

Getting A-level Ready



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Thank you for your application to join Balcarras Sixth Form. The transition from GCSE to AS and A-level study is a challenging one, and there is no doubt that students who commit to completing preparatory work prior to the commencement of their A-level courses in September are able to meet these challenges with greater success. Please find attached recommended preparation work for the all the post-16 course we offer at Balcarras, including advice on preparing for your EPQ too. If you would like further advice or guidance, please do not hesitate to contact me at dl@Balcarras.gloucs.sch.uk. Good luck with your GCSEs!

D. Leatherbarrow

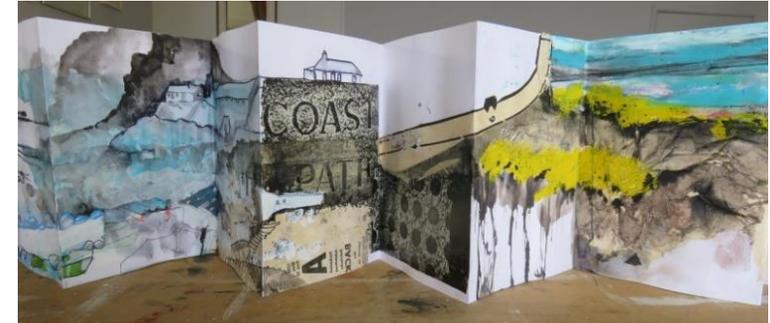
To kick-start the new term in sept it would be really good if you could bring to the table some of your likes with regards to artists' work. I would start on Pinterest and look at all the artists that you have collected over the last two years and use them as inspiration – you will probably find that there is a thread running through your collecting and this might lead to some interesting starting points- but maybe not. Do not worry if the styles of art or the subject matter varies enormously- just use them as a starting point and see where it takes you. This will provide a good talking point for you and your teachers and fellow students. Take a strip of paper and fold it into a concertina. Stick down artists work that you particularly like- try to join the images together by working into the spaces in-between. Be creative and enjoy! You can collage, paper-cut, zoom in to detail, draw, paint, print – use your imagination.

The course in September will focus largely on material use- we will experiment with a range of materials and approaches. You have all been training yourselves over the last two years and have a range of skills and talents. This concertina will allow you to bring your approach to the table. Be brave, adventurous and enjoy the making of it. Art is very much about the doing so don't over think it but just do. See you in September.

<https://www.youtube.com/watch?v=KTLxhWLn1M>

<https://www.youtube.com/watch?v=7E89BGSv1U4>

<https://www.youtube.com/watch?v=Ib7OSiqJAel>



The tasks below will form some of your notes for the course. The idea is that when you are studying these areas, you can just add information to the notes you've already made – it gives you a head start. This work must be brought to your first Biology lesson, and all subsequent Biology lessons until you have covered all of these topics, please.

Task 1:

Find and draw the molecular structure of alpha and beta glucose. Explain how the 2 molecules are different.

Task 2:

Research the structure of starch and cellulose. Describe the structure of each, and explain how that makes them suited to their functions. Write a summary of the main differences between the 2.

Task 3:

Draw a diagram of an animal cell, labelling the following structures:

Cell membrane

Nucleus

Rough Endoplasmic Reticulum

Smooth Endoplasmic Reticulum

Lysosomes

Cytoplasm

Nucleolus

Ribosomes

Golgi apparatus

Mitochondria

Task 4:

Draw a diagram of a plant cell, labelling the following structures:

Cell membrane

Nucleus

Rough Endoplasmic Reticulum

Smooth Endoplasmic Reticulum

Lysosomes

Chloroplasts

Vacuole

Cytoplasm

Nucleolus

Ribosomes

Golgi apparatus

Mitochondria

Cell Wall

Task 5:

Describe and explain the function of each of these organelles or structures. A few sentences for each will suffice – you will cover the more complicated aspects in class in September.

If you are considering taking Business in Year 12 as one of your A-level options then we would suggest looking at some of the following resources to prepare you for the course ahead:

Download the key areas of the syllabus

Research business examples. Look at the BBC news website. Go to News, Business and then companies. Keep up to date with what is going on. Try and keep a log of current external topics:

- Brexit
- Coronavirus
- Legislation

How do these have positive impacts & negative impacts on businesses?

Keep a brief log of examples as we shall refer to these regularly in Business lessons.

These are really useful websites to look at:

www.tutor2u.net

www.businesscasestudies.co.uk

www.bbc.co.uk/news/business

Interactive worksheets/videos:

<https://time2resources.co.uk/blog/preparing-year-11-students-for-year-12-business-qualifications-with-inside-aldi/>

Business Studies

Consider reading one of the following books: (optional but recommended)

[How I Made It: 40 Successful Entrepreneurs Reveal How They Made Millions](#)

Rachel Bridge

An essential read for anyone that is thinking about starting their own business. Successful Entrepreneurs are interviewed about how they spotted a gap in a market, and developed a USP.

[The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer](#)

Jeffrey Liker

Covers Japanese Management Techniques such as Kaizen and TQM.

[Business Stripped Bare: Adventures of a Global Entrepreneur](#)

Sir Richard Branson

The autobiography of Britain's most famous entrepreneur.

[Sun Tzu - The Art of War for Managers: 50 Strategic Rules Updated for Today's Business](#)

Gerald A. Michaelson

Applying the ancient Chinese rules of battle to modern day business.

[The Intelligent Investor](#)

Benjamin Graham

The classic book on stock market investment, as recommended by Warren Buffet.

As preparation for the AS level course that you will start in September there are some topics that should review and strengthen from GCSE. Topics which appear on the GCSE course and AS course are covered early in the year. You could also use your GCSE notes or revision guides or websites such as: <https://www.physicsandmathstutor.com/chemistry-revision/a-level-ocr-a/module-2> When you are ready have a go at the questions and you can see how well you did using the mark schemes that are attached.

Atomic structure and isotopes:

(a) isotopes as atoms of the same element with different numbers of neutrons and different masses

(b) atomic structure in terms of the numbers of protons, neutrons and electrons for atoms and ions, given the atomic number, mass number and any ionic charge

Relative mass:

(c) explanation of the terms relative isotopic mass (mass compared with 1/12th mass of carbon-12) and relative atomic mass (weighted mean mass compared with 1/12th mass of carbon-12), based on the mass of a ^{12}C atom, the standard for atomic masses

(d) use of mass spectrometry in:

(i) the determination of relative isotopic masses and relative abundances of the isotope,

(ii) calculation of the relative atomic mass of an element from the relative abundances of its isotopes.

(e) use of the terms relative molecular mass, M_r , and relative formula mass and their calculation from relative atomic masses.

Determination of formulae

(b) use of the terms:

(i) empirical formula (the simplest whole number ratio of atoms of each element present in a compound)

(ii) molecular formula (the number and type of atoms of each element in a molecule)

(c) calculations of empirical and molecular formulae, from composition by mass or percentage compositions by mass and relative molecular mass

Acids, bases, alkalis and neutralisation

(a) the formulae of the common acids (HCl , H_2SO_4 , HNO_3 and CH_3COOH) and the common alkalis (NaOH , KOH and NH_3) and explanation that acids release H^+ ions in aqueous solution and alkalis release OH^- ions in aqueous solution

(b) qualitative explanation of strong and weak acids in terms of relative dissociations

(c) neutralisation as the reaction of:

(i) H^+ and OH^- to form H_2O

(ii) acids with bases, including carbonates, metal oxides and alkalis (water-soluble bases), to form salts, including full equations

Ionic bonding

(a) ionic bonding as electrostatic attraction between positive and negative ions, and the construction of 'dot-and-cross' diagrams

(b) explanation of the solid structures of giant ionic lattices, resulting from oppositely charged ions strongly attracted in all directions e.g. NaCl

Covalent bonding

(d) covalent bond as the strong electrostatic attraction between a shared pair of electrons and the nuclei of the bonded atoms

(e) construction of 'dot-and-cross' diagrams of molecules and ions to describe:

(i) single covalent bonding

(ii) multiple covalent bonding

To prepare yourself for the course, we suggest you revisit your GCSE specification, available at:

<https://www.ocr.org.uk/qualifications/gcse/computer-science-j276-from-2016/>

and list any areas that you find a particular weakness.

It is recommended that you use your revision resources or websites such as BBC Bitesize <https://www.bbc.co.uk/bitesize/examspecs/zmtchbk> or the Cambridge MOOC <https://cambridgegcsecomputing.org/> to fill any gaps in your knowledge.

