



Year 12  
Induction  
Tasks  
2024

# CONTENTS

[Introduction 3](#)

[Fine Art 4-5](#)

[Biology 6](#)

[Btec Business 7-8](#)

[\\*Chemistry 11](#)

[Classical Civilisation 10](#)

[Computer Science 11-12](#)

[Drama 13-14](#)

[Economics 15-16](#)

[English Literature 17-18](#)

[French 19-20](#)

[Geography 21](#)

[History 22-23](#)

[\\*Mathematics & Further Mathematics 24](#)

[Music 26-28](#)

[Photography 29-30](#)

[\\*Physical Education \(A-Level & BTEC Sport\) 31](#)

[Product Design 32-33](#)

[Physics 34](#)

[\\*Politics 35-37](#)

[Psychology 37-38](#)

[Philosophy, Religion and Ethics \(PRE\) 39-41](#)

[Sociology 42-43](#)

[\\*Spanish 44](#)

[Appendices:](#)

[Appendix 1: Chemistry Booklet 40-45](#)

[Appendix 2: Computer Science 46-47](#)

Click on the Subject to take you to the relevant page. Once on the subject page click on the Subject Heading to return you to the Contents Page.

\*Please note these subjects have additional resources that can be accessed at the following link

[https://drive.google.com/drive/folders/1gDXsl27narZroca16YuUgprnwtem\\_0xO?usp=drive\\_link](https://drive.google.com/drive/folders/1gDXsl27narZroca16YuUgprnwtem_0xO?usp=drive_link)

# INTRODUCTION

At Queens' School we take the transition from KS4 to KS5 very seriously and want to take every opportunity to start supporting you. It would be easy to think now that the hard work of GCSEs is done, that you can put your feet up and take the summer off. Of course you can do that, and it is important that you do use the long summer holiday to rest, recuperate and try new things. But, the summer is also a golden opportunity to prepare for your next step at school, and this step is a big one!

A-Levels and BTECS are much more intellectually rigorous and challenging than GCSEs; even students with top GCSE grades need support to make the transition successfully. For example, there is a different emphasis in the type of learning involved, with more time spent on independent learning and enrichment tasks for example. Year 12 also passes very quickly and it is vital that you make a start on the new subject content before you begin your courses in September.

To help you do this your teachers have prepared these induction tasks, designing them to give you both background knowledge and a flavour of what you can expect in the subject in Year 12. The tasks will have been introduced to you on the Induction Day, but all of the information is included in this booklet and by doing the tasks well you are getting a head start on Year 12 study, and also showing your teachers how committed and interested you are in the subjects you have picked. The completed tasks will be collected by your teachers in the first teaching week in September and then marked, so make sure you meet your first Sixth Form deadline.

Many of you have chosen subjects that you have not studied before and so it is really important that you tackle the tasks thoughtfully to confirm your interest in taking lessons in the subject five hours a week. You cannot change your subject choices once you get into the teaching year; it will be too late to pick up a different subject if you have missed the start of the course. But it might be possible to change before the summer holidays begin if you contact the Sixth Form Team or on results day, assuming that you have met the entry requirements and that there is space on the course. So take the tasks seriously and think about how you felt after your taster lessons on Induction Day too.

Please approach the tasks you have been set with enthusiasm and diligence so that you can make a good impression with your new teachers. Do not forget that this will be their first opportunity to assess your ability and commitment to your new subject. Be honest - if you cannot find the motivation to make a really good effort with your induction task, are you really going to achieve the successes or enjoyment that we would hope, in taking that course every day for two years?

I wish you every success over the summer as you complete the tasks, and hope that you have a brilliant holiday and look forward to seeing the fruits of your efforts in September.

**Mr Sam Moore**

**Director of Sixth Form**

***For supplementary material:*** <https://classroom.google.com/u/0/w/MTM1MDI0NTg1Mzg2/t/all>

## Fine Art

### Instructions



elements?

visual

Your task is to create a google slides presentation:

- The first part must demonstrate your understanding of these art movements. Create two slides that contain infographics of these art movements (one art movement per slide).
- The second part is to demonstrate your understanding of these elements in relation to producing art.

Produce a Fauvist-inspired painting of a Pop Art-inspired theme OR Produce a Pop-Art as a starting point - photograph your work and add it to your presentation. Explain your process and how it links to both movements You should have 3 slides in total

**Further reading:**

**Good websites to know:**

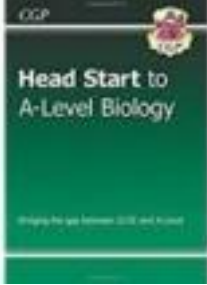
<https://www.thisiscolossal.com/>

<https://www.theartstory.org/>

## Fine Art

<p><b>Link To Course</b></p>	<p>The work you produce allows your teachers to assess how well you can independently respond to a brief, as you would be expected to do throughout the course. This will also serve as a vehicle for determining your initial skill levels as well as personal interests and ability to engage with a wider contextual understanding through gallery visits.</p>			
<p><b>Marking Criteria</b></p>				
	<p><b>Assessment</b></p>	<p><b>Distinction</b></p>	<p><b>Pass</b></p>	<p><b>Fail</b></p>
	<p>Record ideas, observations and insights relevant to Intentions, reflecting critical reflection on work and progress</p> <p>Contextual Understanding .Demonstrating analytical and critical understanding.</p>	<p>Independent, realised, sensitive, creative, Sustained, highly inventive, critical, perspective, comprehensive, in depth, insightful, original, genuine, creative journey, refined, highly skilled, in depth reflection, pertinent connections, exciting.</p>	<p>Predictable, broadening, Makes progress, relevant, description not explanation, demonstrates intentions, appropriate, sufficient, control, emerging individuality, thorough, developing skills, adequate, lacks perception, signs of understanding</p>	<p>Partial, inconsistent, literal, elementary, minimal, rushed, sporadic, naïve, lacks skills, little creative intent, disjointed, pedestrian.</p>

# Biology

<p><b>Instructions</b></p>	<p><b>Your task:</b> Over the summer you should work through the book 'Head Start to A-level Biology'</p> <ul style="list-style-type: none"> <li>● Publisher: Coordination Group Publications Ltd (CGP) (2<sup>nd</sup> Mar. 2015)</li> <li>● ISBN-13: 978-1782492795.</li> <li>● RRP: £4.95</li> </ul>  <p>You should:</p> <ul style="list-style-type: none"> <li>● Make sure you understand everything in this workbook, <b>show that you have taken notes</b> (either directly on the book or on a separate piece of paper), <b>answer all questions at the bottom of the pages</b> (either writing directly into the book, or on a separate piece of paper) and upon completion, <b>self-mark the questions in red pen</b>, making <b>corrections</b> where necessary.</li> </ul> <p>Use the book to <b>revise for a test</b> that you will complete when returning to school. This test will be based solely on the content within the head start booklet (You should expect to achieve a very high result in it.) <b>If you underachieve in this test, your ability to undertake this course will come into question.</b></p>
<p><b>Link to course</b></p>	<p>A-level biology is a big step up from GCSE and will be much more intellectually demanding. If you begin year 12 without recapping the most essential GCSE topics, you will struggle to understand the important new A-level concepts that are to be introduced. By completing the induction task below, not only will you be given a flavour of what to expect in your first year in sixth form, but it will also help to ensure that you are not caught out by crucial KS4 content that you have forgotten – meaning that you can get off to the best possible start.</p> <p>You must complete this introductory task by <b>Thursday 5th of September</b>, ready to show your completed booklet to your biology teachers to prove completion.</p>
<p><b>Success Criteria</b></p>	<p><b>Notes</b> either in the book or on a piece of paper Your <b>self-marked questions</b> will be checked on the first full week back.</p> <p>You will complete an <b>assessment</b> based on the content and skills within this book in the <b>first</b> Biology lesson of the year. This assessment will focus primarily on content, as Biology A level has a vast amount of content to recall. If you underperform in this assessment (e.g. receive below your target grade), you will be expected to resit the paper.</p>

## Single Btec: Business Studies

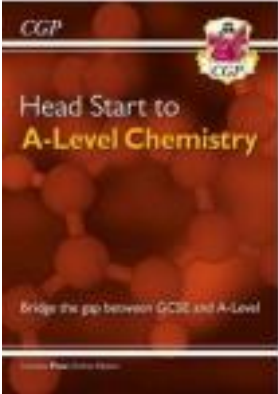

<p><b>Instructions</b></p>	<p><b>Write a report explaining the features of two contrasting businesses.</b></p> <p>Choose between 2 businesses of your own choice and conduct extensive research into them and then do a comparison between both. (find out the following information for both businesses- remember both must be different and in different sectors etc). E.g. Oxfam &amp; Tesco</p> <p style="padding-left: 40px;">Type of business ownership Size Scope Sector Purpose Aims &amp; Objectives</p> <p>If you have not studied Business in year 10 and 11, you may need to <b>begin by finding out about business features</b> (from a business perspective) <b>first</b>.</p>
<p><b>Link to course</b></p>	<p>The business environment has, and will, continue to evolve over time. One of the greatest pressures on businesses nowadays is to be seen to differentiate themselves from rivals and find ways in which they can compete in such competitive markets.</p> <p>It is therefore vital for Btec Business students to have an understanding of how the business environment is changing and what businesses are doing to make themselves stand out from their competition and how businesses are introducing more technological advancement in their business to be able to compete, as it could lead to large problems for businesses if they are seen to be not taking this seriously. This will then lead onto a discussion about how other external factors impact upon business activities.</p>
<p><b>Success Criteria</b></p>	<p>You should provide an answer to the question that:</p> <ul style="list-style-type: none"> <li>· Demonstrates a <b>depth and range of knowledge and understanding</b> that is precise and well selected in relation to the <b>business environment in which both companies operate in</b>.</li> <li>· Demonstrates <b>analysis</b> throughout which is <b>well developed</b>, is <b>applied effectively to the context of TWO contrasting businesses, as well as other types of ownership</b>, and considers a <b>balanced range of issues</b> in the question.</li> <li>· <b>Makes judgements or provides solutions</b> which are built effectively on analysis, show balance and have a clear focus on the question as whole throughout; you evaluate the reasons for the success of the two contrasting businesses.</li> </ul>

