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Aim High Progress Study Programme _ (Year 13) –November _2024

Subject	Focus	Activities	Useful website
Accounting	<ul style="list-style-type: none">To develop independent problem-solving skillsTo get familiarize with the A level topics and prepare for exam	<ul style="list-style-type: none">Revise all the topics covered so far in the A level syllabus.Revise the topic of budgeting and practice questions on the same.Practice question from past paper 2016 – 2020 (Feb/March and May/June series)	www.myaccountinglab.com www.cie.org.uk Accounting Text books
Arabic (Arabs)	<p>TOPIC:</p> <p>قصيدة عيد بأية حال عدت يا عيد</p> <p>قصة ما لن يأتي عبر النافذة</p> <p>كتابة استجابة لنص أدبي</p> <p>التشبيه التمثيلي</p> <p>Learning objectives:</p> <p>أن يحلل النصّ الشعريّ تحليلًا فكريًا ونقديًا وبلاغيًا</p> <p>أن يوضح الفكرة الرئيسة والأفكار الفرعية</p> <p>أن يستنتج الدلالات التعبيرية</p>	<p>أن يحلل النصّ الشعريّ تحليلًا فكريًا ونقديًا وبلاغيًا</p> <p>أن يوضح الفكرة الرئيسة والأفكار الفرعية</p> <p>أن يستنتج الدلالات التعبيرية</p> <p>أن يستنتج القيم الواردة بالنص</p> <p>أن يقارن الطالب بين النص ونص آخر موضحًا أوجه التشابه والاختلاف</p> <p>أن يكتب استجابات شخصية للنص تعكس فهمه للمعنى</p> <p>أن يراجع مسودات متعددة لما يكتب ، ويعيد تحريرها</p>	<p>https://mawdoo3.com/%D8%B4%D8%B1%D8%AD_%D9%82%D8%B5%D9%8A%D8%AF%D8%A9_%D8%A7%D9%84%D9%85%D8%AA%D9%86%D8%A8%D9%8A:%D8%B9%D9%8A%D8%AF_%D8%A8%D8%A3%D9%8A%D8%A9_%D8%AD%D8%A7%D9%84_%D8%B9%D8%AF%D8%AA_%D9%8A%D8%A7_%D8%B9%D9%8A%D8%AF</p> <p>https://uae-school.com/archives/14620#google_vignette</p>



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	<p>أن يستنتج القيم الواردة بالنص</p> <p>أن يقارن الطالب بين النص ونص آخر موضحا أوجه التشابه والاختلاف</p> <p>أن يكتب استجابات شخصية للنصوص تعكس فهمه للمعنى</p> <p>أن يراجع مسودات متعددة لما يكتب ، ويعيد تحريرها</p> <p>أن يحدد النقاط الرئيسية التي قام عليها النص</p> <p>أن يحلل المتعلم أفكار القصة رابطا إياها برؤية الكاتب وتجربته الفنية</p> <p>أن يحلل جوانب النصوص (إنشاء المكان . (. والزمان</p> <p>أن يفسر المتعلم الكلمات مستعينًا بالمعجم . الورقي والرقمي</p> <p>أن يتتبع الأثر الذي يتركه أسلوب الكاتب ؛ - لإيصال الفكرة</p> <p>أن يحلل المتعلم الأفكار في القصة -</p>	<p>أن يحدد النقاط الرئيسية التي قام عليها النص</p> <p>أن يحلل المتعلم أفكار القصة رابطا إياها برؤية الكاتب وتجربته الفنية</p> <p>أن يفسر المتعلم الكلمات مستعينًا بالمعجم الورقي والرقمي</p> <p>أن يتتبع الأثر الذي يتركه أسلوب الكاتب ؛ لإيصال الفكرة</p> <p>أن يحلل المتعلم الأفكار في القصة</p>	
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Islamic Studies	TOPIC	حدد دور أفراد الأسرة لتحقيق الغاية التي أنشئت من أجلها	https://jfar.journals.ekb.eg/article_265128_7c714fdff2a9176cdf
Arabs	المسئولية في الإسلام-1 مقاصد التشريع الخمس -2	أعمال جماعية بحث في القرآن	https://jfar.journals.ekb.eg/article_265128_7c714fdff2a9176cdf https://2u.pw/vYjyrOje
Learning objectives:	<p>1. التمييز بين المسئولية الفردية والجماعية.</p> <p>2. تحديد مجالات المسئولية الفردية.</p> <p>3. تحديد نظرة الإسلام للمسئولية والإنسان.</p> <p>نشاط 1 فردي: حفظ النفس من المسئوليات الفردية. علل تحريم الإسلام للإنتحار؛ مدعماً إجابتك بالدليل</p> <p>1. توضيح مفهوم علم مقاصد الشريعة وفائدته.</p> <p>2. تحديد علاقة المقاصد والضروريات بغيرها.</p> <p>3. استنتاج وسائل حفظ مقاصد التشريع الخمسة.</p> <p>نشاط 1 فردي: حدد الغاية من خلق الإنسان من خلال تتبع بعض الآيات القرآنية</p>		



