of the products in the electrolysis of copper sulfate solution, using copper electrodes, and how this electrolysis can be used to purify copper. 	Zoom	Teacher uses ppt to explain the formation of the products in the electrolysis of copper sulfate solution, using copper electrodes
	3	<p>Learning Objective: To answer the questions, on product from electrolysis, in the worksheet.</p> <p>Learning outcome: Students will be able to reinforce the concepts learned in the previous lesson by answering the questions in the worksheet.</p>	GC	Instruction will be given in the Google classroom to complete the Worksheet.

Home work: Solve E1 and exam style question :SC10b(Pg85)

YEAR 10 B/C/F–CHEMISTRY (Boys)

WEEK 25 (14th Feb to 18th Feb)

Work Sent to the students through Google classroom

Topic: Products from electrolysis.

Resources: Text book, Worksheet, power point.

Date	Lesson	Topic	Mode of Teaching	
14/2/2021 Sunday	0	<p>Learning Objective: Explain the formation of the products in the electrolysis, using inert electrodes, of a variety of common compounds and solutions (copper chloride solution, sodium chloride solution)</p> <p>Learning Outcome:</p> <ul style="list-style-type: none"> • Recall electrolysis. • Identify the products of electrolysis. • Write half equations for reactions occurring at the anode and cathode in electrolysis. 	Google Meet	Teacher uses powerpoint presentation to explain the formation of the products in the electrolysis, using inert electrodes
15/2/2021 Monday	1&2	<p>Learning Objective:</p> <ol style="list-style-type: none"> 1.Explain the formation of the products in the electrolysis, using inert electrodes, of a variety of common compounds and solutions (sodium sulfate solution, acidified water, molten lead bromide 2. Explain the formation of the products in the electrolysis of copper sulfate solution, using copper electrodes, and how this electrolysis can be used to purify copper.. <p>Learning Outcome:</p> <ul style="list-style-type: none"> • How do you explain and represent the reactions taking place at the electrodes in electrolysis? • Draws diagrams for the set up of electroplating. • Describe the electrolysis of different electrolytes. • How is copper purified using electrolysis? • Analyze the formation of the products in the electrolysis of copper sulfate solution, using copper electrodes, and how this electrolysis can be used to purify copper. 	Google Meet	Teacher uses power point presentation that contains interactive questions on ionic half equations to explain the products formed at different electrodes.
17/2/2021 Wednesday	4	<p>Learning Objective: To answer the questions, on product from electrolysis, in the worksheet.</p> <p>Learning outcome: Students will be able to reinforce the concepts learned in the previous lesson by answering the questions in the worksheet</p>	GC	Instruction will be given in the Google classroom to complete the Worksheet.

Home work: Solve E1 and exam style question :SC10a(Pg85)

YEAR 11 A/D/E – CHEMISTRY (Girls)

WEEK 25 (14th Feb to 18th Feb)

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

Topic:– SC23a: Ethanol Production

SC23b: Alcohols

SC23c: Carboxylic acids

Resources: Text book, Worksheet, Board works power point

Date	Topic	
14.02.21 Sunday 8 th period Mode of Teaching: Zoom	Learning Objective: Describe the production of ethanol by fermentation of carbohydrates in aqueous solution, using yeast to provide enzymes. Explain how to obtain a concentrated solution of ethanol by fractional distillation of the fermentation mixture. Learning Outcome: State the name and formula of the alcohol in alcoholic drinks. Describe how alcoholic drinks are made from carbohydrates. Write word equations for the formation of ethanol from carbohydrates. Explain how fractional distillation can be used to produce more concentrated alcohol solutions.	Teacher uses power point presentation with interactive questions
15.02.21 Monday 4 th period Mode of Teaching: Zoom	Learning Objective: Recall the formulae of molecules of the alcohols, methanol, ethanol, propanol and butanol, and draw the structures of these molecules, showing all covalent bonds. Recall that the functional group in alcohols is –OH. Recall members of a given homologous series have similar reactions because their molecules contain the same functional group and use this to predict the products of other members of these series. Learning Outcome: State the names, formulae and structures of the first four members of the alcohol homologous series. Explain why alcohols have similar chemical properties. Use the chemical properties of the first four alcohols to predict the properties of other alcohols.	Teacher uses power point presentation with interactive questions
17.02.21 Wednesday 8 th period Mode of Teaching: Zoom	Learning Objective: Recall the formulae of molecules of the carboxylic acids, methanoic, ethanoic, propanoic and butanoic acids, and draw the structures of these molecules, showing all covalent bonds. Recall that the functional group in carboxylic acids is –COOH. Learning Outcome: State the names, formulae and structures of the first four members of the carboxylic acid series. Recall the functional group present in all carboxylic acids.	Teacher uses power point presentation with interactive questions

