Year 11 - March 2025 - Mock Exam Revision topic list.

This guide lists all the topics you need to revise for each of your mock exams .

Use this resource as a checklist.

Combined Science and Triple topics

Biology

- Homeostasis and response
- Inheritance
- Variation and Evolution
- Ecology

Chemistry

- Rate of reaction
- Organic Chemistry
- Chemical Analysis
- Chemistry of the Atmosphere
- Earth's Resources.

Physics

- Forces and Motion
- Waves
- Magnetism and Electromagnetism
- Space (TRIPLE ONLY)

GCSE Spanish

- **The basics:** Numbers, Times & dates, Question words, Opinion phrases, Weather
- **Family and friends:** Physical descriptions, Personalities and Relationships
- **Free time activities:** Music, Cinema, TV, Food, Hobbies and Sport
- **Technology in everyday life:** Technology, Social media (advantages / disadvantages)
- **Customs and festivals:** Comparing different festivals, Discussing past experiences
- **Where you live:** Places in the city, Home, Activities you do at home, Chores you do at home, Shopping (clothes / food)
- **Lifestyle:** Healthy living / Unhealthy living, Illnesses / injuries Remedies
- **Social and global issues:** Environmental problems, Ways to protect the environment, Problems in society
- **Travel and tourism:** Where to go, Accommodation (types of accommodation, booking and dealing with problems), Transport, What to do on holiday
- **Current and future study and employment:** School subjects, School routine, School rules, School life / activities, Jobs (work experience), Future plans, Gap year plans (un año sabático)

- **Grammar:** Past / present / future tense / conditional tense Imperfect tense (used to…),Subjunctive tense (if i could...), Idioms.

GCSE MUSIC

Listening and appraising.

A written paper, with audio recording.

Aural recognition and context music from within the Areas of Study 2, 3, 4 & 5.

Keywords

Melody (tune) Call and response is used to create a musical convers ation.

Pitch – High, Mid, Low/bass

Texture- Thick (many instruments) – Thin (a few or solo instruments).

Polyphonic - At least two parts with separate melody lines.

Homophonic – lines of music move in a similar shape.

Monophonic - Mono/one line no harmony

Heterophonic – One tune, Theme and variation

Harmony – Major/minor chords (two or more notes played at the same time.

Dynamics – Loud (forte), Quiet (piano), moderately loud, moderately quiet or soft. Terraced dynamics

Tempo – Speed, how fast or slow is the music performed.

Structure – Intro, verse, bridge, chorus. Describe the sections. ABA, ABCABC, AABBAA

Instrumentation – Name specific instruments for the genre/style of music. (Steel pans- calypso. Bouzouki-Greek, Sitar/Tabla-Raga. African Music-Talking drum to send messages).

Technology – Loops, echo, reverb, sequence,

GCSE Computer Science

1. Systems Architecture

- The purpose of the CPU
- Von Neumann architecture (MAR, MDR, Program Counter, Accumulator)
- Common CPU components (ALU, CU, Cache, Registers)
- Function of the CPU and the Fetch-Decode-Execute cycle
- Factors affecting CPU performance (Clock speed, Cache size, Number of cores)
- Embedded systems (characteristics and examples)

2. Memory & Storage

- RAM vs. ROM (differences and purpose)
- Virtual memory
- Flash memory
- The need for secondary storage
- Types of secondary storage (optical, magnetic, solid-state)
- Advantages and disadvantages of storage types
- Data capacity and storage calculations (bit, nibble, byte, KB, MB, GB, TB, PB)

3. Computer Networks, Connections & Protocols

- Types of networks (LAN, WAN)
- Factors affecting network performance
- The role of hardware in networking (Router, Switch, NIC, Transmission media)
- Client-server vs. peer-to-peer networks
- The Internet and cloud computing
- Network protocols (TCP/IP, HTTP, HTTPS, FTP, POP, IMAP, SMTP)
- The concept of layers in networking (Application, Transport, Internet, Link)

4. Network Security

- Types of cyber threats (Malware, Phishing, Social engineering, Brute-force attacks, Denial of Service, Data interception, SQL injection)
- Identifying and preventing vulnerabilities (Penetration testing, Network forensics, Anti-malware, Firewalls, User access levels, Passwords, Encryption)

5. Systems Software

- The purpose and functions of operating systems
  - User interface, memory management, multitasking, peripheral management, drivers, security
- The purpose and functionality of utility software
  - Encryption software, defragmentation, data compression, backup (full vs. incremental)

