Topics Examined on the Year 10 Mock Exams

Core Subjects

English

Two exams, one for each paper.

Paper 1 Literature (Jekyll and Hyde and Macbeth)

Paper 1 Literature is NOT open book. Students must revise key quotes, theories and context for both Macbeth and Jekyll and Hyde.

Paper 2 Language (Opinion writing and comparisons)

Revision resources:

All students have been emailed their topics and example papers. They can revise using the AQA website, YouTube, Seneca and SparkNotes.

6th Formers are running a revision club on Mondays at lunch time.

Maths

The attached is a list of all topics that COULD come up on the year 10 mock exam. This is in line with what they will get at their actual GCSE.

Please note, not all topics will be assessed in every exam.

Revision resources:

SPARX maths. The SPARX code is included on the topic list for students to be able to look up any topics they are not sure on.

Science

Three exams, one for each science.

They will be doing paper 1 in all three sciences which cover the following topics:

Biology

- Cell biology

- Organisation
- Infection and response
- Bioenergetics

Chemistry

- Atomic structure and the periodic table
- Bonding, structure and the properties of matter
- Quantitative chemistry
- Chemical changes
- Energy changes

Physics

- Energy
- Electricity
- Particle model of matter
- Radioactivity/Atomic structure (can be called either)

Revision resources:

Will be available on ClassCharts.

Religious Education

One exam.

Topics:

- Creation
- Incarnation
- Triune God
- Redemption

These are the topics that you covered in Year 9.

Revision resources:

Will be available on ClassCharts. Additionally, the Revision Guide that can be purchased through ParentPay.

Option Subjects

All option subject examinations will be sat as option blocks. Each subject will have one exam.

Art

Students need to be prepared to start a final piece which concludes their investigations into the art movement Cubism and still life subject matter. The final piece must be preceded by a sequence of designs, experiments, and research to show how it has developed. Therefore, 'revision' will be to complete thorough planning for the final design.

Business

The revision topics for the Business exam are as follows:

1. The role of business enterprise and entrepreneurship
2. Business planning
3. Business ownership
4. Aims and objectives
5. Stakeholders in business
6. Business growth
7. The role of marketing
8. Market research
9. Market segmentation
10. The 4ps of the marketing mix
11. The role of HR
12. Organisation structures and ways of working
13. Communication in business
14. Recruitment and Selection
15. Motivation and Retention
16. Training and Development
17. Employment Law

Computer Science

Paper1 – (Paper based)

Data – Including 8 bit binary and hexadecimal.

Computational Thinking – Including binary search and trace tables.

Issues and Impact – Including responsible recycling of digital technology and ethical use of Artificial Intelligence.

Computers – Including Low level v high level languages and the architecture of the CPU.

Paper2 – (Computer based)

Programming in Python– Including variables, if statements, user input, while loops and for loops.

Revision resources:

Pearson Edexcel exam board revision guide and workbook.

Design and Technology: Food and Nutrition

Micro and macro nutrients

Chemical and functional properties of ingredients

Food spoilage and contamination

Principles of food hygiene

British and international cuisines

Environmental impact and sustainability

Food processing and production

Design and Technology: Product Design

Materials and their physical and mechanical properties including:

- Timbers
- Metals
- Polymers
- Papers and boards

New and emerging technologies

Sources of energy

Identifying user needs

Environmental issues

Mechanical devices

Electronic systems and controls

In depth principles will focus on timbers covering:

- Sources and origins
- Processing and working with timbers
- Scales of production

Drama

Year 10 Mock exam 1.5 hours / 60 marks

Section A

- Acting and Character questions on Noughts and Crosses.

Revise:

- Key drama vocabulary
- Themes, issues, meaning in noughts and crosses
- Key extracts from the play (these will be provided prior to the mock)

Section B

- Live Theatre analysis and evaluation – Woman in black

Revise:

- Key drama vocabulary
- MISSED structure and sentence starters
- Key extract from the play (you already have these)

Geography

Year 10 need to revise what they have covered this year to date;

Unit 1

- Natural hazards
- Tectonic hazards
- Weather hazards
- Climate change

Unit 2

- The urban world: megacities and Rio de Janeiro
- Urban change in the UK: Bristol

Revision resources:

Will be available on ClassCharts.

History

The Mock examination will be on the Cold War only.

Revision resources:

Will be available on ClassCharts.

French

In French, you will have two exams:

Paper 2- Reading (45 minutes)

Paper 4- Writing including an essay and a translation into French (45 minutes)

The topics to revise are below and I am attaching some revision booklets for you to prepare. I will get these printed and you will receive a hard copy after half term.

