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Aim High Progress Study Programme _ (Year 13) – February _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 style="text-align: center;">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 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>



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Arabic	<p>TOPIC:</p> <ul style="list-style-type: none">قصيدة: حلل الربيع - ابن وكيع التنيسي<ul style="list-style-type: none">قصة: زعتر وزنجبيلمقال: الدول بين الابتكار والاندثار<ul style="list-style-type: none">نحو: أسلوب الاختصاص <p>Learning objectives:</p> <ul style="list-style-type: none">أن ينثر الطالب الأبيات نثرًا أدبيًاأن يدلل على عاطفة الشاعر في الأبياتأن يستخرج مظاهر البلاغة من الأبيات<ul style="list-style-type: none">أن يحلل خط تصاعد الأحداثأن يضع نهاية مختلفة للقصةأن يميز ملامح الشخصيات في القصةأن يقارن قصة زعتر وزنجبيل بقصة مصباح الحمام<ul style="list-style-type: none">أن يدلل على رأي الكاتب في المقالأن ينقد الأدلة التي ساقها الكاتب في المقالأن يضيف أدلة جديدة من إبداعه للمقالأن يقارن بين مقال دراسته ومقال آخرأن يعرب أسلوب الاختصاص إعرابًا صحيحًا	<ul style="list-style-type: none">أن ينثر الطالب الأبيات نثرًا أدبيًاأن يدلل على عاطفة الشاعر في الأبياتأن يستخرج مظاهر البلاغة من الأبيات<ul style="list-style-type: none">أن يحلل خط تصاعد الأحداثأن يضع نهاية مختلفة للقصةأن يميز ملامح الشخصيات في القصةأن يقارن قصة زعتر وزنجبيل بقصة مصباح الحمام<ul style="list-style-type: none">أن يدلل على رأي الكاتب في المقالأن ينقد الأدلة التي ساقها الكاتب في المقالأن يضيف أدلة جديدة من إبداعه للمقالأن يقارن بين مقال دراسته ومقال آخرأن يعرب أسلوب الاختصاص إعرابًا صحيحًا	<p>https://www.youtube.com/watch?v=QFukrQ8ilro</p> <p>https://www.youtube.com/watch?v=fE9FXhkSBxU</p> <p>https://www.youtube.com/watch?v=qvTL7qb0s_k</p> <p>https://www.youtube.com/watch?v=1Y7Mvb5_kP4</p>
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Islamic Studies Arabs	<p>TOPIC:- التسامح مع المخالفين في العقيدة- آداب الإسلام في الرؤى والأحلام</p> <p>Learning objectives:</p> <p>يبين موقف الإسلام من اختلاف الناس في العقيدة</p> <p>يوضح مظاهر تسامح الإسلام مع المخالفين في العقيدة</p> <p>يشرح المقصود بالرؤى والأحلام</p> <p>يفرق بين الرؤيا والحلم</p>	<p>يستنتج الأسباب التي تؤدي إلى الاختلاف بين أصحاب العقائد المختلفة</p> <p>يشرح أهمية تقبل الآخر والتعايش معهم بروح التسامح</p> <p>يحدد أنواع ما يراه النائم في نومه</p> <p>يستنتج آداب الرؤى</p>	<p>https://www.youtube.com/watch?v=Au6eyigaRvc</p> <p>https://www.youtube.com/watch?v=BAEeqb3eTG4</p>
Islamic Studies Non Arabs	<p>TOPIC:</p> <p>Allah is the light of the heavens and earth</p> <p>Learning objectives:</p> <p>To COMPREHEND THE IMPORTANCE OF LIGHT OF FAITH IN HEART</p>	<p>How does Faith influence the way people cope with adversity and find strength in difficult times? In what ways does Faith contribute to the development of personal resilience and emotional well-being?</p>	<p>https://www.youtube.com/watch?v=-G5m5oloYf4</p> <p>https://www.youtube.com/watch?v=iQexG_CsKo4</p>