6. Ethical, Legal, Cultural & Environmental Impacts of Digital Technology

- Ethical, legal, cultural, environmental issues related to computing
- Privacy issues
- Legislation related to computing:
  - Data Protection Act
  - Computer Misuse Act

		layering tracks, Quantize, automation for volume fade. The concerto – Baroque - (Small group/soloist-Concertino (call), large group-Ripieno (Response). Classical-Soloist-large orchestra. Baroque - Basso continuo. Popular music – 1960's, 1970's 1980's 1990's to current day. Bass guitar, Drums, Vocals, piano, electric guitar, melody and accompaniment, accappella vocals. Riff. World music – Samba, Calypso, African music, Greek music, Israeli music, Palestinian Music, Raga, Bhangra, Film Music – Leitmotif, orchestral instruments, mood, sequences. *Remember: Quickly underline keywords for each question. a) Give four features of the accompaniment (backing) that you hear. b) Describe how the solo instrument and the orchestra work together (*idea - call and response) c) Compare the tempo (speed) of both of the extracts. d) How many beats are in a bar? (2, 3, 4) (2/4, 3/4, 4/4, 6/8) e) Compare questions – Describe extract a) and how extract b) is different. Comment on speed, instruments, texture, dynamics, articulation, structure, rhythm. Similar to describing characters in GCSE English	○ Copyright Designs and Patents Act ○ Freedom of Information Act ● Open source vs. proprietary software 1. Algorithms ● Computational thinking (abstraction, decomposition, algorithmic thinking) ● Designing algorithms using: ○ Flowcharts ○ Pseudocode ● Searching algorithms: ○ Binary search ○ Linear search ● Sorting algorithms: ○ Bubble sort ○ Merge sort ○ Insertion sort ● Comparing efficiency of algorithms (time and space complexity) 2. Programming Fundamentals ● Variables, constants, data types (integer, real, Boolean, character, string) ● Operators (arithmetic, comparison, assignment, logical) ● Sequence, selection (IF statements), and iteration (FOR, WHILE, REPEAT UNTIL) ● Basic string manipulation (length, substring, concatenation) ● File handling (reading, writing, opening, closing) ● SQL basics (SELECT, FROM, WHERE) ● The use of arrays/lists (1D and 2D) 3. Producing Robust Programs ● Defensive programming techniques: ○ Input validation ○ Authentication (e.g., username/password) ● Maintainability of code: ○ Comments ○ Indentation ○ Naming conventions ● Testing: ○ Iterative and final/terminal testing ○ Types of test data (normal, boundary, erroneous) 4. Boolean Logic ● Logic gates (AND, OR, NOT) ● Truth tables ● Combining logic gates 5. Programming Languages & Integrated Development Environments (IDEs) ● High-level vs. low-level languages (advantages/disadvantages) ● The need for translators (interpreters, compilers, assemblers) ● Features of an IDE (debugging tools, error diagnostics, run-time environment, auto-complete, syntax highlighting) Pseudocode exercises MASTER

GCSE sociology

Families

- **Functions of families**
- **Family forms**
- **Conjugal role relationships**
- **Changing relationships within families**
- **Criticisms of families**
- **Divorce**

Education

- **Roles and functions of education**
- **The relationship between education and capitalism**
- **Educational achievement**
- **Processes within schools**

Sociological research methods

- **Research design**
- **Qualitative and quantitative methods**
- **Different types of data**
- **Primary and secondary sources**
- **Interpretation of data**
- **Practical issues and ethical issues**

Geography Paper 2

Urban Issues and Challenges

- The Urban World with a Lagos as a case study
- Urban Change in the UK with London as a case study
- Urban sustainability

The Changing Economic World

- Development indicators and Global variations in economic development and quality of life.
- The physical and human factors influencing development
- Strategies to reduce the Development Gap (international Aid, fairtrade, tourism, microfinance etc)
- The Case Study of Nigeria
- The Case Study of the UK

The Challenge of resource management

- Global resource management
- Food, water and energy in the UK
- Food Management (IBIS and sustainable food)production)

BTEC HEALTH AND SOCIAL CARE

Factors that affect health and well-being

physical- eg inherited conditions
lifestyle - eg smoking
social - eg bullying
cultural - eg religion
economic - eg employment.
environmental - eg housing needs.