French Paper 2 - Reading Higher
Places in town
Free time
Family relationship
Healthy living
Jobs
Where people live
School

French Paper 2 - Reading Foundation
TV programmes
Town and countryside / where people live
Relationships with parents
Food/meals
Languages at school

Travel and tourism
Social media

For the writing paper, everything we have covered so far since September will need to be revised. The essay and the translation will be related to the topic about school.

Polish

Paper 4 – Writing Higher

- Special days, celebrations, Polish traditions
- Travel and tourism
- Education
- Relationships

Paper 4 – Writing Foundation

- education
- places in town/free time activities
- special days, celebrations, Polish traditions
- travel and tourism

Paper 3 – Reading Higher

- Marriage and partnership
- Social media
- Technology in everyday life
- Free-time activities
- Environment
- Town and neighbourhood
- Voluntary work

Paper 3 – Reading Foundation

- Free-time activities
- Travelling
- Jobs
- Social media
- Festivals and traditions
- Social issues
- Family life
- Town and neighbourhood

Music

For music they need the revise the following:

<u>**Key Vocabulary in the Elements:**</u>

- Melody
- Articulation
- Dynamics
- Texture
- Structure
- Harmony
- Instrumentation
- Rhythm
- Tempo

<u>AoS2 Popular Music</u>

- Musicals
- Rock from 1960-1970
- Film and Gaming
- Popular music from 1990

<u>A0s3 Traditional Music</u>

- Blues Music
- Contemporary Latin Music
- Contemporary British Folk Music
- Fusion Music including African and Caribbean music

The three study pieces from Paul Simons Album Graceland

- Graceland
- You Can Call Me Al
- Diamonds on the Soles of Her Shoes

Physical Education

60 marks, 30 marks paper 1 and 30 marks paper 2.

Paper 1-

- Skeletal System
- Muscular System
- Movement Analysis
- Components of Fitness & Principles of training

- Cardiovascular & Respiratory System

Paper 2-

- Engagement patterns
- Commercialisation
- Sports Psychology
- Drugs in Sport

Sociology

Year 10 Sociology students will be tested on: Key concepts, Education & Families

Revision resources:

Will be available on ClassCharts.

BTEC: Enterprise

The revision topics for Enterprise are a mix of Components 1 and 2:

1. Features of the products to be sold
2. Pricing of the products
3. Methods of promotion
4. Identifying the target market
5. Resources required
6. Break-even
7. Cash-flow forecast
8. Profit and loss account
9. Profitability ratios- gross profit margin and net profit margin
10. Risk assessment

BTEC: Health and Social Care

Will not be sitting a mock exam during this exam window. Instead they will be using the time to complete their Component 2 Coursework. Students need to have access to this for their allocated time.

	Substrand	Higher and Foundation	Higher only
		Topic	**Sparx Independent learning Code**
Number	Place value	Using number lines	U922
		Understanding and ordering integers	U600
		Understanding and ordering decimals	U435
	Operations	Adding and subtracting integers	U417
		Adding and subtracting decimals	U478
		Multiplying and dividing with place value	U735
		Using a written method to multiply integers	U127
		Using a written method to multiply decimals	U293
		Using a written method to divide integers	U453
		Using a written method to divide with decimals	U868
	Negative numbers	Ordering negative numbers	U947
		Adding and subtracting with negative numbers	U742
		Multiplying and dividing with negative numbers	U548
	Roots and powers	Calculating with roots and powers	U851
		Estimating roots and powers	U299
		Indices of the form 1/a	U985
		Indices of the form a/b	U772
	The order of operations	Using the correct order of operations	U976
	Number skills	Using a calculator	U926
	Index rules	Index rules with positive indices	U235
		Index rules with negative indices	U694
	Standard form	Using standard form with positive indices	U330
		Using standard form with negative indices	U534
		Multiplying and dividing numbers in standard form	U264
		Adding and subtracting numbers in standard form	U290
		Standard form with a calculator	U161
	Rounding	Rounding integers	U480
		Rounding decimals	U298
		Rounding integers using significant figures	U731
		Rounding decimals using significant figures	U965
		Estimating calculations	U225
		Finding error intervals	U657
		Finding bounds for calculations	U587
		Truncating decimals	U108
		Finding error intervals for truncated numbers	U301
	Fractions and mixed numbers	Finding fractions of shapes	U679
		Constructing fractions	U163
		Finding equivalent fractions	U704
		Simplifying fractions	U646
		Ordering fractions	U746
		Adding and subtracting fractions	U736
		Converting between mixed numbers and improper fractions	U692
		Adding and subtracting mixed numbers	U793
		Ordering fractions and mixed numbers	U439
		Multiplying fractions	U475
		Multiplying with mixed numbers	U224
		Dividing fractions	U544
		Dividing with mixed numbers	U538
		Problem solving: Fractions and mixed numbers	U874
	Fractions, decimals and percentages	Converting between fractions, decimals and percentages	U888
		Ordering fractions, decimals and percentages	U594
		Converting fractions to recurring decimals	U550
		Converting recurring decimals to fractions	U689
		Writing numbers as percentages of other numbers	U925
	Fractions and percentages of amounts	Finding fractions of amounts without a calculator	U881
		Finding fractions of amounts with a calculator	U916
		Finding percentages of amounts without a calculator	U554
		Finding percentages of amounts with a calculator	U349
	Percentage change	Percentage change without a calculator	U773
		Percentage change with a calculator	U671
		Finding original values in percentage calculations	U286
		Finding the percentage an amount has been changed by	U278
		Simple interest calculations	U533
		Compound interest calculations	U332
		Growth and decay	U988
	Factors, multiples and primes	Finding factors and using divisibility tests	U211
		Finding the lowest common multiple (LCM)	U751
		Finding the highest common factor (HCF)	U529
		Finding prime numbers	U236
		Prime factor decomposition	U739
		Finding the HCF and LCM using prime factor decomposition	U250
	Surds	Multiplying and dividing surds	U633
		Simplifying surds	U338
		Adding and subtracting surds	U872
		Expanding brackets with surds	U499
		Rationalising denominators containing a single term	U707
		Rationalising denominators containing two terms	U281

