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Subject	Focus	Activities	Useful website
Accounting	• To analyse the usefulness of Managerial Accounting in businesses and how it is different from Financial Accounting.	• Research on the usefulness of Managerial Accounting and the main elements of Managerial Accounting and present your findings through a prezi.	www.myaccountinglab.com, www.bized.co.uk www.tutor2u.net www.cie.org.uk
Economics	• To analyze the relevance of economic efficiency in the context of modern-day economies.	• Learning Menu on Economic Efficiency & Resource Allocation - **Attempt any three tasks from the learning Menu –** 1.Prepare a Sway presentation or a Prezi on the TRAGEDY OF THE COMMONS with the help of relevant examples. Ted –Ed Lesson on Externalities. 2. As a Management consultant you need to reduce costs by a third over the next 2 years for Jones & Tudor, a company in the fashion industry .Produce a Report that summarizes your suggestions to the company. 3. Research on any large infrastructure Project in Dubai and discuss the steps and difficulties involved in the Cost Benefit Analysis. 4 Read the Economic Appraisal of High Speed 2 on Page 140 & 141 and outline	www.tutor2u.net www.dineshbakshi.com www.cie.org.uk www.slideshare.net

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		the steps in the COBA using the information given. Explain the limitations of the COBA. Share your findings on an A3 Poster. 5. Create an Infographic presentation on Cost Benefit Analysis illustrating the same with the help of real world examples. 6. Draw a cartoon strip depicting the different reasons of market failure. 7. Watch the video clip https://www.youtube.com/watch?v=wnjx6KETmi4 and write a well- balanced newspaper article on "Climate Change is a classic example of market failure and an imminent threat rather than a hoax" 8. Using the Case study of Google /Microsoft /Apple or Amazon explain the policies/strategies the company might have adopted to achieve dynamic efficiency. Present your findings as a Pod cast or Video cast	

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Business Studies	• External influences on business activity. • To evaluate environmental and social audits.	Analyse the likely benefits to a company of your choice of publishing a social audit. 10 marks Discuss the view that `ethics can be made to pay` for all businesses. 16 marks	www.tutor2u.net www.dineshbakshi.com www.cie.org.uk www.slideshare.net
Travel & Tourism	• To Analyse and evaluate the importance of destination marketing taking into consideration 4P's of marketing.	Here's an opportunity to put your knowledge of the Four P's into practice! You will select one of the destinations for pleasure tourism. 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.
Biology	**PHOTOSYNTHESIS:** • To Elucidate the three steps of Light dependent reaction and signify it over light independent reaction. • To justify the independence of Light independent reaction with emphasis on the steps involved. • To elaborate the adaptations of CAM plants/the biochemistry of C4	• Schematically illustrate the purpose of photosynthesis and transfer of energy from light to complex organic molecules. • Interpret graphs showing the effects of limiting factors. • Draw a labelled diagram of a palisade cell and a chloroplast and write a summary of how they are adapted for photosynthesis.5. .Produce an annotated diagram of the light-dependent stage. • Add bullet points to build understanding of photolysis, photosystems, chain of electron carriers / ATP production and reduction of NADP.	• http://www.biologymad.com/ • http://faculty.uca.edu/johnc/Chloroplast_and_microbodies.jpg • http://www.teachnet.ie/fonehill/cyclic.html • http://www.saps.plantsci.cam.ac.uk/worksheets/ssheets/ssheet10.htm

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	Coordination: • Compare the nervous and endocrine systems as communication systems, that co-ordinate responses to changes in the internal and external environment. • Explain the importance of the myelin sheath (saltatory conduction) in determining the speed of nerve impulses and the refractory period. • Explain the sliding filament model of muscular contraction including the roles of troponin, tropomyosin, calcium ions and ATP • Explain the roles of the hormones FSH, LH, oestrogen and progesterone in controlling changes in the ovary and uterus during the human menstrual cycle • Describe the role of gibberellin in the germination of wheat or barley	• Investigate the effect of light intensity and light wavelength on the Hill reaction, using a very simple protocol. • Give a brief outline of the main types of photosynthetic pigments, distinguishing between primary and accessory pigments. • Sketch out absorption and action spectra, explaining the similarities and differences between the two. 1. Make a model of Axon with post and pre synaptic endings and Label it correctly. 2. Make a flow diagram to explain the Nervous system. 3. Prepare a presentation on the saltatory movement of nerve impulse. 4. Create a 10 quiz questions on the role of hormone in human body coordination.	• http://www.wiley.com/college/boyer/0470003790/animations/photosynthesis/photosynthesis.htm http://www2.estrellamountain.edu/faculty/farabee/biobk/BioBookNERV.html https://www.youtube.com/watch?v=e3Nq-P1ww5E https://www.youtube.com/watch?v=HYLyhXRp298,