You could even consider taking a free course offered by Future Learn. This could also be added to your personal statement at a later date.

<https://www.futurelearn.com/search?q=computing>

It is highly recommended that you practice your skills in Python, HTML and JavaScript. The following websites can help:

W3 Schools: <https://www.w3schools.com/>

Codecademy: <https://www.codecademy.com/>

Solo Learn: <https://www.sololearn.com/>

Seneca: <https://www.senecalearning.com/>

Data types, data structures and algorithms

Activity 1

Converting between denary, binary and hex in the table to the right:

Computer Science

No.	Denary	Binary	Hex	Binary value plus 00011110
1	1			
2	5			
3	10			
4	22			
5	40			
6	77			
7	91			
8	121			
9	144			
10	168			
11	170			
12	200			
13	211			

Activity 2

Create a program that analyses a passage of text from a file and then counts:

How many words

The average length of a word

How many times each word occurs

How many words start with each letter of the alphabet?

The aim of this exercise is to test your ability to develop algorithms.

Activity 3

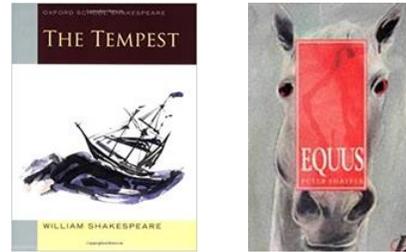
Create a website using HTML and JavaScript that converts denary, binary and hexadecimal numbers.

It should allow the user to enter a number they wish to convert

It should allow the user to select which conversion they would like to make

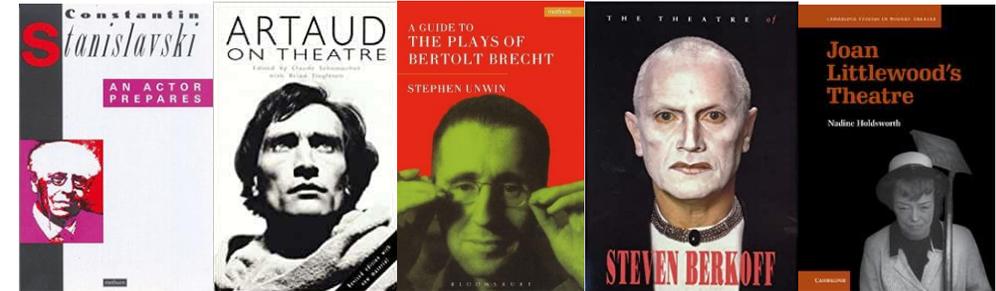
If you're doing Drama & Theatre A Level, here's some useful prep to enhance your knowledge & skills to get ready for this course! Alongside plenty of practical script work & devising experiences, we'll study 2 set texts. These are from contrasting eras of theatre history – both plays are significant in the development of the modern art form.

The modern text is: 'Equus' by Peter Shaffer
The classic piece is Shakespeare's 'The Tempest'



If you want to download or buy copies of The Tempest, there are various editions. The exam version is The Oxford School Shakespeare Edition [usually about £5 new] However if you'd like a helpful modern script side by side with the original there's a **No Fear Shakespeare** edition [also on Kindle & iBooks]. Alternatively, you can **download a free 'original script'** from the internet [various sources including **Project Gutenberg: gutenberg.org** – this site also has many other classic works freely available!]

We'd suggest you **read plays in stages, perhaps a scene at a time with regular breaks over a few of days**, but feel free to read in one go if that's not too much stress and you can follow all that is going on! [Hint: Try to picture what's happening if you can, modern theatre is a visual medium]. You can also access many interesting video resources online about **The Tempest** and many other dramatic works and **practitioners** with a range of productions & documentaries available on YouTube, **National Theatre & RSC** websites. Other practitioner websites of interest include **Punchdrunk Theatre, Frantic Assembly, Complicite, Kneehigh**.



Students have to cover several practitioners across the course, so any reading about **Stanislavski, Artaud, Brecht, Berkoff, Littlewood** would be valuable. Also current top directors: **Emma Rice, Katie Mitchell, Lyndsey Turner**. Some **new playwrights** to research could include:

Lucy Prebble, Laura Wade, Lucy Kirkwood, Anne Washburn, Ella Hickson, Finn Kennedy, James Graham, Richard Bean, Jack Thorne, Lee Hall.

If you're interested in **theatre design** you might want to research **John Napier, Tom Piper, Julie Taymor, Es Devlin**

Hopefully that's plenty for you to look into while we await the return to school. **Please don't be put off by all this**, we don't expect you to do any more than you feel you can. Getting a head start on **The Tempest** would be helpful but don't panic if it seems daunting at this stage!

If you are considering taking Economics in Year 12 as one of your A-level options then we would suggest looking at some of the following resources to prepare you for the course ahead:

Download the key areas of the syllabus

Research the UK Economy. Look at the BBC news website. Go to News, Business and then the Economy. Keep up to date with the key stories linked to the UK and Global Economy. You should be keeping track to changes with

- Interest Rates
- Inflation
- GDP e.g. France has just gone into recession and many others to follow
- Coronavirus impacts on the economy
- What is the UK bailout package?
- What does it mean to furlough staff?

Keep a brief log of what is going on and impacts on the economy. Your two-year course will continually link to these stories.

Consider reading one of the following books:

The Economic Naturalist
Robert Frank

Freakonomics
Steven Levitt & Stephen J. Dubner.

Finally these are great websites to look at:

www.tutor2u.net

www.bbc.co.uk/news/business/economy

<https://time2resources.co.uk/blog/preparing-year-11-students-for-year-12-economics-qualifications-the-price-of-petrol/>

English Literature

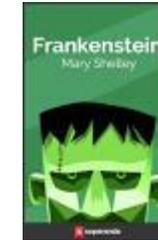
If you are considering taking English in Year 12 as one of your four A-level options then we would suggest completing the following work in preparation for the course.

Download or buy copies of the following texts to read in preparation for studying them next year:

'Frankenstein' by Mary Shelley (the Norton critical edition has some really useful essays)

'A Handmaid's Tale' by Margaret Atwood

'A Streetcar named Desire' by Tennessee Williams



Preparation work ahead of studying 'Frankenstein':

Research and create a chronology of Mary Shelley's life

Find out about the views of Mary Shelley's Father William Godwin - how did he believe society should be run?

Make notes on his beliefs

Use the classical booklet (link on the KS4 page) to find out about Prometheus - make some notes on his story

Research real life stories where Science has proved controversial in its aims (e.g. genetic engineering) - make notes on the pros and cons and be ready to share these

Suggested wider reading: 'Never Let me go' by Kazuo Ishiguro; 'War of the Worlds' by H.G Wells

Preparation work ahead of studying 'The Handmaid's Tale':

Research Margaret Atwood (look at previous work, general topics of interest to her) <https://www.youtube.com/watch?v=7a8LnKCzsBw> – This is a lovely interview with her that explores why she wrote the novel and how it is read in the 21st century

Research the historical background of the social climate towards feminist ideals and sexuality in the 1980s

Explore what is meant by dystopian and speculative fiction – research and read around this genre (classics such as Orwell's 1984 and Huxley's Brave New World or contemporary works such as Vox by Christina Dalcher and The Power by Naomi Alderman if you are more interested in dystopic feminist literature...Angela Carter is also fab!)

The 'handmaid' has been used as a motif recently for female oppression and protest, explore how the TV series and the sequel 'The Testaments' has catapulted Atwood's story into the present day and how it is culturally relevant despite being written in the 80s

Use this article from the British Library into other areas that may interest you <https://www.bl.uk/20th-century-literature/articles/feminist-literature-puncturing-the-spectacle#>

Suggested wider reading: 'The Testaments' by Margaret Atwood; 'Vox' by Christina Dalcher

Preparation work ahead of studying 'A Streetcar name Desire':

Research and make notes on the playwright Tennessee Williams' life

It's worth seeing if you can buy and watch a version of the play (the 1951 film with Marlon Brando is a good place to start!)

