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Aim High Progress Study Programme _ (Year 12) –November _2022

Subject	Focus	Activities	Useful website
Accounting	<ul style="list-style-type: none">To analyse the usefulness of Managerial Accounting in businesses To develop independent problem-solving skills	<ul style="list-style-type: none">Revise all the topics covered so far in the AS level syllabus.Complete all MCQ questions and structures on the topics covered so far.Practice question from past paper 2016 – 2020 (Feb/March and May/June series)	www.myaccountinglab.com www.cie.org.uk , Accounting Text books
Arabic	TOPIC: قصة نظرة خارج النافذة Learning objectives: أن يحدد الطالب دلالة عنوان القصة مدعماً رأيه بالأدلة أن يشرح ارتباط العنوان بمدلول القصة ويذكر الأدلة من النص أن يميز العبارات التي ساهمت في إظهار مشاعر الشخصيات. أن يحلل الطالب تطور وجهة نظر الراوي في القصة.	يحدد دلالة عنوان القصة مدعماً رأيه بالأدلة يشرح ارتباط العنوان بمدلول القصة ويذكر الأدلة من النص يميز العبارات التي ساهمت في إظهار مشاعر الشخصيات أن يحلل تطور وجهة نظر الراوي في القصة أن يصف وجهات نظر الشخصيات يصف الصفات الداخلية والخارجية للشخصيات ويوضح وجهة نظرهم في فكرة القصة أن يبين تأثير العبارات في إظهار المشاعر .	https://www.uae-study.com/2020/07/Solve-lesson-look-outside-window-grade-12.html https://seraj-uae.com/file/3862/



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	<p>TOPIC:</p> <p>قصة الحرباء</p> <p>Learning objectives:</p> <p>أن يصف الطالب وجهات نظر الشخصيات</p> <p>أن يصف الصفات الداخلية والخارجية للشخصيات ويوضح وجهة نظرهم في فكرة القصة</p> <p>أن يبين الطالب تأثير العبارات في إظهار المشاعر</p>		
Islamic Studies Arabs	<p>TOPIC: السنن الربانية- مقاصد التشريع الخمسة</p> <p>Learning objectives:</p> <p>يدلل على أهمية السنن الربانية للفرد والمجتمع</p> <p>يستنتج وسائل حفظ مقاصد التشريع الخمسة</p>	<p>يبين فوائد دراسة مقاصد الشريعة</p> <p>يحرص على حفظ الضرورات الخمسة</p>	<p>https://www.youtube.com/watch?v=t64cEqKIHHI</p>



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<p>Islamic Studies</p> <p>Non Arabs</p>	<p>TOPIC: RESPONSIBILITY IN ISLAM</p> <p>Learning objectives:</p> <ul style="list-style-type: none"> • To comprehend the importance of individual and collective responsibility. • -To analyze the link between communal peace and individual responsibility ▪ TOPIC- CREATIVE THINKING IN ISLAM ▪ LEARNING OBJECTIVES ▪ To comprehend the concept of productive (Creative) thinking in Islam ▪ -To evaluate the role of knowledge in creative thinking 	<p>WRITE A JOURNAL ON HOW HAS U.A.E</p> <ul style="list-style-type: none"> • ENCOURAGE THE EMIRATI YOUTH TO TAKE INDIVIDUAL AND COLLECTIVE RESPONSIBILITY AND HOW DOES IT HELP TO CONTRIBUTE IN THE PROGRESS OF SOCIETY. 	<ul style="list-style-type: none"> □ https://www.youtube.com/watch?v=cYhgIIty4yY <p>WATCH THE VIDEO AND GIVE YOUR VIEW ON THE IMPORTANCE OF CREATIVE THINKING IN OUR DAY-TO-DAY LIVES</p>
<p>Biology</p>	<p><u>Cell membranes and transport</u></p> <ul style="list-style-type: none"> • To describe and explain the fluid mosaic model of membrane structure, including an outline of 	<ul style="list-style-type: none"> • Create/Draw a model of fluid mosaic membrane 	<ul style="list-style-type: none"> ➤ http://www.ellenjmchenry.com/downloads/Cells_Activities_Chapters1and2.pdf



