

GCSE

# Revision Guide

Examination Board/Department  
Assessments

OAKWOOD PARK GRAMMAR SCHOOL  
2021



## Art and Graphics

### **What topics should the students cover for their revision?**

No revision for Art and Graphics.

Students have been working on two projects and should be mindful of the Assessment Objectives

Develop

Experiment

Refine

Present.

Students must show they have effectively met these assessment Objectives in their NEA. Therefore, you need to spend time reinforcing their Assessment Objectives. This might include Artist research and analysis; drawing, photography, printmaking, painting and digital work; experimentation with materials, styles and themes; development of final pieces and completion of final outcomes with evaluations, presentation and annotation of work.

You will have detailed, personalised feedback from teachers which you should be working on to develop their grade. All the feedback will lead directly into one of the main assessment objectives to provide evidence for the final mark.

**Remember: Art and Graphics students can attend school until Monday 24<sup>th</sup> May to work on their portfolios.**

## Biology

Please revise the following:

Topics
Eukaryotic and prokaryotic cells
Diffusion, active transport and osmosis
Digestion and enzymes
Health
Communicable disease
Respiration
Inheritance
Biology only topics
Brain
Eye
Kidneys
Decomposition

Year 11 Biology Trilogy revision list

Topics
Eukaryotic and prokaryotic cells
Diffusion, active transport and osmosis
Digestion and enzymes
Health
Communicable disease
Respiration
Inheritance

## Chemistry

Please revise the following;

### Atomic structure and the periodic table.

- Structure of the atom
- History of the atom
- Electronic structure
- Development of Period Table
- Group 1 Elements – structure and properties
- Group 0 Elements – structure and properties
- Group 7 Elements – structure and properties

### Bonding and structure

- Ionic bonding and compounds
- Covalent bonding in simple and giant structures
- Metallic bonding
- States of matter

### Quantitative chemistry

- Relative formula mass
- The mole
- Reacting masses
- Concentration calculations
- Percentage yield
- Atom economy

### Acids

### Chemistry (Trilogy students only):

#### Atomic structure and the periodic table.

- structure of the atom
- Reactions of elements
- The periodic table
- Mixtures

#### Bonding and structure

- Ionic substances
- Metallic substances
- Covalent substances

#### Quantitative chemistry

- Relative mass and moles

#### Acids

- Reactions of acids
- Making salts required practical

#### The rate and extent of a chemical reaction

- Rate of reactions required practical
- Collision theory
- Equilibrium

- Acids and bases – properties and definitions
- Titration calculations and required practical method
- Strong and weak acids
- Reactions of acids (carbonates, metals, metal oxides and metal hydroxides)
- Reactivity series
- Displacement reactions
- Redox reactions
- Separating metals from their oxides

#### The rate and extent of a chemical reaction

- Rates of reactions and factors affecting rates
- Measuring rates of reaction
- Rates required practical
- Graph analysis
- Reversible reactions
- Equilibrium

#### Chemical Analysis

- Testing for gases and anions
- Testing for cations

## Computer Science

Please revise the following

Networks

Internet

LAN

Wireless Networks

Protocol and layers

System Architecture

The CPU

Function and Characteristics of the CPU

System software and security

Operating System Software

Network threats

Ethics

Computer in the modern world

Data Representation

Storage units

Binary, Binary Arithmetic and Hexadecimal

Logic and languages

Logic Diagrams and truth table

Defensive design

Errors and testing

Algorithms

Computational Thinking

Searching and Sorting Algorithms

Interpret, Correct and complete

Algorithms

## Drama

Please revise the following topics

*DNA - One: A Wood*

*Performer Terminology - Vocal Skills & Physical Skills*

*Designer Terminology: Lighting, Sound, Set, Staging, Costume, Props/Stage Furniture*

*How to answer the 4 mark question*

*How to answer the 6 mark question*

*How to answer the 9 mark question + SCH Context*

*How to answer the 12 mark question + Comparing and Contrasting to the wider play*

## Design Technology

### **Materials knowledge:**

Plastics – Thermoplastics and Thermosetting.

Woods – Hard, Soft, Manmade boards.

Metals – Ferrous, Non Ferrous, Alloys.

Composite materials – GRP and Carbon Fibre Reinforced Plastic.

Smart and Nano Materials.

Modern Materials – Graphene and Kevlar.

Papers and Boards.

Biodegradable materials.

Electronic Components – Input and Output devices.

Finishing processes for woods, plastics and metals.

### **Design and Manufacturing considerations:**

Cooperatives and Fairtrade.

Product Lifecycle.

