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Aim High Progress Study Programme _ (Year 13) – January _2025

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. <p>OR</p> <ul style="list-style-type: none">• Prepare a Ted Ed Flipped Lesson on the topic.	<p>www.myaccountinglab.com, www.bized.co.uk</p> <p>www.cie.org.uk,</p> <p>http://www.accounting-world.com/</p> <p>https://www.investopedia.com/</p> <p>https://study.com/search/text/academy.html?q=accounting#/topresults/accounting</p>
Arabic	TOPIC: قصيدة صحب الناس قبلنا ذا الزمانا قصة البدين والنحيف التميز أغراض التقديم والتأخير	يحدد الغرض الشعري والدليل عليه من القصيدة يحلل مظاهر البلاغة في الأبيات ينثر الأبيات نثرًا أدبيًا يحلل خط تصاعد الأحداث في القصيدة	<p>https://seraj-uae.com/file/7744/#3</p> <p>https://tinyurl.com/muzkxtfx</p>



The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<p>Learning objectives:</p> <p>أن يحدد الغرض الشعري والدليل عليه من القصيدة</p> <p>أن يحلل مظاهر البلاغة في الأبيات</p> <p>أن ينثر الأبيات نثرًا أدبيًا</p> <p>أن يحلل خط تصاعد الأحداث في القصة</p> <p>أن يحلل الشخصيات وصفاتها وانفعالاتها</p> <p>أن يضع نهاية مختلفة للقصة من إبداعه</p> <p>أن يحدد حالات التمييز</p> <p>أن يعرب التمييز إعرابًا صحيحًا</p> <p>أن يدلل على التقديم والتأخر بالشواهد مع تحديد الغرض</p>	<p>يحلل الشخصيات وصفاتها وانفعالاتها</p> <p>يضع نهاية مختلفة للقصة من إبداعه</p> <p>يحدد حالات التمييز</p> <p>يعرب التمييز إعرابًا صحيحًا</p> <p>يدلل على التقديم والتأخر بالشواهد مع تحديد الغرض</p>	<p>https://lnk fwd.com/u/ORBb1mOW</p>
<p>Islamic Studies Arabs</p>	<p>TOPIC:</p> <p>(حديث الإفك، سورة النور (11-20)</p> <p>الخدمة الوطنية مطلب وطني وواجب شرعي</p> <p>Learning objectives:</p> <p>أفسر معاني مفردات الآيات الكريمة-</p> <p>أستنتج بعض أحكام الآيات الكريمة-2</p>	<p>نشاط جماعي 1 : ابحث وفكر في أكبر قدر من أوجه الخير الذي حملته حادثة الافك، قال تعالى "لا تحسبوه شرا لكم، بل هو خير لكم</p> <p>نشاط جماعي 2: اكتب مقالا توعويًا تشرح فيه دور الشائعات وأثر انتشارها على الفرد والمجتمع، وكيفية التغلب على هذه الظاهرة من خلال دور الفرد والمجتمع والدولة.</p> <p>نشاط جماعي 1 : حب الوطن فطرة غريزية في جميع المخلوقات، الإنسان، والحيوان، والأسماك والطيور. دلل</p>	<p>https://www.noor-book.com/%D9%83%D8%AA%D8%A7%D8%A8-%D8%AD%D8%AF%D9%8A%D8%AB-%D8%A7%D9%84%D8%A5%D9%81%D9%83-%D8%B9%D8%A8%D8%B1%D8%A7%D8%AA-%D9%88%D8%B9%D8%A8%D8%B1-pdf</p> <p>https://seraj-uae.com/file/208/</p> <p>https://uae-school.com/archives/17219</p>



The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<p>أبين الآثار السلبية للشائعات على الفرد -3 والمجتمع.</p> <p>أستنتج فضل أم المؤمنين عائشة رضي الله -4 عنها</p> <p>أوضح مفهوم الخدمة الوطنية-1</p> <p>أبين أهمية الخدمة الوطنية للفرد -2 والمجتمع.</p> <p>أستدل من السنة النبوية على حب الوطن -3 والاتناء إليه..</p>	<p>على ذلك من خلال أمثلة ونماذج توضح حب الوطن عند هذه الأصناف المختلفة من المخلوقات</p> <p>نشاط جماعي 2: استقصي مثالا من تاريخ الإمارات المجيد يدلل على الوفاء والانتماء للإمارات ومبادئها الأصيلة</p>	
<p>Islamic Studies Non Arabs</p>	<p>TOPIC: EXTREMISM</p> <p>Learning objectives:</p> <ul style="list-style-type: none">• 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.	<p>RECORD A VIDEO ON HOW HAS U.A.E SUCCESSFULLY IMPLEMENTED STRATEGIES AGAINST EXTREMISM? MENTION IN YOUR VIDEO THEIR EFFORTS TOWARDS THIS ISSUE.</p>	<p>https://islamqa.info/en/answers/9466/what-is-moderation-in-religion</p>