The play was first performed in 1947, but there is only brief reference to WW2 within the play and no sense of the events that followed (Cold War and America's rise as a world power) - this omission is characteristic of Williams. The events however of the American Civil War (1861-1865) are key to this play, as it is set in the South. Research and create notes on the main events of the American Civil War - these do not need to be overloaded with dates of battles etc... as you will not need this when writing essays. Make sure you have a clear sense of why/how it started (part of this will be the economic differences between North and South); how it ended; the treatment of the South following the war

Literary context - after the defeat of the Confederate Army in 1865 the Literature of the South gradually revived and there was a growing nostalgia for the past (even texts such as Margaret Mitchell's 'Gone with the Wind' 1936 demonstrate this). Find out about and make notes on the 'Mississippi School' of writers, the genre 'Southern Gothic' (what defined this style of writing?) and Tennessee's own feelings about the South.

Suggested wider reading: 'The Glass Menagerie' by Tennessee Williams (this play has strong autobiographical elements); 'Gone with the Wind' by Margaret Mitchell; 'Cat on a hot tin roof' by Tennessee Williams.

If you are considering taking environmental science as an AS-level option in Year 12 then we would like you to complete the following work in preparation for the course.

Task 1:

Choose an animal from this list of endangered species:

Rhino	orang utan
Gorilla	hippopotamus
sea turtle	

Research the animal and its IUCN status (you may need to research IUCN), include information about its habitat and the reasons it has become endangered. Then find out what is being done to protect this animal, for example: the introduction of designated areas and by restricting activities and establishing management plans.

Task 2:

Remind yourselves of the GCSE work you did on ores and extraction of metals. Research different methods of metal extraction including bioleaching and phytomining. Imagine what your life would be like without the metal indium. You may need to research what this metal is used for first. Research how new mineral deposits are found, and the exploratory techniques involved.

Task 3:

Look back on the work you did on the carbon cycle and the nitrogen cycle. Draw a labelled diagram of both cycles, explain the main processes in the cycles and research the human impacts on them.

Environmental Science

Task 4:

Build up a clear subject-specific glossary – this will be essential to making an assured start to the course – get started with the first half, A - M:

Abiotic factors; Acidification; Acidophile; Acoustic monitoring; Aerobic process; Afforestation; Albedo; Anaerobic process; Anthropogenic; Aquifer; Archaea; Artificial insemination; Atmosphere; Beating tray; Biodiversity; Biogeochemical cycle; Bioleaching; Biological corridor; Biomass; Biome; Biomimetics; Captive breeding and release programmes (CBR); Carbon capture and storage (CCS); Carbon footprint; Carbon sequestration; Centre of diversity; Cirrus cloud; Climax community; Cnidarians; Colonisation media; Community of species; Contour ploughing; Convention on international trade in endangered species (CITES); Coppicing; Cradle to cradle design (C2C); Crop wild relatives (CWRs); Cryosphere; Culling; Cut-off ore grade; DAFOR scale; Debt for nature swaps; Decomposers; Deflected succession; Deforestation; Dendrochronology; Detritivores; Dynamic equilibrium; Ecological niche; Ecological succession; Ecosystem; eDNA; El Niño; Embryo transfer; Endemic; Eradication; European Union Common Fisheries Policy (EU CFP); Eutrophication; Evolutionary, distinct and globally endangered (EDGE) species; Ex-situ conservation; Feedback mechanisms; Flagship species; Gravimetry; Greenhouse gas (GHG); Haber Process; Habitat; Halophyte; Hard release; Hydrology; Hydrosphere; Hydrothermal deposition; In-situ conservation; Insolation; International tropical timber organisation (ITTO); International whaling commission (IWC); Keystone species; Kick sampling; K-selected species; La Niña; Lasky's principle; Leachate; Light traps; Lincoln index; Lithosphere; Local nature reserve (LNR); Magnetometry; Magnetosphere (of Earth); Marine conservation zone (MCZ); Marine nature reserve (MNR); Marine protected area (MPA); Metamorphic processes; Methane hydrate; Montreal protocol; Mulch; Multicropping

September seems a long way off at the moment and you should not forget everything you have learnt at GCSE!

Keep a blog / a diary

Write everyday (or almost 😊) what you have done during that day using the past. You could do this as an old-fashioned handwritten diary or as a blog online.

Practise your French

Read newspapers and magazines (online or hard copies). It is important to keep in contact with what is going on in France so keep an eye on the news (read articles related to the themes you will study next year to start learning vocabulary related to them but also facts which will be very important for your speaking exam).

‘L’auberge espagnole’ (Pot Luck’)

We will study the film “L’auberge espagnole” from Cédric Klapisch.

You must watch the film BEFORE the beginning of the course. It is available to purchase from Amazon.

Make summaries of the scenes (in English), write descriptions of the most important characters, and look for useful vocabulary. You must have a clear understanding of the plot but you must be ready to analyse the film when we start studying it, think about the following themes and how they appear in the film:

the relationships (friendship or love); the stereotypes; the comedy; Europe.

Reading and Listening skills

Go on the following websites to practise your reading and listening skills

- Les informations
 - www.francetvinfo.com
 - www.tv5monde.com
 - www.france24.com/fr/
 - www.cnews.fr/
 - www.lemonde.fr

- Divers
 - www.instagram.com/hugodecrypte/?hl=en

 - www.youtube.com/user/ptitenatou/
 - www.youtube.com/user/EnjoyPhoenix/
 - www.youtube.com/channel/UCcNVLgdpRLeT_HS1-hFqgLOA

Vocabulaire et grammaire (en ligne)

- www.kahoot.com
- www.quizlet.com
- www.duolingo.com
- www.memrise.com
- www.languagenut.com
- www.senecalearning.com
- www.francaisfacile.com
- www.bbc.co.uk/bitesize
- www.languagesonline.org.uk

Listen to French music: it is one of the best and nicest ways to learn French and improving your listening skills. Alternatively, watch as many French films and series as you can.

Les séries et les films

Dix pour cent (Call my agent)
Plan Coeur (The Hook-up plan)
Le bazar de la charité (The bonfire of destiny)
Le chalet (The chalet)
Marseille (Marseille)
Il était une fois la vie (Once upon a time Life)
C'est du gâteau! (Nailed it)

Il a déjà tes yeux (He even has your eyes)
Bienvenue à Marly Gomont (The African doctor)
C'est quoi cette famille? (We are family)
La dream team (A mighty team)
La grande classe (Back to school)
Mauvaises herbes (Bad seeds)

La musique

Listening to French songs will help you to improve your listening skills.

Check the lyrics on the www.lyricstraining.com (also available as an app)

<i>Louane</i>	<i>Kendji</i>	<i>Angèle</i>
<i>Soprano</i>	<i>Stromae</i>	<i>Maitre Gims</i>
<i>Tryo</i>	<i>Ninho</i>	<i>Eddy de Pretto</i>

Food Science and Nutrition

TASK 1 - Find the answers to these fifty key facts:

What is a NSP?
Explain a polypeptide link
What are the categories of lipids?
Explain Hydrogenated fat
What are DRV's?
Explain how individuals can take responsibility for food safety
Explain methods used by food handlers to keep themselves clean and hygienic
Explain methods used to keep work areas clean and hygienic
What are the risks associated with food safety?
Name 5 food poisonings
Which food poisoning poses a threat to pregnant women?
What are the differences between Macro and Micro Nutrients?
What is the chemical structure of protein?
What is the chemical structure of Lipids?
What is the chemical structure of Carbohydrates?
What is BMR?
State 2 causes of food contamination
What is meant by High Risk Food
Describe one dietary function of protein
State one difference between HBV and LBV
Explain the difference between soluble and insoluble NSP's
State 2 functions and explain the role of fat in the diet
State 2 reasons why foods are fortified
What deficiency causes rickets?
Give a symptom of protein deficiency

Why is an adequate water intake essential in the diet?
What is the difference between monosaccharides and disaccharides?
What is Glucose?
Explain a complex polysaccharide
What is modified starch?
What chemicals make up protein?
Explain the difference between monomers and polymers
What are complementation foods and give an example
How can denaturation be brought about?
What is coagulation?
What is gelatinisation?
What chemicals make up fat?
Explain the term simple triglyceride
What is CIS?
What is TRANS
What sources contain saturated fats?
Name an unsaturated fat
What is a coeliac?
Explain a property of fats or oils
What is anemia?
What is the danger zone and why is it dangerous?
What is a lacto vegetarian?
What is an ovo – lacto vegetarian?
Draw the chemical structure of a monosaccharide
Draw the chemical structure of protein

TASK 2

Consider the needs of the following groups. For each group explain the DRV. For each group produce some detailed notes or a power-point

Children Adults Elderly Pregnant women
Type 1 diabetes Type 2 Diabetes Anaemia
Hypercholesterolemia Lactose intolerant Coeliac
Vegans Vegetarians Lifestyle

