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Aim High Progress Study Programme _ (Year 13) - January 2026

Subject	Focus	Activities	Useful website
Accounting	<ul style="list-style-type: none">• To interpret the meaning and features of consignment accounts.• To analyse why consignment is not a sale and explain the important terms used in consignment accounts.• To interpret the use and importance of financial appraisal techniques in the investment decision making process• To make recommendations as to how the performance of a business, as revealed by a business could be improved.	<ul style="list-style-type: none">• Prepare a Prezi presentation comprising the following –<ul style="list-style-type: none">➤ Interpretation of the meaning and features of consignment accounts.➤ Reasons explaining why consignment is not a sale.➤ Explain the terms used in consignment accounts.• Present a report on the usefulness of financial appraisal techniques in investment decision. OR• Prepare a Ted Ed Flipped Lesson on the topic.	<p>www.myaccountinglab.com, www.bized.co.uk www.cie.org.uk, http://www.accounting-world.com/ https://www.investopedia.com/ https://study.com/search/text/academy.html?q=accounting#/topresults/accounting</p>
Arabic	<ul style="list-style-type: none">• قصة قصيرة• شاعران مبدعتان منذ الصغر (سلطان النعيمي)• الأهداف• أن يميز الطالب أسلوب الكاتب من حيث التقنيات• أن يتتبع تطور الشخصية بتطور الأحداث• أن يحدد جهود الشاعرتين في الأدب الإماراتي• أن يحلل تأثير وجهود الشاعرتين على الأدب الإماراتي	<ul style="list-style-type: none">• ابحث عن بعض أسماء أدباء الإمارات• اشرح الفرق بين الشعر الفصيح والشعر النبطي• دلل على اعتبار الشاعرتين رمزاً للمرأة الإماراتية• صف العلاقة بين الشاعرتين وبقية أدباء الإمارات• تتبّع الأساليب البلاغية في النص وحللها	<p>nafidaschool.com/2025/01/Solution-lesson-Two-creative-poetesses-since-childhood-g-12.html https://resources.quizalize.com/view/quiz/--75c7a721-e22c-4c31-860c-9a74c58f11f0</p>



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		اشرح الحديث موضحةً علاقته بالرعاية الصحية للمسلم. الكتاب ص 21	86%D8%A8%D9%88%D9%8A-%D9%81%D9%8A-%D8%A7%D9%84%D8%B1%D8%B9%D8%A7%D9%8A%D8%A9-%D8%A7%D9%84%D8%B5%D8%AD%D9%8A%D8%A9/
Islamic Studies Non-Arabs	PROTECTING SOCIETY AGAINST MORAL CRIMES -To elucidate the concept of adultery as mentioned in Quran. -To evaluate the consequences of adultery on individual and society. EXTREMISM -To elucidate the concept of balances views and moderation in Islam -To evaluate the factors, lead to imbalance and how can we address this issue.	Write an article on the comparison of the punishment of adultery with other religions and how would you defend Islamic punishment regarding this matter? Record a video on how has UAE successfully implemented strategies against extremism? Mention in your video their efforts towards this issue.	https://www.abuaminaelias.com/moderation-and-balance-in-islam/