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	<p>-TO ANALYZE THE BELIEVER’S DUTY TOWARDS THE HOUSE (MASJID) OF ALLAH</p> <p>TOPIC: OBSERVANCE (ITTIBA) AND IMITATION (TAQLEED)</p> <p>Learning objectives:</p> <p>-TO COMPREHEND THE CONCEPT OF BLIND IMITATION</p> <p>-TO ANALYZE THE REASONS OF FOLLOWING OTHERS .</p>	<p>If blind imitation is not liked by Allah and Prophet (P.B.U.H) then, Clarify Can we follow the trait that is praised and favorable by Islam. Analyse the reasons of imitating others blindly and suggest practical solutions to combat this behaviour among Muslim.</p>	
Biology	<p>Genetic technology:</p> <ul style="list-style-type: none"> • Understand 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. 	<ol style="list-style-type: none"> 1. Create a model of a GM organism (plant, animal, or microorganism) with labeled components like the inserted gene and plasmid. 2. Draw a flow diagram showing the steps in genetic engineering (e.g., gene isolation, insertion, transformation). 	<p>https://www.learn.genetics.utah.edu/</p> <p>https://www.genome.gov/</p> <p>https://www.genengnews.com/</p> <p>https://aspb.org/</p>



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	<ul style="list-style-type: none">• Evaluate the ethical, social, and environmental impacts of genetic technology, including debates on GMOs, gene therapy, and cloning.• Explain the principles and applications of Polymerase Chain Reaction (PCR) in amplifying DNA.• 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, using examples like GM salmon, herbicide resistance in soybeans, and insect resistance in cotton.	<ol style="list-style-type: none">3. Prepare a presentation on GM crops or animals, focusing on their applications, benefits, and challenges.4. Create 10 quiz questions on the ethical concerns surrounding genetic engineering and GMOs.	
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<p>Business Studies</p>	<p>Improving Exam Technique:</p> <ul style="list-style-type: none">• To review key strategic decision-making theories from the syllabus, such as SWOT, PEST Analysis, Porters Five Forces Analysis, Ansoff's Matrix, Force Field Analysis, Decision tree Analysis.• To Review mark schemes and examiner expectations to help students understand how to structure high-quality answers.	<ul style="list-style-type: none">• Choose a selection of past paper questions (preferably from past years) that focus on key topics like Business Strategy and Corporate Planning and implementation• Set a timer (e.g., 30 mins for structured questions 20 marks) and attempt a series of questions within the allotted time to simulate exam conditions.• Critically evaluate the usefulness of various strategic analysis and choice techniques for business success.	<p>www.Papacambridge.com www.dynamicpapers.com www.tutor2u www.caie.org</p>
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Chemistry	<p>Reaction Kinetics:</p> <ul style="list-style-type: none">• To design an experimental technique to measure the rate of a reaction• To determine the rate equation, order of reaction, rate constant, half-life of a reaction, rate-determining step.• To construct and use rate equations of the form $\text{rate} = k[\text{A}]^m[\text{B}]^n$ and find the rate constant• To determine the value of rate constant using half-life method• To predict the order that would result from a given reaction mechanism and vice versa• To outline the different types of catalysis <p>Transition elements:</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	<ul style="list-style-type: none">• Plan an investigation to find the order of a reaction using concentration of the reactant. Evaluate your method and identify the source of error.• Draw graphs to represent first, second and zero order of a reaction (rate vs concentration and concentration vs time)• Solve five numerical questions from Paper 4 based on using the rate law to find rate constant/order of reaction• Research on real-life applications of half-life method in pharmacokinetics• Make a Power-Point presentation on reaction	<ul style="list-style-type: none">• http://www.a-levelchemistry.co.uk/41-kinetics.html• https://www.chemguide.co.uk/physical/basicrates/orders.html• http://www.chemistryrules.me.uk/hfhf/hfhf3.htm• https://chem.libretexts.org/Bookshelves/Physical_and_Theoretical_Chemistry_Textbook_Maps/Supplemental_Modules_(Physical_and_Theoretical_Chemistry)/Kinetics/02%3A_Reaction_Rates/2.03%3A_A_First-Order_Reactions• https://www.savemyexams.co.uk/a-level/chemistry/cie/22/revision-notes/5-physical-chemistry-a-level-only/5-6-reaction-kinetics-a-level-only/5-6-3-half-life/• https://xtremepapers.xyz/revision/a-level/chemistry/inorganic/transition/features.php
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	<p>copper(II) and cobalt(II) ions with water and ammonia molecules and hydroxide and chloride ions</p> <ul style="list-style-type: none">• 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• 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	<p>mechanism and order of reaction</p> <ul style="list-style-type: none">• Design an experiment to show that a catalyst can be recovered and re-used after the chemical reaction• Compare the two catalysis reactions – each involving the role of Fe²⁺/Fe³⁺ ion• 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	<ul style="list-style-type: none">• https://chem.libretexts.org/Textbook_Maps/General_Chemistry/Map%3AGeneral_Chemistry_(Petrucci_et_al.)/23%3A_The_Transition_Elements/23.1%3AGeneral_Properties_of_Transition_Metals• http://www.docbrown.info/page07/ASA2ptable2.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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		Apply the Marshall-Lerner Condition and the J-Curve Effect to explain how currency depreciation affects a country's trade balance.	
Psychology	<p>Organisational work conditions</p> <ul style="list-style-type: none"> Physical work conditions <p>Students will describe, explain and evaluate the physical work condition.</p>	<p>Students create a checklist with a Likert scale and walk around the school having identified four very different places/locations and consider the following variables:</p> <ul style="list-style-type: none"> illumination, temperature (+ °C), noise (+Db), motion (vibration), pollution and aesthetic factors <p>Students rate and comment on each in turn also compare scores and analyse.</p>	<p>Text book</p> <p>https://pubmed.ncbi.nlm.nih.gov/17091208/ and the full research available at: https://repository.ubn.ru.nl/bitstream/handle/2066/55442/55442.pdf?sequence=1 or https://drive.google.com/file/d/1jPhD-V8egmCeHtG89SwPVJK6bofyxl2y/view?usp=sharing</p>
Physics	<p>Quantum Physics</p> <ul style="list-style-type: none"> To explain photoelectric phenomena in terms of photon energy and work function energy 	<p>Research on</p> <ul style="list-style-type: none"> Use band theory to explain why the resistivity of an intrinsic 	<p>www.cie.org.uk</p> <p>www.s-cool.co.uk/a-level/physics/quantum-physics</p>