Useful websites – please use reliable sources!

www.foodsafety.gov

<http://homefoodsafety.org/app>

BBC Health: www.bbc.co.uk/health/healthyliving

British Nutrition Foundation: www.nutrition.org.uk

British Nutrition Foundation: Food a Fact of life :

<https://www.foodafactoflife.org.uk/>

CORE: <http://www.corecharity.org.uk/>

Department for Health: www.dh.gov.uk

Food Standards Agency:

www.food.gov.uk/aboutus/publications/industrypublications/

Food Vision: www.foodvision.gov.uk

Health Development Agency: www.hda.nhs.uk

NHS: <http://www.nhs.uk/livewell/healthy-eating/Pages/Healthyeating.aspx>

National Obesity Forum:

<http://www.nationalobesityforum.org.uk/>

Physical Activity and Nutrition Wales:

www.physicalactivityandnutritionwales.org.uk

The British Dietetic Association: www.bda.uk.com

Vegetarian Society: www.veg.soc.org.uk

Hoping to study Geography at A Level?
There are number of things you can do:

1. **Developing as a geographer** – through general reading around / watching videos / listening to podcasts etc. to develop your geographical knowledge and understanding
2. **Preparing for the A Level Course** Starting to explore the topics and their foundations which will be studied in the A Level course.

To be a great geographer you need to develop the ability to think synoptically, being able to see the greater overview and how everything begins to link together. Geography is not just about studying people and landscapes; it is also the relationships that exist between people and their environment.

The best geographers at A Level keep reading the news and generally seek to improve their geographical understanding by engaging with geographical discussions regarding key issues. A more comprehensive guide has been created with additional tasks and information on extra reading around the subject and topics.

1. Free online courses- take between 2- 3 weeks 3 hours a week- look great on your CV and will be brilliant for uni applications or apprenticeship. Split in to subject areas- lots in the nature and environment section for geog- some cross over in the science section too Sign up to the free option £0
https://www.futurelearn.com/courses?filter_category=10&filter_course_type=open&filter_availability=started&all_courses=1
2. Some more free online courses- open university
<https://www.open.edu/openlearn/education/free-courses?fbclid=IwAR3c8200VasK4jEhwFLitfvPe6NRo5TVR1Jyb3he3-NSBJRvxYSIu1X4I>
3. Help with rescuing and typing up the UK old rainfall records- can spend a couple of minutes or longer! Give something back ! Link here- <https://www.bbc.co.uk/news/science-environment-52040822?fbclid=IwAR3QGOSNcMF6YAShImpxxxQ2LJD5AGRjgT5FOZol6VXeLpBMFaI6vV90aBO>

4. Virtual fieldwork opportunities

<https://www.geofieldworkltd.com/news?fbclid=IwAR2OK8gPu1iqlDn00TfpJZbWs-akUBNcPePG02zcU2RdY8ap4Z98CHzeV70>

5. <https://timeforgeography.co.uk/> is an excellent resource which covers a wide range of human and physical topics using informative short clips. I'd really recommend exploring the video's Geographical Careers: https://timeforgeography.co.uk/videos_list/geography-careers/ Future Opportunities: https://timeforgeography.co.uk/videos_list/further-study-opportunities/

ii. PODCASTS

Now is the time to broaden your geographical understanding! Stick your headphones in and listen to some of the following...

Costing the Earth – There are some great podcasts here to pick from on a wide variety of geographical issues <https://www.bbc.co.uk/programmes/b006r4wn/episodes/player> (many topics, including amongst others.. climate change, carbon, urban greening, deforestation, alternative power, plastics etc.)

Royal Geographical Society – “Ask the Geographer podcasts” -

<https://www.rgs.org/schools/teaching-resources/ask-the-expert-podcasts/> - a fantastic set of podcasts to keep A Level studies up-to-date with the latest geographical research – pick out some that interest you and give them a go!

iii. Books to read

Remember you can make use of the local libraries digital library service for books – you don't have to access hard copies.

Prisoners of Geography (Marshall, T) – an insightful book which helps understand how physical geography impacts on political reality and really helps to understand how decisions of world leaders have been shaped by geography – a great introduction to geopolitics.

Factfulness: Ten reasons we're wrong about the world – and why things are better than you think (Rosling, H 2019) – this is a must-read book from a geography perspective – this takes a more realistic view of the world, presenting issues in fact-based context. It is a rational look at actually how far the world has measurably improved and what's left to be done.

You can get started straight away on the first parts of Unit 3, health, safety and security in health and social care.

What does it mean to be 'safe'? Safety and being safe is a basic human need. Consciously or subconsciously we all take practical steps to stay safe. All individuals have the right to work in a safe environment and individuals who require care or support also have a right to be safe in health and social care contexts. As a result, there are responsibilities that practitioners must actively promote in order to provide and maintain a safe environment for colleagues and the individuals who require care and support. This unit introduces you to health, safety and security in health and social care. You will acquire the necessary knowledge and skills to equip you in maintaining a safe working environment for yourself, your colleagues and individuals who require care and support. You will learn how legislation, policies and procedures work to reduce risks in health and social care and the consequences of not following them. You will also learn how to respond to different incidents and emergencies with health and social care settings.

TASK ONE: HEALTH SOCIAL CARE AND EARLY YEARS SETTINGS

Health, social care and early years settings all have potential hazards within them. First of all you need to know example of health, social care and early years settings. Use the internet to find five examples of a health care setting e.g. GP surgery
a social care setting e.g. child protection services
an early years setting e.g. a nursery

TASK TWO: HAZARDS IN HEALTH SOCIAL CARE AND EARLY YEARS

Hazards can be found in all care settings and if they are not minimised they can cause ill-health or harm to individuals who work there, visit the service or use the service as well as damage to the environment.

Define the term HAZARD.

Then complete the table:

Use the internet to research each hazard type and then apply it to a different health care setting, a social care setting and an early years setting.

HAZARD	RESEARCHED DESCRIPTION	HEALTH CARE SETTING EXAMPLE	SOCIAL CARE SETTING EXAMPLE	EARLY YEARS SETTING EXAMPLE
Environmental Hazards (for example slip and trip hazards)				
Biological Hazards (e.g. waste, bodily fluids and infection)				
Chemical Hazards (e.g. medicines and cleaning materials)				
Psychological Hazards (e.g. stress, violence and fatigue)				
Physical Hazards (e.g. noise and radiation)				
Musculoskeletal Hazards (e.g. manual handling and DSE)				
Working Conditions (e.g. temperature, noise or travel)				
Working Practices (e.g. waste, infection, working hours and lack of training)				
Lack of Security Systems (e.g. door and window locks and alarm systems)				

If you complete the first two tasks, please contact Ms Corinaldi for instructions on Tasks 3 and 4. If you are ready for tasks 3 and 4, email:

JMC@Balcarras.gloucs.sch.uk

Britain Industrialisation & Its People, 1783 – 1832 (1885 at A Level)

This topic is designed to allow you to explore how politics, society and the British economy changes and evolves after the disastrous loss of the American Colonies in 1783 and how the recovery changes in the above time frame. The course mostly focusses on the British Isles, so aspects of Empire/ Foreign Policy are only considered in the context of our home nations.

Book Recommendations:

Amazon/ Ebay or digital versions of these books where possible would be very useful items to own.

Brown and R Pearce, Radicalism and Reform: England 1780–1846

Fortune, Industrialisation and the People; Britain, c.1783-1885 - key course text

Evans, The Forging of the Modern State: Early industrial Britain,1783–1870

Suggested tasks:

1. Reading and exploring chapters of the above books would be great – make your own notes on the first chapters for Fortune and Brown especially- this would be great context to your studies.
2. **Create a timeline for Britain** from 1783 – 1832 – who are the main Prime Ministers in this period? What were their main achievements? What are the significant political changes? What are the main social changes in Britain at this time? How does the British economy change and develop? The more detailed this would be, the better. You could colour code changes that are political, economic or indeed social. This could be done on A3 paper, or digitally of course. Keep this document as this would be a vital tool to get a grasp of this time period.
3. **Create a detailed profile** on William Pitt the Younger. Who was he? Why was he important? Listen to William Hague’s lecture on William Pitt available on YouTube) You could make notes on the political factions of the 18th century – who were the Whigs? Who were the Tories?
4. **Create a detailed profile of George III** – how important was he to 18th Century Britain? Why does he reign stand out as a constitutional shift

AQA AS Level 1Q/ 2Q The American Dream – 1945 – 1963 (1980 at A Level)

This course is designed to explore the extent to which the American Dream is achieved in the post war period. The course generally follows each president from Roosevelt, to Truman, Eisenhower then Kennedy. The course looks at how politics change, how each president tackles foreign policy, how economics change, how society changes, how Civil Rights evolve and how culture influences all these aspects.

