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Subject	Focus	Activities	Useful website
Arabic(Arabs)	TOPIC: اسم التفضيل قواعد لا تدرسها في المدرسة هدفي في الحياة الناسك الحكيم **Learning objectives:** 1- أن يحدد النقاط الرئيسة التي قام عليها النص. - أن يستنج ما ورد في النص من افكار - أن يبين موقفه منها . - أن يقدم عرضًا شفويًا تأملياً لرؤيته الشخصية عن الحياة وهدفه فيها . - أن ينظم العرض تنظيمًا جيدًا. - أن يلتزم الوقت المحدد له. - أن يتعرف اسم التفضيل وصيغه - أن يحلل القصة تحليلا أدبيا	- يكتب أمثلة على اسم التفضيل . - يحدد اسم التفضيل في الفقرة . - يكتب الأفكار من النص . - يقدم عرضا ثفويا . - يحلل القصة . - يكتب عناصر القصة . - يكتب نهاية أخرى للقصة .	https://www.youtube.com/watch?v=X2cJ4YQSzFg https://www.youtube.com/watch?v=REXW0bvEGr8 https://www.youtube.com/watch?v=REXW0bvEGr8

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Islamic Studies (Arabs)	TOPIC:	يحفظ مقرر التلاوة	www.moqatel.com
		يبحث عن أخطار الشائعات على الفرد والمجتمع	
	حديث الإفك – المسؤولية في الإسلام	كتب بحثا عن حديث الافك	https://www.youtube.com/watch?v=ocvpHdaXldk
		اكتب بحثا عن دورك في القضاء على الشائعات	
	Learning objectives:	يكت موضوعا عن فضل الزكاة على الفرد والمجتمع	https://www.youtube.com/watch?v=8f3r7f5_VmA
		اكتب تقريرا عن سنة التدرج في القرآن الكريم	
	أن يستنتج بعض أحكام الآيات		https://www.youtube.com/watch?v=wp6Zk8pCNBI
	ن يبين الآثار السلبية للشائعات		
	أن يستنتج فضل أم المؤمنين عائشة		
	أن يوضح مفهوم السنن الربانية وأقسامها		
	أن يدلل على أهمية فهم السنن الربانية للفرد والمجتمع		
	أن يبين خصائص السنن الربانية		

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Islamic Studies	TOPIC:		
Non Arabs	1. ALLAH'S MESSENGER AND SOCIAL LIFE **Learning objectives:** - **-** To identify the keenness of Prophet (P.B.U.H) on building coherent society. (By giving example from Seerah) - To infer a link between communal peace and the development of Islamic State. (by giving examples from real life) THE IMPORTANCE OF SUNNAH **LEARNING OBJECTIVES;** - **To elucidate the importance and significance of following the Sunnah** - **To evaluate the consequences of neglecting the Sunnah**	Record your suggestions, How can we construct a well-balanced society by instilling the teachings of Prophet (P.B.U.H). Create a video that shows the social life of Prophet (P.B.U.H) and how we can benefit our lives by implementing his advises.	https://www.youtube.com/watch?v=HreJejiqAlc&t=6s&ab_channel=MuftiMenk

Chemistry	**AN INTRODUCTION TO ORGANIC CHEMISTRY**: • 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 compounds containing up to six carbon atoms; and • To understand that stereoisomers (geometrical) exist	**Activity 1:** Giving out molecular modelling kits and get students to build simple straight-chain alkanes from methane to hexane **Activity 2:** Compare the empirical, Molecular and structural formulae of organic compounds as a poster activity. **Activity 3:**	http://www.chemistryrules.me.uk/candr/nomenclature.htm https://www.chemguide.co.uk/basicorg/isomermenu.html https://www.mytutor.co.uk/answers/69/A-Level/Chemistry/What-is-the-difference-between-structural- http://www.docbrown.info/page06/FunctionalGroups.htm