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	<ul style="list-style-type: none"> • To recall and use the relation for the de Broglie wavelength $\lambda = h/p$ • To appreciate that, in a simple model of band theory, there are energy bands in solids • To understand the terms valence band, conduction band and forbidden band (band gap) • To use simple band theory to explain the temperature dependence of the resistance of metals and of intrinsic semiconductors • To use simple band theory to explain the dependence on light intensity of the resistance of an LDR <p>CT scan</p> <p>Understand the principle of computed tomography</p>	<p>semiconductor increases as the temperature decreases.</p> <ul style="list-style-type: none"> • When electromagnetic radiation of wavelength 2000nm is incident on a metal surface, the maximum kinetic energy of the electrons released is found to be 4.0×10^{-20}J. Determine the work function of the metal in Joules. • Research on- Why in commercial practice we always use the RMS value of AC and not the peak value or instantaneous value • What is the average power dissipated when a sinusoidal alternating current with a peak value 	<p>https://link.springer.com/article/10.1134/1.1187514</p> <p>https://www.physics-and-radio-electronics.com/electronic-devices-and-circuits/introduction/energy-band-theory-in-solids.html</p> <p>https://radiopaedia.org/articles/computed-tomography</p> <p>https://www.medicalnewstoday.com/articles/153201.php</p> <p>https://byjus.com/physics/magnetic-flux/#:~:text=Magnetic%20flux%20is%20defined%20as,through%20a%20given%20surface%20area.</p>
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	<p>Electromagnetic Induction</p> <ul style="list-style-type: none"> • Define magnetic flux and the weber • Define magnetic flux linkage 	<p>of 3.0A flows through a 100 ohm resistor.</p> <ul style="list-style-type: none"> • Describe how the image of an 8-voxel cube can be developed using CT scanning • Infer from appropriate experiments on electromagnetic induction:that a changing magnetic flux can induce an e.m.f. in a circuit that the direction of the induced e.m.f. opposes the change producing itthe factors affecting the magnitude of the induced e.m.f. 	<p>https://www.khanacademy.org/science/physics/magnetic-forces-and-magnetic-fields/magnetic-flux-faradays-law/a/what-is-magnetic-flux</p>
Sociology	<p>Globalisation:</p> <p>To evaluate the Marxist and feminist perspective on who benefits from globalcrime</p>	<p>Research on the reasons for the emergence of global crime, include the different sociological perspectives with reference to Marxism and Feminism</p>	<p>WWW. Sociology.org.uk</p>



