



SIXTH FORM

YEAR 12

SUPER CURRICULUM

The Super Curriculum

In this booklet, you will find a range of challenges that encourage you to think about the learning that you can do outside of your lessons to become a more active and independent learner.

Whether you are applying your knowledge of the marketing mix to an episode of 'Dragon's Den', reading about the top ten equations that changed the world or researching the 'God particle', we hope that these activities inspire you to think independently about your learning. You might even be able to teach the staff a thing or two!

In an increasingly competitive job market, employers are looking for candidates who are able to think creatively and use their initiative to solve problems. Equally, the best universities want students who can think for themselves and participate in their learning. Activities on the super curriculum is designed to allow you to practise these skills and to give you evidence for applications in the future.

You should ask staff for guidance if you are unsure about any of the challenges. Please also tell your teacher when you 'complete' all nine activities for a subject. We will be interested to discuss this with you when you return in Year 12.

Finally, if you have any ideas about how we can improve the super curriculum, particularly if you have any ideas for challenges, please let your teacher know.

We hope that you enjoy the activities.

Mr. A Moloney
Head of Sixth Form

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Art

Know It	Use It	Stretch It
<p>Watch extracts from the BBC Series 'The Power of Art' with Simon Schama and make bullet point notes, thinking about how you apply this to your A level study.</p> <p>https://www.bbc.co.uk/arts/powerofart/intro.shtml</p>	<p>Join a life drawing class and use the drawings to include in your portfolio.</p> <p>https://www.timeout.com/london/things-to-do/the-best-life-drawing-classes-in-london</p>	<p>Volunteer to support a KS3 lesson of Art during one of your study periods.</p>
<p>Read 'The illustrated story of Art' by DK and make bullet point notes, thinking about how you apply this to your A level study.</p> <p>https://www.amazon.co.uk/illustrated-story-art-dk/dp/1409316084/ref=sr_1_7?s=books&ie=UTF8&qid</p>	<p>Lead an art club and run sessions for younger learners. Take responsibility for creating exciting artwork across the school.</p>	<p>Present your experience as an annotated journal and include it in your portfolio to share at interview.</p>
<p>Listen to the Grayson Perry Reith lectures:</p> <ol style="list-style-type: none"> Democracy has bad taste: http://www.bbc.co.uk/programmes/b03969vt Beating the Bounds: http://www.bbc.co.uk/programmes/b03dsk4d Nice rebellion, welcome in! http://www.bbc.co.uk/programmes/b03f9bg7 I found myself in the art world: http://www.bbc.co.uk/programmes/b03g9mn1 	<p>Visit the Saatchi Gallery</p> <p>https://www.saatchigallery.com/</p>	<p>Learn a new technique- Enroll on one of the ART VAN GO Creative Workshops</p> <p>https://www.vycombe-arts.co.uk/</p>

Business Studies

Know it	Use it	Stretch it
<p>Keep a scrapbook or folder of business news articles that you have read that you believe are of significant importance- highlight the parts that you believe to be most important.</p>	<p>Read an autobiography written by an entrepreneur that has inspired you.</p>	<p>Set up a working group blog for Year 13 Business students to discuss exam technique, specification content and business news.</p>
<p>Watch a TED Talk that relates to a topic from any part of the course. Talk to somebody in your class about the TED Talk and share your opinions about it.</p>	<p>Create a timeline of the key events surrounding Brexit and keep this up to date throughout the year.</p>	<p>Write an article about the strategy that a business of your choice has used to grow. You should use models such as Ansoff's Matrix, The Boston Matrix and Porter's Five Forces to support your writing.</p>
<p>Research a global business and think about how they have considered the following when expanding: cultural differences, different tastes, language, unintended meanings, inappropriate/inaccurate translations, inappropriate branding and promotion.</p>	<p>Interview somebody you know about the corporate culture of the business that they work for- if you have a job, you could think about the corporate culture of the business you work for. Write a blog post about the corporate culture, using the classification of cultures to guide you.</p>	<p>Create a presentation about how the economy has grown and is developing in a MINT country of your choice.</p>

