



Brockenhurst College



Getting prepared for your
A LEVEL
course at Brockenhurst College

Please look at the information below and make sure you use it to prepare for the start of your course at Brock. Remember, further education is a big step up, but we are here to give you a flying start.

APPLIED SCIENCE

- Use this web address to learn about the function of cell organelles <https://www.ivyroses.com/Biology/Organelles/Organelle-Functions.php>
- Take the 15 question quiz at this webpage <http://www.sciencegeek.net/Biology/Quizzes/Organelles/index.html>
- Use this web address to learn about the three different muscle types https://www.ivyroses.com/HumanBody/Tissue/Tissue_Muscular-Tissue.php and create a table that summarises structure and function.

ART (ANIMATION)

- Create a 10-point personal animation history timeline of films/sequences/ characters that have inspired you.
- Try to draw a character from a favourite animation from your timeline (tracing is allowed).
- Write a paragraph about a type of animation you would like to recreate in the future and explain why.

ART (FINE ART)

Virtual Gallery Visit

- Visit <https://www.tate.org.uk/> – click on ‘art & artists’ – you can then view artworks by over 4,000 artists from the Tate collection. There are a huge number of artworks – just have a browse until you find one that you really like. If you already know the name of an artist whose work interests you, see if they have work at the Tate (use artist A-Z).
- Choose one favourite piece (drawing, painting, sculpture, installation etc....) and write a short paragraph giving the name of the artist, title of your chosen artwork and the date it was produced. Any other information you can find about it would be helpful. Explain why you chose it.
- Either: print a picture of your chosen piece or draw it (this could be a close-up section or the whole thing).

This should all fit onto one side of A4 and can be presented as a printed Word document or hand-written submission.

ART (GRAPHICS)

- Find out about Adobe software and how much it costs as a student to use Photoshop and Illustrator.
- Create a Pinterest account and start researching vector artists for inspiration.
- Select your favourite vector artist to share with your teacher.

ART (PHOTOGRAPHY)

- Capture 24 moments (they should not all be taken on the same day). You could then use some of these images in the initial idea generation process for your Environment project.
- Select your four best images from those you have taken and justify your choices.
- Look at the work of artist Henri Cartier-Bresson. Pick one of his images and write about why you have chosen it.

ART (TEXTILES)

- Install the Pinterest app on your phone or portable device, or alternatively you can set up an account on <https://www.pinterest.co.uk/>
- Create a new board with the title ‘Colour and Pattern’.
- Pin onto your ‘Colour and Pattern’ board a minimum of 30 images from Pinterest that really inspire you. Images can include any type of pattern or colour combination. Examples can be found across fashion, textiles and interior design.

BIOLOGY

- <https://www.youtube.com/watch?v=URUJD5NEXC8> Use this web address to watch a video on cells and organelles.
- <https://learn.genetics.utah.edu/content/cells/insideacell/> Use this web address to look at the different organelles in animal and plant cells.
- <https://www.s-cool.co.uk/a-level/biology/cells-and-organelles/> Use the web address above to look at the ‘Introduction to Cells’. Look at the animal cell and list the organelles that you have not learned about at GCSE. Use the ‘Organelles’ section to see if you can find out the role of these organelles.

- What is a prokaryotic cell? Describe three differences and three similarities between prokaryotic cells and eukaryotic cells.

BUSINESS

- Research an entrepreneur of your choice.
- You are to write about the entrepreneur as if it was for a newspaper or a magazine article. So be creative and have fun with it. Ensure it is in your OWN WORDS (no more than 400 words).