Built in obsolescence.

Energy sources – Renewable and Finite.

Environment and sustainability.

Forces, Gears and Levers and cam mechanisms.

Volumes and Areas of shapes.

Orthographic and Isometric drawing techniques.

Efficient production – Kaizen and Just in Time Manufacture.

Ergonomics, Anthropometrics, Inclusive Design.

Tolerances.

Health and Safety.

## English Language

Please revise the following:

English Language Paper 2

Revise the format and requirements of Q1-5;

revise writer's methods including language devices (e.g. AREFOREST)

Structural features;

Read a range of non-fiction from newspaper articles to travel writing;

Revise the form of non-fiction text types; build vocabulary by producing a word bank of sophisticated adjectives, verbs and adverbs.

## French

Please revise the following:

**Topics: Themes 1,2,3:**

*Theme 1, 2 and 3*

*Theme 1: Identity and culture (Family  
Technology, Freetime and Customs  
and Festivals)*

*Theme 2: Local, national,  
international and global areas of interests  
(Home and region, Social issues, Global  
issues, Travel and Tourism)*

*Theme 3: Current and Future study and  
employment (My studies, Education 16+,  
Jobs, career and ambition)*

# Geography

## UK CHALLENGES

Topic Content
<b>The UK's resource consumption and environmental sustainability challenge</b>
Changes in the UK's population in the next 50 years and implications on resource consumption.
Pressures of growing populations on the UK's ecosystems.
Range of national sustainable transport options for the UK.
<b>The UK settlement, population and economic challenges</b>
The 'two-speed economy' and options for bridging the gap between south-east and the rest of the UK.
Costs and benefits of greenfield development and the regeneration of brownfield sites.
UK net migration statistics and their reliability and values and attitudes of different stakeholders towards migration.
<b>The UK's landscape challenges</b>
Approaches to conservation and development of UK National Parks
Approaches to managing river and coastal UK flood risk.
<b>The UK's climate change challenges</b>
Uncertainties about how global climate change will impact on the UK's future climate.
Impacts of climate change on people and landscapes in UK
Range of responses to climate change in the UK at a local and national scale.

## CHANGING CITIES

Topic content
Describe trends in urbanisation over the last 50 years in different parts of the world and describe and explain how and why urbanisation has occurred at different times and rates in different parts of the world.
Describe the distribution of UK population and the location of major urban centres.
Explain regional differences in the rate and degree of urbanisation in the UK.
Describe the importance of Birmingham's connectivity in regional and global contexts and describe the structure of the city in terms of its functions and building age.
Describe and explain the processes of urbanisation, suburbanisation, counter-urbanisation and re-urbanisation in the context of Birmingham.
Explain how migration has affected different parts of Birmingham and identify Birmingham's key population characteristics.
Explain the link between economic change and inequality in Birmingham.
Describe and explain the recent changes in retailing in Birmingham and the impact of these changes.
Describe strategies for making urban living more sustainable and improving the quality of life in Birmingham, and explain the challenges of making urban living more sustainable in Birmingham.

## History

Please revise the following:

**1 The origins of the Republic, 1918–19:** *The legacy of the First World War. The abdication of the Kaiser, the armistice and revolution, 1918–19.*

- *The setting up of the Weimar Republic. The strengths and weaknesses of the new Constitution.*

**2 The early challenges to the Weimar Republic, 1919–23**

- *Reasons for the early unpopularity of the Republic, including the ‘stab in the back’ theory and the key terms of the Treaty of Versailles.*
- *Challenges to the Republic from Left and Right: Spartacists, Freikorps, the Kapp Putsch.*
- *The challenges of 1923: hyperinflation; the reasons for, and effects of, the French occupation of the Ruhr.*

**3 The recovery of the Republic, 1924–29**

- *Reasons for economic recovery, including the work of Stresemann, the Rentenmark, the Dawes and Young Plans and American loans and investment.*
- *The impact on domestic policies of Stresemann’s achievements abroad: the Locarno Pact, joining the League of Nations and the Kellogg-Briand Pact.*