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	نشاط 2 جماعي: ابحث عن مقاصد التشريع الخمسة التي تقوم عليها حياة الإنسان ثم اكتبها في دفترك.		
Islamic Studies Non Arabs	<p>TOPIC: EXTREMISM</p> <p>Learning objectives:</p> <p>-To elucidate the concept of balances views and moderation in Islam</p> <p>-To evaluate the factors, lead to imbalance and how can we address this issue</p>	<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/wh-at-is-moderation-in-religion</p>



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<p>Biology</p>	<p>Inherited Changes</p> <ul style="list-style-type: none"> • Solve Problems using genetic diagrams involving test crosses, dihybrid cross, X linked inheritance. • 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) • To Outline causes and effects of various types of Mutation • To explore gene control in Prokaryotes and prokaryotes 	<ul style="list-style-type: none"> • 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. • Create Models using different recyclable material to consolidate learning of: <ul style="list-style-type: none"> (i) independent assortment and crossing. (ii) Types of mutation. (iii) Gene regulation in prokaryotes and eukaryotes. 	<p>http://www.contexo.info/DNA_Basics/Meiosis.htm</p> <p>http://highered.mcgrawhill.com/sites/0072495855/student_view0/chapter2/8/animation_how_meiosis_works.html</p>
<p>Business Studies</p>	<p>Topic: Marketing analysis</p> <ul style="list-style-type: none"> ▪ To measure and interpret the elasticity of demand -price, income, and promotional ▪ To evaluate the impact of elasticity results on business decisions 	<p>Research and discuss how elasticity data can help a business make decisions and the likely impact of these decisions on the business. Present your findings in the form of a Report. Use real-world examples.</p>	<p>www.youtube.com/watch?v=1XXhpHJTglg – video introducing elasticity as a concept.</p> <p>www.youtube.com/watch?v=pyuOcDjul8s– video about the usefulness of elasticity data</p>