CHEMISTRY

- View the YouTube video on quick revision of the mole <https://www.youtube.com/watch?v=qmCANw7D17g> Brush up your knowledge of moles – this will come up a lot.
- Read the Royal Society of Chemistry article on the development of the periodic table <https://www.rsc.org/periodic-table/history/about> Read through and see if you can do a bit of extra research and find out the answer to the following: It could be argued that James Chadwick should have also been on the list of famous chemists. What did he discover?
- What was the element Barium’s original name? <https://www.compoundchem.com/2016/01/30/rejectedelements/>

CHINESE (GCSE)

- Explore <http://www.bbc.co.uk/languages/chinese/> to self-learn Chinese pronunciation.
- Explore <http://www.bbc.co.uk/languages/chinese/> to self-learn how to write Chinese characters.
- Watch <https://www.youtube.com/watch?v=gF1B1mVGv2A&feature=youtu.be> for the story of 36 Chinese characters.

CLASSICAL CIVILISATION

- Research and print out a basic family tree of the Olympian gods.
- Find out why Odysseus, Agamemnon, Menelaus and Achilles are so famous in Greek mythology.
- How does Ancient Greek theatre differ to modern theatre?

COMPUTER SCIENCE

- Download visual studio community edition.
- Create an account at <https://www.sololearn.com/Course/CSharp/>
- Look at <https://www.khanacademy.org/computing/computer-science/algorithms>

CRIMINOLOGY (L3 DIP)

- Research online the definition of a ‘hate crime’.
- Research two current/recent statistics on hate crime in the UK.
- Write down at least three reasons why you think hate crime might go unreported to the police. The work above should be completed in note-format (such as bullet points) or a mind-map.

DANCE (SUB DIP)

- Find three dance clips on YouTube or Instagram of a dancer or dance company that inspires you. Research movement you want to explore in your solo/duet choreography units.
- Research into a choreographer/dance company:
 - a) What was their route into dance?
 - b) What was their training?
 - c) What inspires them to create movement?
 - d) What is your favourite dance choreography they have created?
 - e) What is the story/meaning behind the piece?
 - f) Why do you like this piece?
- Create an 8-16 count sequence that explores your favourite movement style. It could be your own original choreography or movement you have seen on YouTube/Instagram or learned in dance lessons.

DESIGN & TECHNOLOGY

PRODUCT DESIGN

- Investigate a simple product:
 - a) Find a small product with at least three parts made from different materials (examples could include a torch, ball-point pen, or a child’s toy. NOTE: Be careful that the product doesn’t carry live electricity or include sharp components.
 - b) Dismantle the product and carefully draw each component in 3D on a single sheet of paper.
 - c) Annotate all three parts of your drawing to identify the materials used and explain why you think they were chosen. If you get stuck with materials here, try Googling a similar product.
- Find out about the “Design Process” – how products get from “Problem” to “Market”. (Note: this can be slightly different in different companies). What are the stages and what is involved at each stage? Write a report to demonstrate your understanding of each of the stages. You might also compare the process in different companies – why do you think there are differences?

DRAMA & THEATRE STUDIES

- Research the work of Polly Stenham by reading her articles in the Guardian newspaper online.
- Prepare a two-minute acting monologue to perform to the rest of the group when you start in September.
- Write a list of as many performance styles and genres as you can think of with a one-line definition of the style or genre.

ECONOMICS

Use this link to help you think of ideas for the points below:

<https://www.tutor2u.net/economics/topics/needs-and-wants>

- Identify and explain the difference between needs and wants of the rich and poor.
- Identify two ways in which they are similar.
- Identify two factors that limit how much people can spend on healthcare.

ELECTRONICS

- Do some research on the basics of electricity:
 - a) Write down Ohms Law and explain why we need it in electronics.
 - b) Draw a potential divider and write down the equation for it.
 - c) Describe how you would find the power dissipate (used) in an electronic device.
- Find out about some components used in electronics:
 - a) Draw the symbol for a pn junction diode and describe its two main characteristics.
 - b) Draw the symbol for a capacitor and describe what it does.
 - c) Draw the symbol for a bipolar transistor and describe what it does in simple terms.
- Investigate logic systems:
 - a) Google 'WJEC resources electronics e-book', click on the link at the top and then click 'AS Electronics e-book. Open the Chapter 1 logic systems PDF. The link is http://resource.download.wjec.co.uk.s3.amazonaws.com/vtc/2016-17/16-17_1-9/gce-electronics-book-chapter-1.pdf
 - b) Read up to page 16 and write the answers to the questions on a bit of paper.