## Mathematics

### Number

*Fractions, decimals, percentages and ratio*

*Bounds*

*LCM, HCF*

*Estimation and rounding*

*Indices*

*Surds*

*Standard form*

*Ratio*

*Compound percentages and reverse percentages*

### Algebra

*Factorising*

*Quadratic equations*

*Completing the square*

*Quadratic sequences*

*Inequalities*

*Iteration*

*Simultaneous equations*

*Proof*

*Functions*

*Straight line equations and gradients*

*Plotting graphs*

*Transformation of graphs*

*Velocity time-graphs - area beneath curve and drawing tangents*

*Proportion*

*Algebraic fractions*

*Equation of a circle*

### Geometry and measures

*Polygons*

*Circle theorems*

*Similarity*

*Transformations*

*Volume and surface area*

*Pythagoras' Theorem*

*SOH CAH TOA*

*Sine and Cosine rules*

*Vectors*

*Compound measures*

### Probability and statistics

*Tree diagrams*

*Venn diagrams*

*Grouped frequency tables*

*Box plots*

*Cumulative frequency*

*Histograms*

*Comparing data sets*

## Media Studies

Please revise the following:

Component 1: Section B stepped questions 3 and 4 on Media Industries and Audiences.  
The set texts can come from the following industries: Advertising, Film Marketing, Newspapers, Magazines, Radio, Video Games.

- Students will need to be sure they know key media terms for regulation of their set texts, patterns of ownership e.g. who produces, distributes, exhibits their set texts and key terms such as horizontal and vertical integration, convergence, conglomerates etc.
- Students will also need to know how digital technologies have impacted each industry.
- Students will need to know the target audience for their set texts, using demographics and psychographics, and be able to identify how these are reached.
- Students will also need to apply uses and gratifications theory to their set texts with specific and detailed textual examples to back up their points. Students may need to consider how different audiences are reached e.g. primary/ secondary/ local/ national/ global

## Music

Please revise the following topics:

8 set works:

Brandenbrg Concerto No.5 in D major,

Mvt. III – J.S.Bach

Piano Sonata Op.13 No.8 in C minor

'Pathetique', mvt.1 – Beethoven

Music for a While – Purcell

Killer Queen – Queen

Defying Gravity from Wicked – Stephen

Schwartz

Main Title/Rebel Blockade Runner from

Star Wars Episode IV A New Hope – John

Williams

Release – Afro Celt Sound System

Samba Em Preludio – Esperanza Spalding

1 wider listening example for each set

work

Dictation practice

## Physical Education

### **GCSE PE:**

	<b>PAPER 1 Topic Areas</b>
1.1	The Structure & Functions of the Skeletal System
1.2	The Structure & Function of the Muscular System
1.3	The Structure & Function of the Cardio-respiratory System
1.4	Aerobic and Anaerobic Exercise
1.5	The Effects of Exercise
2.2	Sporting Movements
3.2	Components of Fitness
3.17	Types of Training
	<b>PAPER 2 Topic Areas</b>
4.1	Skill & Ability
4.2	Goals & Targets
4.3	Information Processing
4.4	Guidance & Feedback
4.5	Arousal
5.2	The Commercialisation of Physical Activity & Sport
5.3	Technology in Sport
5.4	Ethical Conduct by Performers
6.5	A Balanced Diet
	Interpreting Data (Bar Graphs)

## Physics

Please revise the following topics

Please revise the following topics as your exam will include some of the following aspects (content in bold is only for Triple Science Pupils):

Energy:

Energy stores and systems, Changes in Energy, Energy changes in systems, Power, Conservation of Energy, Efficiency, National and Global Energy Resources

Electricity:

Current, Potential Difference and Resistance, Electrical Charge and Current, Resistance of Components, Series and Parallel Circuits, Domestic Electricity, National Grid, **Static Electricity, Electric Fields**

Forces:

Scalar and Vector Quantities, Contact and Non-contact Forces, Weight, Resultant Forces, Work Done, Elasticity, **Moments**, Pressure in fluids, Motion, Speed/Velocity and Distance/Displacement against Time graphs, Newton's Laws, Stopping Distances, Conservation of Momentum, **Changes in momentum**

Electromagnetism:

Magnetism and fields, Electromagnets, Motor Effect, **Electromagnetic induction, Speakers and Microphones, Transformers**

Particle model:

Density, Internal Energy, Specific Heat Capacity, Latent Heat, **Pressure in gases**

Atomic Structure

Structure of an Atom, Model of atom development, radioactive decay, **half life**, nuclear decay equations, **radioactive safety, uses of radioisotopes and nuclear energy**