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			https://www.youtube.com/watch?v=L41TYxYUqqs
Chemistry	**Further Aspects of Equilibria:** • To outline the relationship between pH, Ka, pKa and Kw and use them in calculations. • To choose an appropriate indicator for acid-base titration. • To determine the pH of buffer solutions and outline their uses in daily life. • To use solubility product for sparingly soluble salts and justify the effect of common ion. • To deduce partition coefficient (Kpc) for a solute partitioned between two immiscible solvents and use it in calculations. **Chemistry of Carboxylic acids and Acyl chlorides:** • To outline the reactions of carboxylic acids in the formation Of acyl chlorides.	• Construct titration curves for strong acid-strong base, strong acid-weak base, weak acid-strong base, weak acid-weak base titrations, justifying the choice of indicator used in each titration. • Write an article on "Role of Buffers." • Create a research paper on the importance of common ion effect (give some real life examples). • Write solubility product expressions for five sparingly soluble salts • Solve complex questions based on Ka, pKa, Kw, Ksp, and Kpc from past papers. • Make a power-point presentation on chromatography and the principle of partition coefficient.	http://www.a-levelchemistry.co.uk/42-equilibria.html http://www.chemguide.co.uk/physical/equilibmenu.html http://www.chemguide.co.uk/physical/acidbaseeqia/buffers.html http://alevelchem.com/aqa_a_level_chemistry/unit3.4/s3403/05.htm http://www.docbrown.info/page07/equilibria4.htm http://study.com/academy/lesson/partition-coefficient-definition-and-calculation.html

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	• To recognize the ability of some carboxylic acids to be further oxidized • To deduce the relative acidities of carboxylic acids, phenols and alcohols • To apply the concept of electronegativity to explain the acidities of chlorine-substituted ethanoic acids. • To describe the hydrolysis of acyl chlorides • To describe the reactions of acyl chlorides with alcohols, phenols, ammonia and primary amines • To analyze the relative ease of hydrolysis of acyl chlorides, alkyl chlorides and aryl chlorides including the condensation (addition-elimination) mechanism for the hydrolysis of acyl chlorides	• Practice writing names of derivatives of carboxylic acids. • Create a checklist for nomenclature of derivatives of carboxylic acids. • Compare the physical and chemical properties of derivatives of carboxylic acids, giving a justifications for your choice. • Design step by step animation to show reaction mechanism that operates in acyl chlorides. Clearly showing curly arrows, partial charges and lone pair of electrons. • Compare and contrast relative ease of hydrolysis of acyl chlorides, alkyl chlorides and aryl chlorides including the condensation mechanism for the hydrolysis of acyl chlorides • Write an article for newspaper to discuss the importance of derivatives of acyl chlorides.	https://chem.libretexts.org/Textbook_Maps/Organic_Chemistry/Map%3A_Organic_Chemistry_(McMurry)/Chapter_21%3A_Carboxylic_Acid_Derivatives%3A_Nucleophilic_Acyl_Substitution_Reactions/21.01_Naming_Carboxylic_Acid_Derivatives https://www.britannica.com/science/carboxylic-acid https://www.chemguide.co.uk/mechanisms/addelim/alcohol.html https://en.wikipedia.org/wiki/Acyl_chloride
Physics	**Capacitance** • To understand the function of capacitors in simple circuit.	• Research on Capacitors with solid dielectrics, Air capacitor and Electrolytic capacitor. State the uses of capacitors.	https://www.cambridgeinternational.org/