Book Recommendations:

The following books are suggested reading, again Amazon, Ebay or digital versions would be most advantageous to own:

Sanders, The American Dream: Reality and Illusion 1945 – 80 - key course text

Tindall, America: A Narrative History

Hamilton, American Caesars

Suggested tasks:

1. Reading and exploring chapters of the above books would be great – make your own notes on the first chapters for Sanders - this would be great context to your studies. The Roosevelt and Truman chapters of Hamilton’s American Caesars would be excellent context too – keep your notes safe
2. **Create a timeline for America** from 1945 - 1963 – who were the main presidents in this period? What were their main achievements? What are the significant political changes? What major US foreign policy moments were there? How does the status of Civil Rights change during these 18 years? How did each President win each election? This could be done on A3 paper, or digitally of course. Keep this document as this would be a vital tool to get a grasp of this time period. It could be a good idea to have a timeline for Truman, Eisenhower and Kennedy
3. **Create a detailed profile** on the US Political System in 1945 – What did the Republicans stand for in 1940s and 1950s? What about the Democrats? Why was there a North/ South Divide in the US? What powers did the President have? What role did the Senate play? How significant was Congress? How did state level politics play a role in the USA?
4. **Create a detailed profile** the demographics of the United States of America from 1945 into 1950s – what was the population? What ethnic groups existed? Percentages? Who was entitled to vote? What societal roles did women play?

Maths / Further Maths

If you are considering either Maths or Further Maths at AS level, then you should spend some time over the summer polishing up on your key skills. These skills are all from the GCSE syllabus and will be essential in the first few weeks of the AS Maths course.

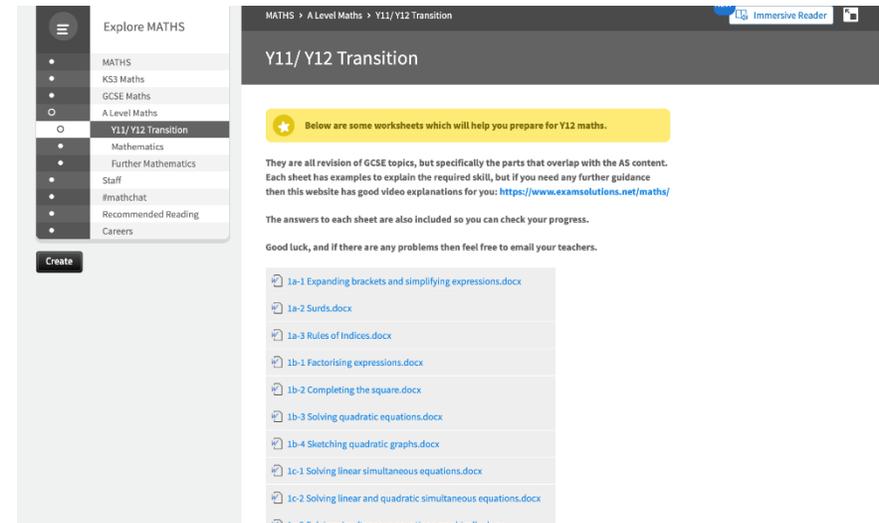
Key skills:

- Expanding brackets (up to the product of 3 brackets)
- Factorising (including quadratics with $a \neq 1$)
- Solving quadratics by factorising
- Solving quadratics using the formula
- Solving quadratics by completing the square
- Calculating with surds
- Simplifying surds (rationalising the denominator)
- Evaluating indices (with negative and fractional indices)
- Simultaneous equations (both linear or one quadratic)
- Quadratic inequalities
- Straight line graphs (including perpendicular lines)
- Sketching quadratics
- Graph transformations
- Pythagoras and trigonometry

In September you will need a Casio Classwiz calculator (fx-991EX) or the graphical equivalent (fx-CG50) so keep your eyes peeled in the 'back to school' sales or be prepared to buy one from school in the first week.

For those of you with access to the VLE, you will find there are worksheets you can use to revise these key skills. To access these you need to go to:

Maths > A level > Y11/12 transition



Explore MATHS

- MATHS
- KS3 Maths
- GCSE Maths
- A Level Maths
- Y11/ Y12 Transition
- Mathematics
- Further Mathematics
- Staff
- #mathchat
- Recommended Reading
- Careers

Create

MATHS > A Level Maths > Y11/ Y12 Transition

Y11/ Y12 Transition

Below are some worksheets which will help you prepare for Y12 maths.

They are all revision of GCSE topics, but specifically the parts that overlap with the AS content. Each sheet has examples to explain the required skill, but if you need any further guidance then this website has good video explanations for you: <https://www.examsolutions.net/maths/>

The answers to each sheet are also included so you can check your progress.

Good luck, and if there are any problems then feel free to email your teachers.

- 1a-1 Expanding brackets and simplifying expressions.docx
- 1a-2 Surds.docx
- 1a-3 Rules of Indices.docx
- 1b-1 Factorising expressions.docx
- 1b-2 Completing the square.docx
- 1b-3 Solving quadratic equations.docx
- 1b-4 Sketching quadratic graphs.docx
- 1c-1 Solving linear simultaneous equations.docx
- 1c-2 Solving linear and quadratic simultaneous equations.docx

If you do not yet have access to the VLE then you may choose to revise these topics by using your own notes or preferred revision websites from GCSE. If you would like a copy of the above sheets emailed to you then please email pkb@balcarras.gloucs.sch.uk and we will send them over.

If you are considering Music as one of your Sixth Form options, the following will help you prepare:

The course is the Eduqas specification (NOT WJEC – that is for Welsh schools). Feel free to take a look at the specification online. We study Areas of Study A and D, adding in E for A Level.

There is one set work for the AS:

Haydn Symphony No.104 (The first and second movements only).

Listen to the symphony. There are plenty of performances available on YouTube. If you go to imslp.org, you will also be able to access the score for free (we will provide you with a score in year 12 so do not feel you have to purchase a score). Become familiar with the work, particularly the first and second movements at this stage. The third and fourth movements are added for the full A-level in year 13.

Wider listening for Area of Study 1 - **Western Classical Tradition** (WCT).

For AS, we look at the development of the symphony from 1750-1830 so any *symphony* listening from that period will be beneficial. This extends to 1900 for the full A-level.

The other Area of Study is **Jazz 1920-1950**, so any listening to music within this genre would be good preparation. This extends to 1960 for the full A-level.

Ensure your theory is up to at least grade 5 standard. Obviously, you could actually purchase the theory workbooks and past papers. However, there are also free online resources. For example, **mymusictheory.com** gives you a chance to work through the material by grade and then complete a practice exam – all for free. If you are already at grade 5 standard for theory, challenge yourself – there's always grade 8!

Obviously, you should be practicing your instrument(s) and/or voice every day. Remember, you only need one instrument or voice for the recitals. You can use more than one but there is no credit gained for showing skills on more than one instrument. For the AS recital, the standard level of difficulty equates to grade 5 (piece do not have to be on a grade 5 syllabus). At A-level the standard level of difficulty is grade 6. In both cases, if you play pieces of a higher standard you can make a few mistakes and still access the highest marks! If your pieces are below the standard level of difficulty, your raw mark is brought down. Further detail can be found in the specifications.

We can provide some more specific documents regarding development of the symphony and also some work from the old A-level specifications looking at chords and lines on request. This is particularly helpful for developing your musical analysis skills and composition skills. We can also provide wider listening lists for the relevant Areas of Study. If you would like these things emailed to you, please email hjc@blacarras.gloucs.sch.uk.

Religious Education at A-level is a Philosophy, Ethics and Theology course which allows you to ask some of the big questions in life. Is there a God? How did the universe come about? What is right and wrong? Why does pain and suffering exist? Do miracles really happen?

The course covers the work of the great philosophers such as Plato, Kant, Aquinas and Descartes to more modern philosophical works. You will also be covering ethical theories and applied ethics, covering such topics as euthanasia and business ethics. As well as this you will also extend your understanding of the study of religion, particularly Christianity, considering its influence and history as well as the place that it has in today's world.