Computing

Know It	Use It	Stretch It
<p>Watch the film: https://www.imdb.com/title/tt2084970/ Maybe this will inspire you seeing how computers have aided us in the past.</p>	<p>The GCHQ Puzzle Book: <i>Why not pit your wits against the people who cracked the Enigma?</i></p> <p>This book will have you scratching your head for hours trying to solve some challenging problems.</p>	<p>CyberFirst – Get hands on with Cyber Security course run by GCHQ. They offer a variety of residential and non-residential courses. https://www.gchq-careers.co.uk/early-careers/cyberfirst.html</p>
<p>Use the Prospects website to research IT job roles. For example: https://www.prospects.ac.uk/job-profiles/software-engineer</p>	<p>Search UCAS for courses that would help you to start a career in IT. https://www.ucas.com/</p> <p>Research apprentice opportunities in IT https://amazingapprenticeships.com/</p>	<p>Start looking to see what IT jobs are available in this area www.jobserve.com</p>
<p>Follow computer science topics on the BBC news https://www.bbc.co.uk/news/technology and click https://www.bbc.co.uk/programmes/b006m9ry and follow @computerworld and @computerweekly on Twitter</p>	<p>Keep a journal of technology issues from the sources listed in 'know it'.</p>	<p>Pick a range of technology issues and write an A4 page for each that describes the legal and ethical issues that these raise.</p>

Design Technology

Know It	Use It	Stretch It
<p>Attend a university degree show for inspiration. https://www.arts.ac.uk/whats-on/summer-shows</p>	<p>Visit the Natural History museum: http://www.nhm.ac.uk/</p>	<p>Listen to two TED talks on inclusive design: https://www.ted.com/talks</p>
<p>Visit the four designers conference/the design fair/design festival.</p>	<p>Visit the Science museum; find an interactive exhibition that uses new technology. https://www.sciencemuseum.org.uk/</p>	<p>Support a KS3 DT lesson during one of your free periods.</p>
<p>Watch the Christmas lectures: http://www.rigb.org/christmas-lectures</p>	<p>Choose a fusion 360 tutorial by Lars Christiansen and have a go at it. https://www.youtube.com/channel/UCo29kn3d9ziFUZGZ50VKvWA</p>	<p>Organise a group of young designers and take part in the national science and engineering competition: http://www.nsecuk.org/</p>

English

Know It	Use It	Stretch It
<p>Visit the Poetry Library at the Southbank Centre:</p> <p>http://www.poetrylibrary.org.uk/</p>	<p>Write a summary of a text you have read that is outside of the set texts for your course.</p>	<p>Deliver a talk/ lecture to your peers on your favourite piece of literature or one of the texts you have studied as part of your A Level course.</p>
<p>Watch a variety of productions of the set plays, either amateur or professional. Some of these are available on YouTube. Consider a visit to the Globe Theatre over the holidays (£5 student tickets)</p>	<p>Read, annotate and summarise a review for an alternative production of one of your set texts.</p>	<p>Prepare a presentation/mini lecture to give to your classmates where you explore the staging, casting and narrative choices for an alternative production of one of your set texts.</p>
<p>Research the literary canon and literature through the ages.</p> <p>https://www.goodreads.com/shelf/show/literary-canon</p>	<p>Create a timeline positioning texts and linked criticism to the correct context/literary movement and time period.</p>	<p>Write an analysis of a section of a text you have read/studied in relation to a critical viewpoint. e.g. A feminist reading of 'A Streetcar Named Desire'</p>

Geography

Know it	Use it	Stretch it
<p>Read Geography Review (magazine) https://www.hoddereducation.co.uk/geographyreview</p>	<p>Find a relevant news article to what you are learning and produce a presentation for your class.</p>	<p>Create a case study on a topic you have learnt about and share it with the class.</p>
<p>Read Wider World (magazine) https://www.hoddereducation.co.uk/widerworld</p>	<p>Research: What have been the main drivers and players leading to the expansion of the globalised world?</p>	<p>Write an essay to answer: Is there evidence to suggest that anti-globalisation movements are threatening globalisation processes?</p>
<p>Read BBC news and reliable newspapers to research world news.</p>	<p>What are the impacts of globalisation on international migration?</p>	<p>Answer the following question: What are the threats to national sovereignty in a more globalised world?</p>

