



Queen Mary's Grammar School

Year 11 Mock Examination Revision List 2021

Maths	<ul style="list-style-type: none">• Simplifying expressions• Rules of indices (including negative and fractional powers)• Expanding up to 3 brackets• Factorising expressions, including quadratics• Algebraic fractions – adding, subtracting, multiplying, dividing and solving equations• Angles between parallel lines and in triangles, quadrilaterals and polygons• Congruent triangles• Similar shapes, including areas and volumes• Averages, Interquartile range and box plots• Histograms• Comparing data• Fractions and percentages• Decimal calculations, including recurring decimals• Rearranging formulae• Functions – including composite and inverse• Algebraic identities• Areas of 2D shapes• Transformations of shapes – translations, rotations, reflections, enlargements (including negative and fractional scale factors)• Probability – Venn and tree diagrams• Estimation• Upper and lower bounds, error intervals, limits of accuracy• Solving linear equations• Solving quadratic equations by factorising, completing the square or the quadratic formula• Simultaneous equations (including quadratics)• Area of a circle• Arcs and sectors• Circle theorems• Approximate solutions to equations by trial and improvement or iteration• Linear and quadratic inequalities• Constructions and loci• Pythagoras' theorem in 2D• Trigonometry – SOHCAHTOA, sine rule, cosine rule, area of a triangle, exact values for 30,4,5,60• Ratio and proportion• Factors and multiples• Surds – simplifying and rationalising the denominator• Equation of a straight line• Parallel and perpendicular lines• Properties of quadratic functions• Kinematic graphs• 3D solids – prisms, cones, pyramids and spheres• Cumulative frequency graphs, box plots, scatter graphs, correlation• Standard form• Linear sequences and Fibonacci sequences (covered in Years 7-9)
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English Language	<p><u>Component 2</u></p> <ul style="list-style-type: none"> • Reading and writing non-fiction • Unseen extracts from 19th and 21st Centuries • Two transactional writing tasks: speech/review/article/report/leaflet/informal and formal letters • Read and write in these areas of knowledge • Use the knowledge organisers provided by staff: synthesis, comparison, evaluation etc. • Know forms and conventions of each genre mentioned above • Know the timings of each section and question requirements • Familiarise yourself with mark schemes/examiners' reports • Be mindful of SPAG weaknesses and practise to improve
English Literature	<p><u>Component 1 Section A: Macbeth</u></p> <ul style="list-style-type: none"> • Extract plus essay question on whole text • <u>Language/structural analysis</u> and knowledge of themes/characters for shorter task • Essay requires whole play awareness, language/structural analysis and knowledge of themes/characters; more open discussion whilst rooting this in evidence from the text. • Know about play script conventions • Learn banks of quotes on character and themes • No need for contextual references on either task • SPAG marks on essay task • Re-read the text; know it inside-out • One hour in total <p><u>Component 2: Section B: Jekyll and Hyde</u></p> <ul style="list-style-type: none"> • Extract based question with links to wider text • Knowledge of language/structure/characters/themes applied to extract and whole text • Know about novelistic conventions • Use the extract for ready source of quotable material • Learn banks of quotes on character and themes • Contextual references required here • SPAG assessed • Re-read the text; know it inside-out
Biology	<ul style="list-style-type: none"> • Cell biology • Organisation • Infection and response • Bioenergetics • Homeostasis and response
Chemistry	<ul style="list-style-type: none"> • Atomic structure and the periodic table • Bonding, structure, and the properties of matter • Quantitative chemistry • Chemical changes • Energy changes • The rate and extent of chemical change
Physics	<ul style="list-style-type: none"> • Energy • Electricity • Particle Model of Matter • Atomic Structure • Forces
Religion, Philosophy and Ethics	<ul style="list-style-type: none"> • Worship • The Sacraments: Baptism • Salah: the daily prayers • The nature of God • God as omnipotent, loving and just • Arguments against the existence of God

