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Aim High Progress Study Programme _ (Year 12) - October 2024

Subject	Focus	Activities	Useful website
Accounting	To analyze the usefulness of Managerial Accounting in businesses and how it is different from Financial Accounting.	Present a report on the usefulness of Managerial Accounting and the main elements of Managerial Accounting. Prepare a Ted Ed Flipped Lesson on the topic.	www.myaccountinglab.com , www.bized.co.uk www.tutor2u.net www.cie.org.uk ,
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. أسلوب الاختصاص	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 يوظف أسلوب الاختصاص في كتاباته يعرب أسلوب الاختصاص	https://ar.wikipedia.org/wiki/%D8%A3%D8%B3%D9%84%D9%88%D8%A8_%D8%A7%D8%AE%D8%AA%D8%B5%D8%A7%D8%B5 https://www.uae-study.com/2020/07/Solve-lesson-look-outside-window-grade-12.html



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	Learning objectives: أن يوظف أسلوب الاختصاص أن يعرب أسلوب الاختصاص		
Islamic Studies Arabs	TOPIC: أحكام النون الساكنة والتنوين التطرف Learning objectives: أن يتعرف على أحكام النون الساكنة والتنوين أن يعدد مخاطر التطرف وأثره على الفرد والمجتمع	عمل خريطة ذهنية توضح أحكام النون الساكنة والتنوين عمل بحث يبين مخاطر التطرف مدعم ببحثه بالأدلة اللازمة	حل درس أحكام النون الساكنة تربية إسلامية صف سادس فصل أول - مدرستي الامارتية (uae- school.com) حل درس التطرف تربية إسلامية صف ثاني عشر فصل أول - مدرستي الامارتية (uae-school.com)
Biology	Cell membrane and transport	<ul style="list-style-type: none">Interpret the photomicrographs of the cell membrane and elaborate in the cell signaling pathway.	https://www.bbc.co.uk/bitesize/guides/zqdhjty/revision/1



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	<ul style="list-style-type: none">• To describe and explain the fluid mosaic model of membrane structure, including an outline of the roles of phospholipids, cholesterol, glycolipids, proteins and glycoproteins• To outline the roles of cell surface membranes proteins• To outline the process of cell signaling involving the release of chemicals that combine with cell surface.• To describe and explain the processes of diffusion, facilitated diffusion, osmosis, active transport, endocytosis and exocytosis	<ul style="list-style-type: none">• Investigate diffusion and osmosis using plant tissue and nonliving materials, such as Viking tubing and agar.• Investigate the effect of changing surface area to volume ratio on diffusion using agar blocks of different sizes.• Investigate the effects of immersing plant tissues in solutions of different water potentials, using the results to estimate the water potential of the tissues.• Compare the process of diffusion and facilitated diffusion and elaborate on the different pathway through which polar and non-polar molecules move in and out of cells.	<p>https://www.physicsandmathstutor.com/biology-revision/a-level-cie/cell-membranes-transport/</p> <p>https://studymind.co.uk/notes/function-of-cell-membrane/</p> <p>https://www.savemyexams.com/a-level/biology/cie/22/revision-notes/4-cell-membranes--transport/4-1-fluid-mosaic-membranes/4-1-4-cell-signalling/</p> <p>https://bio.libretexts.org/Bookshelves/Human_Biology/Human_Biology_(Wakim_and_Grewal)/05%3A_Cells/5.07%3A_Cell_Transport</p>
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	<ul style="list-style-type: none">To explain the movement of water between cells and solutions with different water potentials and explain the different effects on plant and animal cells.		
Business Studies	<p>Topic – Business Finance</p> <ul style="list-style-type: none">To recognise the difference between capital and revenue expenditure and the different needs for finance these create.To analyse the importance of capital to a business and how this can be managed.To analyse different sources of long, medium, and short term finance both internal and external.	<p>Write a comprehensive report on the following:</p> <ol style="list-style-type: none">How do changes in interest rates affect the cost of capital for a company?Discuss the impact on investment decisions on the overall financial health of the business.Explain the concept of working capital management and its importance in maintaining the financial health of a company. <ul style="list-style-type: none">How can companies optimize working capital to improve liquidity, operational efficiency, and profitability?	<p>www.tutor2u.net</p> <p>www.dineshbakshi.com</p> <p>www.cie.org.uk</p>