Things we would recommend that you read:

‘Sophie’s World’ by Jostien Gaarder

‘Ethics Matters’ by Peter and Charlotte Vardy

‘God Matters’ by Peter and Charlotte Vardy

‘Philosophy of Religion’ by John Hick

‘Causing Death and Saving Lives: The Moral Problems of Abortion, Infanticide, Suicide, Euthanasia, Capital Punishment, War and Other Life-or-death Choice’ by Jonathon Glover

‘The Blind Watchmaker’ by Richard Dawkins

For a full reading list and / or full list of recommended films and documentaries please see the VLE or email (he@balcarras.gloucs.sch.uk)

Things we would recommend that you watch:

Crash Course Philosophy on Youtube. These are 10 minute clips that cover many aspects of the course.

The Story of God with Morgan Freeman (All episodes can be found in part on YouTube or bought in full via YouTube our Netflix)

The Big Questions BBC (these discussions can be found on YouTube and there are a lot on religion, equality, medical ethics, philosophy and politics that would interest you)

Things you may want to buy:

The textbook chapters will be photocopied for you but it is much more useful to have your own copies of one of these books and they can be found on Amazon:

‘Oxford A Level Religious Studies for OCR: AS and Year 1 Student Book:

Christianity, Philosophy and Ethics’ by Libby Ahluwalia and Bob Bowie

‘OCR Religious Studies A Level year 1 and AS’ by Hugh Campbell, Michael

Wilkinson and Michael Wilcockson

Three ring binder folders, one for each of the subject areas (Philosophy, Ethics and Theology) you will be examined on.

Things you may want to do:

Subscribe to journals for example <https://philosophynow.org/>

Look at the exam specification <https://www.ocr.org.uk/images/242913-specification-accredited-a-level-gce-religious-studies-h573.pdf> and go through your year 11 book and revision resources saving any relevant material to help you. There will be many things that will be useful from your GCSE course.

The best preparation for the Photography AS course is to complete a summer project:

What does summer mean to you?

Produce a concertina portfolio over the summer break – theme what did summer mean to you. You can use the Instagram 30 day challenge as inspiration (plenty on Pinterest) or just come up with your own version- some of the best ones I have seen are where students have paired their own work with an image they have found. This can be done in a concertina format or on PowerPoint to save on printing. By finding an image to pair yours up with means that you are deepening the whole process. You just might find something truly inspiring! The rules are- there are no rules- if you want to draw back over your images or collage them together to make surreal pictures or paper-cut into them or add words then do! Or just present beautiful thought provoking/aesthetic images- do not over think this but be creative and true to yourself and enjoy!

Display the images on a concertina or in a PowerPoint presentation. Think about the presentation of each photograph's composition, and the presentation overall.



In Physical Education AS we study the OCR course which aims to develop an understanding of the scientific and socio-cultural factors that underpin physical activity whilst demonstrating your ability as either a performer or coach.

We follow the book published by Hodder Education, **PE for A Level Year 1** by Honeybourne and Powell ISBN 9791471851735

The course will prepare you for the further study of PE or sports science, as well as psychology, sociology and biology split into 6 key topic areas that are all compulsory. You will study Anatomy and Physiology, Exercise Physiology, Biomechanics, Skill Acquisition, Sports Psychology and the role of Sport in Society. Below are several ideas you could look at in preparation for September.

Anatomy and Physiology

Produce **three** movement analysis tables for **three** different sporting actions/skills. You must describe the skill accurately.

i.e. **During the preparation phase of a basketball set shot (right elbow).**

You must use the tables below as a template for your analysis.

Include a sporting picture as shown below.

Each sporting action must show a different joint (e.g. ankle, knee, hip, wrist, elbow, shoulder).

Joint Name	Joint Type	Articulating Bones	Joint Movement	Agonist muscle	Antagonist muscle	Plane of movement
Right Elbow	Hinge	Humerus, radius, ulna	Flexion	Biceps brachii	Triceps brachii	Sagittal plane

Addition units:

- Exercise Physiology
- Sports Psychology
- Sport in Society

Physical Education

Biomechanics

Find out the definitions of Newtons 3 Laws of motion and find a variety of applications of each law in a range of different sports.

See if you can apply the lever systems you studied at GCSE to each of the examples used in the previous activity.

Find out how limb kinematics, force plates and wind tunnels are used to analyse sporting performance.

Skill Acquisition

Research the following six classification continuum's,

- Difficulty (simple/complex)
- Environmental influence (open/closed)
- Pacing (self-paced/externally paced)
- Muscular involvement (gross/fine)
- Continuity (discrete/serial/continuous)
- Organisation (low/high)

Place 2 sporting skills on each continuum and justify why you have placed the skills at the points you have along the continuum. Please see an example below.



I have chosen to place the slap pass close to the open end of the continuum because it is a skill that can be largely affected by the environment around. There may be opponents close to the performer wanting to play the slap pass and this can mean they have limited time to complete the pass and possibly limited space for them to sweep the stick backwards along the floor if there is a defender encroaching.

Practical

In the practical element of the course or NEA (non-examined assessment) you can be assessed as a performer or a coach in your **one** chosen activity. As a performer AS focusses on the mastery of skills and effective performance under competitive pressure. You need to keep a log book of competitive participation showing your frequency and level of attainment as well as video evidence of your skills for supporting evidence. If you choose to do coaching you need to plan 10 sessions that last a minimum of 40 minutes in duration. You will also need to do an oral EAPI which is an analysis talk on performance and improvement. A list of the available sports can be found on the OCR exam board website so start your research into what is the best option for you.

Thank you for your interest in studying physics at A-level. We hope that you will find it an enjoyable and fulfilling experience. However, this is not an easy option. Here are a few things that you should do so that you can hit the ground running at the start of the course.

1) Keep your technical ability up to scratch.

Physics A-level contains a lot of maths. In fact physics has been described as 'maths with a story'. You should keep your algebra up to speed over the summer perhaps by doing some exercises out of a GCSE textbook or working through a book like 'Head Start to A-Level Maths' published by CGP.

2) Check that your science knowledge is still there

Whether you studied single subject physics or dual award science, there is plenty of background knowledge that will come in handy for A level physics. Our first topics covered will be 'forces' and 'waves' so you could review these ideas and make sure you can remember what the key words mean. Again, we would recommend working through a book like 'Head Start to A-Level Physics' published by CGP.

3) Feed your interest

It is really important to keep a sense of awe and wonder. Physics is no less than the study of how the universe works, and you should be excited about that! Find ways to feed your interest. That could mean borrowing a pair of binoculars and looking at the moon and the stars while downloading an astronomy app (like 'SkySafari') to act as your guide. Or you could explore a youtube physics channel (like 'minutephysics'). Or you could go really old school and read a book (like '50 Physics Ideas You Really Need to Know'). Or you could take part in your favourite sport, or musical event, and see where you could use your knowledge of physics could improve your performance.

4) For the Engineers

If you are thinking of being an engineer then you need to do 3 things: make something, dismantle something and mend something. 2 caveats here - for goodness sake get permission first and don't blame Balcarras if it goes wrong!

UK Government and Politics

(and American politics and Political Ideologies at A-level)

AS Politics explores almost exclusively the key themes, principles and institutions in UK Politics, and therefore prior to your formal studies beginning in September it would be a good idea to familiarise yourselves with some of the key terms and concepts that you will encounter in your studies next year. At A-level, the course then explores US politics and how it compares to the UK, along with a separate exploration of the political ideologies that form the basis of political parties and key principles in politics. Thus, now is a great opportunity to begin to acquaint yourselves with some of the core knowledge that will form the basis of your studies over the next couple of years.

UK Gov & Pol Book Recommendations:

Amazon/eBay or digital versions of these books where possible would be very useful items to own.

- UK Government and Politics- Neil MacNaughton – course text
- *Why we get the wrong politicians* - Isabel Hardman
- *Unleashing Demons* - Craig Oliver
- *For the record* - David Cameron
- *May at 10* - Anthony Seldon
- *Dangerous Hero: Corbyn's ruthless plot for power* - Tom Bower
- *WTF* - Robert Peston
- *Live From Downing Street* - Nick Robinson.