History

Know It	Use It	Stretch It
<p>Keep a reading journal of articles, essays and additional books you have read.</p> <p>There are many books in your local library and subscribe to the 'History Review' https://www.hoddereducation.co.uk/historyreview</p>	<p>Write a journal article on a controversial topic you have, or you might be about to study giving your historical view.</p>	<p>Deliver a presentation on the following topic 'Historical fiction degrades society's understanding of the past'</p> <p>There are lots of historical fiction books in your local library you can use to research this.</p>
<p>Read a biography / autobiography of a historical figure you hope to study as part of your A-Level.</p>	<p>Analyse a historical source from the Tudor era.</p> <p>Create a presentation for your class on its usefulness.</p>	<p>Write an academic review of a recently published historical work in a field you are interested in.</p>
<p>Listen to Dan Snow's "History Hit" podcast: https://www.historyhit.com/podcasts/</p> <p>There are hundreds to choose from!</p>	<p>Create a detailed timeline for your favourite historical period you have studied including a minimum of 50 events.</p>	<p>Read a Historical non-fiction book about a period of history you have never studied before e.g. Ancient China.</p>

Maths

Know It	Use It	Stretch It
<p>Watch the videos from the exam solutions website to support your learning in lessons:</p> <p>https://www.examsolutions.net/a-level-maths/edexcel/</p>	<p>Consolidate a set of notes from these and ensure that all worked solutions you use are fully understood.</p>	<p>Explore some of the problems from the nrich.maths site to develop your problems solving skills:</p> <p>https://nrich.maths.org/9088</p>
<p>Use Dr Frosts Maths resources and PowerPoints, like this one on proof by contradiction:</p> <p>https://www.drfrostmaths.com/resource.php?rid=301</p>	<p>Find out and attempt Fermat's Last Theorem:</p> <p>What is the Last Theorem? - Simon Singh</p>	<p>Look at some of the TedEd videos that show maths in a more interesting way:</p> <p>https://www.youtube.com/user/TEDEducation</p> <p>In particular a clip which was recommended to us by a student:</p> <p>https://www.youtube.com/watch?v=Uj3_KqkI9Zo</p>
<p>Visit Mechanical, Art & Design museum Stratford-upon-Avon</p> <p>themadmuseum.co.uk/</p>	<p>Try the online homework tasks on mymaths:</p> <p>https://app.mymaths.co.uk/myportal/library/9/455</p>	<p>Look at the site Underground Maths and try some of the challenging questions:</p> <p>https://undergroundmathematics.org/</p>

Physical Education

Know It	Use It	Stretch It
<p>Read the journals of:</p> <ul style="list-style-type: none"> - Applied physiology, sport and society - Sport and exercise psychology 	<p>Write a glossary of anatomy and physiology used in your sport.</p>	<p>Write an article for your blog, your Facebook or Twitter pages on an area of interest.</p>
<p>Visit the University of Hertfordshire or East London Physiology laboratories.</p>	<p>Write a report on the tests and investigations carried out.</p>	<p>Create a coaching plan for any sport.</p>
<p>Watch the following documentaries/films:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Icarus (2017) Bryan Fogel, Netflix <input type="checkbox"/> Sports Science (2013) ESPN <input type="checkbox"/> The Program (2015) 	<p>Write a report on one of the films/documentaries you've watched and state the main findings from it.</p>	<p>Assess another performance and highlight areas of strength and areas for development.</p>