The impact of on PIES of different types of life events:

relationship changes
circumstances
physical events

interpreting health indicators

physiological indicators
- eg heart rate
blood pressure/BMI
potential risks of abnormal readings
short-term and long-term risks

lifestyle indicators

eg nutrition
physical activity
smoking
alcohol
substance misuse

person centred approach to improving health and well-being

needs to reduce health risks
wishes their choices
circumstances - including age , ability ,location, living conditions etc.

The importance of a person -centred approach and the benefits.

makes people comfortable
improves independence
establishes trust.
improves motivation
feel happier.

recommendations and actions to improve health and well-being.

how to quit smoking
reduce alcohol
eat well
improve blood pressure
maintain a healthy weight

support available

charities
informal support - friends , colleagues

Business

Paper 2 Theme 2: Building a business

- Topic 2.1 Growing the business
- Topic 2.2 Making marketing decisions
- Topic 2.3 Making operational decisions
- Topic 2.4 Making financial decisions
- Topic 2.5 Making human resource decisions

Please refer to the specification for further breakdown:
https://qualifications.pearson.com/content/dam/pdf/GCSE/Business/2017/specification-and-sample-assessments/gcse-business-spec-2017.pdf

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GCSE Citizenship

Life in Modern Britain

- What are the principles and values that underpin British society?
- What do we mean by identity?
- What is the role of the media and the free press?
- What is the UK's role in key international organisations?
- How can citizens make their voice heard and make a difference in society?

Politics and participation

- Where does political power reside in the UK and how is it controlled?
- What are the powers of local and devolved government and how can citizens participate?
- Where does political power reside: with the citizen, parliament or government?
- How do others govern themselves?
- How can citizens try to bring about political change?

History GCSE

Paper 3 Weimar and Nazi Germany (1 hour 30 mins). Revise everything from Paper 3. The page numbers below are in your green revision book.

- Key Topic 1: The Weimar Republic 1918-29 p113-8
- Key Topic 2: Hitler's rise to power, 1919-33 p119-123
- Key Topic 3: Nazi control and dictatorship, 1933-39 p124-127
- Key Topic 4: Life in Nazi Germany, 1933-39 p129-133

BTEC Tech Award - Performing Arts

Component 3 - Responding to a brief: Sample material
https://qualifications.pearson.com/content/dam/pdf/btec-tec-awards/performing-arts/2017/specification-and-sample-assessments/BTEC-Performing-Arts-SAM.pdf

Identify the following

- Stimulus
- Creative intention
- Target audience
- Practitioners and techniques
- Different styles and genre
- Theatre stages
- Structure and layout of a performance
- Acting skills

Drama techniques for devising - Definitions and application of:

- Still image
- Thought track
- Direct address
- Narration
- Slow motion
- Unison/Canon
- Symbolism
- Mime
- Cross cutting
- Flash Forward/Flashback

Identify different devising techniques and how to undergo the devising process:
https://www.bbc.co.uk/bitesize/topics/zjw3vk7

Practitioners and techniques
https://www.bbc.co.uk/bitesize/topics/zm72pv4

English Language Paper 2: Writers' Perspectives

1 hour 45 minutes (80 marks)

Section A: Reading (spend 1 hour on this section)
One 20th/21st Century non-fiction text and one 19th Century non-fiction text. 40 marks.

Section B: Writing (spend 45 minutes on this section)

Overview of each question:

Question	Marks	What do you need to do?	Things to remember
1	4	Shade four circles of the "true statements"	Select your evidence from the line numbers given.
2	8	Summarise and infer either the similarities or the differences between something mentioned in the two extracts.	· The question will specify if you need to focus on similarities or differences. · This is NOT the same as Q4. Focus on the thing mentioned in the question, **not** the writer's perspective on that thing.
3	12	Language analysis	· Zoom in on words and/or techniques and explain their effect in as much detail as you can. · Use the word "Furthermore" in your analysis
4	16	Comparison of ideas and perspectives	· Compare the writers' ideas and perspectives on the thing they are talking about. · Remember to zoom in on words/techniques again – you can repeat things you've already said, but rephrase them for this question.
5	40	Write an article, letter, or a speech.	1. Identify the text type, purpose, audience, and perspective of the task. 2. Spend 5 minutes planning – this is CRITICAL. 3. You should have an intro, at least THREE main "sections" (minimum) and a conclusion. 4. If it's a letter, make sure you include the conventions of a letter. Ditto for an article. 5. Include a range of "hot" and "cool" language for effect, making sure you "hook" the reader at the start of an article or speech. 6. 16 marks for SPAG, sentence structure, ambitious vocab and variety of punctuation FOR EFFECT. 7. Try to use the full range of punctuation (if appropriate for the task) , - ! ? ; : … (). But think carefully about what's appropriate.