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	• To derive the formulae for combined capacitance in series and parallel circuits and solve problems using the capacitance formula • To deduce, from the area under a potential-charge graph, the equation for energy stored in a capacitor **Heat and Thermodynamics** • Compare the relative advantages and disadvantages of resistance and thermocouple thermometers as previously calibrated instruments • Explain using simple kinetic molecular model of matter: structure of solid liquids and gases. Melting and boiling take place without a change in temperature. • Understand the specific latent heat of vaporization is higher than specific latent heat of fusion for the same substance. • Define and use the concept of specific heat capacity and specific latent heat, identify the main principles of its determination by electrical methods. • Show an understanding that internal energy is determined by the state of the system and that it can be expressed as the sum of a	• What is the effect of introducing a dielectric slab between the plates of a parallel plate capacitor. • Design experimental set up to determine specific heat capacity using calorimeter • Compare latent heat of steam and ice • Research on use of heat energy to mechanical energy, in automobile industries • Calculate internal energy of a system doing work • Determine the temperature of a Bunsen flame using a thermocouple that requires calibration. • Learners research the main properties of operational amplifiers, understand the symbol and its connections and how it can be used in practical situations. • Possible experiment: op-amp in open loop mode as a comparator. Use with thermistor to monitor temperatures. The output may be monitored with a	https://www.allaboutcircuits.com/worksheets/capacitance/ http://znotes.org/a2-physics/ http://www.physicsatweb.com/rev.php?id=Simple%20Kinetic%20Molecular%20Model%20of%20Matter&v=true http://mrtremblaycambridge.weebly.com/p4-simple-kinetic-molecular-model-of-matter.html http://physicsnet.co.uk/a-level-physics-as-a2/thermal-physics/thermal-energy/ https://www.youtube.com/watch?v=ZwXtPW0gdD0

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	random distribution of kinetic and potential energies associated with the molecules of a system. • Relate a rise in temperature of a body to an increase in its internal energy dU = q + W **Op- Amp** • To recall the main properties of the ideal operational amplifier (op-amp) • To deduce, from the properties of an ideal operational amplifier, the use of an operational amplifier as a comparator • To understand the effects of negative feedback on the gain of an operational amplifier	voltmeter or use of LEDs may be considered. • Experiments to find the gain of both inverting and non-inverting amplifiers.	http://hyperphysics.phy-astr.gsu.edu/hbase/thermo/firlaw.html http://www.physics.usyd.edu.au/super/life_sciences/TP/TP-rev-questions.pdf
Art and Design	Component 3 • Personal Investigation	• Personal Investigation with an in-depth study that demonstrates the candidate's ability to carry out independent research from a starting point of their choice through to a fully realised and coherent conclusion.	www.studentartguide.com
English	• Linguistics	Research and create a visual presentation on the following topic: • What is linguistics? • How is the study of linguistics important?	www.google.com www.wikipedia.com

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		• List the names of some prominent linguists and their contribution to society.	
Mathematics Edexcel	**Pure Mathematics 3** **Exponential and logarithms** • Understand the relationship between logarithms and indices, and use the laws of logarithms (excluding change of base) • Interpret the definition and properties of e^x and lnx, including their relationship as inverse functions and their graphs • Apply logarithms to solve equations and inequalities in which the unknown appears in indices • Analyze and apply rules of logarithms to transform a given relationship to linear form, and hence determine unknown constants by considering the gradient and/or intercept. **Statistics 1** **Probability, Permutations and combinations** • Solve problems involving permutation and combinations of a set of objects	**Pure Mathematics** Research on the application of logarithms in **measurement Scale: Richter, Decibel, etc.** Research on the application of logarithms to measure the acidic, basic or neutral of a substance that describes the chemical property in terms of pH value Research on the real-life application of logarithms in measuring sound intensity Research on the real-life application of logarithms in calculating complex values **Statistics 1** What is Bayer's theorem ?How does this related with conditional probability Model a situation on conditional probability from a real life situation. **Statistics 2**	**https://revisionmaths.com/advanced-level-maths-revision/pure-maths/calculus/exponentials-and-logarithms** **https://www.examsolutions.net/tutorials/exam-questions-logarithms/** **https://www.katesmathlessons.com/intro-to-logarithms-p3.html** **https://www.youtube.com/watch?reload=9&v=gxIRIDjMhg0** **Statistics 1** https://revisionmaths.com/advanced-level-maths-revision/statistics/permutations-and-combinations