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Aim High Progress Study Programme _ (Year 13) – January _2025

	<p>Topic; Tolerance towards other religions</p> <p>Learning objectives:</p> <ul style="list-style-type: none">• TO ELUCIDATE THE SIGNIFICANCE OF THE CONCEPT OF TOLERANCE IN ISLAM• TO ANALYSE THE CONSEQUENCES OF INTOLERANCE ON AN INDIVIDUAL AND A SOCIETY	<p>PONDER ON THE IMPORTANCE OF THE QUALITY OF TOLERANCE AND ELABORATE HOW DOES THIS QUALITY HELP US TO IMPROVE OUR RELATIONSHIP WITH ALLAH.WRITE DOWN A CONVINCING ESSAY.</p>	<p>https://www.quranexplorer.com/blog/understand-the-quran/tolerance in islam</p>
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The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

Biology	Inherited Changes <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 (the term epistasis does not need to be used; knowledge of the expected ratio for various types of epistasis is not required. The focus is on problem solving)• Solve Problems using genetic diagrams involving test crosses• use the chi-squared test to test the significance of differences between observed and expected results (the formula for the chi-squared test will be provided) (see Mathematical requirements)	<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.	<p>http://www.contexo.info/DNA_Basics/Meiosis.htm</p> <p>http://highered.mcgrawhill.com/sites/0072495855/student_view0/chapter28/animation_how_meiosis_works.html</p>
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Aim High Progress Study Programme _ (Year 13) – January _2025

Business Studies	Coordination: <ul style="list-style-type: none">• Compare the nervous and endocrine systems as communication systems, that co-ordinate responses to changes in the internal and external environment.• Explain the importance of the myelin sheath (saltatory conduction) in determining the speed of nerve impulses and the refractory period.• Explain the sliding filament model of muscular contraction• Explain the roles of the hormones FSH, LH, estrogen and progesterone in controlling changes in the ovary and uterus.• Describe the role of gibberellin in the germination of wheat or barley	<ol style="list-style-type: none">1. Make a model of Axon with post and pre- synaptic endings and Label it correctly.2. Make a flow diagram to explain the Nervous system.3. Prepare a presentation on the saltatory movement of nerve impulse.4. Create a 10 quiz questions on the role of hormone in human body coordination.	<p>http://www2.estrellamountain.edu/faculty/farabee/biobk/BioBookNERV.html</p> <p>https://edpuzzle.com/media/67514fbe3d3d28f779706cf7</p> <p>https://edpuzzle.com/media/67514ffa21f2b10eb018bc82</p> <p>https://edpuzzle.com/media/6751501e427f754df6b94d5c</p>
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Aim High Progress Study Programme _ (Year 13) – January _2025

