The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

Subject	Focus	Activities	Useful website
Arabic	TOPIC: مراجعة على أنواع التشبيه والاستعارة **Learning objectives:** أن يقارن بين أنواع التشبيهات و التشبيه التمثيلي . أن يحلل التشبيه التمثيلي موضحا موطن الجمال فيه. - أن ينتج فقرة تتضمنه . * أن يتعرف الاستعارة ويستخدمها في كتابة فقرة TOPIC البدل **Learning objectives:** أن يحدد الطالب البدل في الجمل . أن يوظف الطالب البدل في فقرة TOPIC علامة تعجب **Learning objectives:** أن يحلل المتعلم الشخصيات من خلال أفكارها وأفعالها وأقوالها.	ارسم خريطة ذهنية موضحاً فيها انواع التشبيه مع التمثيل - عبرعن المواقف بجمل من إنشائك تحوي التشبيه مثّل لكل نوع من أنواع التشبيه. - حول الأمثلة من تشبيه تام أوبليغ إلى تشبيه تمثيلي والعكس. - يفتح المعلم باب الحوار المنظم للاستماع إلى ملاحظات الطلاب حول المفاهيم النحوية التى تعلموها - مثّل لكل من (البدل) - عمل قطعة ويقوم الطلاب باستخراج (البدل) - قم بعمل خريطة ذهنية (البدل) - إجراء اختبار ختامى قصير للتأكد من مستوى التعلم لدى الطلاب من خلال ورقة عمل أن يحلل المتعلم الشخصيات من خلال أفكارها وأفعالها وأقوالها. - أن يفسر المتعلم الكلمات مستعينًا بالمعجم الورقي والرقمي.	https://www.youtube.com/watch?v=Mat6R0toiql https://www.youtube.com/watch?v=ZwGIxw4ik0M https://www.youtube.com/watch?v=H4MGzCuUKEs

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

	- أن يفسر المتعلم الكلمات مستعينًا بالمعجم الورقي والرقمي. - أن يتتبع الأثر الذي يتركه أسلوب الكاتب ؛ لإيصال الفكرة . - أن يحلل المتعلم الأفكار في القصة .	- أن يتتبع الأثر الذي يتركه أسلوب الكاتب ؛ لإيصال الفكرة . - أن يحلل المتعلم الأفكار في القصة .	
Islamic Studies (Arabs)	TOPIC: **مقاصد التشريع الخمسة- الشيخة فاطمة بنت المبارك- منهج الرسول (ص) في الرعاية الصحية**	**يحرص على البعد عن الاضرار التي تهلك صحته – يلتزم بأداب الاسلام في التواصل الاجتماعي** **يكتب بحثا عن الاضرار التي تهلك الصحة** **يكتب موضوعا عن الشيخة فاطمة بنت المبارك** **أن يحلل مقاصد التشريع الخمسة**	https://www.youtube.com/watch?v=1deWWub6yJU https://www.youtube.com/watch?v=t64cEqKIHHI
Islamic Studies **Non Arabs**	ALLAH'S MESSENGER & HIS SOCIAL LIFE FINANCIAL CONTRACTS IN ISLAM **To identify the keenness of Prophet (P.B.U.H) on building coherent society.** To infer a link between communal peace and the	**Write down an essay on the virtues of being polite to others and how the life of prophet (P.B.U.H) can help us to improve our behavior towards others society**	https://www.youtube.com/watch?v=HreJejiqAlc&t=6s&ab_channel=MuftiMenk