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Chemistry	<p><u>Chemical Bonding</u></p> <ul style="list-style-type: none">• Describe the different types of bonding based using 'dot and cross' diagram• Explain the shapes of, and bond angles in molecules using electron-pair repulsion theory• Describe covalent bonding in terms of orbital overlap including the concept of hybridisation• Explain the term bond energy, bond length, and bond polarity• Describe intermolecular forces based on permanent and induced dipoles, hydrogen	<p>Activity:</p> <ul style="list-style-type: none">• Practice drawing dot-and-cross diagrams for ionic compounds as well as covalent compounds• Make a power-point presentation to explain VSEPR theory as well as σ and π bonds• List at least 10 molecules with their shapes and bond angles• Research on hydrogen bonding as well as metallic bonding• Solve past paper questions based on identifying the coordinate covalent bonding, shapes of molecules, bonding and physical properties <p>Activity:</p> <ul style="list-style-type: none">• Design a quiz using Kahoot based on kinetic theory as applied to gases (to include – conditions necessary for gas to approach ideal behaviour and limitations of ideality)• Practice calculations based on ideal gas equations Draw a flow chart to show the lattice structure of crystalline solids and describe their properties based on it.	<p>AS Chemistry Foundation Bonding and Structure page (epizy.com)</p> <p>http://www.inchm.bris.ac.uk/schools/vsepr/</p> <p>https://chem.libretexts.org/Core/Physical and Theoretical Chemistry/Physical Properties of Matter/Atomic and Molecular Properties/Intermolecular Forces/Specific Interactions/Hydrogen Bonding</p> <p>http://www.chemguide.co.uk/physical/ktmenu.html</p> <p>electronegativity (chemguide.co.uk)</p> <p>Electronegativity Demonstration Device - YouTube</p>
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	<p>bonding and metallic bonding</p> <p><u>States of Matter</u></p> <ul style="list-style-type: none">• State the basic assumptions of the kinetic theory as applied to ideal gases• State and use the general gas equation $pV = nRT$ in calculations• Describe the lattice structures of crystalline solids including ionic, simple molecular, giant molecular.		<p>https://www.youtube.com/watch?v=ojgrvPnbPj4</p> <p>https://www.youtube.com/watch?v=6fGzxmpl1WU</p> <p>Electronegativity across period 3 - Creative Chemistry (creative-chemistry.org.uk)</p> <p>ionic (electrovalent) bonding (chemguide.co.uk)</p> <p>the order of filling 3d and 4s orbitals (chemguide.co.uk)</p>
Economics	<ul style="list-style-type: none">• Discuss how estimates of XED and YED have implications for decisions that have to be made by firms.• Discuss how estimates of XED and YED have implications for decisions	<ul style="list-style-type: none">• Consolidate learning on demand and supply by selecting questions or part-questions from Cambridge past papers• Students come up with practical ways in which understanding of price elasticity coefficients could be applied of useful applications of this understanding, for example, the type of good that a government wishing to raise tax revenue, is likely to tax.	<p>www.tutor2u.net/blog/index.php/economics/comments/unit-1-micro-key-diagrams-and-glossary</p> <p>www.tutor2u.net/economics/revision-notes/as-markets-crossprice-elasticity-of-demand.html</p>