<p>18.02.21 Thursday 5th Period</p> <p>Mode of Teaching: Zoom</p>	<p>Learning Objective:</p> <p>Recall that ethanol can be oxidised to produce ethanoic acid and extend this to other alcohols.</p> <p>Recall members of a given homologous series have similar reactions because their molecules contain the same functional group and use this to predict the products of other members of these series.</p> <p>Learning Outcome:</p> <p>Recall that carboxylic acids can be formed by the oxidation of alcohols. Explain why carboxylic acids take part in similar chemical reactions. Use the properties of the first four carboxylic acids to predict the properties of other carboxylic acids.</p>	<p>Teacher uses power point presentation with interactive questions</p>
<p>18.02.21 Thursday 6th Period</p> <p>Mode of Teaching: GC</p>	<p>Learning Objective: To answer the questions, on Ethanol production, Alcohols and Carboxylic acids, in the worksheet.</p> <p>Learning outcome: Students will be able to reinforce the concepts learned in the previous lesson by answering the questions in the worksheet.</p>	<p>Worksheet assigned through GC.</p>

HOMEWORK: Complete the textbook Qs of SC23a: Ethanol production; SC23b: Alcohols and SC23c: Carboxylic acids

YEAR 11 B/C/F – CHEMISTRY (Boys)

WEEK 25 (14th Feb to 18th Feb)

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

Topic:– SC23a: Ethanol Production
SC23b: Alcohols
SC23c: Carboxylic acids

Resources: Text book, Worksheet, Board works power point

Date	Topic	
<p>14.02.21 Sunday 1st Period</p> <p>Mode of Teaching: Zoom</p>	<p>Learning Objective:</p> <p>Describe the production of ethanol by fermentation of carbohydrates in aqueous solution, using yeast to provide enzymes.</p> <p>Explain how to obtain a concentrated solution of ethanol by fractional distillation of the fermentation mixture.</p> <p>Learning Outcome:</p> <p>State the name and formula of the alcohol in alcoholic drinks. Describe how alcoholic drinks are made from carbohydrates. Write word equations for the formation of ethanol from carbohydrates. Explain how fractional distillation can be used to produce more concentrated alcohol solutions.</p>	<p>Teacher uses powerpoint presentation with interactive questions.</p>

<p>14.02.21 Sunday 2nd Period</p> <p>Mode of Teaching: Zoom</p>	<p>Learning Objective:</p> <p>Recall the formulae of molecules of the alcohols, methanol, ethanol, propanol and butanol, and draw the structures of these molecules, showing all covalent bonds.</p> <p>Recall that the functional group in alcohols is –OH.</p> <p>Recall members of a given homologous series have similar reactions because their molecules contain the same functional group and use this to predict the products of other members of these series.</p> <p>Learning Outcome:</p> <p>State the names, formulae and structures of the first four members of the alcohol homologous series.</p> <p>Explain why alcohols have similar chemical properties.</p> <p>Use the chemical properties of the first four alcohols to predict the properties of other alcohols.</p>	<p>Teacher uses powerpoint presentation with interactive questions</p>
<p>15.02.21 Monday 3rd Period</p> <p>Mode of Teaching: Zoom</p>	<p>Learning Objective:</p> <p>Recall the formulae of molecules of the carboxylic acids, methanoic, ethanoic, propanoic and butanoic acids, and draw the structures of these molecules, showing all covalent bonds.</p> <p>Recall that the functional group in carboxylic acids is –COOH.</p> <p>Learning Outcome:</p> <p>State the names, formulae and structures of the first four members of the carboxylic acid series.</p> <p>Recall the functional group present in all carboxylic acids.</p>	<p>Teacher uses powerpoint presentation with interactive questions</p>
<p>16.02.21 Tuesday 7th Period</p> <p>Mode of Teaching: Zoom</p>	<p>Learning Objective:</p> <p>Recall that ethanol can be oxidised to produce ethanoic acid and extend this to other alcohols.</p> <p>Recall members of a given homologous series have similar reactions because their molecules contain the same functional group and use this to predict the products of other members of these series.</p> <p>Learning Outcome:</p> <p>Recall that carboxylic acids can be formed by the oxidation of alcohols.</p> <p>Explain why carboxylic acids take part in similar chemical reactions.</p> <p>Use the properties of the first four carboxylic acids to predict the properties of other carboxylic acids.</p>	<p>Teacher uses powerpoint presentation with interactive questions</p>
<p>18.02.21 Thursday 4th Period</p> <p>Mode of Teaching: GC</p>	<p>Learning Objective: To answer the questions, on Ethanol production, Alcohols and Carboxylic acids, in the worksheet.</p> <p>Learning outcome: Students will be able to reinforce the concepts learned in the previous lesson by answering the questions in the worksheet.</p>	<p>Worksheet assigned through GC.</p>

HOMEWORK: Complete the textbook Qs of SC23a: Ethanol production; SC23b: Alcohols and SC23c: Carboxylic acids

YEAR 11 G/H-CHEMISTRY (IGCSE)

WEEK 25 (14th Feb to 18th Feb)

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

Topic:– Carboxylic acids & Esters

Resources: Text book, Worksheet, IGCSE science free lesson video, power point.