## Single Btec Business Studies

<p><b>Marking structure</b></p>	<p><b>Distinction</b></p> <p><b>An excellent or very good response overall that is fully focused on the key demands of the question:</b> demonstrates a depth and range of knowledge and understanding that is precise and well selected in relation to issues in the question; demonstrates analysis throughout which is well developed, is applied effectively to the context and considers a balanced range of the issues in the question; makes judgements or provides solutions which are built effectively on analysis, show balance and have a clear focus on the question as a whole throughout.</p> <p><b>Pass</b></p> <p><b>A reasonable or good response overall that focuses on some of the demands of the question:</b> demonstrates a limited knowledge and understanding of a range of issues in the question or a good knowledge and understanding of relatively few issues in the question; some attempt to use the context and develop arguments relating to the question; some attempt at making a judgment and/or solutions which address part of the question set.</p> <p><b>Fail</b></p> <p><b>A limited or weak response overall with little or no focus on the question:</b> demonstrates a limited range and depth of knowledge and understanding of issues in the question; demonstrates analysis with little development, mainly descriptive application to the context and considers a limited number of issues in the question; makes judgements or proposes solutions which have limited links to analysis or limited focus on the question as a whole.</p>
<p><b>Extension Tasks</b></p>	<p>If you are considering Business or a related subject at university, you should complete the following:</p> <p>Read a Business book- can be fiction or non-fiction-and complete a review of one side of A4 in size 12 font. Your review should include the following:</p> <p style="padding-left: 40px;">Why you selected this book and why you think it is relevant to your university/career path</p> <p style="padding-left: 40px;">A summary of which part/aspect of the book you found most interesting and reasons why</p>



## Chemistry

<p><b>Instructions</b></p>	<ol style="list-style-type: none"> <li>1. Complete the Chemistry Induction task (<b>see Appendix 1</b>). Task is also available as a complete document; contact <a href="mailto:austinel@queens.herts.sch.uk">austinel@queens.herts.sch.uk</a> to receive a copy or also the link on the contents page.</li> <li>2. Buy the CGP “Head Start to A-Level Chemistry” book and work through it. Answer the questions in each section and self-assess using the markscheme in the back of the book.</li> </ol> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p>Product code: CBR72 ISBN: <b>9781782942801</b> <a href="#">Head Start to A-Level Chemistry</a></p>
<p><b>Link to course</b></p>	<p>The skills covered are required throughout the A-Level course. It is vital that these skills become routine as success in the examinations relies on them being used quickly and accurately. A basic but effective bridge between Chemistry GCSE and A-Level</p>
<p><b>Success Criteria</b></p>	<ol style="list-style-type: none"> <li>1. There will be a timed in-class assessment of the key basic skills in the <b>Chemistry Tool Kit</b> on your return to school.</li> <li>2. Students must bring in <b>self-assessed</b> work from the CGP “Head Start to A-Level Chemistry” for teacher to verify preparation work was completed.</li> </ol>

## Classical Civilisation

<p><b>Instructions</b></p>	<p>For Classical Civilisation A-Level we follow the OCR syllabus. You can find full details about the A-Level course including further reading on our website: <a href="https://sites.google.com/queens.herts.sch.uk/englishandclassicsa-level/classical-civilisation">https://sites.google.com/queens.herts.sch.uk/englishandclassicsa-level/classical-civilisation</a> All the resources that you need to complete the induction tasks can be found on the website.</p> <p>Watch our induction video: <a href="https://www.loom.com/share/fea8f1fc4d30443f83e1707333049e45">https://www.loom.com/share/fea8f1fc4d30443f83e1707333049e45</a></p> <p>Download our induction pack. <a href="https://docs.google.com/document/d/1pboyDZ6RN1K2KEPY1pw9qM-h5HRNFGa2/edit?usp=drive_link&amp;oid=117555291577292352775&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1pboyDZ6RN1K2KEPY1pw9qM-h5HRNFGa2/edit?usp=drive_link&amp;oid=117555291577292352775&amp;rtpof=true&amp;sd=true</a></p> <p>The aim of this induction pack is to give you a flavour of the kind of things you will study as part of the Classical Civilisation A-Level.</p> <p>We do not expect you to complete all the activities, but you should aim to try at least 5 of the tasks set. The tasks are very diverse including listening to podcasts, watching Youtube clips and completing short exercises.</p> <p>The more activities you work through, the more confident you are likely to be as you approach your studies next year. Moreover, it will hopefully get you enthused and excited about the prospect of studying Classical Civilisation and the</p>
<p><b>Marking structure</b></p>	<p><b><u>Pass</u></b>          Demonstrate emerging confidence in formulating and expressing ideas          Display some evidence of wider reading having been undertaken          Show evidence of a developing academic style          Have completed at least five tasks in the induction booklet          Show clear understanding of the key concepts associated with the Classical Civilisation A-Level</p> <p><b><u>Fail</u></b>          A simply expressed argument          Work is incomplete          No additional reading undertaken in preparation for the course</p>
<p><b>Extension Tasks</b></p>	<p>Read at least one text recommended on our recommended reading list or that is listed as part of the course material</p>

## Computer Science

<p><b>Instructions</b></p>	<p>You are required to follow the instructions in <b>Appendix 2</b>, and complete the activities. There are two sections to the activities.</p>
<p><b>Link to course</b></p>	<p>Computer Science is the study of the design of algorithms, their properties, linguistic and mechanical realisation. Algorithms are realised through writing computer programs.</p> <p>In this subject you will be expected to develop an understanding of the principles and concepts of Computer Science including; abstraction, decomposition, logic, algorithms and data representation. You will explore a range of programming paradigms and develop an understanding of the strengths and weaknesses of each paradigm.</p> <p>You will be able to see the relationship between different aspects of Computer Science and explore emerging areas such as data science (big data) and ubiquitous Computing.</p>
<p><b>Success criteria</b></p>	<p>To be successful at this task you need to complete all sections. The evidence will be collected in class on your first lesson( or you can submit to Google classroom)</p> <ol style="list-style-type: none"> <li>1. Your annotations and program code will be checked, your solution will be graded as excellent, good, fair or poor.</li> <li>2. You should provide evidence of your code along with evidence of testing and design together with notations to prove that the code works.</li> <li>3. Please bring the code and test plan to the first lesson ( or have it submitted so you can download it)</li> </ol>
<p><b>Marking structure</b></p>	<p>The activities will be marked using the following criteria and grades.</p> <p style="text-align: center;"><b>Criteria / marks Explanation</b></p> <p>Accuracy – 10 Does the program solve the problem?</p> <p>Techniques - 10 Use of variables, control structure, <u>functions / procedure, data structure</u></p> <p>Evaluation - 10 Reflect on the efficiency of your solution</p> <p>Excellent ( 25+)          Good (21 – 24)          Fair (15 – 20)          Poor (0 – 14)</p>

**Extension Tasks**

Computer Science covers a variety of topics, here are some practical activities to get you started.

**Project Euler** – A set of challenging Mathematical / Computer Science problems. <https://projecteuler.net>

**GeomLab** – Explore the declarative programming paradigm with shapes to make interesting patterns. <http://www.cs.ox.ac.uk/geomlab/>

**The UK Bebras Competition** – A competition for years 2-13 that test logical thinking skills. <http://challenge.bebas.uk/index.php?action=welcome>

Visit one of the links above and complete at least three challenges

## Drama and Theatre

<p><b>Instructions</b></p>	<p><b>Task 1:</b> Please go to the theatre and complete a theatre evaluation of approximately 1000 words. (You can go and see anything - it can be local, West End, amateur etc) If you are unable to go to the theatre please watch Jane Eyre on Drama Online.  <b>Login:</b> <a href="https://www.dramaonlinelibrary.com/custom-browse?docid=nationalTheatreCollections12">https://www.dramaonlinelibrary.com/custom-browse?docid=nationalTheatreCollections12</a>  <b>Username:</b> VUQNKU  <b>Password:</b> VIHQAH          Your theatre evaluation should include analysis and evaluation, and include both acting and technical elements.</p> <p><b>Task 2:</b> Research one of the following theatre companies:</p> <ul style="list-style-type: none"> <li>● Complicite</li> <li>● Mischief Theatre Company</li> <li>● Paper Birds</li> </ul> <p>Please write an essay (500-1000 words) on the background and theories/techniques of your chosen theatre company.          Research their working methods and come ready to run a practical 15-20 minute session with the group outlining 1 or 2 of your theatre company's methodologies.</p>
<p><b>Link to course</b></p>	<p><b>Task 1:</b> This links to the written exam (40%). You will study 3 set texts and as part of the exam you are required to use influences from live theatre.  <b>Task 2:</b> This links to both performance units of the course (60%) where you are required to use a practitioner influence in your devising work</p>
<p><b>Success criteria</b></p>	<p><b>Task 1:</b> Use analysis and evaluation skills to make evaluative and critical judgements about theatre. Effectively use drama language.</p> <p><b>Task 2:</b> Ability to put theory into practice. Research skills, ensuring you can find the relevant information and then create an informative piece of writing on your chosen practitioner. Ensure your workshop activity is engaging.</p>

**Marking structure****Distinction:**

Highly informative written work with excellent use of drama vocabulary embedded in the essay.

Outstanding evidence of wider reading and independent research, interpreted into your own words.

A highly engaging workshop demonstration with clear practical understanding of chosen company. Challenging focus and task for class to participate in.

**Pass:**

Clearly written essays, with evaluation and analysis present. Good research which has been clearly presented.

Interesting practical activity to show knowledge of theatre company.

**Fail:**

Basic essay writing focusing more on description rather than evaluation. Failure to meet the word count.

Research copied and pasted rather than interpreted and written in own words. Disorganised practical workshop, with basic techniques.