Chemistry	<u>Electrochemistry:</u> <ul style="list-style-type: none">• To explain the mathematical relationship $F = Le$• To outline the working of Standard Hydrogen Electrode• To 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 value• To apply the Nernst equation to predict quantitatively how the value of an electrode potential varies with the concentration of the aqueous ion.• To outline the direction of redox reaction using the electrochemical cell value	<ul style="list-style-type: none">• Solve at least five questions making use of $F = Le$ to predict the identity of a product during electrolysis• Construct electrochemical cell using Standard Hydrogen Electrode as one of the half cell• Research and prepare a write-up on determining the feasibility of a reaction based upon the electrochemical cell value• Plan an investigation to be conducted in a school laboratory to determine the cell potential under non-standard conditions (use Nernst equation)• Prepare a Power-Point presentation on electrochemical cell value and feasibility of a reaction• Practice interrelating standard Gibbs free change with the electrochemical cell value	<ul style="list-style-type: none">• https://www.chemguide.co.uk/inorganic/electrolysis/basiccalcs.html• https://byjus.com/chemistry/standard-hydrogen-electrode/• http://www.dynamicscience.com.au/tester/solutions1/chemistry/redox/electrochemicalcellfromequan.htm• https://chem.libretexts.org/Bookshelves/Introductory_Chemistry/Book%3A_Introductory_Chemistry_(CK-12)/23%3A_Electrochemistry/23.06%3A_A_Calculating_Standard_Cell_Potentials• https://www.chem.tamu.edu/class/fyp/stone/tutorialnotefiles/electro/nernst.htm• http://www.docbrown.info/page01/ExIndChem/electrochemistry11.htm
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The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<ul style="list-style-type: none">• To understand and use the equation <p><u>Transition elements:</u></p> <ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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.• Research about ligands, prepare a flow chart to show various types of ligands. Understand the differences between coordination number and valency.• Practice writing the equations of transition metals complexes with various ligands and suggest observable changes. Write an expression for <i>Kstab</i>.	<ul style="list-style-type: none">• https://xtremepapers.xyz/revision/a-level/chemistry/inorganic/transition/features.php• https://chem.libretexts.org/Textbook_Maps/General_Chemistry/Map%3A_General_Chemistry_(Petrucci_et_al.)/23%3A_The_Transition_Elements/23.1%3A_General_Properties_of_Transition_Metals• http://www.docbrown.info/page07/AS_A2ptable2.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
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The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<ul style="list-style-type: none">• 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.		<ul style="list-style-type: none">• http://chemed.chem.purdue.edu/genchem/topicreview/bp/ch12/complex.php
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The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<ul style="list-style-type: none">• 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		
Economics	<p>Topic - Policies to correct disequilibrium in the Balance of Payment</p> <ul style="list-style-type: none">• To analyse between the current and capital accounts of the BOP• To analyze the impact of expenditure switching and expenditure reducing policies on the BOP	<p>Task 1 - Compare the effectiveness of fiscal policy, monetary policy, and trade policy in improving the balance of payments in different economic contexts (e.g., developed vs. developing countries). Create a presentation or a structured report highlighting, the strengths and weaknesses of each policy.</p> <p>Task 2 - Design a policy to improve the balance of payments of a country of your choice experiencing a deficit including,</p> <ul style="list-style-type: none">-The rationale for selecting specific policies.-Potential risks and mitigation strategies.-Indicators to measure success over time.	<p>www.tutor2u.net/economics/reference/balance-of-payments-1</p> <p>www.s-cool.co.uk/a-level/economics/the-balance-of-payments/revise-it/how-does-a-government-reduce-a-current-account-d</p>



The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

<p>Psychology</p>	<p>Organisation 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?"<ul style="list-style-type: none">○ Each family member picks a different cuisine or dish.○ Assume there's a limited budget or time constraint, so not everyone's choice can be accommodated. <p><i>(Students can create their own group conflict scenario if they prefer.)</i></p> <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).	<p>Psychology Textbook</p>
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The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

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>Ideal Gases</u></p> <ul style="list-style-type: none">• Solve problems using the equation of state for an ideal gas	<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• State and explain in terms of the kinetic model• Examine what happens to the pressure inside a tyre when more	<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>http://physicsnet.co.uk/a-level-physics-as-a2/thermal-physics/thermal-energy/</p>
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The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<ul style="list-style-type: none"> • Interpret Brownian motion in terms of the movement of molecules • State the assumptions of the kinetic theory of gases • Deduce a relationship between pressure, volume and the microscopic properties of the molecules of a gas • relate the kinetic energy of the molecules of a gas to its temperature 	<p>molecules at the same temperature are pumped into the tyre</p> <ul style="list-style-type: none"> • Explain Boyle’s law and applications • State the ideal gas equation and explain kinetic model • State the relation between temperature and molecular kinetic theory 	<p>https://www.youtube.com/watch?v=ZwXtPW0gdD0</p> <p>http://hyperphysics.phy-astr.gsu.edu/hbase/thermo/firlaw.html</p> <p>http://www.physics.usyd.edu.au/super/life_sciences/TP/TP-rev-questions.pdf</p>
Sociology	Effects of Class, Gender and Ethnicity on Educational attainment	<p>Research on Effect of Class, Gender and Ethnicity on educational attainment in following countries.</p> <p>UAE, UK, Finland and India</p>	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 	<p>https://www.wikipedia.org/</p> <p>www.bbcwildlife.com</p> <p>www.natgeo.com</p>



The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

		<p>the same 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 	
Art and Design	AO2 and AO3: Critical reflection	To evaluate how the materials, techniques and processes chosen are effective in how their work communicates meaning. This process can help work become more relevant and coherent.	www.studentartguide.com
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) Prototyping • Describe prototyping <ul style="list-style-type: none"> • Describe types of prototyping (including: 	<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