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	<p>that have to be made by firms.</p> <ul style="list-style-type: none"> • Discuss how estimates of PED have implications for decisions that have to be made by firms. • Analyse how a shift of the demand curve occurs when there is a change in any of the non-price factors that determine demand. • Analyse the AD and AS model 	<ul style="list-style-type: none"> • Calculate income elasticities of demand for a suitable range of normal, luxury and inferior goods. • Calculate values of cross-elasticity associated with complementary and substitute goods. Include questions that check learners' understanding of the relationship between the value of cross-elasticity coefficients and complementary and substitute goods. • Construct a diagram of the circular flow of income between firms and households for both types of closed economy then construct an equivalent diagram for an open economy think of actual examples from their own or another given economy of all six injections. • Students analyse how the consumer and producer surplus will change in different situation. • Students consider how production potential can be increased. • Using worksheet with various scenarios of changes in the determinants of AD and AS. • Learners draw diagrams to show changes and comment on the effect on the level of output, the price level and employment. 	<p>www.economicsonline.co.uk/Competitive_markets/Income_elasticity_of_demand.html</p> <p>www.economicsonline.co.uk/Competitive_markets/Elasticity.htm</p> <p>www.tutor2u.net/economics/revision-notes/as-markets-demand.html</p> <p>www.tutor2u.net/economics/revision-notes/as-markets-supply.html</p> <p>www.tutor2u.net/economics/revision-notes/as-markets-demand.html</p>
<p>Mathematics</p> <p><u>Pure Mathematics 1</u></p>	<p>Trigonometry</p> <ul style="list-style-type: none"> • Sketch and use graphs of sine, cosine and tangent functions (for angles of any size, and using either degrees or radians) 	<ul style="list-style-type: none"> • Evaluate angles using CAST diagram to find exact values of trigonometric functions in different quadrants. • Sketch trigonometric graphs and simplify expressions using the trig identities. 	<p>http://www.mathcentre.ac.uk/resources/uploaded/mc-ty-trigratiosanysize-2009-1.pdf</p>



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	<ul style="list-style-type: none">• Use the exact values of the sine, cosine and tangent of $30^\circ, 45^\circ, 60^\circ$, and related angles.• Prove identities, simplifying expressions and solving equations.• Find all the solution of simple trigonometrical equations lying in a specified interval (general forms of solution) <p>Functions:</p> <ul style="list-style-type: none">• Identify the range of a given function and find the composition of two given functions• Illustrate the relation between a one – one function and its inverse• Understand and use transformations of the graph of $y = f(x)$ <p>Arithmetic and Geometric Series</p> <ul style="list-style-type: none">• Recognize AP and GP.• To apply the formula for nth term and sum of AP and GP to solve problems.	<ul style="list-style-type: none">• Solve trig equations in a specified interval by evaluating trig identities.• Research on the real-life applications of functions.• Make notes on different transformations on the function $y = f(x)$ with examples.• Take coordinates of any 2 points, find midpoint, length and gradient of the line joining them using required formulae.• Evaluate sequences to find the nth term and sum of AP and GP. Justify the condition for a convergent GP. Evaluate questions that may involve more than one progression.	<p>Muddled trig Trigonometry: Triangles to Functions Underground Mathematics https://www.intmath.com/functions-and-graphs/2a-domain-and-range.php https://mathbitsnotebook.com/Algebra1/Functions/FNDomainRange.html https://www.bbc.co.uk/bitesize/guides/z3brdmn/revision/4</p> <p>https://www.onlinemathlearning.com/function-transformation-hsf-bf3.html https://revisionmaths.com/advanced-level-maths-revision/pure-maths/geometry/coordinate-geometry</p> <p>https://mathspace.co/textbooks/syllabuses/Syllabus-1082/topics/Topic-21068/subtopics/Subtopic-273189/</p>
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	<ul style="list-style-type: none"> Apply the formula for sum to infinity of a convergent GP. 		
Art& Design	<ul style="list-style-type: none"> 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. 	Communication: The need to understand the relationship about the chosen subject and the works that will build on critical and purposeful influences transformed into original/ influenced or manipulated outcome.	www.studentartguide.com
Statistics 1	<p>Topic: Permutations and combinations</p> <ul style="list-style-type: none"> Differentiate between permutation and combination and solve problems involving selections. Analyse and solve problems on arrangement and 	<p>Research and present your work on application of permutation and combination in real life.</p> <p>What is Bayer's theorem? How does this relate with conditional probability?</p> <p>Model a situation on conditional probability from a real life situation.</p>	<p>https://revisionmaths.com/advanced-level-maths-revision/statistics/permutations-and-combinations</p> <p>https://revisionmaths.com/advanced-level-maths-revision/statistics/probability</p>



