

# Subject topic lists for cycle 3 end of year exams

## Year 9

<b>English Language</b>	☹️	😐	😊	Notes
Paper 1 - Unseen - fiction text				
Q1 - Retrieval				
Q2 - Analysis of language				
Q3 - Analysis of structure				
Q4 - Evaluation				
Q5 - Writing - describe or narrate				
Paper 2 - Unseen - non-fiction x 2 texts - one pre 1900				
Q1 - Retrieval				
Q2 - Summarise and interpret				
Q3 - Analysis of language				
Q4 - Comparison of writer's perspectives				
Q5 - Writing - discursive essay				




<b>English Literature</b>	☹️	😐	😊	Notes
Q1 - Macbeth - extract close analysis to knowledge of whole text				
Q2 - Conflict Cluster poetry (Charge of Light Brigade, Exposure, Remains, War Photographer, Bayonet Charge) - comparison of two poems (one set poem and choice of second text)				
Revision of themes, characters and key quotations - 100% sheets				




<b>Science</b>	☹️	😐	😊	Notes
Cell Biology				
Organisation				
Atomic Structure and the Periodic Table				
Bonding, structure and properties of matter				
Quantitative Chemistry				
Energy				
Electricity				
Particle model of matter				




<b>RE</b>	☹️	😐	😊	Notes
<b>Christianity</b>				
Nature of God				
The Trinity				
Creation stories				
The problem of evil				
Christian responses to the problem of evil				
Jesus and incarnation				
The crucifixion, resurrection and ascension				
Sin				
Salvation through grace and law				
Salvation through Jesus				
Life after death and judgement				




Maths	☹	☺	😊	Notes
Integers				
Decimals				
Coordinates				
Introduction to algebra				
Angles				
Angle(Quad & drawing)				
Collecting data				
Fractions 1				
Using a calculator				
Symmetry				
Reading scales and concerting units				
Charts and graphs				
Patterns and sequences				
Angles, parallel lines and bearings				
Types of number				
Indices				
Fractions 2				
Perimeter and area				
Compound measures				
Timetables – train (foundation only)				
Distance-time graphs				
Pie charts				
Straight line graphs				
Averages and range				
Expanding and factorising				
Circles				
Percentages				
Construction				
3D Shapes				
Linear equations				
Real-life graphs				
Volume				
Cylinders				
Averages – large data sets				
Cumulative frequency ( <i>Higher only</i> )				
Histograms ( <i>Higher only</i> )				
Quadratic equations				
Transformations rotations and trans....				
Ratio and scale				
Scatter graphs and correlation				
Probability				
Polygons				
Similarity and congruence				
Linear inequalities				
Using formulae				
Changing the subject of a formula				
Pythagoras' theorem				
Converting units of measure				
Surds				
Trigonometry (2D)				
Simultaneous equations				
Quadratic equations				
Standard form				
Surface area & volume of complex shapes				
Further graphs				
Direct and inverse proportion				
Further simultaneous equations ( <i>Higher only</i> )				
Pythagoras and trigonometry in 3D ( <i>Higher only</i> )				
Upper and lower bounds ( <i>Higher only</i> )				
Sine and cosine rules ( <i>Higher only</i> )				

Transformations-graphs and functions ( <i>Higher only</i> )				
Circle theorems ( <i>Higher only</i> )				
Algebraic fractions ( <i>Higher only</i> )				
Vectors				
Iteration and functions ( <i>Higher only</i> )				
Venn Diagrams and set notation ( <i>Higher only</i> )				
Proof				
Further inequalities ( <i>Higher only</i> )				
Gradients and areas under graphs ( <i>Higher only</i> )				
Finance ( <i>Higher only</i> )				

<b>Geography</b>				<b>Notes</b>
Globalisation				
Weather including tropical storms				
Geography of UK – highland, lowland areas				
Glaciation				
Coasts				
OS map skills				

<b>History</b>				<b>Notes</b>
Migrants to Britain, 1250-1900				
Nazi Germany 1933-39				




<b>Drama</b>				<b>Notes</b>
<b>Learning Cycle 1</b>				
Introduction to the course				
Stanislavski – ‘Our Day Out’ Scripted Component 2 Performance				
Brecht – Component 1 Devised Performance				
<b>Learning Cycle 2</b>				
Theatre In Education – Component 1 Devised Performance				
Artaud –Component 1 Devised performance				
<b>Learning Cycle 3</b>				
Artaud –Component 1 Devised performance Continued				
‘The Tempest’ – Technical Theatre/ Design Component 1 & 3				

<b>Music</b>				<b>Notes</b>
<b>Learning Cycle 1</b>				
Performance 1				
Composition 1 Melody Writing				
Music Theory Skills				
Set Work: Purcell Music for a While				
<b>Learning Cycle 2</b>				
Performance 2				
Composition 2 Film Music				
Music Theory Skills				
Set Work: Williams Star Wars				
<b>Learning Cycle 3</b>				
Performance				
Composition 3 Song writing				
Music Theory Skills				
Set Work: Schwartz Defying Gravity				