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Chemistry	<u>Analytical Techniques</u> <ul style="list-style-type: none">• To explain and use the terms Rf value in thin layer chromatography and retention time in gas/liquid chromatography from chromatograms.• To interpret gas/liquid chromatograms in terms of the percentage composition of a mixture.• To analyze the H-NMR spectrum of simple molecule in High as well as low resolution.• To analyze a carbon-13 NMR spectrum of a simple molecule to deduce:<ul style="list-style-type: none">(i) the different environments of the carbon atoms present(ii) the possible structures for the molecule(iii) the different types of proton present using chemical shift values	<ul style="list-style-type: none">• Using Mind maps prepare a summary of various reactions of each type of functional group.• Separation of the specific amino acids from a given mixture of them.• Calculate the areas of the triangular peaks to estimate the proportion of components in the mixture• Practice analysing the NMR spectra of various molecules.• Work out the sub-atomic particles present in a deuterium atom.• Interpret the splitting pattern of D2O.• Visit to see an NMR spectrometer in action and observe what sort of spectra it produces.	<ul style="list-style-type: none">• http://alevelchem.com/aqa_a_level_chemistry/unit3.4/s3411/05.htm• http://www.docbrown.info/page04/4_71atomMSintro.htm• http://alevelchem.com/• http://www.rsc.org/learn-chemistry• www.s-cool.co.uk• www.teachable.net• http://www.rsc.org/education• http://www.rsc.org/learnchemistry/• http://www.rsc.org/learnchemistry/• www.teachable.net
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	<p>(iv) the relative numbers of each type of proton present from relative peak areas</p> <p><u>Chemical Energetics (Entropy & Gibbs Free Energy)</u></p> <ul style="list-style-type: none">• To predict and justify the sign of entropy changes• To measure the entropy changes for a reaction using the standard entropy values• To suggest the feasibility of a reaction using Gibbs free energy• To explain the effect of temperature on the spontaneity of a reaction	<ul style="list-style-type: none">• Compare the entropy changes for various states of matter to justify the relationship between entropy and the number of microstates• Prepare a power-point presentation on the significance of Gibbs free energy• Calculate entropy changes using standard entropy values and relate Gibbs free energy to entropy and enthalpy• Research and write an article on the effect of temperature on feasibility of a reaction.	<p>http://study.com/academy/lesson/the-relationship-between-enthalpy-h-free-energy-g-and-entropy-s.html</p> <p>https://chemed.chem.purdue.edu/genchem/topicreview/bp/ch21/gibbs.php</p> <p>https://byjus.com/questions/how-is-gibbs-free-energy-related-to-enthalpy-and-entropy/</p>
Economics	<ul style="list-style-type: none">• To consolidate all the A level Topics covered so far• To develop independent researching and analytical skills	<ul style="list-style-type: none">• Revise the A level syllabus topics covered for the Pre-Mocks.• Prepare group Presentations on the following topics:<ul style="list-style-type: none">➤ Characteristics of Developing countries	<p>www.tutor2u.net</p> <p>www.s-cool</p> <p>www.bized.ac.uk</p> <p>www.xtremepapers.com</p>



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		<ul style="list-style-type: none"> ➤ Characteristics of developed countries ➤ Characteristics of emerging economies. 	World Development Report Human Development Report
Psychology	<p>Topic: Leadership and management</p> <p>Explain and analyse the various models on how leaders and followers interact with each other.</p> <p>To evaluate measuring leadership using the Leadership Practices Inventory and the core study Followership (Kelley, 1988).</p>	<p>Students think about how researchers might investigate this aspect of leadership and share ideas. They can create items for a questionnaire on the same and create both open and closed questions as well as some rating scales and revise the strengths and weaknesses of using each type of question.</p>	<p>Textbook</p> <p>https://hbr.org/1988/11/in-praise-of-followers</p>
Physics	<p><u>Capacitance</u></p> <ul style="list-style-type: none"> • Analyse graphs of the variation with time of potential difference, charge and current for a capacitor discharging through a resistor • recall and use $\tau = RC$ for the time constant for a capacitor discharging through a resistor <p><u>Ideal Gases</u></p>	<ul style="list-style-type: none"> • Sketch Voltage-time, Current-time and Charge-time graphs for charging and discharging of a capacitor 	<ul style="list-style-type: none"> • https://www.savemyexams.co.uk/a-level/physics/aqa/17/revision-notes/7-fields--their-consequences/7-7-capacitor-charge--discharge/7-7-1-charge--discharge-graphs/



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	<ul style="list-style-type: none"> • Solve problems using the equation of state for an ideal gas • 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 	<ul style="list-style-type: none"> • State and explain in terms of the kinetic model • Examine what happens to the pressure inside a tyre when more molecules at the same temperature are pumped into the tyre • Explain Boyle’s law and applications • State the ideal gas equation and explain kinetic model • State the relation between temperature and molecular kinetic theory 	<ul style="list-style-type: none"> • https://www.scienceandmathsvision.co.uk/topic/charging-and-discharging-capacitors/ • http://physicsnet.co.uk/a-level-physics-as-a2/thermal-physics/thermal-energy/ • http://hyperphysics.phy-astr.gsu.edu/hbase/thermo/firlaw.html • http://www.physics.usyd.edu.au/super/life_sciences/TP/TP-rev-questions.pdf
Sociology	Mass Media To analyse the impact of new media.	Give three arguments against the digital optimist view of the impact of the new media on democracy.	http://www.sociology.org.uk/n_media.htm