## Economics

<p><b>Instructions</b></p>	<p>On the 31st January 2020, the UK left the EU</p> <p>“Brexit will offer the UK a chance to fix the economy and grow.” To what extent do you agree with this statement?</p> <p>You will need to research Brexit in order to complete this report and complete a table explaining briefly the Advantages and Disadvantages of the UK leaving the EU.</p> <p>You will have to answer:</p> <p>Examine the data on trade, growth and inflation using <a href="http://www.tradingeconomics.com">www.tradingeconomics.com</a> and any reputable source.</p> <p>What is ‘Brexit’?          What are the benefits?          What are the drawbacks?          Does it really matter whether we are in or out?          What do you think will be the long term impact of this?</p>
<p><b>Link to course</b></p>	<p>Economics is most likely a new subject for you, and these 3 chapters cover the very basic foundations of the 2-year Economics course. You will be investigating the assumptions we make within economics, and how we represent and interpret data.</p> <p>This task links heavily to Theme 4: A global perspective. We will also be discussing and analysing the impact of Brexit throughout the 2 year course.</p>

## Economics

<p><b>Marking structure</b></p>	<p><b>You will be given an overall grade of Pass, Distinction or Fail based on 3 factors:</b></p> <p>1) <b>Effort shown overall</b> - You should be aiming for a minimum of 400 words and a maximum of 600</p> <p>2) <b>Clarity and coherence of writing style and sentence construction</b> - ensure what you are saying is relevant to the point you are making. Are you adding value to your argument?</p> <p>3) <b>Accuracy of Detail</b>- Use credible sources. Such as the ones listed above.</p>
<p><b>Extension Tasks</b></p>	<p style="text-align: center;"><b><u>Using any of the following links, make pre-reading notes on 2.1.1 Economic Growth and 2.1.2 Inflation</u></b></p> <p>YouTube – Pajholden  <a href="https://www.youtube.com/user/pajholden/videos">https://www.youtube.com/user/pajholden/videos</a></p> <p>YouTube – EconplusDal  <a href="https://www.youtube.com/user/EconplusDal/videos">https://www.youtube.com/user/EconplusDal/videos</a></p> <p>Tutor2u Topics Search <a href="https://www.tutor2u.net/economics/topics">https://www.tutor2u.net/economics/topics</a></p> <p>Tutor2u Topics Study Notes  <a href="https://www.tutor2u.net/economics/blog/economics-topic-study-notes">https://www.tutor2u.net/economics/blog/economics-topic-study-notes</a></p> <p>Physics and Maths Tutor (goes through Edexcel specification)  <a href="http://www.physicsandmathstutor.com/economics-revision/a-level-">http://www.physicsandmathstutor.com/economics-revision/a-level-</a></p>



## English Literature

<p><b>Instructions</b></p>	<p>For English Literature we follow the AQA Specification B syllabus. You can find full details about the A-Level course including further reading on our website: <a href="https://sites.google.com/queens.herts.sch.uk/englishandclassicsa-level/english-literature">https://sites.google.com/queens.herts.sch.uk/englishandclassicsa-level/english-literature</a></p> <p>All the resources that you need to complete the induction tasks can be found on the website.</p> <ul style="list-style-type: none"> <li>· Watch our induction video: <a href="https://www.loom.com/share/0b018da7fc3b455e9fecb0e5bedbc735">https://www.loom.com/share/0b018da7fc3b455e9fecb0e5bedbc735</a></li> <li>· Download our induction pack. <a href="https://docs.google.com/document/d/1y_iQ82Atk1GKgYqAntC7VLPJfZeQdFMS/edit?usp=drive_link&amp;oid=117555291577292352775&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1y_iQ82Atk1GKgYqAntC7VLPJfZeQdFMS/edit?usp=drive_link&amp;oid=117555291577292352775&amp;rtpof=true&amp;sd=true</a></li> </ul> <p>The aim of this induction pack is to give you a flavour of the kind of things you will study as part of the English Literature A-Level.</p> <p>We do not expect you to complete all the activities, but you should aim to try at least 5 of the tasks set. The tasks are very diverse including listening to podcasts, watching Youtube clips and completing short exercises.</p> <p>The more activities you work through, the more confident you are likely to be as you approach your studies next year. Moreover, it will hopefully get you enthused and excited about the prospect of studying English Literature and the new challenges of A-Level studies.</p>
<p><b>Marking structure</b></p>	<p><u>Pass</u></p> <ul style="list-style-type: none"> <li>Demonstrate emerging confidence in formulating and expressing ideas</li> <li>Display some evidence of wider reading having been undertaken</li> <li>Show evidence of a developing academic style</li> <li>Have completed at least five tasks in the induction booklet</li> <li>Show clear understanding of the key concepts associated with the Literature A Level</li> </ul> <p><u>Fail</u></p> <ul style="list-style-type: none"> <li>A simply expressed argument</li> <li>Work is incomplete</li> <li>No additional reading undertaken in preparation for the course</li> </ul>

<b>Extension Task(s)</b>	Read at least one text recommended on our recommended reading list or that is listed as part of the course material
--------------------------	---

## French

<p><b>Instructions</b></p>	<p>Complete all the exercises to revise the following areas:</p> <ul style="list-style-type: none"> <li>Nouns</li> <li>Adjectives</li> <li>Definite and indefinite articles</li> <li>Word order</li> <li>The present tense – regular and irregular verbs</li> <li>The passé composé – regular verbs</li> <li>The imperfect tense</li> <li>The conditional</li> <li>The future and immediate future tenses</li> <li>Negatives and infinitive constructions</li> </ul>
<p><b>Link to course</b></p>	<p>The French A level requires you to produce accurate French, demonstrate a secure grasp of grammar and be able to manipulate complex language accurately. The aims of this task, therefore, are:</p> <ul style="list-style-type: none"> <li>· To lay the foundations for a thorough understanding of the key grammar points which are crucial to success at A level and beyond</li> <li>· To develop grammar learning habits which may not have been in place at GCSE, but which are crucial to success at A level and beyond</li> </ul>
<p><b>Marking Criteria</b></p>	<p>Watch the following two French films: (They are readily available to buy online, and some streaming services may hold them).</p> <ul style="list-style-type: none"> <li>· <b>La Haine</b></li> <li>· <b>Entre les Murs</b></li> </ul> <p>For one of the films in task 2 answer <b>4</b> of the following questions in French. Each answer should be no longer than 50 words. Copy the question at the top of your answer.</p> <ul style="list-style-type: none"> <li>· De quoi parle le film que tu as choisi ?</li> <li>· Aimes-tu ce film? Pourquoi ? Pourquoi pas ?</li> <li>· Quels sont les aspects du film que tu n’as pas aimé ?</li> <li>· Qui sont les personnages les plus intéressants à ton avis ?</li> <li>· Quels sont les thèmes du film ?</li> </ul> <p style="padding-left: 40px;">Quels sont les aspects les plus impressionnants à ton avis ?</p> <p>Aimes-tu le cinéaste du film ?</p>
<p><b>Extension Task</b></p>	<p>As the French A level course requires you to have knowledge and understanding of aspects of culture and society in the French-speaking world, the aims of this task are:</p> <ul style="list-style-type: none"> <li>· To begin to explore some of the topics studied in more depth at A level</li> <li>· To demonstrate accurate use of a range of language</li> </ul>

**Marking  
Structure**

**AO3: Manipulate the language accurately**

9-10 The language produced is mainly accurate with only occasional minor errors. The student shows a consistently secure grasp of grammar and is able to manipulate complex language accurately. The student uses a wide range of vocabulary appropriate to the context and the task.

7-8 The language produced is generally accurate, but there are some minor errors. The student shows a generally good grasp of grammar and is often able to manipulate complex language accurately. The student uses a good range of vocabulary appropriate to the context and the task.

5-6 The language produced is reasonably accurate, but there are a few serious errors. The student shows a reasonable grasp of grammar and is sometimes able to manipulate complex language accurately. The student uses a reasonable range of vocabulary appropriate to the context and the task.

3-4 The language produced contains many errors. The student shows some grasp of grammar and is occasionally able to manipulate complex language accurately. The student uses a limited range of vocabulary appropriate to the context and the task.

1-2 The language produced contains many errors of a basic nature. The student shows little grasp of grammar and is rarely able to manipulate complex language accurately. The student uses a very limited range of vocabulary appropriate to the context and the task.

**Description**

**AO4: Show knowledge and understanding of French Speaking Culture and Society**

	Very good knowledge and understanding of the topic selected. Students consistently use relevant information / appropriate evidence to justify their conclusions, demonstrating a very good evaluation of the topic selected.	
	Good knowledge and understanding of the topic selected. Students often use relevant information / appropriate evidence to justify their conclusions, demonstrating a good evaluation of the topic selected.	
	Reasonable knowledge and understanding of the topic selected. Students sometimes use relevant information / appropriate evidence to justify their conclusions, demonstrating a reasonable evaluation of the topic selected.	
	Some knowledge and understanding of the topic selected. Students occasionally use relevant information / appropriate evidence to justify their conclusions, demonstrating a limited evaluation of the topic selected.	
	A little knowledge and understanding of the topic selected. Students rarely use relevant information / appropriate evidence to justify their conclusions, demonstrating a very limited evaluation of the topic selected.	

## Geography

<p><b>Instructions</b></p>	<p>In <b>500 words</b>, and using examples, assess the following statement:</p> <p>‘Natural disasters are often not natural, but are in fact human disasters.’</p>
<p><b>Link to course</b></p>	<p>Within the Physical Geography paper this links to the Plate Tectonics unit and is a typical 12 mark style exam question that tests students' deeper cognitive understanding of geographic / geological events.</p> <p>The task also develops the Assessment Objectives of the A-Level specification in that it requires students to not only demonstrate knowledge but to develop an argument based on that knowledge.</p>
<p><b>Marking Criteria</b></p>	<p><b><u>Pass</u></b></p> <p>Uses case study specifics with some understanding of the physical processes and concludes with a one sided argument</p> <p><b><u>Distinction</u></b></p> <p>Uses detailed case study material with sound understanding of the physical processes and presents a balanced argument that comes to a coherent conclusion.</p> <p><b><u>Fail</u></b></p> <p>No case study specifics with limited understanding of the physical processes and displays a weak conclusion</p>
<p><b>Extension Task</b></p>	<p>If you are considering Geography or a related subject at university, you should complete the following:</p> <ol style="list-style-type: none"> <li>1) Read ‘The Almighty Dollar’ by Dharshini David</li> <li>2) Read ‘Prisoners of Geography’ by Tim Marshall</li> <li>3) Look through the ‘Aiming for A*/A’ document for more wider reading.</li> </ol> <p><a href="https://drive.google.com/drive/folders/18tesxHSNY9eYG29gAXVeuEn2XvQhc_Cy">https://drive.google.com/drive/folders/18tesxHSNY9eYG29gAXVeuEn2XvQhc_Cy</a></p>