ENGLISH LANGUAGE

- Go to the Twitter account for @HaggardHawks and find out the meaning of the following words: 'hinniate', 'a dollar word', 'crizzles'.
- Find this online newspaper article about a school that has banned some words:

<https://www.devonlive.com/news/uk-world-news/school-bans-children-from-like-2993633> Summarise the argument made for banning words. Do you agree with the decision? Are there reasons to object to the decision? Write down your thoughts ready for a discussion in your first English Language A Level lesson.

- Go to this A Level information page on the Brockenhurst College website: <https://www.brock.ac.uk/sixth-form/a-levels/> Find examples of the following types of word in the opening paragraph: 4 x nouns, 5 x adjectives, 4 x verbs, 3 x pronouns and 2 x prepositions. Write your examples down and bring them to your first lesson.

ENGLISH LANGUAGE & LITERATURE

- Describe a place that you have visited either in this country or another. What is your direct experience of that country (your 'embodied experience')? For example, how did it affect your senses (sight, smells, sounds etc.) and what activities do you associate with it now? Do you know anything about the culture? Do you know anything about the history? Was it as you had expected it to be?
- Describe what you know about a country you have not visited, e.g. Colombia or Japan. What have you heard about it? What is your indirect experience of the culture and the history? Consider your 'schematic experience' of the country, e.g. the culture, history, society. Where has your schematic knowledge come from? Books, magazines, films, internet, other people? Compare your direct, embodied experience with that of your schematic experience. What do you notice about the way you can talk about these places? Jot down your ideas so you can share them in the first lessons of your Language & Literature A Level course.
- Look up the genre of gothic fiction on the British Library website and see what types of novels could be described as gothic: <https://www.bl.uk/romantics-and-victorians/themes/the-gothic> Make a list of 5 nouns, 5 adjectives, and 3 verbs that you think characterise a work of gothic fiction, e.g. spooky, castle etc. What books, stories, films, and/or TV shows could be described as having gothic features. What modern gothic fiction (including TV and film) can you think of? Why is it still a popular genre? Be ready to share your ideas in your first lessons.

ENGLISH LITERATURE

- If you do not have a copy of F Scott Fitzgerald's *The Great Gatsby*, use the following link to access the opening pages: <https://www.planetebook.com/free-ebooks/the-great-gatsby.pdf> Read the opening four paragraphs closely. Identify any literary features, try to make three observations about the language choices Nick makes and list any character qualities evident through the narration.
- If you do not have a copy of Mark Twain's *The Adventures of Huckleberry Finn*, use the following link to access the opening pages <https://contentserver.adobe.com/store/books/HuckFinn.pdf> Read the opening three paragraphs closely. Identify any literary features, try to make three observations about the language choices Huck makes and list any character qualities evident through the narration.
- Make a list of five similarities and differences between the openings of the two novels. Please make sure you have a copy of both novels for the start of the course.

ENVIRONMENTAL SCIENCE

- Watch <https://youtu.be/9RTkZaX1cHO>
- Write five bullet points that explain what a planet needs to survive and why.
- Watch this short two-minute video <https://www.youtube.com/watch?v=ZQ22Av2r8DA&feature=youtu.be> and prepare for a discussion on what is needed for life on another planet.

FILM STUDIES

- Find a marketing poster from a favourite film. Print it and identify the features following the bullet points below. We will use this research for a discussion in your first lesson.
- Identify the genre of the film.
 - Identify who produced it. Think also about director and studio.
 - Tell us what you liked about the film. Is this reflected in the poster?

FRENCH

- Research and present about a French speaking country in Africa or in the American continent.
- What were the French 'Gilets jaunes' protesting about?
- Does France want to leave the European Union?