		Higher and Foundation	Higher only
	Substrand	Topic	Sparx Independent learning Code
Algebra	Algebraic notation	Using algebraic notation	U613
	Substituting into expressions and formulae	Substituting into expressions	U201
		Substituting into algebraic formulae	U585
		Substituting into real-life formulae	U144
	Simplifying expressions	Simplifying expressions by collecting like terms	U105
		Simplifying expressions using index laws	U662
	Brackets	Expanding single brackets	U179
		Expanding double brackets	U768
		Expanding triple brackets	U606
		Factorising into one bracket	U365
		Factorising quadratic expressions when a = 1	U178
		Factorising quadratic expressions of the form when a ≠ 1	U858
		Factorising the difference of two squares	U963
		Completing the square	U397
	Rearranging formulae	Changing the subjects of formulae with one step	U675
		Changing the subjects of formulae with two or more steps	U181
		Changing the subject when the subject appears more than once	U191
	Solving equations	Solving equations with one step	U755
		Solving equations with two or more steps	U325
		Solving equations with the unknown on both sides	U870
		Solving equations with the unknown in the denominator	U505
		Constructing and solving equations	U599
	Inequalities	Reading and drawing inequalities on number lines	U509
		Solving single inequalities	U759
		Solving inequalities with the unknown on both sides	U738
		Solving double inequalities	U145
		Constructing and solving inequalities	U337
		Graphs of linear inequalities	U747
		Solving quadratic inequalities	U133
	Solving quadratic equations	Factorising to solve quadratic equations of the form where a = 1	U228
		Factorising to solve quadratic equations of the form a ≠ 1	U960
		Solving quadratic equations by completing the square	U589
		Solving quadratic equations using the quadratic formula	U665
		Constructing and solving quadratic equations	U150
		Solving quadratic equations graphically	U601
	Simultaneous equations	Solving simultaneous equations using elimination	U760
		Solving simultaneous equations using substitution	U757
		Solving simultaneous equations involving quadratics	U547
		Solving simultaneous equations graphically	U836
		Solving simultaneous equations involving quadratics graphically	U875
		Constructing and solving linear simultaneous equations	U137
		Constructing and solving linear and quadratic simultaneous equations	U269
	Iteration	Substituting into iterative formulae	U434
	Sequences	Term-to-term rules	U213
		Substituting into position-to-term rules	U530
		Position-to-term rules for arithmetic sequences	U498
		Position-to-term rules for sequences of patterns	U978
		Position-to-term rules for quadratic sequences	U206
		Special sequences	U680
		Position-to-term rules for geometric sequences	U958
		Using recurrence relations	U171
	Functions	Substituting into functions	U637
	Graphs and coordinates	Reading and plotting coordinates	U789
		Calculating midpoints	U933
		Solving shape problems involving coordinates	U889
		Plotting straight line graphs	U741
		Finding equations of straight line graphs	U315
		Interpreting equations of straight line graphs	U669
		Finding the equation of a straight line from its gradient and a point	U477
		Finding the equation of a straight line from two points on the line	U848
		Equations of parallel lines	U377
		Equations of parallel and perpendicular lines	U898
	Non-linear graphs	Plotting graphs of quadratic functions	U989
		Interpreting graphs of quadratic functions	U667
		Finding the turning point of a quadratic graph by completing the square	U769
		Graphs of cubic functions	U980
		Graphs of reciprocal functions	U593
		Graphs of exponential functions	U229
		Translating graphs	U598
		Reflecting graphs	U487
		Transforming graphs	U455
		Estimating gradients of non-linear graphs using tangents	U800
		Estimating areas under non-linear graphs	U882
		Equations of circles and tangents	U567
	Real-life graphs	Plotting linear real-life graphs	U652
		Using and interpreting linear real-life graphs	U638
		Finding equations of linear real-life graphs	U862
		Sketch graphs of water flows	U896
	Motion-time graphs	Plotting distance-time graphs	U403
		Interpreting distance-time graphs	U914
		Calculating speed from distance-time graphs	U462
		Plotting distance-time graphs using speeds	U966
		Plotting velocity-time graphs	U937
		Calculating acceleration from velocity-time graphs	U562
		Calculating distances from velocity-time graphs	U611
	Algebraic proofs	Writing algebraic proofs	U582