## History

<p><b>Instructions</b></p>	<p>Read the first 9 pages of Chapter 1 of <i>Hodder Access to History book: South Africa: Apartheid State to Rainbow Nation</i> (available through the library if necessary)</p> <p><a href="https://www.educationplatform.co.uk/extract/899616f88a569614a76aeb892a89ba2acd83/eea8f232f0eb743442624b924e4e8debd624">https://www.educationplatform.co.uk/extract/899616f88a569614a76aeb892a89ba2acd83/eea8f232f0eb743442624b924e4e8debd624</a></p> <p>Make bullet point notes of key information around the South Africa course Choose from min. 2 of the options</p> <ol style="list-style-type: none"> <li>1. Watch 1-2 video series on Apartheid on Massolit (add link..._</li> <li>2. Research at least 1 prominent anti-apartheid campaigner, such as Nelson Mandela, Winnie Mandela, Steve Biko, Oliver Tambo, Miriam Makeba, Robert Sobukwe</li> <li>3. Listen to the History of Apartheid podcast (Spotify, plus link...)</li> <li>4. Watch a film set in South Africa during the Colonial/Apartheid era, such as Zulu, Cry Freedom, A Dry White Season, SKin, In My Country, Escape from Pretoria, Mame Africa, Cry the Beloved Country, Catch a Fire, District 9</li> </ol> <p>American Dream: Watch the documentary and make notes <a href="https://www.youtube.com/watch?v=aarFxsGUJSA">https://www.youtube.com/watch?v=aarFxsGUJSA</a></p>
<p><b>Link to course</b></p>	<p>The Year 12 History course will be looking at two areas: Apartheid in South and US History. By reading and researching the less familiar of these two periods students will begin to develop the skills necessary to assimilate and organise large amounts of AO1 knowledge.</p>
<p><b>Success criteria</b></p>	<p>Your mind map will be judged upon the level of detail present and the success achieved in organising that material.</p> <p><b><u>Pass:</u></b></p> <p>Adequate to a good level of detail and a good level of organisation is apparent.</p> <p><b><u>Distinction:</u></b></p> <p>Excellent level of detail and a clear and logical system of organisation</p> <p><b><u>Fail:</u></b></p> <p>Lacking detail and or organisation</p>

**Extension Task**

If you are considering History or a related subject at university, you should complete the following:

Read any non-fiction History book and write a book review of one side of A4 in size 12 font. Your review should include the following:

- A summary of the main themes
- An summary of which part/aspect of the book you found most interesting and reasons why

## Mathematics & Further Mathematics

<p><b>Instructions</b></p>	<p>You need to read and work your way through the first two chapters of the Mathematics textbook which can be accessed on the school website.</p> <ul style="list-style-type: none"> <li>· You should complete <b>all exercises</b> from Chapters 1 and part of Chapter 2.</li> <li>· These need to be completed on lined or squared A4 paper and clearly set out. The work should be <b>compiled in a ringbinder folder</b>.</li> <li>· This is in preparation for sitting an <b>Induction test on Tuesday 3rd of September at 10:00am</b> in the 6<sup>th</sup> form centre · You will need to <b>show the exercises before being allowed to sit the induction test</b></li> </ul>
<p><b>Link To course</b></p>	<p>Many students find quite a jump in what they are expected to do at A Level in comparison with GCSE. If mathematical arguments are to be constructed successfully, students need to be fluent in the manner in which they manipulate algebra. Consequently, it is vital that the grounding laid at GCSE is firm rather than merely learnt for the exams in the summer and subsequently forgotten. This is why students require a minimum of a 7 and a good performance in the induction test to be able to take Mathematics A-Level. For students wishing to study Further Mathematics at A-level, a grade 8 or higher is required at GCSE.</p>
<p><b>Success criteria</b></p>	<p>Minimum of a grade 7 (Maths) or grade 8 (Further Maths) and successful completion of the Induction test.</p>
<p><b>Marking Structure</b></p>	<p>The Induction test will be marked within the following boundaries: Distinction (90%+)          Pass (60 – 89%)          Fail (0 – 59%)</p>



**Extension Tasks**

Go to : <http://www.m-a.org.uk/post-16-resources> and click on **Read Any Good (Maths) Books Lately?**

This is a reading list compiled by the Mathematical Association of books that sixth formers will hopefully find accessible and interesting to gain a wider understanding of the subject beyond the A Level syllabus. In particular, some sixth formers in the past have read Simon Singh's book *Fermat's Last Theorem*, and *The Code Book*, both of which are very accessible. David Acheson's book *1089 and All That* dips into a wide variety of topics in an entertaining way as do books by Rob Eastaway *et al.*

***For supplementary material: <http://www.queens.herts.sch.uk/sixth-form/>***

## Music

### Instructions

As part of the induction tasks for A Level music you will be required to complete two tasks: a performance task and an analysis based essay.

#### Task One:

- **Performance:** Prepare a piece to perform on your instrument (including voice). Ideally your piece should be at a minimum of Grade 5 level or equivalent, but marks will be awarded for pieces at any standard. It is important that you know it well and that you give a secure, expressive performance, with attention to detail of dynamic and articulation. You will be asked to perform in front of the class during the first week of term. The performance will be recorded and used as your first internal assessment of Y12.

#### Task Two:

- **ABRSM Grade 5 Theory Exam:** At GCSE, the general standard of music theory that you were at is grade 3. In order to achieve highly in A-Level music, the standard of theory that you need to be at is grade 5 as it underpins both the **composition** and **analytical** aspects of the course. In the first week of year 12 you will take a grade 5 theory paper which you need to pass.

#### Task Three:

- **Independent Study:** Familiarise yourself with the following artists/pieces below.
  - Mozart: Sinfonia Concertante in E flat major, K. 364 (1779-80), first movement
  - Bessie Smith: (i) 'Young Woman's Blues' (October 26, 1926), (ii) 'Back Water Blues' (February 17, 1927), (iii) 'Alexander's Rag Time Band' (March 2, 1927), (iv) 'Nobody Knows You When You're Down And Out' (May 15, 1929)

Alongside this, please purchase and read the following book: "Mozart - The Man Revealed by John Suchet"

[https://www.amazon.co.uk/Mozart-Man-Revealed-John-Suchet/dp/1783965819/ref=sr\\_1\\_1?crid=2UGVNFT7AHNDU&dib=eyJ2ljojMSJ9.HZSuvvXjRHun8IconNz53TAAfWVPJDJoP1vJCQQ8NUyS3O6HIG1oQkJa5L6kbwC1NDvLyDx9Ns2ycdJw56ddxBGk-9RB3Y1scEUNWiwPQMTCO4sIZ8PRJlyCTPY1khaKbvmQSLmrB17Fi8N9ZngwbyP9jIAv7PoOHjUxkwOpfWk-ij2YThpArnrvspB7Ca2WFE03jSRL7Lb5AQwzuaTj2qj-QDsUDKWv4WHutCKEgQk.vJvUnNAk0owWdPMo9DTI1QhHq3JiJLnmlWAI3jgg288&dib\\_tag=se&keywords=John+Suchet+Mozart&qid=1718015804&srefix=john+suchet+mozart%2Caps%2C75&sr=8-1](https://www.amazon.co.uk/Mozart-Man-Revealed-John-Suchet/dp/1783965819/ref=sr_1_1?crid=2UGVNFT7AHNDU&dib=eyJ2ljojMSJ9.HZSuvvXjRHun8IconNz53TAAfWVPJDJoP1vJCQQ8NUyS3O6HIG1oQkJa5L6kbwC1NDvLyDx9Ns2ycdJw56ddxBGk-9RB3Y1scEUNWiwPQMTCO4sIZ8PRJlyCTPY1khaKbvmQSLmrB17Fi8N9ZngwbyP9jIAv7PoOHjUxkwOpfWk-ij2YThpArnrvspB7Ca2WFE03jSRL7Lb5AQwzuaTj2qj-QDsUDKWv4WHutCKEgQk.vJvUnNAk0owWdPMo9DTI1QhHq3JiJLnmlWAI3jgg288&dib_tag=se&keywords=John+Suchet+Mozart&qid=1718015804&srefix=john+suchet+mozart%2Caps%2C75&sr=8-1)

## Music

<p><b>Link To Course</b></p>	<p><b>Performance</b> is a large chunk of the A-Level course. The minimum standard of difficulty at the end of year 13 is grade 6.</p> <p><b>Theory</b> underpins music, particularly the analysis and composition elements of the course.</p> <p><b>Independent Analysis</b> is an important aspect of the final exam. Students should engage with the composers/artists on a far deeper level than what will be covered in class. Independent learning is a large aspect of any A-Level course and this begins students' independent skills.</p>
<p><b>Success Criteria</b></p>	<p><b>Performance</b> - Grade 5 minimum</p> <p><b>Theory</b> - To pass the paper provided</p>
<p><b>Marking Structure</b></p>	<p><b>Specific marking structures can be found here:</b>  <a href="https://www.ocr.org.uk/qualifications/as-and-a-level/music-h143-h543-from-2016/">https://www.ocr.org.uk/qualifications/as-and-a-level/music-h143-h543-from-2016/</a></p> <p><b>Performance:</b></p> <p><b>Distinction:</b></p> <p style="padding-left: 40px;">At the top of the band there will be no discernible flaws and pitch/intonation will be completely secure. The tempo is appropriate throughout; the performance is entirely fluent and rhythmically secure, without any hesitations.</p> <p style="padding-left: 40px;">The techniques demanded are fully mastered with a mature tone quality across the whole range. The composer's expressive and performance directions have been fully observed resulting in accurate, effective and broad-ranging dynamics, phrasing and articulation.</p> <p><b>Pass:</b></p> <p style="padding-left: 40px;">A performance which achieves consistency of pitch overall with reasonably secure intonation, weaknesses of rhythm or pulse may be evident. The chosen tempi may be slightly misjudged and the performance mechanical on occasion, articulation and dynamics are mostly accurate, if rather bland.</p> <p style="padding-left: 40px;">In general technical demands are met but there will be evidence of loss of integrity. Evidence of good tone quality over most of the pitch range but with occasional weaknesses.</p> <p style="padding-left: 40px;">The composer's expressive and performance directions have been largely observed and phrases are generally well shaped.</p> <p><b>Fail:</b></p> <p style="padding-left: 40px;">A performance which achieves limited consistency of pitch <b>and</b> rhythm or fluency; accuracy is only evident in the more straightforward passages; intonation is rarely secure and is inconsistent. Technique and tone production are problematic.</p> <p style="padding-left: 40px;">The main chosen tempi are inappropriate and there is little or no application of dynamics, phrasing and articulation.</p> <p><b>Theory Exam:</b></p> <p><b>Distinction:</b> 90</p> <p><b>Pass:</b> 67</p> <p><b>Fail:</b> &lt;67</p>

**Extension  
Task**

Write a 500 word essay, using the aforementioned literature, answering the following question:

**How did Mozart's father influence his musical journey as a child?**

## Photography

<p><b>Instructions</b></p>	<p>There are three basic technical elements of Photography -          Aperture          Shutter Speed          ISO</p> <p><b>Your task is to create a presentation:</b>          The first part must demonstrate your understanding of each of the basic elements (two slides on each).          Please ensure that you include technical diagrams, examples of photographs that clearly illustrate each element, links to useful websites and videos. The second part is to demonstrate your understanding of compositional rules and lighting in photography (two or three slides on each).          The first slide should illustrate your technical understanding again and have useful links, the second slide should be your own photographs (you can use a camera phone) showing that you can apply your new knowledge. For example; “In these photographs I use the compositional device of leading lines” and “In these photographs I’ve photographed an object using natural and artificial lighting”.</p> <p>As photography is a visual subject you will also need to spend time considering the layout and style of your presentation.</p> <p><b>Further reading:</b>          Complete Guide to Digital Photography by Ian Farrell          The Photograph: A Visual and Cultural History (Oxford History of Art) Paperback –          10 The Photograph as Contemporary Art (World of Art)</p> <p><b>Good Websites to Know:</b>  <a href="https://digital-photography-school.com/">https://digital-photography-school.com/</a>  <a href="https://www.behance.net/">https://www.behance.net/</a>  <a href="https://www.lensculture.com/">https://www.lensculture.com/</a></p>
<p><b>Link to Course</b></p>	<p>The work you produce allows your teachers to assess how well you can independently respond to a brief, as you would be expected to do throughout the course. This will also serve as a vehicle for determining your initial skill levels as well as personal interests and ability to engage with a wider contextual understanding through gallery visits.</p>

## Photography

	Fail	Pass	Distinctin
Records ideas, observations and insights relevant to intentions, reflecting critically on work and progress Contextual understanding, demonstrating analytical and critical understanding	Partial, inconsistent, literal, elementary, minimum, rushed, sporadic, naive, lacks skills, little creative intent, disjointed, pedestrian	Predictable, broadening, makes progress, relevant, description not explanation, demonstrates intentions, appropriate, sufficient, control, emerging individuality, thorough, developing skills, adequate, lacks perception, signs of understanding	Independent realized, sensitive, creative, sustained, highly inventive, critical perspective, comprehensive in depth, insightful, original, genuine, creative journey, refined, highly skilled, in-depth reflection, pertinent connections, exciting

Extension Task	Visit a gallery and find pieces of work that interest you
----------------	---

## Physical Education (A Level) & Single Btec Sport Science

<p><b>Instructions</b></p>	<p><b>Task 1: Psychology</b></p> <p>Develop a firm understanding of the following Psychological interventions to improve athletic performance. Complete the table found and research the different psychological interventions used within sport to aid performance.</p> <p><b>Task 2: Physiology</b></p> <p>Watch the powerpoint that is accessible via the link on the contents page. Produce a movement analysis of a named movement through its 3 stages (preparation, execution, follow through) for the 4 major joints (shoulder, elbow, hip and ankle).</p>
<p><b>Link To Course</b></p>	<p>The work you produce allows your teachers to assess how well you can independently respond to a brief, as you would be expected to do throughout the course.</p> <p>The work on the Physiology system will demonstrate that you understand one of the key physiological topics within the specifications, and also ensure all PE/Sport students are starting with the same knowledge base</p>
<p><b>Marking Structure</b></p>	<p><b><u>Pass:</u></b></p> <p>Adequate to a good level of accurate detail, a good level of organisation is apparent. Answers are generally correct.</p> <p><b><u>Distinction:</u></b></p> <p>Excellent level of accurate detail, a superb level of organisation is apparent Answers are correct and understood.</p> <p><b><u>Fail:</u></b></p> <p>Lacking accurate detail and organisation. Presentation lacks preparation or detail and answers are generally inaccurate.</p>

## Product Design

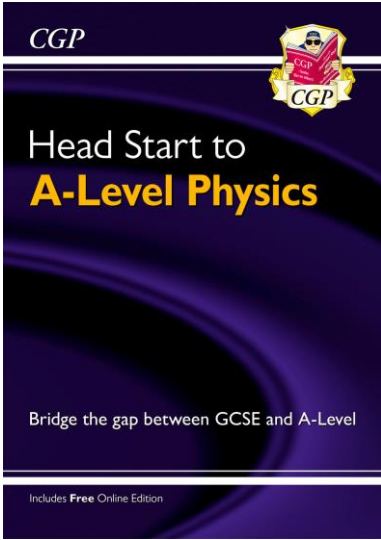
<p><b>Instructions</b></p>	<p>Go to: <a href="https://ventura.designmuseum.org/">https://ventura.designmuseum.org/</a></p> <p>Design a new, creative and commercially viable product for the Design Museum Shop to be sold for around £10          Draw out your product idea, make it clear what it is and how it works (or, if you've got time, create a prototype in paper or card.)          Photograph your design          Upload the photo via the link at the bottom of the page          Fill in the form          Click submit!          To read the Design Brief click on the link on the above web page</p>
<p><b>Link to Course</b></p>	<p>Designers from the past provide inspiration for present and future designing. Students should be aware of the important contribution that key historical movements and figures have on modern design thinking. Consider how technological developments have had an effect on the work of a specific designer and their social, moral and ethical impacts:</p> <p>mass production – the consumer society, built-in obsolescence, the effect mass production has on employment          the 'new' industrial age of high-technology production – computers and the development and manufacture of products, miniaturisation of products and components, the use of smart materials, products from innovative applications          the global marketplace – multinational companies in developed and developing countries, manufacturing 'offshore' in developing countries and local and global production.</p>
<p><b>Success Criteria</b></p>	<p>Visit the Design Museum/Design Ventura web page: <a href="https://ventura.designmuseum.org/">https://ventura.designmuseum.org/</a></p> <p>Read the text and watch the video</p> <p>Research your target group: Adult design enthusiasts, Young people and students, Families          Visit the Design Museum shop online: <a href="https://designmuseumshop.com/">https://designmuseumshop.com/</a></p> <p>Design and develop your product through sketched and card modelling          Email Ms Taplin your design (<a href="mailto:taplinsu@queesn.herts.sch.uk">taplinsu@queesn.herts.sch.uk</a>)</p> <p>Upload your files to the Design Ventura Mini Challenge page</p>
<p><b>Marking Structure</b></p>	<p>Students are expected to analyse and evaluate design decisions and outcomes for prototypes/products made by themselves and others</p> <p>Use creativity and imagination when applying iterative design processes to develop and modify designs, and to design and make prototypes that solve real world problems, considering their own and others' needs, wants, aspirations and values</p> <p>-Understand the influences and methods of the following key historical movements and figures:</p> <ul style="list-style-type: none"> <li>Arts and Crafts – William Morris</li> <li>Art Nouveau – Charles Rennie Mackintosh</li> <li>Bauhaus Modernist – Marianne Brandt</li> <li>Art Deco – Eileen Gray</li> <li>Post Modernism – Philippe Starck</li> <li>Streamlining – Raymond Lowey</li> <li>Memphis – Ettore Sottsass</li> </ul>



**Extension  
Tasks**

Tweet your Design to @QueensSch\_DT and include @DesignVentura in your message

## Physics

<p><b>Instructions</b></p>	<p>Purchase the CGP “Head Start to A-Level Physics” book. Answer ALL questions in each section and self-assess using the mark scheme in the back of the book.</p> <div style="text-align: center;">  </div> <p><a href="https://www.cgpbooks.co.uk/secondary-books/as-and-a-level/science/physics/pbr72-head-start-to-a-level-physics-with">https://www.cgpbooks.co.uk/secondary-books/as-and-a-level/science/physics/pbr72-head-start-to-a-level-physics-with</a></p> <p>2. Produce and practice memory/ flash cards for the symbols, units and prefixes on page 1 of the “Head Start to A-Level Physics” book.</p>
<p><b>Link To Course</b></p>	<p>The step up to A level Physics is a significant one, and your success in this subject will largely depend on your ability to build upon your knowledge from GCSE and revise throughout this year. The CGP “Head Start to A-Level Physics” book will help you with this transition, as well as introducing you to some key concepts that you will meet next year. It also gives you a chance to develop the layout of your workings and answers.</p>
	<ol style="list-style-type: none"> <li>1. There will be a multiple-choice assessment based solely on the content within this book. You are expected to achieve a very high result in it.</li> <li>2. Students to bring in <b>self-assessed</b> work from the CGP “Head Start to A- Level Physics” at the start of September.</li> </ol>

## Politics

<p><b>Instructions</b></p>	<p>Welcome to A Level Politics we follow the Edexcel course which examines:</p> <ul style="list-style-type: none"> <li>● UK Politics</li> <li>● UK Government</li> <li>● Political ideologies</li> <li>● American Politics</li> </ul> <p>Politics is a living breathing subject requiring you to be constantly keeping up with developments - but this is what makes it such a fascinating subject.</p> <p>You can find information on the transition activities here: <a href="#">Year 11 into 12 Politics Summer work</a></p> <p>There are four main activities that will help to familiarise you with new terminology and the nature of the course.</p> <p>The textbook required for the course is called 'Pearson Edexcel A Level Politics 2nd edition: UK Government and Politics, Political Ideas and US Government and Politics' and will serve you for the entirety of your A Level.</p>
<p><b>Link To Course</b></p>	<p>The Government and Politics course covers- the Politics and the Government of the UK. As well as a comparative element with the USA. These tasks should help you prepare for both elements.</p>
<p><b>Success Criteria</b></p>	<p>Your essays will have a clear argument throughout.</p> <p>There will be use of recent evidence from your research that will demonstrate your understanding of the topics.</p> <p>Your conclusion will summarise your argument clearly.</p>
<p><b>Marking structure</b></p>	<p><b>Distinction:</b> The answer will display accurate knowledge and understanding of political concepts/theories/institutions and processes and the relationship between them. It will include relevant evidence to substantiate points made. The answer will provide analysis and display sound awareness of differing viewpoints and a clear recognition of issues. It will be clearly structured with a sustained argument making excellent use of appropriate political vocabulary.</p> <p><b>Pass:</b> The answers will display generally accurate knowledge and understanding of political concepts/theories/institutions and processes and the relationship between them. The answer will include evidence backed up by clear examples to illustrate points made. The answer will provide a clear argument and explanation and will demonstrate awareness of differing view points. The argument will be communicated with good use of political vocabulary.</p> <p><b>Fail:</b> The answers demonstrate slight and/or incomplete knowledge and understanding of political concepts/theories/institutions and processes and limited awareness of the relationship between them. The answer will make a very limited attempt to address the requirements of the question. The argument is superficial and there is very limited awareness of differing viewpoints. The answer is narrative and not fully coherent and expressed without political vocabulary.</p>

**Extension  
Task(s)**

If you are considering Politics or a related subject at university, you should research one political ideology and summarise in no more than **750 words**.

# Psychology

## Instructions

*The following two tasks are to be completed and handed to your Psychology teacher in your first lesson back in September.*

### TASK 1

**Psychology is the study of the mind and behaviour.** Psychologists try and explain which factors influence behavior. However, they do not have a common consensus as to what these factors are, or how they should be investigated.