	(alkenes) in cis and trans (E-Z) forms due to the energy barrier to rotation in these	Practice drawing the structural and stereoisomers of organic compounds	http://www.docbrown.info/page14/page14org nomen.htm
		Activity 5:	
	ALKANES	Prepare a brochure for Rules of naming organic compounds along with the properties of homologous series.	
	• To understand the general unreactivity of alkanes, including towards polar reagents		
	• To describe the chemistry of alkanes as exemplified by the following reactions of ethane:		
	• Combustion	**Activity 1:**	
	• substitution by chlorine and by bromine	Practice writing balanced equations showing complete and incomplete oxidation.	http://www.a-levelchemistry.co.uk/16-alkanes.html
	• To describe the mechanism of free-radical substitution at methyl groups with particular reference to the initiation, propagation and termination reactions	Compare combustion of simple alkanes and higher alkanes.	https://alevelnotes.com/Alkanes/138
		Activity 2:	https://chemstuff.co.uk/unit-2/functional-groups/alkanes/
	• To explain the use of crude oil as a source of both aliphatic and aromatic hydrocarbons	Create an animation/ plan a simulation to show how free radical substitution reaction operates in alkanes.	https://revisionworld.com/a2-level-level-revision/chemistry/organic-chemistry/alkanes

	• To suggest how cracking can be used to obtain more useful alkanes and alkenes of lower Mr from larger hydrocarbon molecules **Enthalpy changes** Explain that chemical reactions are accompanied by energy changes, principally in the form of heat energy; the energy changes can be exothermic (ΔH is negative) or endothermic (ΔH is positive) Show understanding of chemical reactions in terms of energy transfers associated with the breaking and making of chemical bonds Explain the terms bond energy, bond length and bond polarity and use them to compare the reactivities of covalent bonds Explain enthalpy change of reaction and standard conditions, with particular reference to: formation, combustion, hydration, solution, neutralisation, atomisation	**Activity 3:** - With reference to ADNOC- UAE based petroleum Industry write about every detail for fractional distillation of crude oil. Also discuss the health and safety aspects during the fractional distillation. **Activity 4**: - Prepare an INFOGRAPHIC poster to show reactivity of alkanes **Activity 5:** Research about chemical properties of alkanes and prepare a poster showing the chemical reactions suitable mechanism. **Activity 1:** Make a power point presentation to show the relationship between bond energy and enthalpy change (use minimum 5 examples in your PPT)	**ONLINE QUIZ** http://en.mcqslearn.com/a-level/chemistry/alkanes-reaction-mcq.php http://en.mcqslearn.com/a-level/chemistry/sources-of-alkanes-mcq.php http://www.chemguide.co.uk/physical/energetics/sums.html http://chubbyrevision.weebly.com/energetics.html http://www.ocr.org.uk/Images/208647-enthalpy-changes-delivery-guide.pdf http://www.swotrevision.com/pages/alevel/chemistry/m3_part2.htm

(ii) bond energy (ΔH positive, i.e. bond breaking)	**Activity 2:** Bromine reacts with iodine to form iodine monobromide, IBr. The table below lists some average bond enthalpies which are required in different parts of this question. | Bond	Average bond enthalpy / kJ mol⁻
Br–Br	+193
I–I	+151
I–Br	+175 | (i) Why do Br_2 and I_2 not exist in the gaseous state under standard conditions? (ii) Calculate the enthalpy change of formation, ΔH_f, for IBr. **Activity 3:** Practice drawing energy cycles and application of Hess's law. **Activity 4:** Solve past paper questions based on enthalpy changes.	http://www.chemguide.co.uk/physical/basicratesmenu.html

Biology	**Biological molecules** • Justify the Structure of carbohydrates, proteins and Lipids and signify their roles In living organisms. • Enlight the importance of Hydrogen bond in the formation of Biological molecules. • Explore the unique properties of water to enable it to serve as universal solvent in cells.	• Survey the bio fortified food with the types of biomolecules in the foods sold in UAE • Evaluate whether the little brown grains of yeast obtained from the grocery store are alive by testing for metabolism and growth. • https://mrsmillersblog.wordpress.com/as-biology/ • For students interested in research and further studies • Making a 3D and 2D structure of biomolecules for better understanding.	http://www.rpi.edu/dept/bcbp/molbiochem/MBWeb/mb1/part2/sugar.htm has a comprehensive review of carbohydrate structure including examples of polysaccharides http://www.calfnotes.com/pdffiles/CN102.pdf https://alevelnotes.com/Lipids/58 http://study.com/academy/lesson/structure-and-function-of-lipids.html http://biology4alevel.blogspot.ae/2014/08/10-lipids.html https://youtu.be/VGHD9e3yRIU http://www.markedbyteachers.com/as-and-a-level/science/biological-importance-of-water.html https://youtu.be/FziG5LgrXPo https://youtu.be/mfC9RB7IL9A https://youtu.be/QU0VBcHnQOk