Mr Bruff revision video playlist (YouTube)	
Revision guide/practice workbook (Amazon)	

GCSE Sport

PAPER 2

Topic 4 - Health, Fitness and Wellbeing
- Physical, emotional and social health, fitness and wellbeing
- The consequences of a sedentary lifestyle
- Energy use, diet, nutrition and hydration

Topic 5 - Sport Psychology
- Classification of skills (basic/ complex, open/closed)
- The use of goal setting and SMART targets to improve and/or optimise performance
- Guidance and feedback on performance
- Mental preparation for performance

Topic 6
- Engagement patterns of different social groups in physical activity and sport
- Commercialisation of physical activity and sport
- Ethical and socio-cultural issues in physical activity in sport

GCSE French

- **The basics:** Numbers, Times & dates, Question words, Opinion phrases, Weather
- **Family and friends:** Physical descriptions, Personalities and Relationships
- **Free time activities:** Music, Cinema, TV, Food, Hobbies and Sport
- **Technology in everyday life:** Technology, Social media (advantages / disadvantages)
- **Customs and festivals:** Comparing different festivals, Discussing past experiences
- **Where you live:** Places in the city, Home, Activities you do at home, Chores you do at home, Shopping (clothes / food)
- **Lifestyle:** Healthy living / Unhealthy living, Illnesses / injuries Remedies
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- **Current and future study and employment:** School subjects, School routine, School rules, School life / activities, Jobs (work experience), Future plans, Gap year plans (une année sabbatique)

- **Grammar:** Past / present / future tense / conditional tense, Imperfect tense (used to…), Subjunctive tense (if i could...), Idioms.

Maths GCSE Higher tier topic list

Unit 1 - Number
Number Problems and Reasoning
Place Value and Estimating
HCF and LCM
Calculating with Indices
Zero, Negative and Fractional Indices
Powers of 10 and Standard Form
Surds
Unit 2 - Algebra
Algebraic Indices
Expanding and Factorising
Equations
Formulae
Linear Sequences
Non-Linear Sequences
Unit 3 - Interpreting and Representing Data
Statistical Diagrams
Time Series
Scatter Graphs
Line of Best Fit
Averages and Range
Unit 4 - Fractions and Percentages
Fractions
Ratios
Ratio and Proportion
Percentages
Fractions, Decimals and Percentages
Unit 5 - Angles and Trigonometry
Angle Properties – Triangles/Quadrilaterals
Interior/Exterior Angles
Pythagoras
Trigonometry
Trigonometry
Unit 6 - Graphs
Linear Graphs
Graphing Rates of Change
Real-Life Graphs
Line Segments
Quadratic Graphs
Cubic & Reciprocal Graphs

Unit 7 - Area and Volume
Perimeter and Area
Units and Accuracy
Prisms
Circles
Sectors of Circles
Cylinders and Spheres
Pyramids and Cones
Unit 8 - Transformations and Constructions
3D Solids
Reflections and Rotations
Enlargement
Bearings and Scale Drawings
Constructions
Loci
Unit 9 - Equations and Inequalities
Solving Quadratic Equations
Completing the Square
Simultaneous Equations
Linear and Quadratic Simultaneous Equations
Linear Inequalities
Unit 10 - Probability
Combined Events
Mutually Exclusive Events
Experimental Probability
Independent Events & Tree Diagrams
Conditional Probability
Venn Diagrams and Set Notation
Unit 11 - Multiplicative Reasoning
Growth and Decay
Compound Measures
Ratio and Proportion
Unit 12 - Similarity and Congruence
Congruence
Geometric Proof and Congruence
Similarity
Similarity in 3D Solids