USA Book/Podcast/Documentary Recommendations –

- A Year at the Circus: Inside Trump's White House* - Jon Sopel.
- Fear in the Whitehouse* - Bob Woodward
- Developments in American Politics* - Gillian Peele and Christopher J. Bailey
- The Audacity of Hope* - Barack Obama
- Podcast: Americast* (Jon Sopel)
- Documentary: Fahrenheit 11/9* (Netflix)
- Documentary: How to win the US Presidency* (Netflix)
- Documentary: 13th* (Netflix)

Suggested tasks:

1. You **need** to start engaging with the news regularly, and should do **at least** one of the following (at least once a week):
 - *Start regular reading of online or hardcopy newspaper*
 - *Listen to Radio 4- Today and PM programmes*
 - *Watch Newsnight/Andrew Marr Show/ Robert Peston show*
2. **Create an overview timeline of Parliamentary history** – how has Parliament's role and powers changed since its conception? What have been the key legal and legislative milestones in its history? Use the Parliament Education website to help with your research (<https://learning.parliament.uk/resources/?age-range-suitability=all&theme=parliament-and-government#main>). This could be done on A3 paper, or digitally of course. Keep this document as it will be a vital tool to get a grasp of the changing roles and powers of Parliament.
3. **Research the results of the 2019 election** and create a 1-2 page summary document of the most important outcomes. What factors had the biggest influence on the result? How did people in different age groups vote? Were there any trends? Were there any surprises? Why was the context of this election so significant?
4. **Research the roles of both Members of Parliament and Members of the Lords.** Create job description for each role and include examples of high profile current members of both houses.
5. **Read the two attached Politics Review articles and create a summary poster** of American politics (A3 sheet/digital – make it pretty!) – make sure you research the following key areas: the US Constitution; Congress; the Presidency; the Supreme Court; Political Parties (beliefs/ideologies/key principles/important figures); Democracy and participation. What would be really useful would be to add in where this is similar/different to the UK equivalents.
6. **Book review:** you need to read **at least one** of the books on the reading list (UK reading list will be most applicable to Year 12 studies) – when you have done this, you should write a 500 word book review that includes the following: a summary (in your own words) of the book; your highlights of the book (what did you find interesting? Did anything surprise you? Be specific); any criticisms (not that it was too long....); your overall conclusion on its quality and a score rating out of ten (and your justification of this score).

Consider investing in the course textbook – there is a revision version that cost around £16 and the full copy can be purchased for £32. The ISBN numbers and titles of each can be found below:

Full version – can be found on Amazon

AQA AS/A-Level Design and Technology: Product Design

ISBN-10: 1510414088

ISBN-13: 978-1510414082

Revision notes version – recommended!

My Revision Notes: AQA A Level Design and Technology: Product Design

ISBN-10: 1510432299

ISBN-13: 978-1510432291

Develop your knowledge of materials and manufacturing processes. For each material listed below find out its properties and uses.

Manufacturing processes – try to find a YouTube video on the following manufacturing processes – write some notes to explain the process as well as what it is used for.

Papers and boards

Layout paper
Cartridge paper
Tracing paper
Bleed-proof paper
Treated paper
Watercolour paper
Corrugated card
Bleached card
Mount board
Duplex card
Foil backed & laminated card
Metal effect card
Moulded paper pulp

Woods

Oak
Ash
Mahogany
Teak
Birch
Beech
Pine
Spruce
Douglas Fir
Larch
Cedar
Plywood
Marine plywood
Aeroply
Flexible plywood
Chipboard
MDF

Smart Materials

SMA – Shape memory alloy
Thermo-chromic pigment
Phosphorescent pigment
Photochromic pigment
Electroluminescent wire
Piezoelectric material

Modern Materials

Kevlar
Precious metal
High density modelling foam
Polymorph

Metals

Aluminium
Copper
Zinc
Silver
Gold
Titanium
Tin
Low carbon steel
Medium carbon steel
Cast iron
Stainless steel
High speed steel
Die steel
Bronze
Brass
Duralumin
Pewter

Polymers

Low density polyethylene (LDPE)
High-density polyethylene (HDPE)
Polypropylene (PP)
High impact polystyrene (HIPS)
ABS
Acrylic (PMMA)
Nylon
Rigid PVC
Flexible PVC
Urea formaldehyde
Melamine formaldehyde
Polyester resin
Epoxy resin
Natural rubber
Butadiene rubber
Neoprene
Silicone

Polymer processes

Vacuum forming
Thermoforming
Calendering
Line bending
Injection moulding
Blow moulding
Rotational moulding
Extrusion
Compression moulding

Metal processes

Press forming
Spinning
Drop forging
Sand casting
Gravity die casting
Pressure die casting
Pewter casting
Investment casting

Preparation for AS psychology

If you are considering taking Psychology in Year 12 as one of your four A-Level options then we would suggest completing the following work in preparation for the course.

Get organised for the start of Year 12. Get yourself some folders, dividers, highlighters, revision cards and any other resources that might come in useful.

Carry out research and then create a timeline of the history of psychology. Make sure you include all the major changes/developments and how different psychologists have influenced the study of psychology.

Watch relevant videos on Youtube – the Crash Course Psychology series offers a good introduction to the main topics.

There are 4 approaches in psychology that you will study in Year 12. These include the behaviourist approach, social learning theory, cognitive approach and biological approach. Use the below websites to create an over view (this could be in the form of a table/grid, PowerPoint presentation, leaflet, poster or mind map) of these approaches in psychology:

www.simplypsychology.org

www.tutor2u.net/psychology

Find out the definitions of the following methods of investigation in psychology. Create a glossary that you can add to throughout the course. Please find some example below to begin with, but do add more independently to complement and support your reading and research:

- Laboratory experiment
- Field experiment
- Quasi experiment
- Case study
- Self-report methods
- Correlation

Read through some examples of recent psychology research from the BPS (British Psychological Society) research digest website <https://digest.bps.org.uk/>

Choose three that you find interesting. Make notes on the aims, methods and findings of the research and why you find it particularly interesting.

If you are considering taking Russian in Year 12 as one of your four A-level options, we would suggest completing the work as explained on the following two pages. This work will provide you with some background information about Russian culture and recent history and give you the chance to develop your language skills. Most importantly, **you must continue to practise your Russian** (speaking, reading, writing, listening) **by doing short activities every week**. There are lots of ideas on the following pages of how you can do this.

Reading and Listening

Use news and video resources on the internet to find out current affairs and research the topics you are studying:

<https://www.bbc.com/russian> - Russian version of BBC news.

www.1tv.ru – A Russian TV channel; watch and listen to news clips.

www.gazeta.ru – An online Russian newspaper.

Use *Netflix* or *Amazon prime* to watch a Russian film/ series with subtitles.

Writing/ Grammar

There are some useful websites you can use to revise grammar points:

<http://masterrussian.com/>

<http://www.russianforfree.com/>

<http://www.practicerrussian.com/>

You could write up notes on cases, verb conjugations etc. You could also write a diary about what you have been doing each week

Speaking

Use any opportunity to practise speaking Russian!

Set aside time once a week to text/ chat to your friends in Russian.

Take part in the weekly 'zoom' Russian speaking sessions.

Read your speaking questions aloud. Record yourself saying a Russian paragraph or text.

Vocabulary learning

Make time each week to revise the GCSE vocabulary (there are links on firefly)

Use 'Quizlet' resources/ make flashcards to revise and practise meanings.

Use the app *Duolingo*.

Culture

You need to demonstrate knowledge of Russian culture (*eg. Russian festivals, music, education system*) to achieve the highest marks in the A-level speaking exam.

When you are researching topics, try and make a note of facts/ statistics which you could use in your exam.

Look out for documentaries about Russia on tv – they can provide good background information.

During Year 12 you will study a film called *'Burnt by the Sun'* which is about life in the USSR in 1930s under Stalin's rule. You can watch the film (with English subtitles) online and research what life was like at that time in the USSR.

Russian summer term challenges!

Print out 5 Russian newspaper headlines and try to translate them.

Do you know Russian leaders? List the leaders of Russia from Gorbachev to the present day. Choose 2 or 3 leaders and write about how they have impacted on Russia.

Print out lyrics of a Russian song (not too long). Can you understand any words? Translate into English some of the words you do know and look up the meaning of a few others.

Research 2 Russian musicians. What are their best achievements? Listen to their music – what genre is it? What do you think of it?

Find information about a successful Russian businessman. What industry/ business are they involved in? How wealthy are they? Any particular achievements?

Russian festivals – how do Russians celebrate Christmas/ New Year/ Easter? Which other festivals are important in Russia? When are these festivals celebrated?