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

	-To learn about the concept of financial system in Islam. - To comprehend the significance of regulating contracts -To analyse the types of contracts in Islam development of Islamic State.	Record a video on the importance of making contracts according to Islamic ruling and mention the wisdom behind.	
Chemistry	**GROUP 17:** • To explain the trend in volatility of chlorine, bromine, and iodine. • To describe the relative reactivity of the elements as oxidizing agents • To describe the relative thermal stabilities of the hydrides in terms of bond energies • To describe the reactions of halide ions, chlorine • To describe the industrial importance of halogens and their compounds **REDOX REACTIONS:** • To calculate oxidation numbers of elements in compounds and ions.	• Write the chemical equations of group 17 elements along with the observations • Prepare an Infographic poster on the concept of disproportionation • Give some real life applications for the uses of halogens • Write the chemical equations of group 17 elements along with the observations • Prepare an Infographic poster on the concept of disproportionation	• https://pmt.physicsandmathstutor.com/download/Chemistry/A-level/Notes/CIE/AS-Inorganic-Chemistry/Detailed/11.%20Group%2017.pdf • https://www.youtube.com/watch?v=ro_VAWKmtwU • https://www.youtube.com/watch?v=X54ysz2UtWU • https://www.youtube.com/watch?v=w1DEsls3MD0 • https://www.youtube.com/watch?v=pBRx7DvBLBQ • https://www.youtube.com/watch?v=9v5Y3h8Jm0I • https://chem.libretexts.org/Bookshelves/Analytical_Chemistry/Supplemental_Modules_(Analytical_Chemistry)/Electrochemistry/Redox_Chemistry/Oxidation-Reduction_Reactions

Aim High Progress Study Programme _ (Year 12) -January _2022

	• To describe and explain redox processes in terms of electron transfer and changes in oxidation number • To use changes in oxidation numbers to help balance chemical equations. **NITROGEN AND SULPHUR:** To describe and explain: (i) the basicity of ammonia (ii) (ii) the structure of the ammonium ion and its formation by an acid-base reaction (iii) the displacement of ammonia from its salts To identify the industrial importance of ammonia and nitrogen compounds derived from ammonia. To explain the environmental consequences of the uncontrolled use of nitrate fertilisers To explain the natural and man-made occurrences of oxides of nitrogen and their catalytic removal from the exhaust gases of internal combustion engines.	• Give some real life applications for the uses of halogens • Create a checklist for determining the oxidation number of elements in compounds. • Balancing chemical equations using change in oxidation number. • Writing half-equations for species oxidised and species reduced. • Give real life applications of redox reactions. • Investigate ammonium salts practically heating them alone and with a base such as sodium or calcium hydroxide. • Make molecular model of ammonia and the ammonium ion and draw 'dot and cross' diagrams of their bonding.	• https://alevelchemistry.co.uk/notes/haloalkanes/ • https://www.youtube.com/watch?v=D06STGlrBJs

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

	HALOGENOALKANES: • To explain the chemistry of halogenoalkanes as exemplified by: the following nucleophilic substitution reactions : 1) hydrolysis, formation of nitriles, formation of primary amines by reaction with ammonia 2) the elimination of hydrogen bromide from 2-bromopropane • To describe the SN1 and SN2 mechanisms of nucleophilic substitution in halogenoalkanes including the inductive effects of alkyl groups • To explain that primary halogenoalkanes tend to react via the SN2 mechanism; tertiary halogenoalkanes via the SN1 mechanism and	• Create a quiz on Habers process and contact process. • Prepare an infographic poster on car exhaust pollution and the effect of catalytic converters. • Draw a poster on the role of SO2 in acid rain and the reaction of NO2 with SO2 in the atmosphere. • Create a mind map or table of reactions of halogenoalkanes, including the equations and conditions for each. • Investigate the kinetics of SN1 and SN2 reactions. • Solve problems based on equations, to	

Aim High Progress Study Programme _ (Year 12) -January _2022

	secondary halogenoalkanes by a mixture of the two, depending on structure • To interpret the different reactivities of halogenoalkanes • To recognise the concern about the effect of chlorofluoroalkanes on the ozone layer.	- predict a mechanism, SN1 or SN2 - justify their choice, explaining why it's SN1 or SN2 - describe the mechanisms with curly arrows etc. • To investigate practically the speed that the silver halide precipitates appear when halogenoalkanes are put into ethanolic aqueous silver nitrate, followed by determining the bond energies of the carbon-halogen bond to explain their observations. • Create an infographic poster to spread awareness about the effect of chlorofluoroalkanes on the ozone layer.	
Biology	**<u>Nucleic acids and protein synthesis, Structure and replication of DNA</u>** • To Describe the structure of nucleotides, including the phosphorylated nucleotide ATP	Below Activities and simulations can be carried out using the given links	• http://www.hhmi.org/biointeractive/dna/index.html • https://www.ncbi.nlm.nih.gov/books/NBK26821/ • http://www.mrothery.co.uk/genetics/dnanotes.htm#Structure%20of%20DNA