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	<p>the roles of phospholipids, cholesterol, glycolipids, proteins and glycoproteins.</p> <ul style="list-style-type: none">• To outline the process of cell signaling involving the release of chemicals that combine with cell surface receptors on target cells, leading to specific responses.• To describe and demonstrate the Movement of substances into and out of cells.• Investigating the effect of increasing the size of model cells and understanding of the constraints of obtaining resources across the cell surface and moving substances out of cells <p><u>Mitotic cycle:</u></p> <ul style="list-style-type: none">• To describe the structure of a chromosome, limited to DNA, histone proteins, chromatids, centromere and telomeres.• To explain the importance of mitosis in the production of genetically identical cells, growth, cell replacement, repair of tissues and asexual reproduction.	<ul style="list-style-type: none">• Students will demonstrate the movement of substances in and out of the cell• Research the effect of various drugs on the cellular membrane and its working.• Investigate the movement of substances in various solutions <ul style="list-style-type: none">• Create a model of mitotic cycle including all the stages.• Create a big wheel of mitotic cycle to learn more about each stages.• For all music lovers! Create a rap on mitotic cycle.• Students can make a jigsaw puzzle on the significance of mitosis.	<ul style="list-style-type: none">➤ https://www.teachengineering.org/activities/view/van_membrane_activity3➤ http://www.amybrownsience.com/2011/09/free-osmosisdifusion-lab.html➤ https://www.pinterest.com/pin/410742428488301074➤ https://www.ukessays.com/essays/biology/practical-investigation-on-osmosis-biology-essay.php➤ http://brilliantbiologystudent.weebly.com/osmosis.html <ul style="list-style-type: none">➤ https://www.khanacademy.org/science/biology/structure-of-a-cell/#cytoskeleton
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	<ul style="list-style-type: none">• To outline the significance of mitosis in cell replacement and tissue repair by stem cells and state that uncontrolled cell division can result in the formation of a tumor.• To describe, with the aid of photomicrographs and diagrams, the behavior of chromosomes in plant and animal cells during the mitotic cell cycle.	<ul style="list-style-type: none">• Students can make a case study on the chromosomal disorders in various case.• To prepare microscopic slides using onion root tip squash to observe the different mitotic stages	<p>junctions-and-extracellular-structures</p> <ul style="list-style-type: none">➤ https://www.pinterest.com/pin/AWcOObfxyUDe7EbxhdRH4B4aF5ufa3ZLUXNfzkrv8OAzd6PC935YiGE/➤ https://www.pinterest.com/pin/539306124111951378➤ https://www.youtube.com/watch?v=pOsAbTi9tHw&feature=youtu.be_gdata_player➤ https://www.pinterest.com/pin/ARWd9Q1nOF4ReNCKu4MPLUR9ZzPNgP9tnb52Rlk03faHAIPiXOc3ws/➤ http://quantumneurology.com/case-study-chromosomal-disorder-mosaic-trisomy-22/➤ https://www.nature.com/scitable/forums/genetics-generation/case-study-in-genetics-and-mental-illness-104902581➤ http://www.nuffieldfoundation.org/practical-biology/investigating-mitosis-allium-root-tip-squash
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Business Studies	<p><u>Unit - Finance and Accounting</u></p> <p>Topic – Cash Flow Forecasting</p> <p>To evaluate the significance of cash flow forecasting for new companies</p>	<p>Cash Flow Forecasting:</p> <p>Discuss why a new business should focus more on managing its cash than making a profit.</p>	<p>www.bized.co.uk</p> <p>www.tutor2u.net</p> <p>www.s-cool.co.uk</p> <p>www.businesscasestudies.co.uk</p> <p>Text Books/journals</p>
Chemistry	<p>AN INTRODUCTION TO ORGANIC CHEMISTRY:</p> <ul style="list-style-type: none">• To understand the terms empirical, molecular and structural formulae, homologous series and functional groups.• To apply IUPAC rules to naming organic compounds with up to six carbon atoms and containing up to two functional groups.• To describe and explain structural isomerism for aliphatic	<p>Activity 1:</p> <p>Giving out molecular modelling kits and get students to build simple straightchain alkanes from methane to hexane</p> <p>Activity 2:</p> <p>Compare the empirical, Molecular and structural formulae of organic compounds as a poster activity.</p> <p>Activity 3:</p>	<ul style="list-style-type: none">• http://www.chemistryrules.me.uk/candr/nomenclature.htm• https://www.chemguide.co.uk/basicorg/isomermenu.htm• https://www.mytutor.co.uk/answers/69/Alevel/Chemistry/W