Space

**Our Solar System, Life cycle of a star, Orbital Motion and Red Shift**



## Religious Studies

<b>Christianity - Marriage and the Family</b>
<b>2.1 Marriage</b>
...give Christian teachings about marriage.
...explain the purpose and importance of marriage for Christians.
...explain different views about the importance of marriage in society, including non-religious views, and Christian responses to them.
<b>2.2 Sexual Relationships</b>
...give Christian teachings about sexual relationships.
...explain different Christian attitudes towards relationships outside of marriage.
...explain different Christian attitudes towards homosexuality.
...explain non-religious views about sexual relationships and Christian responses to them.
<b>2.3 Families</b>
...give Christian teachings about the purpose and importance of family.
...describe the five different types of family within twenty-first-century society.
...explain different Christian responses to different types of family.
<b>2.4 Support for the family in the local church</b>
...explain how and why the local church community tries to support families, with reference to a source of wisdom and authority.
...describe the various activities organised by churches today for families.
<b>2.5 Contraception/Family Planning</b>
...give Christian teachings about family planning and regulation of births.
...explain different Christian attitudes about contraception and family planning, including Protestant and Catholic attitudes, with reference to <i>Humanae Vitae</i> .
...explain different non-religious attitudes about contraception and family planning and Christian responses to them.
...apply situation ethics to issues surrounding contraception and explain how Christians would respond.
<b>2.6 Divorce</b>
...give Christian teachings about divorce and Remarriage.
...explain different Christian attitudes about divorce and remarriage.
...explain different non-religious attitudes about divorce and remarriage and Christian responses to them.
...apply situation ethics to issues surrounding divorce and remarriage and explain how Christians would respond.
<b>2.7 Equality of men and women in the family</b>
...give Christian teachings about the equality of men and women in the family.
...explain different Christian views about the roles of men and women in the family.
<b>2.8 Gender prejudice and discrimination</b>
...give Christian teachings about gender prejudice and discrimination.
...give examples of how Christians have opposed gender prejudice and discrimination.
...explain different Christian attitudes to gender differences, including the role of women in the Church.

## Islam - Crime and Punishment

### 2.1 Justice

...explain what justice is.

...explain Muslim teachings about justice.

...explain why justice is important to Muslims, including Surah 4: 135.

...explain Muslim responses to why justice is important for victims.

...explain non-religious (including atheist and Humanist) attitudes about the importance of justice.

...explain Muslim responses to non-religious attitudes about the importance of justice.

### 2.2 Crime

...explain what crime is.

...explain Muslim teachings about, and responses to, the causes and problem of crime, including Surah 16: 90–92.

...explain Muslim teachings about crime as a distraction from Allah.

...describe what Muslim individuals and groups, including the Muslim Chaplains Association and Mosaic, do to end crime.

### 2.3 Good, Evil and Suffering

...explain Muslim teachings about what good actions are and how they are rewarded.

...explain Muslim teachings about what evil actions are.

...explain divergent Muslim teachings about why people suffer, including Surah 76.

...explain non-religious (including atheist and Humanist) attitudes about why people suffer, including believing in religion.

...explain Muslim responses to non-religious attitudes about why people suffer.

### 2.4 Punishment

...explain divergent Muslim teachings and attitudes towards punishment and how it is used, including Surah 2: 178 and 5: 44–46, and link these to situation ethics.

...explain Muslim teachings on why punishment can be regarded as justice and why it is needed in society.

### 2.5 Aims of Punishment

...explain divergent Muslim attitudes towards each of the aims of punishment: protection, retribution, deterrence, and reformation.

...explain Qur'anic teachings about punishment, including Surah 4: 26–32.

### 2.6 Forgiveness

...explain Muslim teachings and responses about forgiveness and its importance, including Surah 64: 14.

...describe how offenders are forgiven by the community and explain why this is needed.

...explain restorative justice, how it is used, its importance for criminals, and Muslim responses to these.

### 2.7 Treatment of Criminals

...explain Muslim teachings about how criminals are treated, including interpretations of Surah 76: 1–12.

...explain divergent Muslim attitudes towards the issues of torture, human rights, fair trial, and trial by jury.

...explain the application of ethical theories, such as situation ethics, to the treatment of criminals, and why these theories may accept the use of torture if it is for the greater good.

### 2.8 The Death Penalty (Capital Punishment)

...explain what capital punishment is and its purpose.

...explain divergent Muslim teachings about capital punishment, including Sahih Muslim Hadith 16: 4152.

...explain non-religious (including atheist and Humanist) attitudes towards capital punishment.

...explain the application of ethical theories, such as situation ethics, to capital punishment.

...explain Muslim responses to non-religious attitudes, and the application of ethical theories such as situation ethics, to capital punishment.

## Spanish

Please revise the following topics

*1- Identity and culture:*

*Family, Technology, Free time, Customs and festivals.*

*2- Local, national and global areas of interest.*

*Home, town and region, Social issues, Global issues, Travel and tourism.*

*3- Current and future study and employment.*

*School life, Education post 16, jobs, career choices and ambitions.*