There are five main approaches in psychology that each try and investigate and explain human behaviour in different ways:

Biological approach

Learning approaches (Behaviourist approach and Social Learning Theory) Cognitive approach

Psychodynamic approach

Humanistic approach

**Your task is to research and create a Psychology timeline which includes all 5 approaches. Include key dates and names on your timeline.**

### TASK 2

As well as the five main approaches within psychology there are key debates that are often discussed when trying to evaluate the approaches and their different explanations of behaviour. Two of those debates are the **Nature – Nurture debate** and **Free will vs Determinism**.

**Research these two debates (Nature-Nurture debate and Free Will vs Determinism) and predict which side of the debate each of the five approaches are.**

## Psychology

<b>Marking Structure</b>	<p>You will be given an overall grade of <b>Pass, Distinction</b> or <b>Fail</b> based on 3 factors:</p> <ol style="list-style-type: none"><li>1) <b>Effort</b> shown overall (characterised by evidence of research and detailed writing)</li><li>2) <b>Clarity</b> and <b>coherence</b> of writing style and sentence construction</li><li>3) <b>Accuracy</b> of Detail</li></ol>
<b>Extension task</b>	<p>Draw a table comparing the four ways of studying the brain (check your AQA specification). Include columns to describe each way of studying the brain, strengths of the method and weaknesses of the method.</p> <p>You should also include images to show what each way of studying the brain looks like.</p>

## Philosophy, Religion and Ethics

<p><b>Instructions</b></p>	<p>Write two essays with the following titles:</p> <p><b>1) Assess the effectiveness of Aristotle’s four causes in explaining the world. Ensure you explain Aristotle’s four causes and evaluate how effective they are in explaining the world</b></p> <p><b>2) Evaluate the success of Augustine in resolving the problem of evil. Ensure you explain the problem of evil and whether or not you think Augustine’s response is successful</b></p> <p>You need to research these carefully, using and referencing articles/books</p> <p>Each essay should be approximately two sides of A4 in size 12 font, including a bibliography which identifies the sources you used (a minimum of four)</p>
<p><b>Link to Course</b></p>	<p>The Year 12 and 13 Philosophy, Religion, Ethics course will be looking at three areas: Philosophy of Religion, the relationship between religion and ethics and the development in Hindu thought. This induction task will allow you to familiarise yourself with some of the key philosophical and ethical themes and thinkers you will be looking at over the next two years.</p>
<p><b>Success criteria</b></p>	<p>Your essays will have a clear argument throughout them, with a structure that links the paragraphs together coherently.</p> <p>There will be use of evidence from your research that will demonstrate your understanding of the area of study, using specific facts and key figures/thinkers.</p> <p>Your conclusion will summarise your argument clearly.</p>
<p><b>Marking structure</b></p>	<p><b>L5:</b></p> <ul style="list-style-type: none"> <li>· Focuses on the precise question throughout</li> <li>· Very good selection of relevant material which is used appropriately. Accurate, and detailed knowledge which demonstrates very good understanding through either the breadth or depth of material used. Accurate and appropriate use of subject terminology and vocabulary. A very good range of scholarly views, academic approaches, and/or sources of wisdom and authority are used to demonstrate knowledge and understanding</li> </ul> <p><b>L4:</b></p> <ul style="list-style-type: none"> <li>· Addresses the question well</li> <li>· Good selection of relevant material, used appropriately on the whole. Mostly accurate knowledge which demonstrates good understanding of the material used, which has reasonable amounts of depth or breadth. Mostly accurate and appropriate use of subject terminology and vocabulary. A good range of scholarly views, academic approaches, and/or sources of wisdom and authority are used to demonstrate knowledge and understanding</li> </ul>

## Philosophy, Religion and Ethics

	<p><b>L3:</b></p> <ul style="list-style-type: none"> <li>· Generally addresses the question</li> <li>· Mostly sound selection of relevant material</li> <li>· Some accurate knowledge which demonstrates sound understanding through the material used, which might however be lacking in depth or breadth</li> <li>· Generally appropriate use of technical terms and subject vocabulary. A satisfactory range of scholarly views, academic approaches, and/or sources of wisdom and authority are used to demonstrate knowledge and understanding with only partial success</li> </ul>
	<p><b>L2:</b></p> <ul style="list-style-type: none"> <li>· Might address the general topic rather than the question directly · Limited selection of partially relevant material</li> <li>· Some accurate, but limited, knowledge which demonstrates partial understanding</li> <li>· Some accurate, but limited, use of technical terms and appropriate subject vocabulary</li> <li>· A limited range of scholarly views, academic approaches, and/or sources of wisdom and authority are used to demonstrate knowledge and understanding with little success</li> </ul>
	<p><b>L1:</b></p> <ul style="list-style-type: none"> <li>· Almost completely ignores the question</li> <li>· Very little relevant material selected</li> <li>· Knowledge very limited, demonstrating little understanding</li> <li>· Very little use of technical terms or subject vocabulary</li> <li>· Very little or no use of scholarly views, academic approaches and/or sources of wisdom and authority to demonstrate knowledge and understanding</li> </ul>



**Extension  
Task**

If you are considering studying Philosophy or Theology or a related subject at University or for an overview of Philosophy of thought from a historical perspective to enhance your view of the main ideas, you should complete the following:

Read the book 'Sophie's World' by Jostein Gaarder and write a review on one side of A4 in size 12 font. Your review should include the following:

- A summary of the main themes
- A summary of which part/aspect of the book you found most interesting, including your reasons why

## Sociology

<b>Instr uctio ns</b>	<p>Your first unit in Sociology will be Families and Households. To help you prepare for this you will produce a <b>timeline which illustrates the development of women's rights in the UK over the last 200 years or so. You can present this in any way you wish on A4/A3 paper.</b></p> <p>Your second unit of study will be Education. To prepare for this you should create a <b>timeline of all of the major education policies that have been implemented and a description of the effects this has had on the education system.</b> You should research the following policies:</p> <ol style="list-style-type: none"> <li>1. 1944 Butler Education Act</li> <li>2. 1965 Comprehensive system</li> <li>3. 1988 Education Act</li> <li>4. New Labour Education Policies</li> <li>5. Coalition Education Policies</li> <li>6. Current Conservative Education Policies</li> </ol>
-------------------------------	--

<b>Marking structure</b>	<p>You will be given an overall grade of <b>Pass, Distinction</b> or <b>Fail</b> based on 3 factors:</p> <ol style="list-style-type: none"> <li><b>1) Effort</b> shown overall (characterised by evidence of research and detailed writing)</li> <li><b>2) Clarity</b> and <b>coherence</b> of writing style and sentence construction</li> <li><b>3) Accuracy</b> of Detail</li> </ol>
------------------------------	---

**Extension**

In Sociology, there are 2 major theories that you must know:

1. Functionalism
2. Marxism

You should research each of these and create a fact sheet about each theory.

You should include a description of major theorists.

You should include the theories views on Family, Education and Crime.

## Spanish

<p><b>Task 1 Instructions</b></p>	<p>Complete the Cuaderno de Gramática to revise the following areas:</p> <ul style="list-style-type: none"> <li>Nouns</li> <li>Adjectives</li> <li>Definite and indefinite articles</li> <li>Word order</li> <li>Possessive and demonstrative adjectives</li> <li>POY and PARA</li> <li>The Verb GUSTAR and back to front verbs</li> <li>The present tense – regular and irregular verbs</li> <li>The preterite tense – regular verbs</li> <li>The imperfect tense</li> <li>The conditional</li> <li>The future and immediate future tenses</li> <li>Negatives and infinitive constructions</li> <li>SER and ESTAR</li> <li>Direct and Indirect object pronouns</li> </ul> <p><b>Please either download or make a copy of the document:</b></p> <p><a href="https://docs.google.com/document/d/1brcr-qq4c80G4xR1k1A4RQ7kiY7_W9dy/edit?usp=drive_link&amp;oid=117051332054676419062&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1brcr-qq4c80G4xR1k1A4RQ7kiY7_W9dy/edit?usp=drive_link&amp;oid=117051332054676419062&amp;rtpof=true&amp;sd=true</a></p>
<p><b>Link To Course</b></p>	<p>The Spanish A level requires you to produce accurate Spanish, demonstrate a secure grasp of grammar and be able to manipulate complex language accurately. The aims of this task, therefore, are:</p> <ul style="list-style-type: none"> <li>To lay the foundations for a thorough understanding of the key grammar points which are crucial to success at A level and beyond</li> <li>To develop grammar learning habits which may not have been in place at GCSE, but which are crucial to success at A level and beyond</li> </ul>
<p><b>Success Criteria</b></p>	<p>The tables should be completed fully, legibly and accurately, including accurate use of accents.</p>
<p><b>Task 2 Instructions</b></p>	<p>Watch the following two Spanish films: (They are readily available to buy online, and some streaming services may hold them) some examples are:</p> <ul style="list-style-type: none"> <li>Volver</li> <li>Ocho apellidos vascos</li> </ul> <p>For one of the films in task 2 answer <b>4</b> of the following questions in Spanish. Each answer should be no longer than 50 words. Copy the question at the top of your answer. ¿De qué trata la película que has seleccionado?</p> <ul style="list-style-type: none"> <li>¿Te gusta la película o no? ¿Por qué?</li> <li>¿Hay aspectos de la película que no te gustan?</li> <li>¿Quiénes son los personajes más interesantes y por qué?</li> <li>¿Qué son los temas de la película?</li> <li>¿Qué son los aspectos más impresionantes de la película y por qué?</li> <li>¿Hasta qué punto admiras al director de la película?</li> </ul>

<p><b>Link To Course</b></p>	<p>As the Spanish A level course requires you to have knowledge and understanding of aspects of culture and society in the Hispanic world, the aims of this task are:</p> <ul style="list-style-type: none"> <li>To begin to explore some of the topics studied in more depth at A level</li> <li>To demonstrate accurate use of a range of language</li> </ul>
<p><b>Success Criteria</b></p>	<p>The work should be of the specified length for the task you have chosen.</p> <p><b>AO3: Manipulate the language accurately</b></p> <p>Across your answers you should aim to show a wide range of vocabulary and structures. You may consider using the following:</p> <p><u>Tenses</u>: present/preterite/imperfect/future/conditional/perfect</p> <p><u>Range of language</u>: varied vocabulary; comparatives and superlatives; adjectives; adverbs; negative phrases; connectives; opinions and reasons; time phrases</p> <p><b>AO4: Show knowledge and understanding of Hispanic Culture and Society</b> You should use examples from the film or aspect of Hispanic culture you have chosen to support your statements and justify your conclusions.</p>

## Spanish

### Marking Structure

#### AO3: Manipulate the language accurately

9-10 The language produced is mainly accurate with only occasional minor errors. The student shows a consistently secure grasp of grammar and is able to manipulate complex language accurately. The student uses a wide range of vocabulary appropriate to the context and the task.