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	<p>compounds containing up to six carbon atoms; and</p> <ul style="list-style-type: none">• To understand that stereoisomers (geometrical) exist (alkenes) in cis and trans (E-Z) forms due to the energy barrier to rotation in these <p>RATE OF REACTION:</p> <ul style="list-style-type: none">• Explain and use the term rate of reaction• Explain qualitatively, in terms of collisions, the effect of concentration changes on the rate of a reaction• Construct and interpret a reaction pathway diagram, in terms of the enthalpy change of the reaction and of the activation energy• Explain and use the term catalysis• explain that catalysts can be homogenous or heterogeneous• Explain that, in the presence of a catalyst, a reaction has a different mechanism, i.e. one of lower activation energy	<p>Practice drawing the structural and stereoisomers of organic compounds</p> <ul style="list-style-type: none">• Activity 4: Prepare a brochure for Rules of naming organic compounds along with the properties of homologous series.• Activity 1: Research the definition of rate of reaction and correlate it to any physics quantity. Also find out about what makes reaction to occur.• Activity 2: Plan an experiment to investigate rate of reaction.• Activity 3: Create an infographic poster about catalysis. Include definition, types and how does catalyst enhance speed of reaction. <p>Activity 4:</p> <ul style="list-style-type: none">• Create a simulation to explain the Boltzmann distribution curve to your peers. <ul style="list-style-type: none">• Activity 5:	<p>ha t-is-the-difference-betweenstructural</p> <ul style="list-style-type: none">• http://www.docbrown.info/page06/FunctionalGroups.html• http://www.docbrown.info/page14/page14orgnomen.htm• http://www.s-cool.co.uk/alevel/chemistry/reactionkinetics• http://www.chemistryrules.me.uk/hfhf/hfhf3.htm• http://www.docbrown.info/page03/ASA2rates.htm• https://www.youtube.com/watch?v=jctsM6ISVDA
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	<ul style="list-style-type: none"> • Interpret this catalytic effect in terms of the Boltzmann distribution • describe enzymes as biological catalysts (proteins) which may have specificity • explain and use the term activation energy, including reference to the Boltzmann distribution • Explain qualitatively, in terms both of the Boltzmann distribution and of collision frequency, the effect of temperature change on the rate of a reaction 	<p>Create a CV for the biocatalyst.</p> <ul style="list-style-type: none"> • Activity 6: Create a list of questions using the Bloom's taxonomy. 	
Computer science	<p>Programing concepts:</p> <p>To recognize the basic control structures in a high-level language other than the one chosen to be studied in depth appreciate that program coding is a transferable skill</p>	<p>Encourage your child to develop a software project to include the following:</p> <p>For example, if the chosen programming language is VB, give a program written in Pascal. Ask learners to translate the program in the chosen programming language. The result should be tested to see if it produces the correct output.</p>	<p>Commenting programs:</p> <p>http://en.wikibooks.org/wiki/Alevel_Computing/AQA/Problem_Solving_Programming,_Data_Representation_and_Practical_Exercise/Fundamentals_of_Programming/Comments</p> <p>Inputs and outputs in programming:</p> <p>http://en.wikibooks.org/wiki/Alevel_Computing/AQA/Problem_Solving,Pr</p>



