

**Subject area** Art/Technology **Department** Art/Technology  
**HoD** Miss H Evans **HOD email** hevans@airedaleacademy.com  
**Department staff** H Evans, N Amos, C Stanley and H O'Neil

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**Year group** 11 **Option** **Subject name** GCSE Art  
**Periods/week** 2 **Qualification** AQA GCSE Art and Design  
**Weblink** [http://web.aqa.org.uk/qual/newgcse/art\\_dan\\_dra\\_mu](http://web.aqa.org.uk/qual/newgcse/art_dan_dra_mu)

#### Overview

Pupils will focus on the Controlled test element of the course [40%]

#### Units studied

Autumn Term – mock controlled test and review of coursework  
Spring Term - complete coursework and actual controlled test  
Summer Term - final submission of coursework; presentation and display

#### Assessment

GCSE assessment criteria  
Coursework – 60%  
Controlled Test - 40%

#### Other info

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**Year group** 11 **Option** **Subject name** GCSE Catering  
**Periods/week** 2 **Qualification** WJEC GCSE Catering  
**Weblink** <http://www.wjec.co.uk/qualifications/hospitality-and-catering/>

### Overview

The GCSE Catering specification offers a unique opportunity for candidates to develop their knowledge and extend their skills within catering in a vocational context. It is a suitable qualification for those who want a broad background in this area and for those who wish to progress to further education.

### Units studied

GCSE Catering requires learners to demonstrate knowledge and understanding of:

- the industry: accommodation; food and beverage; front of house
- the types of products and services provided
- a range of customer groups
- job roles, career opportunities and relevant training
- appropriate forms of communication within the industry
- the importance of record keeping
- the range of equipment used in the hospitality and catering industry.

### Assessment

Unit 1: TWO practical tasks (controlled assessments) that pupils research, plan and evaluate.  
Unit 2: ONE written paper of 1¼ hours externally set and marked.

### Other info

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**Year group** 11 **Option** **Subject name** GCSE Product Design  
**Periods/week** 2 **Qualification** AQA GCSE Product Design  
**Weblink** [http://web.aqa.org.uk/qual/newgcscs/dandt/new/product\\_overview.php](http://web.aqa.org.uk/qual/newgcscs/dandt/new/product_overview.php)

### Overview

Pupils who opt to study Product Design at GCSE will have the opportunity to develop and expand the skills they learnt in Key Stage 3. Year 9 & 10 concentrate on honing skills such as investigating design opportunities, developing design proposals, making, testing and evaluating and communication. Year 11 focuses on using these skills to complete a final Controlled Assessment which accounts for 60% of the final qualification.

### Units studied

- 1)The evolution of product design,
- 2)Meeting consumer needs,
- 3)Design in practice,
- 4)Packaging and marketing,
- 5)Design in human context,
- 6)Global responsibility,
- 7)Product manufacture,
- 8)The use of ICT in production,
- 9)Manufacturing processes,
- 10)Sources and properties of materials,
- 11)Manipulating and combining materials.

### Assessment

Written paper: 40% of total marks. 120 marks, 2 hours

Controlled Assessment: 60% of total marks.

A single design-and-make activity selected from a choice of set tasks, consisting of the development of a made outcome and a concise design folder and/or appropriate ICT evidence.

### Other info

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**Subject area**  **Department**

**HoD**  **HOD email**

**Department staff**

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**Year group**  **Subject name**

**Periods/week**  **Qualification**

**Weblink**

### Overview

The Edexcel BTEC Level 1/Level 2 First Award in Business has been developed in the business sector to:

- encourage personal development of knowledge and skills relevant to the business world through practical participation in a range of vocational business activities
- give learners a wider understanding and appreciation of the broad range of business specialisms through selection of optional specialist units
- encourage learners to develop their people, communication, planning and teamworking skills by having the opportunity to select from optional units available in the qualification structure
- provide education and training for employees in the business sector
- give opportunities for business employees to achieve a nationally recognized level 1 or level 2 vocationally-specific qualification
- give full-time learners the opportunity to enter employment in the business sector or to progress to other vocational qualifications, such as the Edexcel BTEC Level 3 Nationals in Business
- give learners the opportunity to develop a range of skills and techniques, personal skills and attributes essential for successful performance in working life.

The Edexcel BTEC Level 1/Level 2 First Award in Business has been designed to provide an engaging and stimulating introduction to the world of business. The qualification builds on learning from Key Stage 3 for those who may wish to explore a vocational route throughout Key Stage 4. It also provides a good introduction to business for learners in post-16 education, as well as bringing together learning at levels 1 and 2 to ensure that every learner taking the qualification completes it with a level of understanding and skill on which to build at a later date.