FURTHER MATHEMATICS

- Have a go at the "Proof sorter" puzzle on the Nrich maths website: <https://nrich.maths.org/1394> Proof is an important part of Further Maths and we will use this quadratic formula for solving equations with both real and complex numbers.
- Log on to <https://www.mymaths.co.uk/> using the username 'brock' and password 'prime'. Locate the Further Maths section and select 'Further Pure > Complex Numbers'. Read through the lesson 'Introduction to Complex Numbers'.
- Watch a TED talk on a mathematical topic (you can choose one of many talks). Use this URL: <https://www.ted.com/talks?q=mathematics&sort=relevance> to get to the TED talk search result for mathematics.

GEOGRAPHY

- For your upcoming Geography course you will be studying changing spaces, making places. This is all about how we look at places and what they mean to us. Please use the web link https://www.bbc.co.uk/news/world-europe-48039770?intlink_from_url=https://www.bbc.co.uk/news/topics/cz553zpq0qdt/notre-dame-fire&link_location=live-reporting-story to find out about recent events in Notre Dame. Once you have read this BBC web page, answer the following questions on lined paper:
- Who has contributed to the cost of the rebuilding and what do you think their motivation is?
 - Why do you think the contributions to the rebuilding of the cathedral are controversial?
 - Do you think that the rebuild should be the same as before or should they allow architects to redesign and modernise the cathedral?

GEOLOGY

- Use this web address to watch 'The story of Earth' (A National Geographic documentary) <https://www.youtube.com/watch?v=z5VKVASx7Xs>
- List all the geological time periods and make a geological column, from Precambrian, when Earth was first formed, to the recent.
- Find a diagram of the "Rock Cycle" and learn the processes for a discussion when you begin college.

GOVERNMENT & POLITICS

- What is meant by the following terms: monarchy, aristocracy, tyranny, oligarchy, democracy. Can you find a country with each of this type of organisation?
- Are all democracies the same? In what ways do direct democracy, representative democracy and liberal democracy differ?
- Is the UK a democracy? <https://www.bbc.co.uk/news/uk-34148913>
<https://www.politicshome.com/home-affairs/articles/story/government-responds-petition-calling-cannabis-legalisation>

HISTORY

You will be studying Communist States of the Twentieth Century, of which Communist Russia is a major component. Please complete the following task by induction day:

- Research the causes of the Bolshevik seizure of power in October 1917.
- Write down the three main causes of this event (these can be long or short term). You can find information from books or websites. Two recommended websites are <https://www.britannica.com/> and <https://www.bbc.co.uk/newsround>
- Which cause in your opinion was the most important? Provide evidence to back your reasoning and be prepared to discuss this on induction day.

INFORMATION & COMMUNICATION TECHNOLOGY (SUB DIP)

- Download Notepad ++ or Brackets (both free) and use W3 Schools to learn some HTML and CSS.
- Read this: <https://www.instructables.com/id/Introduction-to-hardware-Learn-the-basics/>
- Find out the difference between the Internet and the World Wide Web. Summarise the difference in 200 words.

LAW

- Look up a definition for civil law and write it down. Look up two sources and write the definition in your own words.
- Look up a definition for criminal law and write it down. Look up two sources and write the definition in your own words.
- Find out whether cannibalism is legal in the UK.

MATHEMATICS

- Have a go at the 'Iffy Logic' puzzle on the Nrich maths website: <https://nrich.maths.org/6331> This will familiarise you with some of the mathematical notation for logical implication that we will use a lot when we discuss proof.
- Log onto mymaths.co.uk using the username 'brock' and password 'prime'. Locate the A Level Maths section and select 'Pure > Algebra'. Review the sections on indices (there are three parts). Each section has a lesson and a set of online homework. Try to do the homework. Note that you do not need to log in to do this – just click on the 'Practice' button at the bottom of the page. You'll need to have a complete mastery of indices when you start to learn calculus.
- Watch the TED talk on statistics online: <https://bit.ly/2zdvd1f> This will give you a brief introduction to one of the applied topics we cover.

MEDIA STUDIES

Complete research into different types of media – follow the bullet points below. We will use this research for a discussion in your first lesson.