	Substrand		Higher and Foundation	Higher only
			Topic	Sparx Independent learning Code
Ratio, Proportion and Rates of Change	Time		Reading, converting and calculating with time	U902
	Measures		Estimating and measuring	U102
			Converting units of length, mass and capacity	U388
			Converting units of area	U248
			Converting units of volume	U468
			Problem solving: Converting units of length, area and volume	U663
			Using appropriate units	U497
	Compound measures		Calculating with speed	U151
			Calculating with rates	U256
			Calculating with density	U910
			Calculating with pressure	U527
			Mixed problems: Calculating density and pressure	U842
	Ratio		Writing and simplifying ratios	U687
			Using equivalent ratios to find unknown amounts	U753
			Converting between ratios, fractions and percentages	U176
			Sharing amounts in a given ratio	U577
			Problem solving: Sharing amounts in a given ratio (Higher)	U595
			Combining ratios	U921
			Calculating with ratios and algebra	U676
			Changing ratios	U865
	Proportion		Solving direct proportion word problems	U721
			Solving inverse proportion word problems	U357
			Currency conversion	U610
			Interpreting direct proportion equations	U640
			Constructing direct proportion equations	U407
			Interpreting inverse proportion equations	U364
			Constructing inverse proportion equations	U138
			Graphs of direct and inverse proportion	U238

	Substrand	Higher and Foundation	Higher only
		Topic	**Sparx Independent learning Code**
Geometry	Area and perimeter	Finding the area and perimeter of simple shapes	U993
		Finding the area of compound shapes	U970
		Finding the perimeter of compound shapes	U351
		Area and perimeter of rectangles and compound shapes	U226
		Area and perimeter of rectangles and compound shapes - Higher	U934
		Finding the area of triangles	U945
		Finding the area of compound shapes containing triangles	U575
		Finding the area of parallelograms	U424
		Finding the area of trapeziums	U265
		Area of triangles, parallelograms and trapeziums	U343
		Area of triangles, parallelograms and trapeziums - Higher	U904
	Line and shape properties	Line and shape properties	U121
		Symmetry	U849
		Properties of 3D shapes	U719
	Angles	Understanding, measuring and drawing angles	U447
		Angles on a line and about a point	U390
		Vertically opposite angles	U730
		Angles in triangles	U628
		Angles in quadrilaterals	U732
		Combining angle facts	U655
		Angles on parallel lines	U826
		Using quadrilateral properties to find angles	U329
		Angles in polygons	U427
	Trigonometry	Understanding sin, cos and tan	U605
		Finding unknown sides in right-angled triangles	U283
		Finding unknown angles in right-angled triangles	U545
		Using the exact values of trigonometric ratios	U627
		Using the exact values of trigonometric ratios (Higher)	U319
		Angles of elevation and depression	U967
		Trigonometry in 3D shapes	U170
		Calculating with trigonometry and bearings	U164
		Graphs of trigonometric functions	U450
		The sine rule	U952
		The cosine rule	U591
		The area rule	U592
	Similarity and congruence	Understanding congruence	U790
		Understanding similarity	U551
		Mixed problems: Understanding similarity and congruence	U112
		Congruent triangles	U866
		Finding unknown sides in similar shapes	U578
		Finding the perimeter and area of similar shapes	U630
		Finding the surface area and volume of similar shapes	U110
	Circles	Identifying parts of circles	U767
		Finding the circumference of circles	U604
		Finding the area of circles	U950
		Finding the arc length of sectors	U221
		Finding the area of sectors	U373
	Pythagoras' theorem	Using Pythagoras' theorem in 2D	U385
		Using Pythagoras' theorem in 3D	U541
	Nets, plans and elevations	Nets of 3D shapes	U761
		Plans and elevations	U743
	Surface area	Finding the surface area of cubes and cuboids	U929
		Finding the surface area of prisms	U259
		Finding the surface area of pyramids	U871
		Mixed problems: Finding the surface area of cuboids, prisms and pyramids	U142
		Finding the surface area of cylinders	U464
		Finding the surface area of cones	U523
		Finding the surface area of spheres	U893
		Mixed problems: Finding the surface area of cones and spheres	U771
		Finding the surface area of frustums	U334
		Finding the surface area of composite shapes	U561
	Volume	Finding the volume of cubes and cuboids	U786
		Finding the volume of prisms	U174
		Finding the volume of pyramids	U484
		Finding the volume of cylinders	U915
		Finding the volume of cones	U116
		Finding the volume of spheres	U617
		Mixed problems: Finding the volume of cones and spheres	U426
		Finding the volume of frustums	U350
		Finding the volume of composite shapes	U543
		Understanding column vectors	U632
		Adding and subtracting column vectors	U903
		Multiplying column vectors by a scalar	U564
		Solving geometric problems using vectors	U781
		Identifying parallel vectors	U660
	Transformations	Translation	U196
		Reflection	U799
		Rotation	U696
		Enlargement by a positive scale factor	U519
		Enlargement by a positive or negative scale factor	U134
		Combining transformations	U766
	Constructions and loci	Using a pair of compasses	U678
		Constructing triangles	U187
		Constructing bisectors of angles	U787
		Constructing perpendicular bisectors and lines	U245
		Mixed problems: Constructing bisectors and perpendicular lines	U979
		Constructing loci	U820
	Scale diagrams	Drawing and interpreting scale diagrams	U257