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English Language	Analyse how language has changed over time.	Take an extract from Hard Times written by Charles Dickens. Analyse the graphology, grammar, semantics and lexis in the given extract. Also compare all three with modern language and evaluate how language has changed.	teachingenglish.org.uk/sites/teacheng/files/Dickens_Hard_Times_extract.pdf
Art and Design	To use a wide range of sources to record their ideas with skill and depth of observation. To make personal connections and responses to the theme and select media appropriately to record their observations.	To be able to articulate their ideas both through written and visual communication. They will show their ability to reflect on their work through written and visual forms.	www.studentartguide.com
Information Technology	<ul style="list-style-type: none">• Create an animation (stop motion and key frame) that meets the requirements of its intended application and audience• configure the stage/frame/canvas for an animation, including setting:<ul style="list-style-type: none">○ colour○ size○ the aspect ratio using rulers, guides and grid settings○ snapping options	<ul style="list-style-type: none">• Encourage your child to practice past papers and focus on java script and animation tools .• Edit images and animate objects using image editing tools	Adobe Learn Animate: https://www.adobe.com/learn/animate Udemy: https://www.udemy.com/topic/adobe-animate/



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	<ul style="list-style-type: none"> • Import and create vector objects, including: <ul style="list-style-type: none"> ○ tracing bitmaps ○ adding text 		
Computer Science	<p>Understanding the importance of protocols for communication between computers. Exploring the TCP/IP protocol suite and its layered architecture.</p> <p>Analyzing various protocols and their specific purposes.</p> <p>Comparing circuit switching and packet switching, including their benefits and drawbacks</p>	<ul style="list-style-type: none"> • Research and present on various protocols such as HTTP, FTP, POP3, IMAP, SMTP, and BitTorrent. • Discuss the specific purposes of each protocol, with a focus on how BitTorrent facilitates peer-to-peer file sharing. • Research and present on various protocols such as HTTP, FTP, POP3, IMAP, SMTP, and BitTorrent. • Discuss the specific purposes of each protocol, with a focus on how BitTorrent facilitates peer-to-peer file sharing. • Research and present on various protocols such as HTTP, FTP, POP3, IMAP, SMTP, and BitTorrent. • Discuss the specific purposes of each protocol, with a focus on how BitTorrent facilitates peer-to-peer file sharing. 	<ul style="list-style-type: none"> • BBC Bitesize - Computer Networks: BBC Bitesize - Computer Networks



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Travel and Tourism	<ul style="list-style-type: none"> • Planning the launch of the brand • To Evaluate appropriate methods of branding in context. • To assess the need for planning the launch of a destination brand. 	<p>The Trans-Canada Rail Odyssey and the Venice Simplon Orient Express are both rail tourism experiences.</p> <p>use resources available online alongside up-to-date pricing to identify the following features of the brands.</p> <ul style="list-style-type: none"> • Brand name • Slogan/tagline • Logo • USP • Use of color • Price in association with image • Distinctive packaging • Corporate identity (uniforms, furnishings, etc.) <p>Compare and contrast each brand and evaluate which is better on each feature and how they might improve.</p>	https://www.theguardian.com/cities/quiz/2014/may/08/quiz-world-city-logos-brands-tourism
Statistics 2	<p><u>Continuous random variables</u></p> <ul style="list-style-type: none"> • use a probability density function to solve problems involving probabilities, and to calculate the mean and variance of a distribution. <p><u>Sampling</u></p> <ul style="list-style-type: none"> • understand the distinction between a sample and a 	<p>Research and summarise findings with examples on real life application of a probability density function.</p> <p>Make notes to summarise learning that includes formulae and solved examples.</p> <p>Compare and contrast : population and sample.</p>	<p>https://revisionmaths.com/advanced-level-maths-revision/statistics/continuous-random-variables</p> <p>Continuous Random Variables: Mean & Variance - YouTube</p> <p>https://revisionmaths.com/advanced-level-maths-revision/statistics/sampling</p>