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	<p>permutation involving restrictions and repetitions.</p> <p>Topic : Probability</p> <ul style="list-style-type: none">• Evaluate probabilities by means of enumeration of equiprobable elementary events, or by calculation using permutations or combinations.• Use addition and multiplication of probabilities.• Understand meaning of exclusive and independent events including determination of whether events are independent or not.• Calculate and use conditional probabilities.		
Psychology	Biological Approach- Dement and Kleitman (sleep and dreams) –	<ul style="list-style-type: none">• Research on the importance of Sleep and present a presentation on the background theories of sleeping and dreaming. look up ultradian rhythms and then sleep cycles on the	:http://www.holah.karoo.net/dement.htm



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		<p>internet and draw in the notes.</p> <ul style="list-style-type: none"> Go through the sleep cycle and introduce use of the Electroencephalography (EEG) to determine the stages of sleep and rapid eye movement (REM) and non-rapid eye movement (N-REM) sleep. 	
<p>Physics</p>	<p><u>Dynamics</u></p> <ul style="list-style-type: none"> To state and apply each of Newton’s laws of motion. To describe qualitatively the motion of bodies falling in a uniform gravitational field with air resistance 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><u>Projectile motion</u></p> <ul style="list-style-type: none"> To describe and explain motion due to a uniform 	<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 diagram Practice numerical problems applying the conservation of momentum principle. <p>To derive equations for Range and maximum height for a projectile</p>	<p>https://www.physicsclassroom.com/class/newtlaws/Lesson-1/Newton-s-First-Law</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> <p>https://www.physicsclassroom.com/Class/vectors/u3l2a.cfm</p>



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	velocity in one direction and a uniform acceleration in a perpendicular direction		https://www.physicsclassroom.com/class/vectors/Lesson-2/Horizontally-Launched-Projectiles-Problem-Solving
Sociology	Introduction to Research methods	<ul style="list-style-type: none">• Read about the Research Methods, Observation, Experiments, Longitudinal Studies and Case Studies, Content Analysis and the stages of Research design, Theory and Methods, Methodological Pluralism and Methodological Purism,• The Study of Society, Sociology and the Social Sciences and Sociology and the Social Policy Part 1• Watch TV interviews and report back on what makes them effective and what is not helpful?• Find 2 newspaper stories from the following options: Sarah Payne, Children sold in 7 Days, Bombings, War or Drug Trafficking.• Create macro research presentation	www.sociology.org.uk http://www.cliffsnotes.com/



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English Language	Analysing the style of a writer	Research on any extract from a short story of any genre and identify the common themes, motifs, style of writing, figurative devices etc. employed by the writer(s). Attempt a short story of 200-300 words with a similar theme, motifs and style that you have researched on	https://americanliterature.com/author/kate-chopin/short-story/the-story-of-an-hour https://americanliterature.com/high-school-short-stories
Information Technology	Theory: Data Processing and information <ul style="list-style-type: none">• Differentiate between data, information and knowledge; direct and indirect data sources.• Importance of encryption, Advantages and disadvantages of different protocols and methods of encryption Practical: <ul style="list-style-type: none">• 1NF,2NF,3NF	Encourage your child to complete the following tasks and prepare a report or presentation based on their findings. This activity will require internet research, data analysis, and critical thinking. Find a real-world example of data being transformed into information and then into knowledge. This could be from any field such as healthcare, business, environmental science, etc. Research: Study the concepts of database normalization, including the definitions and purposes of the First Normal Form (1NF), Second Normal Form (2NF), and Third Normal Form (3NF) and design a table, normalize to 3 NF	www.teach.ict.com www.cie.org.uk



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<p>Computer Science</p>	<p>Programing concepts:</p> <ul style="list-style-type: none">• 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>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/A-level_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/A-level_Computing/AQA/Problem Solving, Programming, Data Representation and Practical Exercise/Fundamentals of Programming/Input and output</p> <p>Operators:</p> <p>http://en.wikibooks.org/wiki/A-level_Computing/AQA/Problem Solving, Programming, Data Representation and Practical Exercise/Fundamentals of Programming/Arithmetic operators</p> <p>www.pp4s.co.uk/main/tu-op-intro.html</p>
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