### Units studied

Core units

- 1 Enterprise in the Business World
- 2 Finance for Business

Optional Units:

- 3 Promoting a Brand
- 4 Principles of Customer Service
- 5 Sales and Personal Selling
- 6 Introducing Retail Business
- 7 Providing Business Support

## 8 Recruitment, Selection and Employment

### **Assessment**

Students will need to cover the 2 core units and 2 of the optional units. All units will be internally assessed except for Unit 2 which is an externally assessed examination.

### **Other info**

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**Subject area**  **Department**

**HoD**  **HOD email**

**Department staff**

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**Year group**  **Subject name**

**Periods/week**  **Qualification**

**Weblink**

### Overview

Students of our Applied Business GCSE will:

- actively engage in the study of business to develop as effective and independent students and as critical and reflective thinkers with enquiring minds
- develop and apply their knowledge, understanding and skills to contemporary issues in a range of local, national and global contexts
- appreciate the range of perspectives of different business stakeholders
- consider the extent to which business activity can be ethical and sustainable.

### Units studied

The business world is constantly changing. The new course has been updated to give pupils the chance to learn about these changes as well as covering conventional material. There are two units to study on this course.

#### Unit 1

This unit is an investigation into what business enterprise is all about, including how businesses are organised and how people are involved. It also looks at new issues such as 'ethical' and 'green' business. You will focus on one local and one national or international business.

#### Unit 2

This unit focuses on how businesses record financial transactions, make payments and keep records of how they are doing. You will learn about balance sheets, profit and loss accounts and how to use these to understand business performance in a practical context.

### Assessment

Unit 1 60% Controlled Assessment:

Pupils will carry out an investigation into you their two chosen businesses and will use the information gathered to respond to tasks set by the examining board. These tasks will be published in advance so that you will know what to expect. The completed tasks will be submitted to the exam board once they have been marked by your teachers.

Unit 2 40% Examination:

Pupils will apply their learning to the questions asked in an externally assessed test.

### Other info

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**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**  **Option**  **Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

### Overview

The course promotes fitness, a healthy lifestyle, team working and creativity. It actively engages students in the process of dance in order to develop as effective and independent learners and as critical and reflective thinkers with enquiring minds

### Units studied

Component 1: Performance & Choreography

Performance 30%

- Solo performance
- Duet/Trio performance

Choreography 30%

- Solo or group choreography

Component 2: Dance Appreciation 40%

- Knowledge & understanding of choreographic processes and performing skills.
- Critical appreciation of own work.
- Critical appreciation of professional works.

### Assessment

Assessment: To be completed in year 11.

External exam 1 hour 30 mins 'written paper' and controlled 'practical' assignments.

Greater focus on practical work with 60% of the total marks for performance and choreography and the written exam 40%.

### Other info

- Lots of extra curriculum activities on offer.
  - Opportunities for live performances and theatre trips.
  - Whole school productions and visitor workshops.
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**Subject area** Drama **Department** Drama

**HoD** Mr R Billings **HOD email** rbillings@airedaleacademy.com

**Department staff** R Billings, J Matthews and A Chapman

**Year group** 11 **Subject name** BTEC Performing Arts

Option

**Periods/week** 2 **Qualification** BTEC Level 2 First Award in Performing Arts (Musical Theatre

**Weblink** <https://qualifications.pearson.com/en/qualifications/btec-firsts/performing-arts-2012-nqf.html>

### Overview

This vocational course develops knowledge of Musical Theatre through practical exploration of the skills necessary and the industry requirements.

### Units studied

1. Individual Showcase (externally assessed)

- Two solo audition pieces performed to the camera.
- One application letter.

2. Planning, Preparation, Production.

- Create and deliver a performance to a specific audience.
- Log book

5. Musical Theatre Skills

- Develop dance, singing and acting skills in lesson (videoed as evidence)
- Performance of a Musical Theatre piece to an audience
- Ongoing log book

### Assessment

- All practical work is assessed internally in either live or recorded performance.
- The application letter is completed as a controlled assessment.

### Other info

- Extra-curricular activities including 'The Cast Academy' to enrich development and learning.
- Opportunities for live performances and theatre trips.
- Productions and opportunities to work with the 6th form, 'The Cast' as role models.