	<ul style="list-style-type: none"> • The Oneness of God and the Supremacy of God's Will • Different ideas about the Divine • Sin and Salvation • Special revelation and enlightenment • General Revelation • The value of revelation and enlightenment • Muhammad and the Imamate • The status and roles of women • The First Cause Argument • The Design Argument • The Argument from Miracles • Christian teachings about human sexuality • Sexual relationships before and outside marriage • Human sexuality • The Incarnation and Jesus, the Son of God • Resurrection and life after death • The Afterlife and Judgment • Heaven and Hell • The Role of Christ in Salvation • Key Beliefs of Sunni Islam and Shia Islam • Angels • Life after Death • Prophethood and Adam • Jihad • The festival of Ashura • Death and the Afterlife • The Crucifixion • The Resurrection and Ascension • Giving money to the poor • The Five Pillars, the Ten Obligatory Acts and the Shahadah • Crime and punishment • Introduction to Crime and Punishment • Three aims of punishment • Lawbreakers and different types of crime • Christian attitudes to the treatment of criminals • Christian attitudes to forgiveness • Forgiveness • Christian attitudes to the death penalty • The Death penalty • Social justice and human rights • Social Justice • Ibrahim • Hajj: Pilgrimage • Religious teachings about the nature and purpose of families in the 21st century • The nature and purpose of families • The Oneness of God and the Trinity • Christian teachings about marriage • Marriage
Art	<p><i>In preparation for the mock art exam, the following need to be complete and handed in at the start of the exam;</i></p> <ul style="list-style-type: none"> • Initial observations board with initial ideas for chosen theme. • Completed first artist board with clear title, detailed annotations, images of the artist's work, an artist copy and your own artist response.

	<ul style="list-style-type: none"> • Second artist title, detailed annotations, images of the artist's work and artist copy ready to be mounted onto your board. <p><i>During the mock exam, you will be expected to complete your second artist response. Planning and preparation for this needs to be organized ready for the start of the exam.</i></p>
Business	<p><i>You will sit one examination which will cover Theme 1</i></p> <ul style="list-style-type: none"> • Topics 1.1 – 1.5 [You are advised to make use of your topic checklists to identify key areas for revision] • The examination paper will be 1 hour and 30 minutes. • The paper is divided into three sections: Section A: 35 marks Section B: 30 marks Section C: 25 marks. • The paper will consist of calculations, multiple-choice, short-answer and extended-writing questions. • Questions in Sections B and C will be based on business contexts given in the paper. • Calculators may be used in the examination.
Computer Science	<ul style="list-style-type: none"> • SLR1.1 - Systems Architecture • SLR1.2 - Memory • SLR1.3 - Storage • SLR1.4 - Wired and Wireless • SLR1.5 - Network Topologies, Protocols and Layers • SLR1.6 - System Security • SLR2.1 - Algorithms • SLR2.2 - Programming Techniques
Design and Technology	<ul style="list-style-type: none"> • Ergonomics and anthropometrics • Core Content: Textiles • Core Content: Electronic Systems • Core Content: Polymers • Core Content: Metals and alloys • Core Content: Papers and boards • Core Content: Timber and manufactured board • ENERGY: Sources, renewable and non-renewable, portable. Advantages and disadvantages of different types of energy • FORCES: What forces can exist with a structure (tension, compression, shear, torsion etc) • New materials: eg. Kevlar – Properties and uses • Cutting tools: What tools are used for cutting materials? • Manufacturing processes: ADDITION/FACBIRCATION, WASTING and REDISTRIBUTION • Primary Source of materials • Conversion of materials from source material to usable materials in industry. • JIT production: Advantages and disadvantages • The 6 Rs (Reuse, Reduce, Recycle, Repair, Refuse and Rethink) • Aesthetics: How aesthetics can influence the choice of materials and the quality of the overall product • Material finishes: Surface treatment. Why do materials need surface treatment or a finish applied? • Different surface finishes for woods, metals and plastics. How applied? • Properties and characteristics of common materials. Physical and mechanical properties. • Modifying materials: Alloys, composite, heat treatment, polymer additives, GLULAM • Production aids: jigs, templates, formers, moulds • PRODUCTION AIDS: How are they used to assure quality and aid repetition? • Maths: Area and volume calculations for basic geometric shapes • Maths: Nesting and tessellation of geometric shapes • Minimising waste when cutting material • Why is research important? Primary v secondary research? • Why is product analysis important in the designing and developing products? • Designers and their products: Know at least one designer and some of his famous iconic products

- Understand how designers get inspiration for products
- Understand the different materials used by at least one designer in their products
- Understand the different technology used by at least one designer in their products
- SMART, composite, compliant and new/modern materials
- Natural and synthetic materials
- Primary source of materials
- Reinforcing and strengthening materials
- Available stock form of different materials
- Properties and characteristics of materials
- Sustainability, environmental issues and the 6Rs
- Use of models in the design process
- The materials most commonly used when making models to explore design ideas
- **Computer based tools** to aid designers: CAD, CAM, CNC, VI (Virtual Reality) etc
- How do designers use the computer in designing and developing products?
- Advantages and disadvantages of using computers when designing?
- The iterative design process: How to develop a product by using models and research.
- QA and QC: Quality Assurance and Quality Control.
- How a professional designer works? How a professional engineer works? Collaboration? Use of computers.