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

	• To describe the structure of RNA and DNA and explain the importance of base pairing and the different hydrogen bonding between bases. • **Replication of DNA** • To describe the semi-conservative replication of DNA during interphase • **Gene coding** • To state that a polypeptide is coded for by a gene and that a gene is a sequence of nucleotides that forms part of a DNA molecule • To state that a gene mutation is a change in the sequence of nucleotides that may result in an altered polypeptide • To describe the way in which the nucleotide sequence codes for the amino acid sequence in a polypeptide with reference to the nucleotide sequence for HbA	• http://www.bbc.co.uk/schools/gcsebitesize/science/add_ocr_pre_2011/growth_development/genesrev1.shtml • http://www.yourgenome.org/activities/origami-dna • https://geneed.nlm.nih.gov/topic_subtopic.php?tid=15&sid=16 • http://www.pbslearningmedia.org/resource/tdc02.sci.life.repro.lp_dnastructure/modeling-dna-structure/ • http://www.indiana.edu/~ensiweb/connections/genetics/diy.dna.html	• https://youtu.be/Ec2I2caFjMw • https://youtu.be/qoERVSWKmGk • https://youtu.be/W4mYwsr9gGE • **animations of DNA structure and replication** • http://accessexcellence.org/AB/GG/ • http://www.s-cool.co.uk/a-level/biology/dna-and-the-genetic-code/revise-it/dna-replication • http://www.thealevelbiologist.co.uk/replication-of-dna • https://youtu.be/cOw41Xa_ulY • https://youtu.be/guuJ_qayk70 • https://youtu.be/mfnDVV518es • https://youtu.be/TNKWgcFPHqw • http://www.hhmi.org/biointeractive/search?sort_by=created&redirect=1&field_biointeractive_types%5B0%5D=26700 • http://www.learnaboutsma.org/science/1.html • https://youtu.be/dijqYyFY1GM • https://youtu.be/mGgYTdPYQjA • http://www.ncbe.reading.ac.uk/ncbe/PROTOCOLS/DNA/extracting.html

Aim High Progress Study Programme _ (Year 12) -January _2022

	(normal) and HbS (sickle cell) alleles of the gene for the β-globin polypeptide • **Role of DNA in protein synthesis** • To describe how the information in DNA is used during transcription and translation to construct polypeptides, including the role of messenger RNA (mRNA), transfer RNA (tRNA) and the ribosomes		• **http://learn.genetics.utah.edu/content/labs/extraction/** • **https://youtu.be/cepY-Qoc5pw**
Physics	**Waves** • To understand that energy is transferred by a progressive wave. • To analyse and interpret graphical representations of transverse and longitudinal waves.	• Describe how to measure the frequency of sound waves using cathode ray oscilloscope • Compare the diffraction pattern of water waves and light waves. . • State the properties of electromagnetic waves. • In Young double-slit experiment, state the effect of	www.acoustics.salford.ac.uk/feschools/waves/contents.php https://www.islandphysics.com/waves-and-sound.html

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

	• To know the experimental arrangement of Young's double slit experiment.	-Using slits of narrower width(but the same separation) -Using slits with smaller separation but of same width.	http://www.physicsclassroom.com/class/light/Lesson-3/Young-s-Experiment
Business Studies	**Marketing** Analyze the importance of effective marketing strategies with real world applications.	• Analyse the benefits to a retailing business of setting marketing objectives • Explain ways in which a retailer of sports clothing could attempt to 'add or create value' to the products • Outline ways a manufacturer of jeans could use to try to increase market share.	www.entrepreneur.com/encyclopedia/market-research www.businesscasestudies.co.uk www.tutor2u.net
Accounting	• To analyse the structure of limited companies and the sources of raising capital. • To describe the type of businesses that would use of unit, job and batch costing system. • To apply costing concepts to make business decisions and recommendations.	• Prepare a sway presentation analyzing the structure of limited companies which should include the following – ➢ Features of limited companies ➢ Share capital - meaning of and accounting for ➢ Capital and revenue reserves ➢ Loan capital	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