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Biology	<p><u>Genetic technology:</u></p> <ul style="list-style-type: none">• Explore genetic engineering techniques, including gene isolation, gene insertion, and the use of vectors like plasmids.• Apply recombinant DNA technology in the production of genetically modified organisms (GMOs), including plants, animals, and microorganisms.• Evaluate the ethical, social, and environmental impacts of genetic technology, including debates on GMOs, gene therapy, and cloning.• Describe gene therapy and its medical applications, including the correction of genetic disorders.• Explain how genetic engineering can help solve the global demand for food by improving the quality and productivity of farmed animals and crop plants. <p><u>Inherited change</u></p>	<ul style="list-style-type: none">• Create a model of a GM organism (plant, animal, or microorganism) with labeled components like the inserted gene and plasmid.• Draw a flow diagram showing the steps in genetic engineering (e.g., gene isolation, insertion, transformation).• Prepare a presentation on GM crops or animals, focusing on their applications, benefits, and challenges.• Create 10 quiz questions on the ethical concerns surrounding genetic engineering and GMOs.	<ul style="list-style-type: none">• https://www.learn.genetics.utah.edu/• https://www.genome.gov/• https://www.genengnews.com/• https://aspb.org/ • http://www.contexo.info/DNA_Basics/Meiosis.htm
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	<ul style="list-style-type: none"> • Solve genetics problems involving monohybrid and dihybrid crosses, including those involving autosomal linkage, sex linkage, codominance, multiple alleles and gene interactions (epistasis) and the expected ratio for various types of epistasis. • Use the chi-squared test to test the significance of differences between observed and expected results. 	<ul style="list-style-type: none"> • Create 10 Kahoot questions on monohybrid and di hybrid crosses. • Draw annotated diagrams, using colors or shading, to show how two adjacent cells (haploid number 2) can produce 4 genetically different gametes by independent assortment. • Modelling using pipe cleaners to consolidate learning of independent assortment and crossing. 	<ul style="list-style-type: none"> • http://highered.mcgrawhill.com/sites/007249585/5/student_view0/chapter28/animation_how_meiosis_works.html • https://www.tes.com/teaching-resource/chi-squared-test-cie-international-a-level-biology-12194164
Business Studies	To analyse the impact of sales forecasting on business decisions	Use an example of a seasonal business that might use time series analysis data, e.g. an ice cream manufacturer. Create a mind map of the quantitative and qualitative factors that might affect sales forecasting, such as: previous sales data, weather, economic data, consumer taste and fashion, and decisions of competitors.	www.bized.co.uk www.tutor2u.net



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		Evaluate the impact of qualitative factors when the business makes decisions about future sales [20 marks]	
Chemistry	<u>Electrochemistry:</u> <ul style="list-style-type: none">To explain the mathematical relationship $F = Le$To outline the working of Standard Hydrogen ElectrodeTo determine the EMF of the electrochemical cell (one half cell being metal/metal ion cell, non-metal/non-metal ion cell, ion/ion cell and the other half cell as SHE)To outline the direction of redox reaction using the electrochemical cell valueTo apply the Nernst equation to predict quantitatively howthe value of an electrode potential varies with the concentration of the aqueous ion.	<ul style="list-style-type: none">Solve at least five questions making use of $F = Le$ to predict the identity of a product during electrolysisConstruct electrochemical cell using Standard Hydrogen Electrode as one of the half cellResearch and prepare a write-up on determining the feasibility of a reaction based upon the electrochemical cell valuePlan an investigation to be conducted in a school laboratory to determine the cell potential under non-standard conditions (use Nernst equation)on electrochemical cell value and feasibility of a reactionPractice interrelating standard Gibbs free change with the electrochemical cell value	<ul style="list-style-type: none">https://www.chemguide.co.uk/inorganic/electrolysis/basiccalcs.htmlhttps://byjus.com/chemistry/standard-hydrogen-electrode/http://www.dynamicscience.com.au/tester/solutions1/chemistry/redox/electrochemicalcellfromequan.htmhttps://chem.libretexts.org/Bookshelves/Introductory_Chemistry/Book%3A_Introductory_Chemistry



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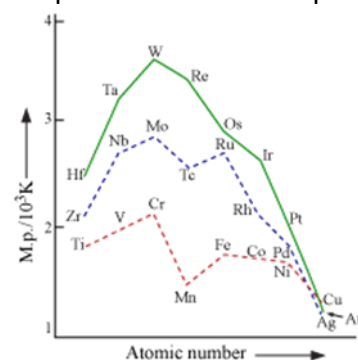
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- To outline the direction of redox reaction using the electrochemical cell value
- To understand and use the equation

Transition elements:

- Explain the properties of transition metals. Also, compare properties with s block elements.
- describe and explain the reactions of transition elements with ligands to form complexes, including the complexes of copper(II) and cobalt(II) ions with water and ammonia molecules and hydroxide and chloride ions
- Describe the shapes of transition metal complexes.
- explain qualitatively that ligand exchange may occur, including the complexes of copper(II) ions with water and ammonia molecules and hydroxide and chloride ions

- Practice writing electronic configuration of transition elements and ions.
- Explore the shapes of d subshell.
- Analyse the graph and suggest possible reason for the trends.
- Prepare a Power-Point presentation



- Research about ligands, prepare a flow chart to show various types of ligands. Understand the differences between coordination number and valency.