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	Cell membrane and transport	• question 3,7,8 & 9 from the course book	https://www.youtube.com/watch?v=vV4kdJrV60o
	• To describe and explain the fluid mosaic model of membrane structure, including an outline of the roles of phospholipids, cholesterol, glycolipids, proteins and glycoproteins	• Diagrammatically explain the structure of cell membrane and explain its significance.	https://www.youtube.com/watch?v=knv4fNNoEG8
	• To outline the roles of cell surface membranes including references to carrier proteins, channel proteins, cell surface receptors and cell surface antigens	• Using Bloom's taxonomy to create different level questions on cell structure.	https://www.youtube.com/watch?v=v5Nemz_cVew
	• To outline the process of cell signaling involving the release of chemicals that combine with cell surface.	• Interpret the photomicrographs of the cell membrane and elaborate in the cell signalling pathway.	https://www.bbc.co.uk/bitesize/guides/zqdhjty/revision/1
	• To describe and explain the processes of diffusion, facilitated diffusion, osmosis, active transport, endocytosis and exocytosis (no calculations involving water potential will be set)	• Investigate diffusion and osmosis using plant tissue and nonliving Materials, such as Viking tubing and agar.	https://www.physicsandmathstutor.com/biology-revision/a-level-cie/cell-membranes-transport/
		• 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	

		• To calculate surface areas and volumes of simple shapes (including cubes) to illustrate the principle that surface area to volume ratios decrease with increasing size. To explain the movement of water between cells and solutions with different water potentials and explain the different effects on plant and animal cells	estimate the water potential of the tissues	
Physics		Work, Energy, Power • 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 work done by a gas that is expanding against a constant external pressure: • distinguish between gravitational potential energy and elastic potential energy • solve problems using the relationships $P=\frac{W}{t}$ and $P = Fv$	Give examples of energy in different forms, its conversion and conservation, and apply the principle of conservation of energy to simple examples use the concept of efficiency to solve problems derive, from the defining equation $W = Fs$, the formula $\Delta E_p = mg\Delta h$ for potential energy changes near the Earth's surface	https://www.physicsclassroom.com/class/energy http://www.softschools.com/notes/ap_physics/work_energy_and_power/ https://www.alevelphysicsonline.com/work-and-energy

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	Electric Field • To understand the concept of an electric field as an example of a field of force. • To recall and draw the Electric field lines • To recall and apply the concept of Electric field strength	Revise the representation of electric field lines. Give reasons (a) A man in an insulated metallic cage does not receive a shock, even when the cage is connected to a high voltage source. Why? Electrostatic experiments do not work during humid days. Explain	www.islandphysics.com http://www.s-cool.co.uk/a-level/physics/electric-fields-and-forces/revise-it/electric-field-strength-e https://www.s-cool.co.uk/a-level/physics/electric-fields-and-forces/revise-it/electric-field-strength-e
Business Studies	• To understand why businesses, hold stocks and to evaluate the pros and cons of traditional stock management systems.	• Students will research and write an editorial/ newspaper article on any 2 companies in real world who faced out of Stock problems which resulted in too many disappointed customers.	www.tutor2u.net www.dineshbakshi.com www.cie.org.uk www.bized.co.uk Newspapers and Magazines

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Accounting	• To analyze the usefulness of Break-even point in businesses and how it can be used for decision-making. • Evaluate – 'Marginal costing as a Foundation for value-based Management accounting.	• Present a report on the usefulness of break-even analysis and its main elements. • Or prepare a Ted Ed Flipped Lesson on the topic.	www.myaccountinglab.com, www.bized.co.uk www.tutor2u.net www.cie.org.uk, Accounting Text books
Economics	• To analyze the impact of PED & PES on different stakeholders.	• Students must prepare Ted Ed flipped lessons or Sway Presentations on subsidies and consumers gain & producers gain from subsidies with connection to price elasticity of demand. • Write a well- researched essay on the UK housing and the chronic shortage with connection to price elasticity of supply.	www.tutor2u.net www.cie.uk.org www.s.cool www.projectsyndicate.com

| Pure mathematics | **Arithmetic and Geometric series**
• 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

Binomial theorem:
• To expand $(a+b)^{\wedge}n$ using binomial theorem
To find the coefficient of any term in the expansion/term independent of x.