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	• Evaluate probability in simple cases • Apply sample space to evaluate the probability. • Add and multiply probability in appropriate cases. • Apply Venn diagrams and tree diagrams to calculate the probability. • Show that events are mutually exclusive or independent. • Able to calculate conditional probability using formula. • Model situations involving probability. **STATISTICS 2** **Continuous random variables** • understand the concept of a continuous random variable, and recall and use properties of a probability density function • use a probability density function to solve problems involving probabilities, and to calculate the mean and variance of a distribution. **Sampling** • understand the distinction between a sample and a population, and appreciate	Research and summarise findings with examples on real life application of a probability density function. Make notes to summarise learning that includes formulae and solved examples. List down examples of population and sample.	https://revisionmaths.com/advanced-level-maths-revision/statistics/probability https://www.youtube.com/watch?v=wTlbovKpTME **Statistics 2** https://revisionmaths.com/advanced-level-maths-revision/statistics/continuous-random-variables https://www.youtube.com/watch?v=LJHN5o5YGSA https://revisionmaths.com/advanced-level-maths-revision/statistics/sampling

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	the necessity for randomness in choosing samples • recognise that a sample mean can be regarded as a random variable **Mechanics 1 :** **Forces and equilibrium** • identify the forces acting in a given situation • 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 • understand the concepts of limiting friction and limiting equilibrium, recall the definition of coefficient of friction, and use the relationship • $F = \mu R$ or $F \leq \mu R$, as appropriate	Practice questions on resolving vectors with forces acting at different angles Research on different real-life examples applying the concept of limiting equilibrium	Mechanics https://revisionmaths.com/advanced-level-maths-revision/mechanics/coefficient-friction#:~:text=When%20the%20frictional%20force%20is,to%20be%20in%20limiting%20equilibrium. https://www.examsolutions.net/tutorials/friction-limiting-equilibrium-coefficient-friction/
Information Technology	• The Role And Impact Of IT on Society	What do you mean by Digital currency? State its advantages and disadvantages Research on the different ways by which data can be analyzed in data mining	https://en.wikipedia.org/wiki/Digital_currency http://www.sciencedirect.com/science/article/pii/S1877705816004215

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		• Research how websites track your online activity and use it to target you with advertising on social network sites	
Computer Science	**System software:** To investigate how an OS can maximize the use of resources To explain the ways in which the user interface hides the complexities of the hardware from the user	Encourage your child to create a powtoon to include the following: • What are operating systems for (remembering the examples you have seen and worked with)? • What can all operating systems do? • Design an graphical user interface of his own which is user-friendly and can work on all smart devices.	http://courses.cs.vt.edu/~csonline/NumberSystems/Lessons/DecimalToBinaryConversion/index.htm http://en.wikibooks.org/wiki/A-level_Computing/AQA/Problem_Solving,_Programming,_Data_Representation_and_Practical_Exercise/Fundamentals_of_Data_Representation/Binary_number_system www.python.org.
Psychology	Abnormal Psychology Health Psychology: Consumer behavior Organisational behavior	• Assess the different explanations of schizophrenia and delusional disorder. • Assess the role of verbal and non-verbal communication in patient practitioner relationship • Assess how lighting, colour and smell can affect a consumer's behaviour. • Assess the different motivators at work place.	https://www.verywellmind.com/what-is-the-biological-perspective-2794878

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Sociology	• To assess the theories of Durkheim and Weber in relation to their perspectives on Religion	• Research on the sociologists Emile Durkheim and Max Weber and their views on the inclusive and exclusive approach to religion • Make a graphic organizer to demonstrate your ideas. Translate the ideas into writing a journal entry on the theories of Durkheim and Weber in relation to their perspectives on Religion	www.sociology.org.uk www.tes.co.uk
History	Cold War Option	Research on the different perspectives about the origin of Cold War and triangulate it as shown in the class	https://historiana.eu/case-study/cold-war https://skemman.is/bitstream/1946/31413/1/BA%20ritger%C3%B0.%20Saga.pdf