- https://www.ck12.org/chemistry/23.06%3A_Electrochemistry/23.06%3A_Calculating_Standard_Cell_Potentials/
- <https://www.chem.tamu.edu/class/fyp/stone/tutorialnotefiles/electro/nernst.htm>
- <http://www.docbrown.info/page01/ExIndChem/electrochemistry11.htm>
- <https://xtremepape.rs.xyz/revision/a-level/chemistry/inorganic/transition/features.php>
- https://chem.libretexts.org/Textbook_Maps/General_Chemistry/Map%3A_General



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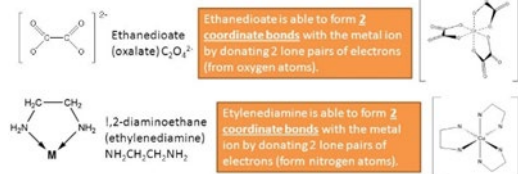


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- explain the origin of colour in transition element complexes resulting from the absorption of light energy as an electron moves between two non-degenerate d orbitals using non-degenerate concepts.
- Describe, in qualitative terms, the effects of different ligands on absorption, and hence colour, using the complexes of copper(II) ions with water and ammonia molecules and hydroxide and chloride ions as ligands
- Describe and explain ligand exchanges in terms of competing equilibria
- Deduce expressions for the stability constant of a ligand substitution using K_{stab} and explain its importance.
- Explain ligand exchange in terms of stability constants, K_{stab} , and understand that a large K_{stab} is due to the formation of a stable complex ion

Unidentate Ligand	Complex	Shape & Bond Angle	Coordination Number
Water	$[\text{Cu}(\text{H}_2\text{O})_6]^{2+}$	Octahedral 90	6
Ammonia	$[\text{Co}(\text{NH}_3)_6(\text{H}_2\text{O})_2]^{3+}$	Octahedral 90	6
Chloride ion	$[\text{Cu}(\text{Cl})_4]^{2-}$	Tetrahedral 109.5	4
Ammonia/Chloride	$[\text{Pt}(\text{NH}_3)_4(\text{Cl})_2]$	Square Planar 90	4
Cyanide	$[\text{Cu}(\text{CN})_4]^{2-}$	Tetrahedral 109.5	4
Cyanide, CN	$[\text{Ni}(\text{CN})_4]^{2-}$	Square Planar 90	4

Examples of Bidentate Ligands



Practice writing the equations of transition metals complexes with various ligands and suggest

- observable changes. Write an expression for K_{stab} .

[Chemistry \(Petrucci et al.\)/23%3A The Transition Elements/23.1%3A General Properties of Transition Metals](#)

- <http://www.docbrown.info/page07/ASA2p table2.htm>
- <https://www.memrise.com/course/161010/ocr-chemistry-a2-f325-definitions/3/>
- <https://revisionworld.com/a2-level-level-revision/chemistry/periodic-table/transition-metals>
- <http://chemed.chem.purdue.edu/genchem/topicreview/bp/ch12/complex.php>



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<p>Economics</p>	<ul style="list-style-type: none"> Analyse and evaluate key demographic and structural indicators including birth rate, death rate, infant mortality, migration, and the concept of optimum population to understand how these evolve across stages of development. Interpret and compare patterns of urbanisation, employment composition, income inequality (Gini Coefficient, Lorenz Curve), and trade structures between developed and developing economies. 	<ul style="list-style-type: none"> Analyse demographic data (birth rate, death rate, migration) and evaluate population trends across different income-level countries. Calculate and interpret the Gini Coefficient and draw a Lorenz Curve to assess income inequality. Compare and discuss patterns of urbanisation, employment composition, and trade between developed and developing economies. 	<ul style="list-style-type: none"> Tutor2u – Inequality and the Gini Coefficient Tutor2u – Employment Structure and Economic Development Our World in Data – Income Inequality and Development World Bank – World Development Indicators
<p>Mathematics <u>Pure Mathematics 3</u> Integration</p>	<ul style="list-style-type: none"> extend the idea of ‘reverse differentiation’ to include the integration of e^{ax+b}, $1/ax$, $b \sin(ax + b)$, $\cos(ax + b)$, $\sec^2(ax + b)$ and $1/a^2 + b^2$. 	<p>Research on the application of integration</p> <ol style="list-style-type: none"> An Architect Engineer uses integration in determining the amount of the necessary materials to construct curved shape constructions (e.g. dome over a sports arena) and also to measure the weight of that structure. 	<p>https://tutorial.math.lamar.edu/classes/calci/integrationbyparts.aspx https://tutorial.math.lamar.edu/problems/calc</p>