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Economics	<p>Discuss the causes and sequences of Inflation and Unemployment</p> <p>Revision on all AS topics</p>	<ul style="list-style-type: none"> • Students discuss difficulties involved in arriving at an accurate unemployment figure and as a result, a number of different approaches are used. • Students using case studies/ newspaper articles which illustrate various causes of unemployment. • Discuss the consequences of unemployment through research activities. • Through ED puzzle video students illustrate the stages of building the CPI. • Learners research which types of inflation currently exist in their own country's economy and provide supporting evidence for each. • Research activity. In groups, learners: <ul style="list-style-type: none"> ○ analyse the consequences of inflation in their chosen economy ○ identify and explain at least three different consequences ○ attempt to assess their order of importance. 	<p>http://www.economicsonline.co.uk/Global_economics/Inflation.html</p> <p>https://www.tutor2u.net/economics/reference/inflation-measuring-inflation</p> <p>http://www.tutor2u.net/economics/revision-notes/as-macro-inflation.html</p> <p>http://www.tutor2u.net/economics/presentations/aseconomics/macro/Inflation/</p> <p>http://www.tutor2u.net/economics/revision-notes/a2-macro-economic-growth-costs-benefits.html</p> <p>https://youtu.be/iCRQdabmixc</p>



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		<ul style="list-style-type: none"> • Students in groups explain and discuss the links between inflation and unemployment and the theory which underpins this. • Topic based revision UNIT 1,2 and 4. 	
<p>Mathematics Edexcel</p>	<p><u>Arithmetic and Geometric series</u></p> <ul style="list-style-type: none"> • Recognize arithmetic progressions and geometric progressions • Use formulae for the nth term of an AP or GP • Use formulae for the sum of first n terms of an AP or a GP • Interpret and find the sum to infinity of a convergent geometric progression <p><u>Statistics</u></p> <p><u>Binomial theorem:</u></p> <ul style="list-style-type: none"> • To expand $(a + b)^n$ using binomial theorem <p>To find the coefficient of any term in the expansion/term independent of x.</p> <p><u>Topic: Discrete random variables</u></p>	<p>Make notes on AP and GP formulae. Research on their real life applications. Where do you come across these series in life?</p> <p>Derive the formulae for the sum of first n terms of an AP or a GP</p> <p>Try to expand the terms of $(a+b)^n$ where n is upto 10 using Pascal's triangle. Now verify the coefficients in the corresponding binomial expansion.</p> <p>Model a situation on discrete random variable from a real life situation.</p> <p>Summarise your learning and prepare notes on discrete random variables with examples</p> <p>.</p>	<p>https://www.cliffsnotes.com/study-guides/algebra/algebra-ii/sequences-and-series/arithmic-series</p> <p>https://www.mathplanet.com/education/algebra-2/sequences-and-series/arithmic-sequences-and-series</p> <p>https://www.mathsisfun.com/algebra/sequences-sums-geometric.html</p> <p>https://www.youtube.com/watch?v=pFcJZnxqzNc</p> <p>https://revisionmaths.com/advanced-level-maths-revision/pure-maths/algebra/binomial-series</p> <p>https://studywell.com/maths/pure-maths/sequences-series/binomial-expansion/</p> <p>https://revisionmaths.com/advanced-level-maths-</p>



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	<ul style="list-style-type: none">• Construct a probability distribution table for a discrete random variable X.• Calculate the expectation, $E(X)$, and variance, $\text{Var}(X)$, of a discrete random variable.• Calculate binomial probabilities using the notation $X \sim B(n, p)$• Calculate expectation and variance for a binomial distribution.• Calculate geometric probabilities using the notation $X \sim \text{Geo}(x)$• Calculate expectation of a geometric distribution• Recognise practical situations where these distributions are suitable models. <p><u>Mechanics</u></p> <ul style="list-style-type: none">• Apply Newton's laws of motion to the linear motion of a particle of constant mass moving under the action of constant forces, which may include friction,	<p>Model a situation for motion of a particle on a rough plane where the acceleration while moving up the plane is different from the acceleration while moving down the plane. Apply Newton's laws to such cases and frame equations.</p> <p>Create questions for connected particles like a car towing a trailer by means of either a light rope or a light rigid towbar. Consider all the forces acting in the system and applying Newton's laws of motion</p>	<p>revision/statistics/discrete-random-variables</p> <p>https://www.youtube.com/watch?v=oHcrna8Fk18&list=PLvxOuBpazmsNIHP5cz37oOPZx0JKyNszN</p> <p>https://www.youtube.com/watch?v=nEiQyOyMVCA</p> <p>https://revisionmaths.com/advanced-level-maths-revision/mechanics/newtons-laws-motion</p> <p>https://www.vivaxsolutions.com/maths/alpulleys.aspx</p> <p>https://www.a-levelphysicstutor.com/m-kinetics-con-partcls.php</p>
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	<p>tension in an inextensible string and thrust in a connecting rod</p> <ul style="list-style-type: none">• Solve problems which may be modelled as the motion of a particle moving vertically or on an inclined plane with constant acceleration• solve problems which may be modelled as the motion of connected particles		
Psychology	Social approach	Creating mind maps on the theories. Debate on the applications and its usefulness. Research and presentation on a specified study under Social Approach.	
Physics	<u>Work, Energy, Power</u> <ul style="list-style-type: none">• Understand the concept of work in terms of the product of a force and displacement in the direction of the force• calculate the work done in a number of situations including the	Give examples of energy in different forms, its conversion and conservation, and apply the principle of conservation of energy to simple examples	https://www.physicsclassroom.com/class/energy