7-8 The language produced is generally accurate, but there are some minor errors. The student shows a generally good grasp of grammar and is often able to manipulate complex language accurately. The student uses a good range of vocabulary appropriate to the context and the task.

5-6 The language produced is reasonably accurate, but there are a few serious errors. The student shows a reasonable grasp of grammar and is sometimes able to manipulate complex language accurately. The student uses a reasonable range of vocabulary appropriate to the context and the task.

3-4 The language produced contains many errors. The student shows some grasp of grammar and is occasionally able to manipulate complex language accurately. The student uses a limited range of vocabulary appropriate to the context and the task.

1-2 The language produced contains many errors of a basic nature. The student shows little grasp of grammar and is rarely able to manipulate complex language accurately. The student uses a very limited range of vocabulary appropriate to the context and the task.

#### Description

#### AO4: Show knowledge and understanding of Spanish Speaking Culture and Society

	Very good knowledge and understanding of the topic selected. Students consistently use relevant information / appropriate evidence to justify their conclusions, demonstrating a very good evaluation of the topic selected.	
	Good knowledge and understanding of the topic selected. Students often use relevant information / appropriate evidence to justify their conclusions, demonstrating a good evaluation of the topic selected.	
	Reasonable knowledge and understanding of the topic selected. Students sometimes use relevant information / appropriate evidence to justify their conclusions, demonstrating a reasonable evaluation of the topic selected.	
	Some knowledge and understanding of the topic selected. Students occasionally use relevant information / appropriate evidence to justify their conclusions, demonstrating a limited evaluation of the topic selected.	
	A little knowledge and understanding of the topic selected. Students rarely use relevant information / appropriate evidence to justify their conclusions, demonstrating a very limited evaluation of the topic selected.	

## APPENDICES

Appendix 1 – Chemistry**Key Skill 1 – Uncertainties, Standard Form and Significant Figures**

GCSE – MS1 Arithmetic and Numerical Computation p246, MS2 Handling Data p252

A Level – Appendix 4 in the Practical Skills Handbook (pp 38-45)

**1A. Write** the following values to 3 significant figures (3SF)

- (a) 2566                      (b) 33.042                      (c)  $\frac{2}{3}$                       (d)  $\frac{120}{3.00}$

**1B. Write** the following values to 2 decimal places (2DP)

- (a) 22.425                      (b) 65.616                      (c) 7.0036005                      (d)  $2.74598 \times 10^2$

**2. Identify** the number of significant figures used in the following. For (e) and (g) you will only able to define a minimum and a maximum

- (a) 1.025                      (b) 12.70                      (c) 0.005                      (d)  $5.00 \times 10^{-3}$   
 (e) 24000                      (f)  $2.4 \times 10^4$                       (g) 300                      (h)  $3.00 \times 10^2$

**3. Write** the following in standard form using the equivalent number of significant figures

- (a) 0.0250                      (b) 101325                      (c) 0.000100                      (d) 0.0025

**4. Convert** each measurement value into the unit requested using the equivalent number of significant figures

- (a) 25.0 cm<sup>3</sup> into dm<sup>3</sup>                      (b) 24.0 dm<sup>3</sup> into cm<sup>3</sup>                      (c) 250.0 cm<sup>3</sup> into m<sup>3</sup>  
 (d) 8849 J mol<sup>-1</sup> into kJ mol<sup>-1</sup>                      (e) 0.0 °C into K                      (f)  $1.50 \times 10^3$  kPa into Pa

**5. State** the numerical uncertainty in each of the following measurements **and calculate** the percentage uncertainty to 2SF

- (a) a single mass reading of 0.14 g  
 (b) a single mass reading of 22.0 g  
 (c) a mass of 12.14 g calculated from the difference of two readings  
 (d) a volume of 125 cm<sup>3</sup> in a measuring cylinder with 2 cm<sup>3</sup> divisions  
 (e) a single burette reading of 10.20 cm<sup>3</sup> (*this has no percentage uncertainty*)  
 (f) a titre calculated from two burette readings of 10.20 cm<sup>3</sup> and 33.55 cm<sup>3</sup>
-

## Key Skill 2 – Relative formula mass ( $M_r$ ), moles and concentrations

GCSE – C4.1 Relative masses and moles, C4.6 Expressing concentrations, C4.8 Titration calculations C4.9 Volumes of gases

A Level – Ch 3 Amount of substance, Ch 4.2 Acid–base titration

**1. Calculate** the relative formula mass ( $M_r$ ) of the following compounds

- |   |  |  |  |
|---|--|--|--|
| (a) MgO   | (b) Na <sub>2</sub> S                                  | (c) CaF <sub>2</sub>                   | (d) Fe <sub>2</sub> O <sub>3</sub>       |
| (e) K <sub>2</sub> SO <sub>4</sub>                | (f) Cu(NO <sub>3</sub> ) <sub>2</sub>                  | (g) Pb(BrO <sub>3</sub> ) <sub>2</sub> | (h) Li <sub>3</sub> PO <sub>4</sub>      |
| (i) CuSO <sub>4</sub> ·5H <sub>2</sub> O          | (j) (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>    | (k) C <sub>2</sub> H <sub>5</sub> OH   | (l) CoCl <sub>2</sub> ·6H <sub>2</sub> O |
| (m) K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> | (n) CH <sub>3</sub> CH <sub>2</sub> COOCH <sub>3</sub> | (o) C <sub>6</sub> H <sub>5</sub> COOH |  |

**2.** In each of the following groups, rank the three substances **largest** to **smallest** in terms of moles

- |   |  |   |
|---|--|---|
| (a) 3.15 g of Na <sub>2</sub> O                 | 8.50 g of Fe <sub>2</sub> O <sub>3</sub> | 2.90 g of CaO                                   |
| (b) 4.40 g of Pb(NO <sub>3</sub> ) <sub>2</sub> | 3.10 g of BaSO <sub>4</sub>              | 3.70 g of Ag <sub>2</sub> CO <sub>3</sub>       |
| (c) 1.00 g of H <sub>2</sub> O                  | 6.80 g of MgSO <sub>4</sub>              | 13.80 g of MgSO <sub>4</sub> ·7H <sub>2</sub> O |

**3. Rearrange  $pV = nRT$**  to make each of  $p$ ,  $V$ ,  $n$  and  $T$  the subject (4 different equations)

**4. Use  $pV = nRT$**  to fill out the missing space(s) in each line of the table

$$R = 8.314 \text{ J K}^{-1} \text{ mol}^{-1}$$

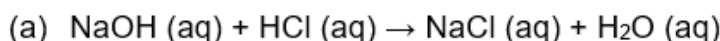
Gas	$p$ (in Pa unless stated)	$V$ (in m <sup>3</sup> unless stated)	$n$	$T$ (in K unless stated)
1	100 000	0.024	1	
2	100 000		1	298
3	210 kPa	40 dm <sup>3</sup>		840
4		1500 cm <sup>3</sup>	0.045	–20 °C
5	70 atm	250 dm <sup>3</sup>		450 °C
6	68 kPa	200 cm <sup>3</sup>	$6 \times 10^{-3}$	



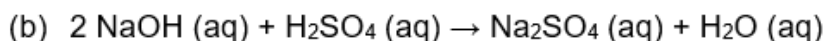
**5. Calculate** the concentrations in  $\text{mol dm}^{-3}$  of the following solutions

- (a) 1000 g of  $\text{H}_2\text{O}$  in  $1000 \text{ cm}^3$  of water (i.e., what is the natural concentration of water)
- (b) 2.34 g of  $\text{NaCl}$  in  $100 \text{ cm}^3$  of water
- (c) 3.70 g of  $\text{Ca}(\text{OH})_2$  in  $250 \text{ cm}^3$  of water
- (d) 1.25 g of  $\text{H}_2\text{SO}_4$  in  $25 \text{ cm}^3$  of water

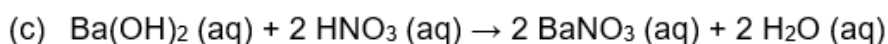
**6. Titration** calculations are an important part of A-level Chemistry



- (i) Calculate the volume of  $0.150 \text{ mol dm}^{-3}$   $\text{HCl (aq)}$  that would be required to neutralise  $25.0 \text{ cm}^3$  of  $0.240 \text{ mol dm}^{-3}$   $\text{NaOH (aq)}$ .
- (ii) The actual volume of  $0.150 \text{ mol dm}^{-3}$   $\text{HCl (aq)}$  required to neutralise  $25.0 \text{ cm}^3$  of the  $\text{NaOH (aq)}$  solution was  $38.45 \text{ cm}^3$ . Calculate the concentration of the  $\text{NaOH (aq)}$  to 3SF.



- (i)  $25 \text{ cm}^3$  of  $\text{NaOH (aq)}$  solution of unknown concentration was titrated against  $\text{H}_2\text{SO}_4 \text{ (aq)}$  with a concentration of  $0.120 \text{ mol dm}^{-3}$ . The mean volume required for neutralisation was  $21.45 \text{ cm}^3$ . Calculate the concentration of the  $\text{NaOH (aq)}$  solution to 3SF.
- (ii) If the  $0.150 \text{ mol dm}^{-3}$   $\text{HCl (aq)}$  from (a) had been used instead of  $0.120 \text{ mol dm}^{-3}$   $\text{H}_2\text{SO}_4 \text{ (aq)}$ , by what percentage would the titration volume have changed?