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	<ul style="list-style-type: none"> • use trigonometrical relationships in carrying out integration • integrate rational functions by means of decomposition into partial fractions • recognise when an integrand can usefully be regarded as a product, and use integration by parts <p>use a given substitution to simplify and evaluate either a definite or an indefinite integral.</p>	<ol style="list-style-type: none"> 2. In Electrical Engineering, Integration is used to determine the exact length of power cable needed to connect two substations, which are miles away from each other. 3. In Physics, Integration is very much needed. For example, to calculate the Centre of Mass, Centre of Gravity and Mass Moment of Inertia of a sports utility vehicle. 4. A graphics artist uses calculus to determine how different three-dimensional models will behave when subjected to rapidly changing conditions. It can create a realistic environment for movies or video games. 	<p>i/substitutionruleindefinite.aspx https://math.libretexts.org/Courses/Mount_Royal_University/MATH_1200%3A_Calculus_for_Scientists/1/4%3A_Integral_Calculus/4.1%3A_Integration_by_Substitution https://liavas.net/courses/calc1/files/Exp_log_trig_integration.pdf https://qedinsight.wordpress.com/2012/02/26/a-neat-trick-for-determining-the-integrals-of-exp-x-cos-x-and-exp-x-sin-x/ https://www.mathsisfun.com/calculus/integration-by-parts.html</p>
Mechanics	Apply the definition of linear momentum and show its vector nature.	Solve word problems on collisions in one dimension (before and after impact).	<ul style="list-style-type: none"> • Physics Classroom – Momentum



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	<p>Apply conservation of linear momentum to solve problems that may be modelled as the direct impact of two bodies. Including direct impact of two bodies where the bodies coalesce on impact. Knowledge of impulse and the coefficient of restitution is not required.</p> <p>Apply differentiation and integration with respect to time to solve simple problems concerning displacement, velocity, and acceleration.</p>	<p>Solve real motion problems (e.g. constant acceleration, velocity-time graphs).</p> <p>Determine motion characteristics such as turning points or rest.</p>	<p>Physics LibreTexts – Momentum and Impulse</p> <p>Physics LibreTexts – Momentum and Impulse https://revisionworld.com/a2-level-level-revision/physics</p>
<p>Statistics 2</p>	<p><u>Sampling and Estimation</u></p> <ul style="list-style-type: none"> • Calculate expectation and variance of the mean of a random sample. • Solve problems using central limit theorem where appropriate • Calculate unbiased estimates of the population mean and variance • Determine and interpret a confidence interval for a population mean and proportion <p><u>Hypothesis Tests</u></p> <ul style="list-style-type: none"> • Understand the difference between one-tailed and two-tailed tests and the terms null hypothesis, 	<p>Make notes to summarise learning on sampling and estimation that includes formulae and solved examples.</p> <p>Research and summarise findings with examples on real life application on hypothesis testing.</p>	<p>https://www.khanacademy.org/math/ap-statistics/gathering-data-ap/sampling-observational-studies/e/identifying-population-sample https://studyrocket.co.uk/revision/a-level-mathematics-caie/paper-6/sampling-and-estimation#:~:text=Sampling%20refers%20to%2</p>



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	<p>alternative hypothesis, significance level, rejection region.</p> <ul style="list-style-type: none"> Formulate hypothesis and carry out a hypothesis test in the context of single observation from a population which has a binomial or poisson distribution. 		<p>Othe%20process,population%20based%20on%20sampled%20data.</p> <p>https://stattrek.com/hypothesis-test/hypothesis-testing.aspx</p> <p>https://www.statisticssolutions.com/hypothesis-testing/</p>
Art& Design	Referencing the work of others:	<p>Candidates reflect and engage with art practitioners or cultures which are relevant to their intentions. Demonstrate how you intend to use the references to influence your own original ideas.</p> <p>Critically reflecting on their own work and progress.</p>	www.studentartguide.com
Psychology	<p>Organization and Psychology</p> <p>Group Conflicts</p>	<p>The family creates a mock conflict around a shared decision, such as:</p> <ul style="list-style-type: none"> "What should we eat for dinner?" <p>Each family member picks a different cuisine or dish.</p> <p>Assume there's a limited budget or time constraint, so not everyone's choice can be accommodated.</p> <p>(Students can create their own group conflict scenario if they prefer.)</p>	Text book