	Substrand	Higher and Foundation	Higher only
		Topic	Sparx Independent learning Code
Probability	Theoretical probability	Using probability phrases	U803
		Writing probabilities as fractions	U408
		Writing probabilities as fractions, decimals and percentages	U510
		Probabilities of mutually exclusive events	U683
		Expected results from repeated experiments	U166
		Sample space diagrams	U104
		Venn diagrams	U476
		Venn diagrams with set notation	U748
		Using set notation	U296
		Frequency trees	U280
		Tree diagrams for independent events	U558
		Tree diagrams for dependent events	U729
	Experimental probability	Calculating experimental probabilities	U580
	Counting outcomes	Using the product rule for counting	U369
	Conditional probability	Conditional probabilities from tables	U246
		Conditional probabilities from Venn diagrams	U699
		Using the conditional probability formula	U821
		Conditional probabilities from tree diagrams	U806

Substrand		Higher and Foundation	Higher only
		Topic	Sparx Independent learning Code
Statistics	Averages and range	Calculating the range	U526
		Calculating the median	U456
		Finding the mode	U260
		Calculating the mean	U291
		Finding averages from frequency tables	U569
		Finding averages from diagrams	U854
		Finding averages from grouped data	U877
		Choosing suitable averages and solving problems	U717
	Frequency tables	Interpreting frequency tables and two-way tables	U981
		Interpreting frequency tables with grouped data	U312
	Tally charts and pictograms	Drawing and interpreting tally charts	U653
		Drawing and interpreting pictograms	U506
	Bar charts	Drawing bar charts	U363
		Interpreting bar charts	U557
	Pie charts	Drawing pie charts	U508
		Interpreting pie charts	U172
	Line graphs	Drawing line graphs	U590
		Interpreting line graphs	U193
	Scatter graphs	Plotting scatter graphs	U199
		Interpreting scatter graphs	U277
		Using lines of best fit	U128
	Stem-and-leaf diagrams	Drawing stem-and-leaf diagrams	U200
		Interpreting stem-and-leaf diagrams	U909
	Histograms	Drawing histograms with equal class widths	U185
		Drawing histograms with unequal class widths	U814
		Interpreting histograms	U983
		Calculating averages from histograms	U267
	Frequency polygons	Drawing and interpreting frequency polygons	U840
	Cumulative frequency graphs	Drawing cumulative frequency graphs	U182
		Interpreting cumulative frequency graphs	U642
	Collecting and presenting data	Types of data	U322
		Designing and using questionnaires	U911
		Collecting and recording data using tables	U120
		Presenting data and making conclusions	U571
		Comparing populations using diagrams	U520
		Sampling and bias	U162
		Capture-recapture	U328