Unit 13 - More Trigonometry
Upper and Lower Bounds in Trigonometry
Graphs of Trigonometric Functions
Tangent Function
Calculating Area and Sine Rule
Cosine Rule and 2D Trigonometric Problems
Solving Problems in 3D
Transformation of Trigonometric Graphs
Unit 14 - Further Statistics
Sampling
Cumulative Frequency
Box Plots
Drawing Histograms
Interpreting Histograms
Comparing and Describing Populations
Unit 15 - Equations and Graphs
Solving Simultaneous Equations Graphically
Representing Inequalities Graphically
Graphs of Quadratic Functions
Solving Quadratic Equations Graphically
Graphs of Cubic Functions
Unit 16 - Circle Theorems
Radii and Chords
Tangents
Angles in Circles
Applying Circle Theorems
Unit 17 - More Algebra
Rearranging Formulae
Algebraic Fractions
Simplifying Algebraic Fractions
Surds
Solving Algebraic Fraction Equations
Functions
Proof
Unit 18 - Vectors and Geometric Proof
Vectors and Vector Notation
Vector Arithmetic
Parallel Vectors and Collinear Points
Solving Geometric Problems
Unit 19 - Proportion and Graphs
Direct Proportion
Inverse Proportion
Exponential Functions
Non-Linear Graphs
Translating Graphs of Functions
Reflecting and Stretching Graphs of Functions

Maths GCSE FOUNDATION tier topic list

Unit 1 - Number
Calculations
Decimal Numbers
Place Value
Factors and Multiples
Squares, Cubes and Roots
Index Notation
Prime Factors
Unit 2 - Algebra
Expressions
Simplifying Expressions
Substitution
Formulae
Expanding Brackets
Factorising
Using Expressions and Formulae
Unit 3 - Graphs, Tables & Charts
Frequency Tables
Two-Way Tables
Representing Data
Time Series
Pie Charts
Scatter Graphs
Line of Best Fit
Unit 4 - Fractions and Percentages
Working with Fractions
Operations with Fractions
Multiplying Fractions
Dividing Fractions
Fractions and Decimals
Fractions and Percentages
Calculating Percentages
Unit 5 - Equations, Inequalities and Sequences
Solving Equations (One and two sides)
Solving Equations with Brackets
Representing Inequalities
Solving Inequalities
Using Formulae
Generating Sequences
Using nth term of a Sequence
Unit 6 - Angles
Properties of Shapes
Angles in Parallel Lines
Angles in Triangles
Exterior and Interior Angles
Geometrical Problems

Unit 7 - Averages and Range
Mean and Range
Mode, Median and Range
Types of Average
Estimating the Mean
Sampling
Unit 8 - Perimeter, Area and Volume 1
Rectangles, Parallelograms and Triangles
Trapezia and Changing Units
Area of Compound Shape
Surface Area of 3D Solids
Volume of Prisms
Unit 9 - Graphs
Coordinates
Linear Graphs
Gradient
y=mx+c
Real-Life Graphs
Distance-Time Graphs
Unit 10 - Transformations
Translation
Reflection
Rotation
Enlargement
Describing Enlargements
Combining Transformations
Unit 11 - Ratio and Proportion
Writing Ratios
Using Ratios
Ratios and Measure
Comparing Using Ratios
Proportion and Graphs
Proportion Problems
Unit 12 - Right-Angled Triangles
Pythagoras
Trigonometry (Sine, Cos and Tan Exact
Trigonometry (Sine, Cos and Tan Problems)
Trigonometry
Unit 13 - Probability
Calculating Probability
Two Events
Experimental Probability
Venn Diagrams
Tree Diagrams

Unit 14 - Multiplicative Reasoning
Percentages
Growth and Decay
Compound Measures
Distance, Speed and Time
Direct and Inverse Proportion
Unit 15 - Constructions, Loci and Bearings
3D Solids
Plans and Elevations
Accurate Drawings
Scale Drawings and Maps
Constructions
Loci and Regions
Bearings
Unit 16 - Quadratic Equations and Graphs
Expanding Double Brackets
Plotting Quadratic Graphs
Using Quadratic Graphs
Factorising Quadratic Expressions
Solving Quadratic Expressions Algebraically
Unit 17 - Perimeter, Area and Volume 2
Circumference of a Circle
Area of a Circle
Semicircles and Sectors
Composite 2D Shapes and Cylinders
Pyramids and Cones
Spheres and Composite Solids
Unit 18 - Fractions, Indices and Standard Form
Multiplying and Dividing Fractions
Laws of indices
Writing Large Numbers in Standard Form
Writing Small Numbers in Standard Form
Calculating with Standard Form
Unit 19 - Congruence and Similarity
Similarity and Enlargement
Using Similarity
Congruence
Vectors
Unit 20 - More Algebra
Graphs of Cubic and Reciprocal Functions
Non-Linear Graphs
Solving Simultaneous Equations Graphically
Solving Simultaneous Equations Algebraically
Rearranging Formulae
Proof