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

		➢ Preparation of internal final accounts and balance sheets of limited companies. • Present a write up on type of businesses that would use of unit, job and batch costing system. OR • Prepare a Ted Ed Flipped Lesson on the topic.	
Economics	**International Trade** • To prepare flipped lessons using real world links	• Prepare a student –led lesson on any of the following topics: a) Different forms of Trade Integration and their impact b) De-globalisation –is it the new trend? c) The future of the EU and the Euro –will it survive? • Complete the Ted Ed Flipped Lesson on Trade Blocs Ted Ed Link on Trade Blocs	Text Book by Colin Bamford and Susan Grant www.tutor2u.net www.s-cool.co.uk www.economicshelp.org Newspapers and The Economist

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

		• https://ed.ted.com/;;on/j4k1sBlj	
Pure mathematics	**<u>Differentiation</u>** • To calculate the gradient at a point on a curve, given its equation • To find the equations of the tangent and normal to a curve at a point. • To interpret a derivative as a rate of change of one variable with respect to another. • To apply derivatives in solving real – world problems • To use second derivatives to distinguish minimum and maximum points	Make a list of derivatives of simple functions Research on the applications of differentiation. How do you find maximum and minimum points using differentiation? Make notes to summarize learning that includes solved examples	**https://www.bbc.com/bitesize/guides/zyj77ty/revision/1** **https://revisionmaths.com/advanced-level-maths-revision/pure-maths/calculus/differentiation** **https://www.britannica.com/science/analysis-mathematics/Calculus#ref731796** **https://www.intmath.com/applications-differentiation/applications-of-differentiation-intro.php** **http://www.statistica.com.au/differentiation_max_and_min.html**

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

Statistics 1 **Mechanics1**	**Topic: Normal Distribution and Permutation and Combinations** • Solve problems concerning a variable X, where $X \sim N(\mu, \sigma^2)$ • Recognise practical situations where the distribution is a suitable model. • Understand the terms permutation and combination, and solve simple problems involving selections • Solve problems about arrangements of objects in a line, including those involving repetition and restriction • Evaluate probabilities with the calculations using permutation and combination **Energy, Work and Power** • analyze the concepts of gravitational potential energy and	Model a situation on normal distribution from a real-life situation. Summarise your learning and prepare notes on normal distribution with examples. Model a situation on permutation and combinations from real life situation. Prepare notes on how to distinguish between permutation and combination using real life situations. Make notes on cases where the motion may not be linear, e.g. a child on a smooth curved 'slide', where only	https://revisionmaths.com/advanced-level-maths-revision/statistics/normal-distribution https://revisionmaths.com/advanced-level-maths-revision/statistics/permutations-and-combinations https://www.youtube.com/watch?v=2tuBREK_mgE https://www.youtube.com/watch?v=zQAmwgZgObk https://www.physicsclassroom.com/calcpad/energy

Aim High Progress Study Programme _ (Year 12) -January _2022

	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 • use the definition of power as the rate at which a force does work, and use the relationship between power, force and velocity for a force acting in the direction of motion	overall energy changes need to be considered. solve problems involving the instantaneous acceleration of a car moving on a hill against a resistance.	https://revisionmaths.com/advanced-level-maths-revision/mechanics/work-energy-power https://alevelmaths.co.uk/mechanics/work-energy-and-power/
Psychology	**Cognitive Psychology**	Choose any or preferably all 4 studies and create either of these two, A Glogster poster with videos, images and text. A animoto/movie maker video compiling all the studies learnt.	www.glogster.com www.aniomoto.com www.psychologyabout.com www.s-cool.co.uk www.thestudentroom.co.uk/wiki/A-**Level_Psychology**