Date	Topic	
14.02.21 Sunday 6 th period Zoom/ Google Meet	Lesson Objective: Understand how to draw structural and displayed formulae for unbranched-chain carboxylic acids with up to four carbon atoms in the molecule, and name each compound. Learning Outcome: Name and draw the structural displayed formulae for unbranched - chain carboxylic acids with up to four carbon atoms in the molecule.	Teacher uses power point presentation with interactive questions.
15.02.2021 Monday 5 th period Zoom/ Google Meet	Lesson Objective: Describe the reactions of aqueous solutions of carboxylic acids with metals and metal carbonates Learning Outcome: Write the equations for acidic properties of carboxylic acids.	Teacher uses power point presentation with interactive questions
16.02.2021 Tuesday 1 st period & 2 nd period Mode of Teaching: Zoom/ Google Meet	Lesson Objective: Know that ethyl ethanoate is the ester produced when ethanol and ethanoic acid react in the presence of an acid catalyst Understand how to write the structural and displayed formulae of ethyl ethanoate Learning Outcome: Write equations to show how esters are formed. Write structural and displayed formulae of esters	Teacher uses power point presentation with interactive questions
	Lesson Objective: Understand how to write the structural and displayed formulae of an ester, given the name or formula of the alcohol and carboxylic acid from which it is formed and vice versa Know that esters are volatile compounds with distinctive smells and are used as food flavourings and in perfumes Learning Outcome: Predict the name of esters given the alcohol and carboxylic acid. List physical properties of esters and state their uses.	Teacher uses power point presentation with interactive questions
18.02. 2021 Thursday 4 th period GC	Learning Objective: To answer the questions on Carboxylic acids and esters, in the worksheet. Learning outcome: Students will be able to reinforce the concepts learned in the previous lesson by answering the questions in the worksheet.	Worksheet assigned through GC.

HOMEWORK: Complete the textbook Qs of Carboxylic acid

YEAR 12 G /D – CHEMISTRY

WEEK 25 (14th Feb to 18th Feb)

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

Topic:– Reaction kinetics

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

Date	Topic	Mode of Teaching	
15.2.2021 Monday 3 12D	Learning Objective: Understand, in terms of collision theory, the effect of a change in concentration, temperature, pressure and surface area on the rate of a chemical reaction	Zoom	Teacher uses powerpoint presentation to explain the effect of a change in concentration, temperature, pressure and surface area on the rate of a chemical reaction.
16.2.2021 Tuesday 1 12G	Learning outcome: <ul style="list-style-type: none">• State all factors that can affect the rate of a chemical reaction.• Interpret graphs of mass, volume or concentration of reactant or product against time• Evaluate the experimental data to explain effect of various factors on the rate of the reaction.		
16.2.2021 Tuesday 2 12G	Learning Objective: Explain how changes in temperature can affect the rate of a reaction ,in terms of a qualitative understanding of the Maxwell-Boltzmann model of the distribution of molecular energies.	Zoom	Teacher uses power point presentation to explain Maxwell-Boltzmann model of the distribution of molecular energies.
7 12D	Learning outcome: <ul style="list-style-type: none">• Draw Maxwell – Boltzmann distribution curves.• Effect of increasing temperature on the rate of exothermic and endothermic reactions		
17.2.2021 Wednesday 2 12G	Learning Objective: 1.Understand the role of catalyst in providing alternative reaction routes of lower activation energy.	Zoom	Teacher uses power point presentation to explain how the addition of a catalyst can affect the rate of a reaction.
18.2.2021 Thursday 7 12D	2.Explain how the addition of a catalyst can affect the rate of a reaction, in terms of qualitative understanding of Maxwell-Boltzmann model of the distribution of molecular energies. Learning outcome: <ul style="list-style-type: none">• Draw the reaction profiles of both an uncatalysed and a catalysed reaction.• Understand the economic benefits of the use of catalyst in industrial reactions.• Understand the use of a solid catalyst for industrial reactions involving gases, in terms of providing a surface for the reaction.		