<b>Computer Science – Unit 1 Paper 1</b>	☹	☺	😊	Notes
<b>1.1 Systems architecture</b>				
the purpose of the CPU				
Von Neumann architecture: *MAR (Memory Address Register) *MDR (Memory Data Register) *Program Counter *Accumulator				
common CPU components and their function: *ALU (Arithmetic Logic Unit) *CU (Control Unit) *Cache				
the function of the CPU as fetch and execute instructions stored in memory				
how common characteristics of CPUs affect their performance: *clock speed *cache size *number of cores				
embedded systems: *purpose of embedded systems *examples of embedded systems				
<b>1.2 Memory</b>				
the difference between RAM and ROM				
the purpose of ROM in a computer system				
the purpose of RAM in a computer system				
the need for virtual memory				
flash memory				
<b>1.3 Storage</b>				
the need for secondary storage				
common types of storage: *optical *magnetic *solid state				
suitable storage devices and storage media for a given application, and the advantages and disadvantages of these, using characteristics: *capacity      *speed      *portability *durability      *reliability      *cost				
<b>1.4 Wired and wireless networks</b>				
types of networks: *LAN (Local Area Network) *WAN (Wide Area Network)				
factors that affect the performance of networks				
the different roles of computers in a client-server and a peer-to-peer network				
the hardware needed to connect stand-alone computers into a Local Area Network: *wireless access points *routers/switches *NIC (Network Interface Controller/Card) *transmission media				

the internet as a worldwide collection of computer networks: *DNS (Domain Name Server) *hosting *the cloud				
the concept of virtual networks				
<b>1.5 Network topologies, protocols and layers</b>				
star and mesh network topologies				
Wifi: *frequency and channels *encryption				
Ethernet				
the uses of IP addressing, MAC addressing, and protocols including: *TCP/IP (Transmission Control Protocol/Internet Protocol) *HTTP (Hyper Text Transfer Protocol) *HTTPS (Hyper Text Transfer Protocol Secure) *FTP (File Transfer Protocol) *POP (Post Office Protocol) *IMAP (Internet Message Access Protocol) *SMTP (Simple Mail Transfer Protocol)				
the concept of layers				
packet switching.				
<b>1.6 Systems security</b>				
forms of attack				
threats posed to networks: *malware *phishing *people as the 'weak point' in secure systems (social engineering) *brute force attacks *denial of service attacks *data interception and theft *the concept of SQL injection *poor network policy				
Identifying and preventing vulnerabilities: *penetration testing *network policies *anti-malware software *firewalls *user access levels *passwords *encryption				
<b>1.7 Systems software</b>				
operating systems: *user interface *memory management/ multitasking *peripheral management and drivers *user management *file management				

typical utility system software: *encryption software *defragmentation *data compression *the role and methods of backup: -full -incremental				
<b>1.8 Ethical, legal, cultural and environmental concerns</b>				
how to investigate and discuss Computer Science technologies while considering: *ethical issues *legal issues *cultural issues *environmental issues				
how key stakeholders are affected by technologies				
environmental impact of Computer Science				
cultural implications of Computer Science				
open source vs proprietary software				
legislation relevant to Computer Science: *The Data Protection Act 1998 *Computer Misuse Act 1990 *Copyright Designs and Patents Act 1988 *Creative Commons Licensing *Freedom of Information Act 2000				

<b>DT – Product Design</b>				<b>Notes</b>
Electronic Systems –Input, Process and Output				
Forces and Leavers				
Product Analysis				
<b>Drawing</b>				
○ Isometric Drawing,				
○ Third Angle				
○ Orthographic Projection,				
○ Nesting				
<b>Human Factors</b>				
○ Anthropometrics,				
○ Ergonomics,				
○ 5th –95th Percentile				
<b>ICT in manufacture</b>				
○ CAD CAM,				
○ Just in Time,				
○ Automotive Manufacture				
<b>Mass Product Manufacturing Processes</b>				
○ Injection Moulding				
○ Welding				
○ Lithographic Printing				
○ Screen printing				
○ CNC routers				
<b>Materials</b>				
○ Paper and Boards				
○ Natural and manufactured timbers				
○ Metal and alloys				
○ Polymers				
○ Textiles				
○ Material Properties				
○ Stock Forms				
○ Primary Sources (what it's made from)& How it's made				
○ Composite Materials				
<b>Sustainability</b>				
○ Renewable				
○ Non Renewable Materials/Energy				
○ Green Design				
○ 6 R's				
○ Planned Obsolescence				
○ Ethical Choices				

**Useful revision website to use for DT**

- <https://www.bbc.com/bitesize/examspecs/zby2bdm>
- [http://www.technologystudent.com/despro\\_fish/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_fish/NEW_GCSE3.html)