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	<p>population, and appreciate the necessity for randomness in choosing samples</p> <ul style="list-style-type: none"> • explain in simple terms why a given sampling method may be unsatisfactory 		
<p>Pure Mathematics Partial fractions and binomial expansion</p>	<p>Partial fractions and binomial expansion</p> <ul style="list-style-type: none"> • Recall an appropriate form for expressing rational functions in partial fractions, and carry out the decomposition, in cases where the denominator is no more complicated than • $-(ax + b)(cx + d)(ex + f)$ • $-(ax + b)(cx + d)^2$ • $-(ax + b)(cx^2 + d)$ <p>use the expansion of $(1 + x)^n$, where n is a rational number and magnitude of $x < 1$.</p>	<p>Partial fractions are frequently applied to simplify and solve integrals of rational functions. By decomposing a complex rational function into simpler fractions, integration becomes more manageable. This technique is especially useful when integrating functions involving polynomials of different degrees</p> <p>The importance of the partial fraction decomposition lies in the fact that it provides algorithms for various computations with rational functions, including the explicit computation of antiderivatives, Taylor series expansions, inverse Z-transforms, and inverse Laplace transforms.</p> <p>The Binomial Theorem is used in advanced mathematics and calculating to determine the roots of equations in higher powers. It's also used to prove a lot of important physics and math equations. Weather forecast services, architecture, and cost estimation in engineering projects.</p>	<p>https://revisionmaths.com/advanced-level-maths-revision/pure-maths/algebra/partial-fractionshttps://www.mathcentre.ac.uk/resources/uploaded/mc-ty-partialfractions-2009-1.pdfhttps://igcsemaths.in/2021/02/24/a-level-mathematics-9709-binomial-expansion-and-rational-functions/https://www.savemyexams.com/a-level/maths_pure-3/cie/20/topic-questions/1-algebra--functions/1-5-general-binomial-expansion/exam-questions/</p>



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<p>Applied Mathematics – Mechanics –</p>	<p>Newtons laws of motion</p> <ul style="list-style-type: none">• Identify the forces acting in a given situation Notes and examples e.g. by drawing a force diagram.• Understand the vector nature of force, and find and use components and resultants• Use the principle that, when a particle is in equilibrium, the vector sum of the forces acting is zero, or equivalently, that the sum of the components in any direction is zero <p>Understand that a contact force between two surfaces can be represented by two components, the normal component and the frictional component</p> <p>Use the model of a 'smooth' contact, and understand the limitations of this model</p> <ul style="list-style-type: none">• Understand the concepts of limiting friction and limiting equilibrium, recall the definition of coefficient of friction, and use the	<ul style="list-style-type: none">• Research on the real life applications of Newton law• Rocket propulsion : The exhaust from the rocket pushes the ground and the ground pushes the rocket with equal and opposite force to cause the latter to move forward. If the third law of motion never existed, we would never have made it into the space!• Forces in equilibrium : civil engineer while designing the bridge have to ensure that bridge is strong enough and sturdy to support pedestrians or vehicles using the bridge	<p>https://www.savemyexams.com/a-level/physics/cie/19/revision-notes/5-forces-density--pressure/5-2-forces-equilibrium-density--pressure/5-2-1-equilibrium-of-forces/https://www.scribd.com/document/522704796/9709-Teaching-Pack-4-1-ForcesAndEquilibrium-v1https://www.physicsandmathstutor.com/a-level-maths-papers/m1-by-topic/https://www.youtube.com/watch?v=bbJvjnx5G_M</p>
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	relationship $F = \mu R$ or $F \leq \mu R$ as appropriate		
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