HOMEWORK: Solve textbook questions (pg 259)

YEAR 12 D/G– CHEMISTRY

WEEK 25 (14th Feb to 18th Feb)

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

Topic 4 – CALCULATIONS

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

Date	Topic	
16.02.21 Tuesday 8 12D	Learning Objective: Molar concentration.	Teacher uses power point to show rules to recap basics of organic linking to GCSE level. Lesson will be developed with many examples. Some common mistakes and guidance from first term examinations will be discussed.
15.02.21 Monday 6 12G Zoom	Learning Outcome: students will be able to: Define concentration. calculate solution concentrations, in mol dm ⁻³ and g dm ⁻³ , including simple acid-base titrations using a range of acids, alkalis and indicators.	
15.02.21 Monday 7- 12G	Learning Objective: Molar concentration from experimental data.	Teacher uses power point presentation and videos to explain the concept of concentration in various units. Teacher uses worksheet that contains interactive questions, to calculate concentration using titration.
17.02.21 Wednesday 7- 12D Mode of Teaching – ZOOM	Learning Outcome: students will be able to: Prepare a standard solution from a solid acid and use it to find the concentration of a solution of sodium hydroxide Write logical plan to carry out titration using standard solution of given acid. Find the concentration of a solution of hydrochloric acid	
17.02.21 Wednesday 8- 12D 1-12G Mode of Teaching – zoom	Learning Objective: empirical formula by combustion analysis Learning Outcome: students will be able to: Be able to use experimental data to calculate i) empirical formulae ii) molecular formulae including the use of $pV = nRT$ for gases and volatile liquids iii) calculate mole ratio and apply to synthesis the empirical formula. <i>Calculations of empirical formula may involve composition by mass or percentage composition by mass data.</i>	Teacher uses questions from various past papers. Teacher uses worksheet that contains interactive questions, to explain quantitative chemistry.

HOMEWORK: Solve exam style questions from text book.

YEAR 13 A /B –CHEMISTRY

WEEK 25 (14th Feb to 18th Feb)

Topic: Further organic chemistry.

Topic 18B: Amines, amides, amino acids and proteins

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

Resources: Text book, Worksheets, video, power point presentations.

Date	Topic	
14.02.2020 Sunday 1-13A 4-13B Mode of Teaching – Zoom	Lesson Objective: Identify the amine and amide functional group. Writing of systemic names of amine and amide. Success Criteria: students will be able to: Predict examples of amines, amides and amino acids. Predict the name of the given compounds.	Teacher uses power point presentation that contains interactive questions. Students solve the worksheet file questions.
Sunday 14.02.2020 2-13 A 16.02.2020 Tuesday 2-13B Mode of Teaching – Zoom	Lesson Objective: Reactions of primary aliphatic amines, using butylamine as an example, with: i water to form an alkaline solution ii acids to form salts iii ethanoyl chloride iv halogenoalkanes v copper(II) ions to form complex ions Success Criteria: students will be able to: Explain that amines have higher boiling points than alkanes. -they are soluble in water Predict the chemical properties of amines. -as a base - reaction with water - reaction with acids -reaction with acid chlorides -reaction with halogenoalkanes, -reaction with d block metal ions. Write equations for these reactions	Teacher uses power point presentation that contains interactive questions. Students solve the worksheet file questions.
Wednesday 16.02.21 4- 13A 2-13B Mode of	Lesson Objective: Basic nature of amines and comparison os basic strength Success Criteria: students will be able to: understand reasons for the difference in basicity of ammonia, primary aliphatic and primary aromatic amines given suitable data	Teacher uses power point presentation that contains interactive questions that helps to predict

Teaching – Zoom	Compare the given K_b values and explain the basicity of ammonia, primary aliphatic and aromatic amines and explain them.	the basic nature. Students solve the worksheet file questions .
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Homework : Solve worksheet file questions and text book.

YEAR 13 A/B– CHEMISTRY

WEEK 25 (14th Feb to 18th Feb)

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

Topic:– Enthalpy change of solution and hydration

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

Date	Topic	
14.02.21 Sunday 5 , 8 13B	Learning Objective: Completion of core practical 16 Learning Outcome: <ul style="list-style-type: none"> • Procedure to prepare aspirin • Identify the safety measure to be taken while doing the experiment • Explain the process of recrystallisation in purification • Describe the method of melting point determination 	Teacher uses video and power point to discuss the experimental procedure for preparing aspirin in the lab.
17.02.21 Wednesday 5 , 6 13A Mode of Teaching – Zoom		Student uses worksheet to write observations and solve questions given in the worksheet.
14.02.21 Sunday 3 13A 16.02.21 Tuesday 1 13B Mode of Teaching – Zoom	Learning Objective: Define enthalpy of solution and hydration. Understand the factors affecting enthalpy of hydration. Draw the Hess’s cycle of dissolving any ionic compound. Learning Outcome: Draw the diagram of hydration of sodium and chloride ions. Calculate the enthalpy change of solution using the Hess’s cycle. Draw the energy level diagram for the dissolving of ionic compounds.	Teacher uses PowerPoint presentation and video to discuss different steps in the cycle for dissolving an ionic compound. Student uses past paper to reinforce the concept of enthalpy change of solution.

HOMEWORK: Solve textbook question page 61 – Questions 3 and 4