If you are considering taking Spanish in Year 12 as one of your four A-level options, we would suggest completing the work as explained here. This work will provide you with some background information about Spanish culture and recent history and give you the chance to develop your language skills. Most importantly, **you must continue to practise your Spanish** (speaking, reading, writing, listening) **by doing short activities every week**. There are lots of ideas on how you can do this.

Reading and Listening

Use news and video resources on the internet to find out current affairs and research the topics you are studying:

<https://www.bbc.com/mundo> -Spanish version of BBC news.

www.rtve.es – A Spanish TV channel; watch and listen to the news and TV series.

www.elpais.com – An online Spanish newspaper.

Use *Netflix* or *Amazon prime* to watch a Hispanic film/ series with subtitles.

Writing/ Grammar

There are some useful websites you can use to revise grammar points:

<https://www.spanishdict.com>

www.languagesonline.org.uk

www.colby.edu (Spanish.language&culture)

<http://www.ver-taal.com>

You could write up notes on cases, verb conjugations etc. You could also write a diary about what you have been doing each week

Speaking

Use any opportunity to practise speaking Spanish!

Set aside time once a week to text/ chat to your friends in Spanish.

Find a Spanish speaker pen pal

Read your speaking questions aloud. Record yourself saying a Spanish paragraph or text.

Vocabulary learning

Make time each week to revise the GCSE vocabulary (there are links on firefly)

Change the settings on your mobile/social media into Spanish.

Use 'Quizlet' resources/ make flashcards to revise and practise meanings.

Use the app *Duolingo*

Culture

You need to demonstrate knowledge of Hispanic culture (*eg. Spanish festivals and customs, celebrities, major changes in society, cultural heritage, cyberspace in the Hispanic world*) to achieve the highest marks in the A-level speaking exam.

When you are researching topics, try and make a note of facts/ statistics which you could use in your exam.

Look out for documentaries about Spain/Latin America on tv – they can provide good background information.

During Year 12 you will study a film called '*María Ilena eres de gracia*' which is about drug trafficking between Colombia and the United States.

Spanish summer challenges!

- Print out 5 Spanish newspaper headlines and try to translate them.
- Print out lyrics to a Spanish song (not too long). Can you understand any words? Translate into English some of the words you do know and look up the meaning of a few others.
- Research some history of Spain and take brief notes. Relevant events happened in the following years. What were they?
 - 1936-1939; 1939-1975; 1976-1978
- Research 2 Hispanic celebrities (singer, sports person, model, film star). What are their best achievements? Why are they so popular in the Hispanic world? What do you think of them?
- Find information about a traditional Spanish dish. What are the ingredients? In what region of Spain is it more popular?
- Spanish festivals –what festivals are important in Spain? In what region are they celebrated? When are these festivals celebrated?
- Cultural heritage- Research a historic site/building in the Hispanic world. Where is it? Why is it so popular for visitors?
- Do you know any important artist (for example, a painter)? What is his most important piece of work?

Studying AS Textiles next year?

Please find below some recommended preparatory tasks and challenges to get your knowledge and skills ready for the AS course:

SOMETHING TO WATCH....

If you have Netflix I would like you to watch '**Next in Fashion**' - its brilliant and addictive.

'**McQueen**' - a great documentary about a truly remarkable designer, a little dark in places but well worth a watch.

'**Coco before Chanel**' - another inspiring film that is well worth a watch.

SOMETHING TO KEEP YOU BUSY...

This is linked to your first sixth form project of 'Lines and Gaps' so please do keep all work you have done safe and produce to a high standard:

Task 1:

Experiment with a variety of different paper sculpture and manipulation techniques. Example: ripping, origami folding, quilling, layering, feathering.

Create a **minimum** of 10 samples and annotate.

You can use any paper you have lying around, magazines, old envelopes, card etc.

Task 2:

Find 3 fashion designers who use sculptural manipulation techniques.

Create a research page for each designer. Alexander McQueen, Issey Miyake

Task3:

Create minimum of 4 fashion illustrations showing how your experiments could work as garments. Find a template figure online and trace if you need to. Use any materials you have at home. Sketches can be done using any media including paint, chalks, pastels, collage, pencil, pen, adobe photoshop and procreate.

Challenge!

Make your garment! It can be made of any paper you have at home. It does not have to be a dress!

Style it on your family members and don't forget to photograph the finished piece!

FEELING CREATIVE...

Have a look at this website:

<https://www.creativebug.com/classes?category=Art+%2B+Design>

It's absolutely fantastic for learning new techniques and skills, this will be especially useful if you haven't done art since year 9. I would concentrate on sub categories; 'Textiles', 'Mixed Media' and 'Sketchbook exercises'.



EXTENDED PROJECT QUALIFICATION

WHAT IS EPQ ?

The extended project is a level 3 qualification for which UCAS points are awarded. It is worth half an A level.

It is an opportunity to **explore, research** and **produce** an extended piece of work in one of your chosen A level subjects, or in an area that you are simply interested in, that is beyond your academic studies. N.B. You cannot choose a topic covered in your AS or A2 syllabi.

You have completely free choice when deciding your project so it is an opportunity to explore something that you are really **passionate** about!

"I did an EPQ alongside my A Levels, and thought that the experience prepared me for Uni in a way that no other course did. When I started my degree in History I already had experience of choosing an essay topic and independently researching and compiling a strong argument, something that other students had never experienced before. I would say that the EPQ was invaluable."

EPQ student – Lauren Brown

At Balcarras we offer the EPQ (AQA Qualification) to all students in Year 12: Students have 2 lessons a fortnight dedicated to EPQ. Most students complete this qualification in year 13. For the last 2 years 50% of the cohort entered for this qualification achieved A*-A.

BENEFITS

The EPQ is a brilliant way to prepare yourself for University, the challenge of the workplace or apprenticeships. It gives you an opportunity to work in a University style with a supervisor to create a project that you feel passionate about researching. Over the course you will develop **essay writing, referencing, research and time management** skills whilst working on a project that you have designed. **It is also great for your personal statement for your UCAS application!**

WHAT DOES IT INVOLVE?

You will need to choose and complete one of the following routes:

1. Write a **5000 word essay** based on independent research on a topic of your choice that draws a conclusion.
2. **Produce an artefact**: Perhaps research and design a history lesson, create a piece of art, an article of fashion, a performance, an animation, a script, a computer programme, a drone etcetera. Opting for this route you need to write a minimum **1000 word supporting report** to explain your research and how it has fully informed your artefact.

During the EPQ process you will record your journey in your **production log** explaining your management and organisation, justifying how you have judged research to be valid and reliable, explaining decisions and evaluating your process. In addition, you will give a **presentation** to your supervisor.

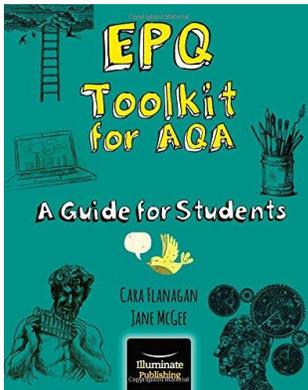
EXTENDED PROJECT QUALIFICATION

Advice for Year 11 Students:

As outlined above all students in year 12 undertake EPQ at Balcarras. In preparation for year 12 you could:

1. One of the hardest parts to EPQ is deciding on your own independent research topic. In preparation for this decision please make a list of **potential topic ideas** and **start to research whether they are feasible** – Is there enough valid and reliable information on your idea to write either a 5000 word essay that draws a conclusion, or enough research to fully inform an artefact. **Use google scholar to search for research.**
2. Check that there are **no DUAL accreditation issues** (i.e. Your potential EPQ topic is not covered in your AS or A2 syllabi.)
3. Start to **think carefully about post-18 options** and in particular potential University courses. EPQ works best for our students when they research a topic they wish to later study at University as not only does it keep students fully engaged but also reads very well on their UCAS personal statement.
4. **Consider carefully the form of the EPQ** you wish to undertake - would it be more beneficial for you to undertake the **essay route** or the **artefact route**?

5. **Buy the text book:**



Epq Toolkit for AQA. A Guide for Students by Cara Flanagan and Jane McGee.

We find this an excellent resource for our students as it guides them through the process and is written in a very student friendly manner with exemplars of E.P.Q. work.

6. In addition, if you wish to make a proper start both Southampton and Bath University have **online courses** that you can join that for free that will help guide you through the EPQ process. Southampton's MOOC is available at <https://www.futurelearn.com/courses/research-project> and Bath's MOOC can be found at <https://www.futurelearn.com/courses/epq-success>