

Faculty Revision Topics for Year 10 – 2017 Summative Examinations

<p><u>Design and Technology</u> Graphic Products Designing and prototyping children’s hand held products based on the theme of wildlife.</p> <p><u>Electronic Products</u> Products to help improve hand and eye coordination</p> <p><u>Product Design</u> Flat Pack collection box.</p> <p><u>Food Technology</u> Childhood obesity, nutritional needs of teenagers and elderly, eggs, fats & oils, chemistry of choux pastry and cooking temperatures.</p> <p><u>Textile Technology</u> ‘Products for teenagers inspired by the theme ‘fairground’ which will include a range of decorative techniques.’</p>	<p><u>English</u> 10J1 and 10J2 will need to revise their set texts for their GCSE English Literature exams. The rest of Y10 will need to focus on the following skills for their Summer Summative: Reading: Identifying the main points in texts. Analysing how writers use language for effect. Analysing how writers organise texts for effect. Analysing the way writer use presentational features for effect. Writing: Writing for different audiences and purposes. How to use a range of punctuation: commas, apostrophes, colons, semi-colons, brackets, exclamation marks, question marks, speech marks. How to use a variety of sentence structures for effect. Organising ideas into paragraphs. Organising writing effectively so that it has a clear structure. Using literary techniques.</p>
<p><u>Biology:</u> Diet & Metabolic Rate Factors affecting health Evaluating Lifestyle and Diet Fighting Disease past and present including vaccinations, drugs The nervous system including synapses and reflexes Hormones Menstrual cycle Controlling fertility Plant hormones Adaptations Competition and Environmental Change Measuring Environmental change Pyramids of Biomass Energy transfer and Decay The Carbon cycle Variation Genes, Chromosomes and DNA Reproduction Cloning Genetic Engineering Evolution</p>	<p><u>Chemistry:</u> Atoms & Elements Periodic Table Electron shells Compounds Balancing equations Uses of Limestone Extracting metals from rocks including impacts of this Properties and uses of metals Alloys Crude oil (including fractional distillation, properties & uses of it, Environmental problems with using it, Cracking) Alkenes & Ethanol Polymers Plant oils Emulsions Plate tectonics The Earth’s Structure Evolution of the Earth’s Atmosphere Life, resources and Atmospheric change</p>
<p><u>Physics:</u> Heat radiation (Conduction, convection, radiation) Kinetic theory Condensation & Evaporation Rate of heat transfer Energy Efficiency in the home Specific Heat Capacity Energy Transfer Efficiency of machines Energy transformation Diagrams Cost of Electricity Choosing Electrical appliances Energy Sources & Power Stations Renewable energy sources (how the form electricity, comparisons between and effects on the environment) Electricity and the national grid Waves Refraction and Diffraction Electromagnetic Spectrum and the uses Sound Waves The origin of the Universe</p>	<p><u>French</u> The Year 10 speaking exam will be a 1:1 exam with your class teacher, where you will be asked to describe a picture and answer further questions about you, your likes/dislikes and opinions. The teacher will provide the task and lesson preparation time along with further guidance prior to the exam. You will take Listening, Reading and Writing papers, where you will be asked to answer comprehension questions, undertake translation tasks, and produce and extended piece of writing – students should revise vocabulary from the topics that they have covered this year. In particular they should ensure they know the following; numbers (including fractions), days, months, seasons, alphabet, time, question words, colours, time phrases and recognising tenses.</p>

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<p><u>Humanities</u></p> <p>History</p> <ul style="list-style-type: none"> • Full revision lists and key knowledge booklets are available to students. • Public Health 1000-present. • Nazi Germany 1933-1945. <p>Geography</p> <ul style="list-style-type: none"> • Changing Economic World • Challenge of Natural Hazards • Physical Landscapes in the UK (Rivers) <p>RE</p> <ul style="list-style-type: none"> • Issues of Life and Death - The world, The origin and value of human life, Beliefs about death and the afterlife • Christianity - Beliefs and teachings - The nature of God, Creation, Jesus Christ, Salvation, The afterlife. 	<p><u>Physical Education: GCSE</u></p> <ul style="list-style-type: none"> • Go through 'RAG' sheets and work on 'red and amber' areas of weakness. • Complete past papers: http://www.aqa.org.uk/subjects/physical-education/gcse/physical-education-4890/past-papers-and-mark-schemes • Use the mark schemes to assess yourself. • Go through the revision power point (sent out before the mock). • Timed 8 mark questions. <p>Familiarise yourself with the scenario.</p>
<p><u>Computer Science</u></p> <p>Component 1: Principles of Computer Science Software (year 9):</p> <ul style="list-style-type: none"> • Types of software • Open source vs proprietary <p>Boolean logic</p> <p>Networks:</p> <ul style="list-style-type: none"> • Topologies • Client-server • Peer-to-peer <p>Hexadecimal</p> <p>Binary:</p> <ul style="list-style-type: none"> • Addition • Overflow • Two's complement and sign and magnitude • Arithmetic and logical shifts <p>Translators:</p> <ul style="list-style-type: none"> • Compiler • Interpreter <p>Protocols:</p> <ul style="list-style-type: none"> • http and https • TCP/IP • Ethernet • Email <p>Component 2: Application of Computational Thinking Variables Programming constructs:</p> <ul style="list-style-type: none"> • Sequence • Selection • Iteration <p>Algorithms:</p> <ul style="list-style-type: none"> • Written description • Pseudocode • Flowcharts • Python <p>Sub-programs/functions</p> <p>Testing:</p> <ul style="list-style-type: none"> • Trace tables • Error detection <p>Data types</p> <p>Environmental impact of technology</p> <p>Validation</p>	<p><u>ICT</u></p> <ul style="list-style-type: none"> • Home entertainment systems • Online shopping • Storage devices • Connectivity • Transferring data • Security and e-safety • Legislation • Recycling of equipment • Features of computing devices • Communication methods • Health and safety • Types of software • Digital divide • Banking services

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Art

How can you incorporate all of your art skills to complete a mixed media final piece which covers AO4?