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<p>English Language</p>	<p>To compare and contrast article writing elements and development of ideas.</p>	<p>Analyse the two articles and write a passage stating the differences and comparisons seen in the treatment of disabled people. Analyse the difference and similarities in the lexis, orthography and grammar.</p>	<p>https://www.nationalgeographic.com/culture/article/paid-content-technology-is-opening-doors-for-southeast-asias-disabled</p> <p>https://historicengland.org.uk/research/inclusive-heritage/disability-history/1660-1832/the-lives-of-people-with-disabilities/</p>
<p>Art and Design</p>	<p>Higher order thinking skills – analysis, critical thinking and presenting ordered and coherent arguments and presenting art works.</p>	<p>Develop independent expression by analysing, evaluating and applying concepts and techniques and develop an inquisitive, creative approach to research and problem-solving.</p>	<p>www.studentartguide.com</p>
<p>Information Technology</p>	<p>Theory :</p> <ul style="list-style-type: none"> • To evaluate the different stages of system life cycle • To discuss different stages in Project management • To evaluate different types of Networks <p>Practical :</p> <ul style="list-style-type: none"> • To use advanced spreadsheet functions • To Normalize a data base. • To use image editing tools and graphic animation tools 	<p>Solve past paper questions based on the given topics .</p> <p>Create a mind map on different stages in a system life cycle</p> <p>Create a video using audacity and Movie maker</p> <p>Use advanced excel functions and relational database concepts</p> <p>Edit images and animate objects using image editing tools</p>	<p>Adobe Illustrator</p> <p>Adobe Photoshop</p>



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Computer Science	Use A* and Dijkstra’s algorithms to perform searches on a graph	<p>Explain the use of heuristics in the searching algorithms and how they can help decrease the search time.</p> <p>Perform an A* and Dijkstra’s search on the same graph and keep track of the number of nodes visited, and the final solution found.</p>	How does Dijkstra's Algorithm and A-Star compare? - Stack Overflow
Travel and Tourism	<ul style="list-style-type: none"> • To discuss the Key performance indicators (KPIs) / measures of success for branding and marketing • To assess which measures a destination might use to determine the success of their marketing campaign 	Research on; <ul style="list-style-type: none"> • Whether being voted ‘Best European Destination’ is an effective key performance indicator (KPI) • Destinations or a particular continent. Assessing which destinations change over a period of time and those that stay popular. 	https://en.wikipedia.org/wiki/World_Tourism_rankings
Statistics 2	Hypothesis Tests Formulate hypothesis and carry out a hypothesis test in the context of single	Research and summarise findings with examples on real life application on hypothesis testing.	https://stattrek.com/hypothesis-test/hypothesis-testing.aspx



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	<p>observation from a population which has a binomial or poisson distribution. Calculate the probabilities of making type I and Type II error.</p>	<p>Make notes to summarise learning that includes formulae and solved examples.</p>	<p>https://www.statisticssolutions.com/hypothesis-testing/ https://www.khanacademy.org/math/statistics-probability/significance-tests-one-sample/more-significance-testing-videos/v/hypothesis-testing-and-p-values</p>
<p>Pure Mathematics</p>	<ul style="list-style-type: none"> • Pure Mathematics 3 • Formulate a simple statement involving a rate of change as a differential equation • Find by integration a general form of solution for a first order differential equation in which the variables are separable Including any of the integration techniques from topic 3.5 above. • Use an initial condition to find a particular solution <p>Interpret the solution of a differential equation in the context of a problem being modelled by the equation.</p>	<p>Research on the application of differential equations in Architecture: An Architect Engineer uses integration in determining the amount of the necessary materials to construct curved shape constructions. 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 	<p>https://www.teachtutti.co.uk/blog/differential-equations-guide/ https://byjus.com/maths/differential-equation/ https://revisionmaths.com/advanced-level-maths-revision/pure-maths/calculus/differential-equations https://www.savemyexams.com/a-level/maths-pure/edexcel/18/revision-notes/8-integration/8-3-differential-equations/8-3-5-solving--interpreting-differential-equations/ https://alevelmathsrevision.com/maths-categorised-exam-questions/</p>



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		to determine some necessary information of Radioactive decay reaction.	
Applied Mathematics Mechanics –	<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	<ul style="list-style-type: none">• 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>https://revisionmaths.com/advanced-level-maths-revision/mechanics/work-energy-power</p> <p>https://www.physicsandmathstutor.com/pdf-pages/?pdf=https%3A%2F%2Fpmr.physicsandmathstutor.com%2Fdownload%2FPhysics%2FA-level%2FTopic-Qs%2FCAIE%2F05-Work-Energy-Power%2FSet-H%2FWork-Energy.pdf</p>



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