Philosophy & Religion Education

Know It	Use It	Stretch It
<p>Women and the Church: Read Chapter 13 of Bible Matters by Peter and Charlotte Vardy (</p>	<p>Body and Soul: Read Chapter 11 of The Selfish Gene by Richard Dawkins (details available on reading list)</p>	<p>Religious Experience: Watch The Stanford Prison Experiment: https://www.youtube.com/watch?v=760lwYmpXbc</p> <p>What, Where, When, Why, Who and How?</p>
<p>Language: Watch the TedTalk on How Languages Evolve: https://www.youtube.com/watch?v=iWDKsHm6gTA</p>	<p>Karl Marx: Online research on Karl Marx: http://www.bbc.co.uk/history/historic_figures/marx_karl.shtml</p> <p>Read and make your own notes on this topic.</p>	<p>Conscience: Online research on peped.com - For an introductory lesson, listen to a lecture about Abu Ghraib prison and how good people “turn evil”: http://www.ted.com/talks/lang/eng/philip_zimbardo_on_the_psychology_of_evil.html</p>
<p>Secularism: Listen to the following podcast on science and knowledge: https://iai.tv/iaipodcast/episodes-11-15E15 </p> <p>Everything We Know Is Wrong Lawrence Krauss, Kenneth Cukier, Steve Fuller</p>	<p>Sexual Ethics: Listen to any of the podcast on LGBT https://player.fm/featured/lgbt</p>	<p>Philosophy and Ethics: Look at the upcoming talks at Cambridge University and attend one of interest (virtually at the moment) http://talks.cam.ac.uk/</p>

Psychology

Know It	Use It	Stretch It
<p>Visit the British Psychology Society website on the internet:</p> <p>http://www.bps.org.uk/</p>	<p>Find out on the website about careers available to Psychology graduates and investigate what qualifications you would need to pursue that career.</p>	<p>Research a psychology degree course at a university you might be interested in.</p> <p>https://www.ucas.com/</p>
<p>Subscribe to the BPS Research digest in order to follow most recent research in Psychology</p>	<p>Share an article that interests you from the BPS Research digest on Social media and start a discussion about it, evaluate the methodology of the research</p>	<p>Make suggestions about how the research could be improved in terms of its design and share this with the original researchers by e-mailing them or joining an online forum.</p>
<p>Complete a Mooc course.</p> <p>https://www.edx.org/course?search_query=Psychology</p> <p>For example:</p> <p>https://www.edx.org/course/the-science-of-happiness-0</p>	<p>Investigate whether you would be eligible to participate in research at Hertfordshire University about the Psychology of Dance.</p> <p>https://www.herts.ac.uk/research/centres/psychology/psychology-of-movement/clcir</p>	<p>Write an article for the school newsletter about your participation in the research.</p>

<p>Science</p> <p>Biology</p> <p>Know It Visit a local nature reserve you could visit one in or around East London (e.g. Eastbrook Rainham Marshes)).</p> <p>Consider each active management point and investigate if there are examples of:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Controlled grazing. <input type="checkbox"/> Restricting human access. <input type="checkbox"/> Controlling poaching. <input type="checkbox"/> Feeding animals. <input type="checkbox"/> Reintroduction of species. <input type="checkbox"/> Culling and removal of invasive species. <input type="checkbox"/> Halting succession. <input type="checkbox"/> Coppicing. 	<p>Use It Join a volunteer group or spend a day volunteering with a group that works with countryside or urban conservation.</p> <p>Write up your experience explaining what was being done and why it was being done. Include photographs of the work – perhaps before and after!</p>	<p>Stretch It Based on either your visit to a local nature reserve or your experience volunteering with the practical conservation volunteers, design strategy/strategies with reasons that would improve or enhance the existing conservation measures in that location.</p>
<p>Write a short report of your findings include photographs.</p> <p>Transpiration – Create a 3-D replica of a plant species of your choosing. Label and provide a key on the transpiration stream.</p>	<p>Navigate to the following website and complete the lab. http://glencoe.mheducation.com/sites/dl/free/0078802849/383946/BL_10.html</p> <p>Create a data table and graph based on the experiment and the effect of different stimuli on the rate of transpiration.</p>	<p>Research the difference between small surface area: volume and large surface area: volume. Compare and contrast their anatomy and state why it is beneficial for each plant species</p>
<p>Plasma Membranes: Create a model of the phospholipid bilayer. Clearly label the different types of proteins, phospholipid head and tail.</p>	<p>Watch a video on the egg osmosis lab. (https://www.youtube.com/watch?v=SSS3EtKAZYc)</p> <p>After watching the video, conduct the experiment at home and calculate the percent change of the egg mass.</p>	<p>Conduct the water potential / osmosis lab on two – three different vegetables. After, calculate the percent change and compare your results. Using your data table and graph, draw a conclusion as to why certain vegetables may have different cellular water potentials.</p>