The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<p>evolutionary, incremental, throwaway, rapid)</p> <ul style="list-style-type: none"> • Discuss the advantages and disadvantages of prototyping 		
Computer Science	<p>Understanding the use of graphs in AI, including A* and Dijkstra’s algorithms.</p>	<ol style="list-style-type: none"> 1. Study the structure of graphs and their components (nodes, edges). 2. Explore A* and Dijkstra’s algorithms for pathfinding. 3. Analyze real-world examples, like network routing. 	<p><u>GeeksforGeeks Graph Algorithms</u></p>
Travel and Tourism	<p>Challenges in branding destinations</p> <ul style="list-style-type: none"> • To assess obstacles in creating a brand and evaluate in context how these might limit the effectiveness of the brand or its success 	<p>Research a destination Florida Identify the differences between “Disney” Florida and the rest of Florida and evaluate the obstacles in the case of Visit Florida. Prepare a presentation to consider:</p> <ul style="list-style-type: none"> • The destination’s reputation and image are not created by the destination management organizations in charge of its marketing and promotion • Tourism is an intangible product • DMOs have to counteract any negative reputation or image 	<p><u>http://www.visitflorida.com/en-uk.html</u></p>



The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

		<ul style="list-style-type: none"> • A diverse range of organisations and partners are involved in developing and delivering the brand • There might be a lack of funding for marketing • It is difficult to create a unique identity because of the competitive market • Destination image is affected by disasters, political unrest, acts of terrorism and other social, economic and political factors. 	
Statistics 2	<u>Sampling and Estimation</u> <ul style="list-style-type: none"> • Understand the distinction between a sample and a population, and appreciate the necessity for randomness in choosing samples. • Calculate expectation and variance of the mean of a random sample. • Solve problems using central limit theorem where appropriate 	<p>Research and summarise findings with examples on real life application on population and samples.</p> <p>Make notes to summarise learning that includes formulae and solved examples.</p>	<p>https://revisionmaths.com/advanced-level-maths-revision/statistics/sampling</p> <p>https://www.bmj.com/about-bmj/resources-readers/publications/statistics-square-one/3-populations-and-samples</p> <p>https://www.khanacademy.org/math/ap-statistics/gathering-data-ap/sampling-observational-studies/e/identifying-population-sample</p>



The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<ul style="list-style-type: none">• Calculate unbiased estimates of the population mean and variance• Determine and interpret a confidence interval for a population mean and proportion		
Pure Mathematics	<ul style="list-style-type: none">• extend the idea of 'reverse differentiation' to include the integration of e^{ax+b}, $1/ax$, $\ln(ax+b)$, $\sin(ax+b)$, $\cos(ax+b)$, $\sec^2(ax+b)$ and• 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>Research on the application of Integration in Architecture: An Architect Engineer uses integration in determining the amount of the necessary materials to construct curved shape constructions.</p> <p>Application in Medical Science: Biologists use differential calculus to determine the exact rate of growth in a bacterial culture when different variables such as temperature and food source are changed.</p> <ol style="list-style-type: none">1. Application in Graphics: It is used to determine the rate of a chemical reaction and to determine some necessary information of Radioactive decay reaction.	<p>https://igcsemathsin.files.wordpress.com/2018/04/p3-differential-equations-exercise-1.pdf</p> <p>https://igcsemaths.in/2021/02/23/a-level-mathematics-9709-differentiation-integration/</p>



The Winchester School



Aim High Progress Study Programme _ (Year 13) – January _2025

	<p>Use a given substitution to simplify and evaluate either a definite or an indefinite integral.</p>		
<p>Applied Mathematics Mechanics –</p>	<ul style="list-style-type: none"> • Understand the concept of the work done by a force, and calculate the work done by a constant force when its point of application undergoes a displacement not necessarily parallel to the force • Understand the concepts of gravitational potential energy and kinetic energy, and use appropriate formulae • Understand and use the relationship between the change in energy of a system and the work done by the external forces, and use in appropriate cases the principle of conservation of energy 	<p>Research on the real life applications of energy and power energy use and economic development are inseparable. Where there is energy poverty, there is poverty. And where energy availability rises, living standards rise as well. Energy is essential for human progress. Economic expansion and improving access to energy enable people to lead longer, more productive lives. Policy Technology. Consumer preferences. All three affect how the world uses energy. Each driver influences the others and changes over time, with variances by region and political circumstances.</p>	<p>https://revisionmaths.com/advanced-level-maths-revision/mechanics/work-energy-power https://www.physicsandmathstutor.com/pdf-pages/?pdf=https%3A%2F%2Fpmt.physicsandmathstutor.com%2Fdownload%2FPhysics%2FA-level%2FTopic-Qs%2FCAIE%2F05-Work-Energy-Power%2FSet-H%2FWork-Energy.pdf</p>