Statistics 1

Topic: Discrete random variables

• Construct a probability distribution table for a discrete random variable X.

• Calculate the expectation, E(X),and variance,Var(X), of a discrete random variable. | Make notes on AP and GP formulae. Research on their real life applications. Where do you come across these series in life?
Derive the formulae for the sum of first n terms of an AP or a GP

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.

Model a situation on discrete random variable from a real life situation.

Summarise your learning and prepare notes on discrete random variables with examples | https://www.cliffsnotes.com/study-guides/algebra/algebra-ii/sequences-and-series/arithmetic-series
https://www.mathplanet.com/education/algebra-2/sequences-and-series/arithmetic-sequences-and-series
https://www.mathsisfun.com/algebra/sequences-sums-geometric.html
https://www.youtube.com/watch?v=pFcJZnxqzNc
https://revisionmaths.com/advanced-level-maths-revision/pure-maths/algebra/binomial-series
https://studywell.com/maths/pure-maths/sequences-series/binomial-expansion/ |

	- Calculate binomial probabilities using the notation X~B(n,p) - Calculate expectation and variance for a binomial distribution. - Calculate geometric probabilities using the notation X~Geo(x) - Calculate expectation of a geometric distribution - Recognise practical situations where these distributions are suitable models. **Mechanics 1** **Newton's laws of motion** - To 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	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.	

	include friction, tension in an inextensible string and thrust in a connecting rod • To solve simple problems which may be modelled as the motion of a particle moving vertically or on an inclined plane with constant acceleration • solve simple problems which may be modelled as the motion of connected particles.	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	
Psychology	Biological approach: To investigate the role cognitive factors have in the experience of emotion when we are in a state of physiological arousal that has no immediate explanation	**Schachter-Singer study**	Cambridge Textbook, some useful links; https://www.thoughtco.com/schachter-singer-theory-4691140 https://www.verywellmind.com/the-two-factor-theory-of-emotion-2795718 https://replicationindex.com/2019/02/24/schachter-and-singer-1962-the-experiment-that-never-happened/

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			https://www.verywellmind.com/theories-of-emotion-2795717
Sociology	To examine the sociological perspectives on social order and social stability	• Research on the different sociological perspectives - Functionalism, Marxism and Interactionism. Your research should also include the concept of social order and social stability. • Prepare a power point on the work done by sociologists and the perspectives that come under the topic.	www.sociology.org.uk www.tes.co.uk
English Language	Directed writing	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.	http://news.nationalgeographic.com/2015/04/150418 www.abraham-lincoln-funeral-train-railroad-civil-warhistory/

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Art and Design	AO1, AO2	To develop personal practice, enrich your understanding of key concepts and improve their practical skills in a wide range of traditional and contemporary techniques.	www.studentartguide.com
Information Technology	• 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. **Practical:** • Database concepts • Import tables into database • Queries and Reports' • Grouped Reports • Normalization concepts • Dynamic and Static Queries • Spreadsheets Vlookup, Hlookup functions.	Activities: Students to create a website on Esafety highlighting key points on how to keep ourselves safe online. Create online posters and presentations on Esafety. Students to work on advanced Database and spreadsheet concepts and Past paper Practice	Text book https://www.cambridgeinternational.org/programmes-and-qualifications/cambridge-international-as-and-a-level-information-technology-9626/\

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	• Multiple if statements • Left, Right, Concatenate • Pivot tables Data filtering and sorting		
Travel and Tourism	• To Analyze and evaluate the 4 P's of marketing.	• Here's an opportunity to put your knowledge of the Four P's into practice! You will select one of the eight motives for pleasure tourism. • Create a one-day excursion in DUBAI. You may use three sites in DUBAI which are famous tourist spots. • Create a poster and a brochure advertising your excursion.	• Using the Internet, The Encyclopedia of DUBAI, and other sources. Visit the sites, collect data, pick up brochures, etc. Create a one-day excursion in DUBAI city.
Computer Science	Programing concepts: • 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	Encourage your child to develop a software project to include the following: 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.	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_

			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