AO4: Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.

Music

Instrumental Music 1700–1820 • J.S. Bach: 3rd Movement from Brandenburg Concerto no. 5 in D major • L. van Beethoven: 1st Movement from Piano Sonata no. 8 in C minor 'Pathétique'

Vocal Music • H. Purcell: 'Music for a While' • Queen: 'Killer Queen' (from the album Sheer Heart Attack)

Music for Stage and Screen • S. Schwartz: 'Defying Gravity' (from the album of the cast recording of Wicked) • J. Williams: 'Main title/rebel blockade runner' (from the soundtrack to Star Wars Episode IV: A New Hope)

Fusions • Esperanza Spalding: 'Samba em Preludio' (from the album Esperanza)

Wider listening

Choose at least one wider listening music piece from each area of study. These pieces will support you in understanding the music from the areas of study in a wider context and in appraising pieces of unfamiliar music.

Instrumental Music 1700–1820 • G F Handel: Concerto Grosso op 6 no. 5, second movement • A Vivaldi: 'Winter' from the Four Seasons concerti • W A Mozart: Piano Sonata in C major K.545, first movement • F J Haydn: Piano sonata in C major 'English Sonata' Hob 50, third movement

Vocal Music • G F Handel: 'The Trumpet Shall Sound' (bass), 'Rejoice Greatly' (soprano) and 'Every Valley' (tenor) from Messiah 2. • J S Bach: 'Weichet nur, betrübte Schatten' and 'Sehet in Zufriedenheit' from wedding Cantata • Beach Boys: 'God only Knows' from Pet Sounds • Alicia Keys: 'If I ain't got you' and 'Dragon Days' from The Diary of Alicia Keys

Music for Stage and Screen • Tim Minchin: 'Naughty' from Matilda • Marc Shaiman: 'Mama, I'm a Big Girl Now' from Hairspray • Deborah Lurie: 'The Pier', 'Walk on the Beach' and 'Dear John Letter', from Dear John • Howard Shore: 'The Prophecy', 'Concerning Hobbits', 'The Bridge of Khazad-dum' and 'The Breaking of the Fellowship' from The Lord of the Rings the Fellowship of the Ring

Fusions • Capercaillie: Beautiful Wasteland • Demet Akalin: 'Pirlanta' and 'Ders Olsun' from Pirlanta • Buena Vista Social Club: Buena Vista Social Club • Dizzy Gillespie y Machito: Afro-Cuban Jazz Mood

Mathematics

FOUNDATION WORK

Handling data

Tallying, collecting and grouping data
 Mean, mode and median
 Scatter diagrams I
 Line graphs and pictograms
 Probability
 Questionnaires
 Measures of central tendency and measures of spread
 Probability
 Pie charts and frequency diagrams
 Scatter diagrams II and Cumulative frequency diagrams

Space

Angles & Area
 Measures
 Polygons
 Volume
 Co-ordinates and bearings
 Three Dimension
 Symmetry & Transformations
 Pythagoras Theorem
 Basic Trigonometry

Number:

Rounding and estimating
 Negative numbers
 Prime numbers, factors and multiples
 Significant figures
 Ratio and proportion
 Long multiplication and division
 Fractions
 Decimals
 Percentages
 Sequences
 Powers and standard index form

Algebra:

Indices eg 2^2
 Graphs
 Proportion
 Flow Charts
 Sequences
 Inequalities
 Basic algebra
 Solving equations

Number, Data, Algebra, Space & Shape

Handling data

Tallying, collecting and grouping data
 Mean, mode and median
 Scatter diagrams I
 Line graphs and pictograms
 Probability
 Questionnaires
 Measures of central tendency and measures of spread
 Probability
 Pie charts and frequency diagrams
 Scatter diagrams II and Cumulative frequency diagrams

Space

Angles & Area
 Measures
 Polygons
 Volume
 Co-ordinates and bearings
 Three Dimension
 Symmetry & Transformations
 Pythagoras Theorem
 Basic Trigonometry
 Graphs of $\sin x$, $\cos x$ and $\tan x$
 Sine and cosine rules and area of a triangle
 Circle Theorem
 Congruency
 Loci

Number:

Rounding and estimating
 Negative numbers
 Prime numbers, factors and multiples
 Significant figures
 Ratio and proportion
 Long multiplication and division
 Fractions
 Decimals
 Percentages
 Standard Form
 Surds
 Sequences
 Powers and standard index form

Algebra:

Indices eg 2^2
 Graphs
 Proportion
 Flow Charts
 Sequences
 Inequalities
 Basic algebra
 Solving equations
 Quadratic equations
 Simultaneous equations