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	<p>work done by a gas that is expanding against a constant external pressure:</p> <ul style="list-style-type: none">distinguish between gravitational potential energy and elastic potential energy <p>solve problems using the relationships</p> $P = \frac{W}{t} \text{ and } P = Fv$ <p>Dynamics</p> <ul style="list-style-type: none">To apply the principle of conservation of momentum to solve simple problems, including elastic and inelastic interactions between bodies in one and two dimensions	<p>use the concept of efficiency to solve problems</p> <p>derive, from the defining equation $W = Fs$, the formula $\Delta E_p = mg\Delta h$ for potential energy changes near the Earth's surface</p> <ul style="list-style-type: none">A snooker ball strikes stationary ball. The second ball moves off sideways at 60° to the initial path of the first ball. Use the idea of conservation of momentum to explain why the first ball cannot travel in its initial direction after the collision. Illustrate your answer with a diagramPractice numerical problems applying the conservation of momentum principle.	<p>http://www.softschools.com/notes/ap_physics/work_energy_and_power/</p> <p>https://www.alevelphysicsonline.com/work-and-energy</p> <p>https://www.s-cool.co.uk/a-level/physics/momentum-and-impulse/revise-it/principle-of-the-conservation-of-momentum</p> <p>https://www.physicsclassroom.com/class/momentum/u4l2b.cfm</p>
English Language	<i>Directed writing</i>	<p>You have watched the movie Lincoln (2012). Research on the life of Lincoln Read the articles provided in the link. Share how the article aids or alters your understanding of Abraham Lincoln.</p>	<p>http://news.nationalgeographic.com/2015/04/150418-abraham-lincoln-funeral-train-railroad-civil-warhistory/</p>



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Art and Design	<p>AO1 and AO2</p> <p>learners to explore and build on their subject of interest. To encourage independent expression and the development of a critical, reflective practice. To accommodate a wide range of abilities, materials and resources, and allow the different skills to be fully exploited critically.</p>	<p>Communication: purposeful trials of art works to communicate, from the simplest sketch to the most complex work. The need to understand the relationship about the chosen subject and the works that will build on critical and purposeful influences transformed into original outcome.</p>	<p>www.studentartguide.com</p>
Information Technology	<ul style="list-style-type: none"> • To Explain why Esafety is important and why data should be kept confidential • Describe potential health hazards associated with the use of computer. • Justify the use of various preventive methods to protect from Computer viruses. 	<p>Activities: Students to create a website on Esafety highlighting key points on how to keep ourselves safe online.</p> <p>Create online posters and presentations on Esafety.</p> <p>Students to work on advanced Database and spreadsheet concepts and Past paper Practice</p>	<p>Text book</p> <p>https://www.cambridgeinternational.org/programmes-and-qualifications/cambridge-international-as-and-a-level-information-technology9626/</p>



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	<p>Practical:</p> <ul style="list-style-type: none">• Database concepts• Import tables into database• Queries and Reports'• Grouped Reports• Normalization concepts• Dynamic and Static Queries <p>• Spreadsheets</p> <p>Vlookup, Hlookup functions.</p> <ul style="list-style-type: none">• Multiple if statements• Left, Right, Concatenate• Pivot tables <p>Data filtering and sorting</p>		
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