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		<p>The Conflict</p> <ul style="list-style-type: none"> • Family members role-play advocating for their choice. • Encourage them to explain why their choice is the best (e.g., it's their favorite, it's healthy, or it's easy to cook). 	
Physics	<p><u>Magnetic fields</u></p> <ul style="list-style-type: none"> • To understand forces between current-carrying conductor and predict the direction of the forces. • To know the direction of force on a charge moving in a magnetic field. • To define magnetic flux density and the tesla and solve problems using the equation $F = BIL \sin \theta$, with directions as interpreted by Fleming's left-hand rule • To derive the expression = for the Hall voltage, where t = thickness <p><u>Electromagnetic Induction</u></p> <ul style="list-style-type: none"> • Define magnetic flux and the weber • Define magnetic flux linkage 	<ul style="list-style-type: none"> • Find why two parallel currents attract and two antiparallel currents repel. • Research on how Hall voltage creates a voltage difference across an electrical conductor • Describe the working of a hall probe • Infer from appropriate experiments on electromagnetic induction: that a changing magnetic flux can induce an e.m.f. in a circuit 	<p>https://www.britannica.com/science/Hall-effect</p> <p>https://courses.lumenlearning.com/physics/chapter/22-10-magnetic-force-between-two-parallel-conductors/</p> <p>https://courses.lumenlearning.com/boundless-physics/chapter/magnetic-force-on-a-moving-electric-charge/</p> <p>https://byjus.com/physi</p>



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		that the direction of the induced e.m.f. opposes the change producing it the factors affecting the magnitude of the induced e.m.f.	cs/magnetic-flux/#:~:text=Magnetic%20flux%20is%20defined%20as,through%20a%20given%20surface%20area. https://www.khanacademy.org/science/physics/magnetic-forces-and-magnetic-fields/magnetic-flux-faradays-law/a/what-is-magnetic-flux
Sociology	Effects of Class, Gender and Ethnicity on Educational attainment	Research on Effect of Class, Gender and Ethnicity on educational attainment in following countries. UAE, UK, Finland and India	https://revisesociology.com/2020/01/29/class-gender-and-ethnicity-and-your-chances-of-getting-to-university/
English Language	Language Change	<ul style="list-style-type: none">Read a Wikipedia entry on an exotic flora or fauna. Watch a documentary on the same flora and or fauna chosen. Compare the treatment of the same	www.bbcwildlife.com www.natgeo.com



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		<p>subject through different mediums by analysing the following.</p> <ol style="list-style-type: none"> 1. The development of topic 2. Lexical and semantic use 3. Orthography 4. Morphology 	
Computer Science	<ul style="list-style-type: none"> • Explain binary tree structure and properties • Describe traversal methods: in-order, pre-order, post-order 	<ul style="list-style-type: none"> • Students compare the output of each traversal. • Discuss: <i>Which traversal is best for sorting? Which for copying a tree?</i> 	https://www.savemyexams.com/a-level/computer-science/cie/19/revision-notes/19-computational-thinking-and-problem-solving-/algorithms/binary-trees/
Information Technology	<p>Project Management</p> <ul style="list-style-type: none"> • Describe disaster recovery management (including: risk analysis, perpetrator analysis, risk testing, quantifying the risk, securing the risk, software protection, password controls, recovery management) <p>Prototyping</p> <ul style="list-style-type: none"> • Describe prototyping 	<p>Discuss how the possibility of a disaster can be planned for and why this might be important.</p> <ul style="list-style-type: none"> • Explain the use of prototypes in development, the different types that can be created and how the use of the prototypes can change the development process. 	What is disaster recovery (DR)? Definition from TechTarget



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	<ul style="list-style-type: none">• Describe types of prototyping (including: evolutionary, incremental, throwaway, rapid)• Discuss the advantages and disadvantages of prototyping		
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