Chemistry

Know It	Use It	Stretch It
<p>Make a list of objects in your house made of one element alone and a list of objects made of compounds.</p>	<p>Calculate your carbon footprint: https://footprint.wwf.org.uk/ Make a plan of ways to reduce it</p>	<p>Consider the ways that you organise data, objects or things to do in your everyday life. See if you can organise and group some data in a table like the periodic table where going across the table has one set of information and down it another.</p>
<p>Take photos of methods used to separate mixtures in your household, explain how they work.</p>	<p>Choose several ordinary items and explain what they are made of and how the bonding of that material helps the object do its job.</p>	<p>Imagine you are a bowl of washing up water. Describe the contents of your mix and how you are changed and treated as you travel from the drain to a river.</p>
<p>Make a list of products made from the products of crude oil around the home and street.</p>	<p>Help your parent or carer the next time they visit the local recycling centre. Take note of the different elements in the objects you are recycling.</p>	<p>Try to make a natural descaler from food ingredients. Take photos of how well it works.</p>

Physics

Know It	Use It	Stretch It
<p>Electricity: Produce a set of flash cards which summarise the symbols and function of components</p>	<p>Electricity: Use your knowledge to design a switching circuit in an application. Imagine you are pitching your idea to a company, produce a PowerPoint slide which summarises how your idea works</p>	<p>Electricity: Research transistors. Design / build a circuit which makes use of them as a switch.</p>
<p>Motion: Summarise the forces and acceleration which takes place during a rocket launch. How do the key parameters (e.g. mass / velocity) change?</p>	<p>Motion: Research the bloodhound supersonic car. What aerodynamic features are there that limit drag / air resistance. Produce a slide which you could use to teach a friend.</p>	<p>Motion: Create a model of projectile motion on an excel spreadsheet / computer program.</p>
<p>Waves: Imagine you have been asked to help a Year 11 with revision – make a plan for how you would teach the key concepts in waves (electromagnetic and compression)</p>	<p>Waves: Investigate how the wave velocity of sound changes in different mediums. Design a device which could make use of this and produce a one-page summary.</p>	<p>Waves: Research how earthquakes are detected and monitored on Earth. Research the Insight lander (NASA). Create a poster which summarises the differences in detecting earthquakes on Mars.</p>

Sociology

Know It	Use It	Stretch It
<p>TRANSNATIONAL CORPORATIONS Watch Joel Bakan's documentary 'The Corporation'. Investigate the unethical practices of a transnational corporation of your choice in the developing world. Use this to debate whether transnational corporations are 'institutional psychopaths', as suggested by Bakan.</p>	<p>REFORMING AID Write a proposal to the foreign secretary in order to advise the government on how to improve the effectiveness of aid in the development process.</p>	<p>TUTORING Offer to support a student from year 11 in their studies. Run tuition sessions with them in which you advise them on how to be successful and tutor them on topics they are struggling with.</p>
<p>CRIME AND ETHNICITY Listen to Helena Merriman's podcast on BBC – "Why do American police kill so many black men?" Summarise the key points in your own words. https://www.bbc.co.uk/programmes/b060zg8g -</p>	<p>CONDUCT RESEARCH Conduct your own research into victimisation – you may wish to explore how fear of victimisation varies across groups. You can choose your own method, justify why you chose it, conduct your research and then create a display of your findings and conclusions.</p>	<p>REFORMING JUSTICE Research the arguments of the Howard League. Using sociological evidence and additional research, write a critical evaluation of the use of prisons in the UK. Is it an effective response to crime? How would you argue it should be reformed?</p>
<p>SOCIOLOGICAL THEORY Produce a summary of each of the core theoretical perspectives covered on your course (Marxism, feminism, functionalism, postmodernism and social action theories) which could be given to introduce younger children to the perspectives.</p>	<p>APPLY YOUR KNOWLEDGE Watch the news on a regular basis – see how many events you can link to the concepts, ideas and theories you have learned about in class. Discuss this with your parents/guardians/friends.</p>	<p>SOCIAL POLICY Create a list of social problems we have addressed/uncovered for each topic in crime and deviance and global development. For each, try to come up with a policy which could address this issue and explain how.</p>