- (i) An unknown mass of  $\text{Ba}$  metal was reacted fully with water to form  $\text{Ba}(\text{OH})_2 \text{ (aq)}$ . The solution was then diluted to a volume of  $100.0 \text{ cm}^3$ . A  $25.0 \text{ cm}^3$  sample of this solution was then titrated against  $0.275 \text{ mol dm}^{-3}$   $\text{HNO}_3 \text{ (aq)}$ . The mean volume required for neutralisation was  $26.10 \text{ cm}^3$ . Show that mass of barium used was close to 2 g.
- (ii) Predict the titre that would have been required to neutralise a sample of solution made in a similar way, using the same mass as found in (c)(i) but employing  $\text{K}$  instead of  $\text{Ba}$ . (Use 2.00 g if you do not have an answer from (c)(i))

### **Key Skill 3 – Oxidation States and Chemical Formulae**

GCSE – C3.2 Atoms into ions, C5.2 Displacement reactions (Oxidation and Reduction panel), C2.6 The transition elements

A Level – Ch 4.3 Redox, Ch 2.3 Formulae and equations

**1. Write** the oxidation states (number and charge) of the following ions of elements

- |                 |                  |                  |                   |
|-----------------|------------------|------------------|-------------------|
| (a) sodium ion  | (b) chloride ion | (c) calcium ion  | (d) nitride ion   |
| (e) sulfide ion | (f) hydrogen ion | (g) hydride ion  | (h) aluminium ion |
| (i) barium ion  | (j) selenide ion | (k) fluoride ion | (l) phosphide ion |

**2. Write** the symbol formulae of the following ions

(a) overall charge **1-**

- |                |                     |                            |                |
|----------------|---------------------|----------------------------|----------------|
| (i) nitrate(V) | (ii) chlorate(I)    | (iii) bromate(III)         | (iv) iodate(V) |
| (v) hydroxide  | (vi) manganate(VII) | (vii) hydrogen sulfate(VI) |                |

(b) overall charge **2-**

- |                 |                |                     |                     |
|-----------------|----------------|---------------------|---------------------|
| (i) sulfate(VI) | (ii) carbonate | (iii) manganate(VI) | (iv) dichromate(VI) |
| (v) silicate    | (vi) peroxide  | (vii) selenate(VI)  |                     |

(c) overall charge **3-**

- |                  |                  |                   |
|------------------|------------------|-------------------|
| (i) phosphate(V) | (ii) arsenate(V) | (iii) vanadate(V) |
|------------------|------------------|-------------------|

**3. Write** the IUPAC name with formal oxidation state for the following ions

- |                      |                         |                      |                         |
|----------------------|-------------------------|----------------------|-------------------------|
| (a) $\text{NO}_2^-$  | (b) $\text{SO}_3^{2-}$  | (c) $\text{BrO}_3^-$ | (d) $\text{PO}_4^{3-}$  |
| (e) $\text{ClO}_4^-$ | (f) $\text{FeO}_4^{2-}$ | (g) $\text{IO}_4^-$  | (h) $\text{CrO}_4^{2-}$ |

**4. Write** the symbol formulae of the following compounds

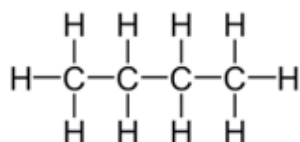
- |                           |                            |                               |                       |
|---------------------------|----------------------------|-------------------------------|-----------------------|
| (a) sodium chloride       | (b) calcium nitride        | (c) lithium oxide             | (d) aluminium sulfide |
| (e) lithium sulfate(VI)   | (f) barium nitrate(V)      | (g) calcium hydroxide         |                       |
| (h) sodium chromate(VI)   | (i) magnesium bromate(III) | (j) aluminium phosphate(V)    |                       |
| (k) calcium silicate      | (l) sodium peroxide        | (m) sodium vanadate(V)        |                       |
| (n) copper(II) nitrate(V) | (o) iron(III) hydroxide    | (p) chromium(III) sulfate(VI) |                       |

### Key Skill 4 – Organic Basics, Functional Groups, Skeletal Formulae and Isomers

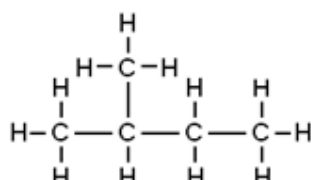
GCSE – C9.1 Hydrocarbons, C10.2 Structures of alcohols, carboxylic acids, and esters

A Level – Ch 11.2 Nomenclature of organic compounds, Ch 11.3 Representing the formulae of organic compounds, Ch 11.4 Isomerism

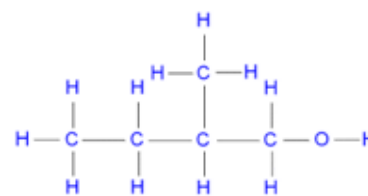
1. Circle and identify the **functional groups** in **molecules C to F** inclusive.



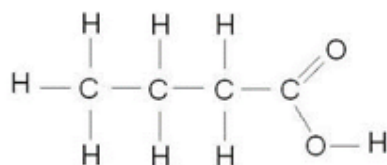
**A**



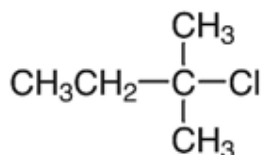
**B**



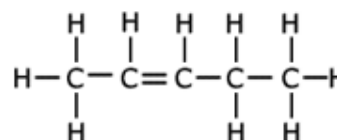
**C**



**D**



**E**



**F**

2. **Draw** the displayed formulae of each of the molecules **A to F** as **skeletal formulae**.

3. **State** the **systematic name** of each of the molecules **A to F**

4. **Draw skeletal** structures for the possible isomers of the following compounds (the number of possible answers is put in square brackets after the formula)

- (a)  $C_5H_{12}$ : an alkane [3 isomers]
- (b)  $C_4H_9OH$ : an alcohol [4 isomers]
- (c)  $C_5H_{11OH}$ : an alcohol [8 isomers]
- (d)  $C_5H_{10}$ : an alkene [6 isomers]
- (ext)  $C_6H_{13}Br$ : a haloalkane [17 isomers]

5. **Learn** about the **Cahn-Ingold-Prelog nomenclature** (p 205 of the textbook, Ch 13.2)

Use isomers of the **substituted hexene**  $C_6H_{11}Cl$  to demonstrate *E/Z* isomerism and to show the structure required for *cis-trans* isomerism

## Key Skill 5 – Electron structure

GCSE – C1.8 Electronic structures

A Level – Ch 5.1 Electron structure

1. **State** or calculate the following values

- Maximum number of electrons in the 2s orbital
- Maximum number of electrons in the 2p subshell
- Number of orbitals in the 3<sup>rd</sup> shell
- Maximum number of electrons in a d orbital
- Number of orbitals in an f subshell
- Maximum number of electrons in the 4<sup>th</sup> shell

2. **Write** full electron configurations for the following species ('species' is a non-specific term that could mean an atom, ion, molecule, element, compound...)

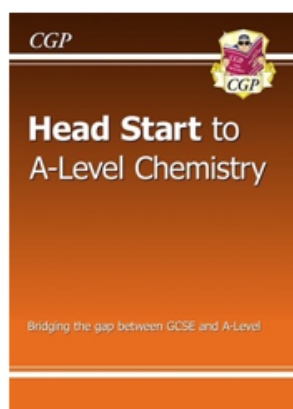
- |                     |                      |                     |                      |
|---------------------|----------------------|---------------------|----------------------|
| (a) He              | (b) Ne               | (c) O               | (d) S                |
| (e) O <sup>2-</sup> | (f) Na <sup>+</sup>  | (g) S <sup>2-</sup> | (h) K <sup>+</sup>   |
| (i) Sc              | (j) Sc <sup>3+</sup> | (k) Ga              | (l) Ga <sup>3+</sup> |

3. For each electron configuration below give an example of **one positive ion and one negative ion** with that precise configuration

- |  |   |   |
|--|---|---|
| (a) 1s <sup>2</sup>  | (b) 1s <sup>2</sup> 2s <sup>2</sup> 2p <sup>6</sup> | (c) 1s <sup>2</sup> 2s <sup>2</sup> 2p <sup>6</sup> 3s <sup>2</sup> 3p <sup>6</sup> |
| (d) 1s <sup>2</sup> 2s <sup>2</sup> 2p <sup>6</sup> 3s <sup>2</sup> 3p <sup>6</sup> 3d <sup>10</sup> 4s <sup>2</sup> 4p <sup>6</sup> |   |   |

## Task 2: Bridging the Gap to A-Level

Buy the CGP "Head Start to A-Level Chemistry" book and work through it. Answer the questions in each section and self-assess using the mark scheme in the back of the book. Bring your self-assessed work to class at the start of term.



Product code: CBR71

ISBN: 978178294280

*For more information, click on the image of book or scan the QR Code.*

## Appendix 2 -

# Computer Science

In A-Level Computer Science we will be studying a variety of programming languages other than just Python. Your task is to design, code and test the following programs in any language of your choice. Along with your program code you are expected to evidence the testing of your programs and annotate and explain your code.

You can use one of the following languages but this list is not exhaustive:

C family of languages (for example C# C+ etc.)

Java

Visual Basic

PHP

Delphi

JavaScript

Python

HINT: You will probably first need to download and install an IDE for your chosen language.

## Section 1

### Task 1: Computing Body Mass Index

Body Mass Index (BMI) is a measure of health based on height and weight. It can be calculated by taking your weight in kilograms and dividing it by the square of your height in metres.

$$\text{BMI} = \text{weight (kg)} / (\text{height(m)})^2$$

The interpretation of BMI for people 20 years or older is as follows.

BMI	Interpretation
Below 18.5	Underweight
18.5 – 24.9	Normal
25.0 – 29.9	Overweight
Above 30.0	Obese

You will need to write a program that will prompt the user to enter their weight in pounds and height in inches and displays the BMI of the user.

1 pound = 0.45359237 kg

1 inch = 0.0254 metre

## Task 2

### Lottery Number Generator

Design and create a program to randomly generate lottery numbers.

It must generate six random numbers between 1 and 49 inclusive + one for the bonus ball, note that the numbers should not repeat in any draw ( Hint: you will need to use arrays and lists)

## Section 2

### Task 1 - Opposites

A teacher asks you to develop a program that will help her KS2 students to practice opposite words for their examination. The program should randomly select two different pairs of words from the lists below and display a question based on the selection.

#### Word lists

[hot, summer, hard, dry, simple, light, weak, male, sad, win, small, ignore, buy, succeed, reject, prevent, exclude]

[cold, winter, soft, wet, complex, darkness, strong, female, happy, lose, big, pay attention, sell, fail, accept, allow, include]

For example if **hot** and **weak** are selected then the question displayed is

**“hot is to cold as weak is to\_?”**

When the user types their answer the program should display whether the user is correct or not.

The program should start by asking the user for their name. The program should then display ten random questions. After displaying 10 questions the program should display the user's name and their final score out of 10.

The teacher teaches three different classes (bee, bear, duck) and wants to use this test as an assessment. Before this test can be used as an assessment she has to ensure that no question is repeated, in the same test. ( You can add to the lists of words if you want to)

The teacher would also like to store the results into a text file so that she can analyse the data at a later stage. The figure below shows an example of a part of the file for bear.