- Identify three streaming services.
- Identify three national newspapers.
- Identify three American film studios.

MUSIC

- Write one side of A4 discussing the musical style, key works and dates of our set composer Haydn.
- Write one side of A4 about a piece of musical theatre of your choice - include the composer and lyricist, the plot and the characters and musical style.
- Prepare one piece on your first instrument or voice that you will perform to the class when you join us in September. This needs to be about 3-5mins long.

MUSIC TECHNOLOGY (SUB DIP)

- Please read the following article <https://rolandcorp.com.au/blog/computer-music-production-for-beginners-part-1>
- Produce a high-quality pdf (not drawn) diagram detailing the equipment that you need to produce music using computers. It should include: a computer, qwerty keyboard, mouse, controller keyboard and headphones.
- Label and colour code the cable and connection types (USB, jack etc.).

PERFORMING ARTS (SUB DIP)

Prepare a short presentation to include the following three sections to be shared with the rest of the group in the first week:

- The best performance you have ever seen, discussing its key features and why it has inspired you.
- Discuss one of your favourite characters from a play or film and explain why you think the portrayal is successful. If you were directing the character in a play, how would you advise the actor?
- Which character from a play do you think would be your ideal casting?

PHILOSOPHY

- Read <http://www.ditext.com/russell/rus1.html>
- Which of the senses are called into question according to Russell and why?
- Do you think that Russell's table existed as a real object in the world? Give reasons for your answer.

PHYSICAL EDUCATION

- Research the physiological benefits of weight training for a cyclist, a gymnast and a swimmer.
- Research and present your understanding of the following festival games:
 - Wenlock Games
 - Atherstone Ball Games
 - Haxey Hood
 - Mob Football
- Research the importance and impact of reaction time for a 100m sprinter. Show your understanding by analysing the first ten metres of the race.

PHYSICS

Research and write an account of how Eratosthenes are measured successfully. For each of these, consider what assumptions needed to be made, what approximations were made and what were the sources of experimental error:

- The diameter of the Earth.
- The diameter of the Moon.
- The Earth-Moon distance.

PRODUCTION ARTS (SUB DIP)

- Research the Behringer X32 Sound Desk, list some of the spec. For example, how many inputs does it have? What is it used for?

- Write a short description of each of the following Physical effects: casting e.g. resin, plaster, alginate, fibreglass and latex. Explain what they are and how they are used, giving examples from within a performance.
- Reflect on the different roles in a production team. Write a short paragraph explaining which is your preferred area and why.

PSYCHOLOGY

Either read the summary or watch the clips below on the piece of research carried out by Piliavin et al. It looks at helping behaviour in psychology.

- Written summary <http://www.holah.karoo.net/piliavinstudy.htm>
Video part 1 – <https://www.youtube.com/watch?v=ALhUvtPOpK0>
Video part 2 – <https://www.youtube.com/watch?v=hkoBcxdUrDE>
- Put the information on how the study was carried out (known as the method or procedure section) into a mind-map.
- Write down one good thing about the procedure and one potential problem with the procedure.

SOCIOLOGY

- What cultural differences are you aware of? How are people in the UK different to people in other countries like the USA. Consider differences in beliefs, behaviours, customs, traditions etc.
- Using the internet, research 'feral children' and try to write a definition of this in your own words.
- Research the roles that exist within gangs. How do gangs recruit new members? What responsibilities do new members have?

SPANISH

- What are the significant changes that Spanish families face nowadays? (80 words).
- Are Spanish families different from English families? (80 words).
- Watch the film Volver of Pedro Almodóvar and write your opinion (100 words).
- Practise all tenses seen in your GCSE course. Use the following website for practice: <https://www.languagesonline.org.uk/Hotpotatoes/index.html>

Brockenhurst College

Lyndhurst Road ■ Brockenhurst ■ Hampshire ■ SO42 7ZE
T: 01590 625555 ■ E: enquiries@brock.ac.uk ■ www.brock.ac.uk