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

		Practice the essay type questions from the Cambridge Past Papers	
Sociology	To evaluate the methods used in sociological research	Research on the different sociological research methods Prepare a power point on them showing the advantages and disadvantages of each of the methods. Practice the essay type questions from the Cambridge Past Papers	www.sociology.org.uk www.tes.co.uk
English Language	• To practice writing reflective commentary • To enhance descriptive writing skills • To practice review writing. • To revisit theories related to semantic field and lexical field. • To evaluate the form, style and language for varied genres.	Practice review writing by reviewing some books or paintings. Measure the progress using the rubrics and the checklist for review writing. Also write a reflective commentary for the same.	http://study.com/academy/lesson/descriptive-writing-definition-techniques-examples.html https://papers.gceguide.com/A%20Levels/English%20-%20Language%20AS%20and%20A%20Level%20%20(9093)/

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

Art and Design	AO 1/2	Brainstorming a concept with deep intention which is clear for a starting point to develop into imageries. An intention or purpose can come from a brief, proposal or research, while at other times it might begin as an idea or feeling.	www.studentartguide.com
Information Technology	**Theory:** Hardware and software • Discussion on user Interfaces • Types of software • Differentiate between compilers and Interpreters. Esafety and Heath and safety • describe how personal data can be gathered by unauthorized persons (including: by smishing, vishing, phishing and pharming), and how this might be prevented • discuss why Esafety is necessary • describe malware issues (including: Trojan horse, worms, spyware, adware, rootkit,	Activities: Students to create presentations on hardware and software and highlight key points on types of hardware and software. Students to work on advanced Database and spreadsheet concepts and Past paper Practice. Describe how typical features found in sound editing software are used in practice • Describe how file sizes depend on sampling rate and sampling resolution.	https://www.cambridgeinternational.org/programmes-and-qualifications/cambridge-international-as-and-a-level-information-technology-9626/\

	malicious bots, ransomware) • describe a range of potential health issues that could arise from using IT • describe a range of safety issues relating to the use of IT **Practical:** • Database concepts • Import tables into database • Queries and Reports' • Grouped Reports • Normalization concepts • Dynamic and Static Queries Sound and video editing • set an aspect ratio – trim a video clip to remove unwanted footage – join together video clips – create text based slides • Describe how typical features found in video editing software are used in practice • edit a sound clip to meet the		

The Winchester School

Aim High Progress Study Programme _ (Year 12) -January _2022

	requirements of its intended application and audience		
Travel and Tourism	• To analyse the impact of tourism on the destinations and the people who live there.	• Research on the factors that influence tourist's decision to a destination of your choice. Also evaluate the tourist development in both MEDC's and LEDC's. • Practice past papers for Pre - Mock exam preparation.	Using the Internet, text books, and other sources. Past Paper resource bank
Computer Science	Programing concepts: • To use a 'count controlled' loop: - given pseudocode will use the following structure: FOR <identifier> ← <value1> TO <value2> <statement(s)> ENDFOR - alternatively: FOR <identifier> ← <value1> TO <value2> STEP <value3> <statement(s)> ENDFOR	Encourage your child to develop a software project to include the following: For example, if the chosen programming language is Python, give a program written in Java. Ask learners to translate the program in the chosen programming language. The result	Commenting programs: http://en.wikibooks.org/wiki/A-level_Computing/AQA/Problem_Solving,_Programming,_Data_Representation_and_Practical_Exercise/Fundamentals_of_Programming/Comments Inputs and outputs in programming: http://en.wikibooks.org/wiki/A-level_Computing/AQA/Problem_Solving,_Programming,_Data_Representation_and_Practical_

	• to use a 'post-condition' loop: - given pseudocode will use the following structure: REPEAT	should be tested to see if it produces the correct output.	Exercise/Fundamentals_of_Programming/Input_and_output Operators: http://en.wikibooks.org/wiki/A-level_Computing/AQA/Problem_Solving,_Programming,_Data_Representation_and_Practical_Exercise/Fundamentals_of_Programming/Arithmetic_operators www.pp4s.co.uk/main/tu-op-intro.html