Sources of Revision

- Text Book: "D&T – All Material Categories and Systems"
- Website: www.technologystudent.com
- Text Book: Chapter 5 pages 350-356 "The Written Paper"
- Text Book: "Core Technical Principles" pages 2-69...you must read and know all of this content
- Product Analysis: Study materials, components and manufacturing methods used in products in the home
- Twitter: @QMGSdT

Revision Books: The DT department have a limited supply of revision guides for the AQA D&T course. These retail at £10.99 in the shops. They are available to schools at £5. See PRH if you are interested.

Revision Cards: The DT department also has a limited supply of revision cards for the AQA D&T course. They are available at £4.50. See PRH if interested.

French

- Vocabulary base
- Modules 1-12 Foundation pages of textbook
 Modules 1-6 Higher pages of textbook
- GRAMMAR – see Pages 176-200 of textbook
 - VERBS: These types of verb (ER/IR/RE/reflexives/irregulars/impersonal) in the following tenses:
 1. present
 2. immediate future
 3. perfect
 4. imperfect
 5. future
 6. conditional
 7. pluperfect
 - Use and meaning of Infinitives – Two-verb constructions/Commands
- En + present participle
 Faire + infinitive
- OTHER
- Adjectives – position/comparatives/superlatives/possessives/démonstratives
 Adverbs
 Articles – definite/indefinite/partitive
 Pronouns – reflexive/subject/direct object/indirect object/demonstrative/emphatic
 Questions
 Negative words
 Prepositions
 Conjunctions/time phrases/opinions – all in Key phrases booklets

Geography	<ul style="list-style-type: none"> • UK Physical Landscapes (Rivers only) • Living World • Challenge of Natural Hazards • Urban Issues and Challenges
History	<p>Full Germany paper: Germany, 1890–1945: Democracy and dictatorship</p> <ul style="list-style-type: none"> • Part one: Germany and the growth of democracy • Part two: Germany and the Depression • Part three: The experiences of Germans under the Nazis <p>Full paper Cold War: Conflict and tension between East and West, 1945–1972</p> <ul style="list-style-type: none"> • Part one: The origins of the Cold War • Part two: The development of the Cold War • Part three: Transformation of the Cold War
Mandarin Chinese	<p><i>The Chinese Mock exam covers the topics listed below. You will take the Reading and Writing Papers during the MOCK Exam. Listening Test will be conducted during a Chinese lesson. Please make sure you revise the GCSE vocabulary booklet and the Mock Preparation booklet.</i></p> <p>Theme 1: Identity and culture covers four topics with related sub-topics shown:</p> <ul style="list-style-type: none"> • Topic 1: Me, my family and friends • Topic 2: Technology in everyday life - Mobile technology and internet • Topic 3: Free-time activities- Music /Cinema and TV /Food and eating out /Sport • Topic 4: festivals in Chinese-speaking countries/communities such as Chinese New Year and Mid-Autumn Festival <p>Theme 2: Local, national, international and global areas of interest covers the following three topics with related sub-topics shown:</p> <ul style="list-style-type: none"> • Topic 1: Home, town, neighbourhood and region • Topic 2: Travel and tourism • Topic 3: Protecting environment <p>Theme 3: Current and future study and employment covers the following four topics:</p> <ul style="list-style-type: none"> • Topic 1: My studies-school subjects / your school • Topic 2: Plan to study at university • Topic 3: Jobs and career choices
Music	<ul style="list-style-type: none"> • Bach's Brandenburg Concerto no. 5 • Beethoven's 1st Movement Piano Sonata in C Minor • Purcell's Music For A While • Queen's 'Killer Queen' • Defying Gravity from Wicked • Star Wars main title theme from episode IV • Release by Afro Celt Sound System • Samba Em Preludio by Esperanza Spalding
Spanish	<p>Vocabulary base Modules 1-12 Foundation pages of textbook Modules 1-6 Higher pages of textbook</p> <p>GRAMMAR – see Pages 176-197 of textbook</p> <p>VERBS</p> <ul style="list-style-type: none"> • These types of verb (AR/ER/IR/reflexives/stem-changing/impersonal/irregulars) in the following tenses: <ol style="list-style-type: none"> 1. present 2. immediate future 3. preterite 4. imperfect 5. perfect 6. future 7. conditional 8. pluperfect 9. present/imperfect continuous

- Use and meaning of Infinitives – Two-verb constructions/Commands

OTHER

Adjectives – position/comparatives/superlatives/possessives/demonstratives

Adverbs

Articles – definite/indefinite

Pronouns – reflexive/subject/direct object/indirect object/demonstrative/disjunctive

Questions

Negative words

Prepositions

Conjunctions/time phrases/opinions – all in Key phrases booklets