**Subject area** Drama **Department** Drama  
**HoD** Mr R Billings **HOD email** rbillings@airedaleacademy.com  
**Department staff** R Billings, J Matthews and A Chapman

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**Year group** 11 **Option** **Subject name** GCSE Drama  
**Periods/week** 2 **Qualification** Edexcel GCSE Drama  
**Weblink** [http://www.edexcel.com/migrationdocuments/GCSE%20New%20GCSE/UG030946\\_GCSE\\_Drama\\_Spec\\_2012.pdf](http://www.edexcel.com/migrationdocuments/GCSE%20New%20GCSE/UG030946_GCSE_Drama_Spec_2012.pdf)

### Overview

Drama is a practical based course, focusing on the performance skills which students will need in order to progress in this subject area. Students have now entered their KS4 options study. All work completed is designed to give students experience of each unit they will study for their actual GCSE examinations in year 10 and 11.

### Units studied

Component One: Devising 40% of qualification

Content

Students explore stimuli in a group, developing ideas, rehearsing and refining these to create a devised piece of theatre for an assessed performance. The stimuli are a free choice for centres. Students record the creation and development process of this group performance in a portfolio and evaluate their contribution to the process and the performance.

Assessment

Participation in group-devised performance as a performer or designer. Individual portfolio.

Component Two: Performance from text 20% of qualification

Content

Students explore two extracts from one play text, this text must be from a contrasting time period to their Component 3 set text. It must also be by a different playwright and a different genre. They create a performance from the text, rehearsing and refining their performance/ design realisations for an assessed performance.

Assessment

Performance in realisation for two key extracts from a performance text. Each of the extract performances is assessed independently. Students participate as a performer and may submit a monologue, duologue or group piece for each extract.

Component Three: Theatre Makers in Practice 40% of qualification

Content

Students practically explore a chosen set text. This can come from either List A (pre-1954) or List B (post-2000). Students are audience members for a live performance. They make and refine notes on the performance. They practice responding to questions for both sections in examination conditions.

### Assessment

Written examination:

Section A – Bringing texts to life

Section B – Live theatre evaluation (students can take in 500 words of notes)

**Other info**

Students will be expected to attend one after school rehearsal per week as their exam approaches.

The specification requires each student to attend at least one live theatre performance as part of their study. This will be in the form of an external visit and costs approximately £25.

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**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**   **Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

### Overview

Year 11 students will be rigorously prepared for their GCSE exams in both Literature and Language, instilling confidence and deeper level understanding of the skills and knowledge needed for the two exams. Students have separate English Language and Literature teachers, with specific focus given to the exam specification for both subjects.

### Units studied

#### Autumn Term – ‘A Christmas Carol’

Students will revisit this key Literature text and read, analyse and discuss exploration of characters, key events, themes and motives within the text. Solid understanding of the plot is needed for the Literature exam and students will probe the text as a class, groups, pairs and individually to strengthen their understanding of this text. Regular opportunities will be given to analyse and explore the text through written analysis as well as speaking and listening opportunities for discussion. Revisiting the text with prior knowledge of key characters and events will allow students to expand their understanding and engage in deeper level analysis of the text.

#### Spring Term 1 – ‘Nature’ poetry

Students will explore poetry on the theme of ‘Nature’ from the GCSE anthology. Analysis of the poetry will allow students to memorise and deepen understanding of poetic devices in preparation for the poetry section of the Literature paper, where students will be required to memorise a number of poems and key quotations. Opportunities to memorise quotations and practise exam-type analysis will be a key feature of the unit.

#### Spring Term 2 - ‘Unseen’ poetry

Students will revisit this key Literature text and read, analyse and discuss exploration of characters, key events, themes and motives within the text. Solid understanding of the plot is needed for the Literature exam and students will probe the text as a class, in groups, pairs and individually to strengthen their understanding of this text. Regular opportunities will be given to analyse and explore the text through written analysis as well as speaking and listening opportunities for discussion. Revisiting the text with prior knowledge of key characters and events will allow students to expand their understanding and engage in deeper level analysis of the text.

#### Summer Term 1 – Cycles of Revision

This term will allow class teachers to identify individual needs students and classes based on knowledge of ability and attainment, PPE results and in-class work. Students will be individually targeted with specific intervention and support across all of the Literature GCSE specification, including: A Christmas Carol; Romeo and Juliet; An Inspector Calls; poetry anthology; and unseen poetry.

### Assessment

Students will be assessed formatively throughout schemes through the use of questioning, a range of

tasks and regular marking of books using the two week department policy.

Each term, students will be assessed using a formal PPE modelled on an exam specification paper. This will include both Literature and Language GCSE specifications which will be assessed and moderated in department, with external verification used to ensure marking is accurate. These grades will be communicated to parents formally.

**Other info**

Revision materials to complement classroom teaching can be provided by class teachers and CGP revision guides are also available to order.

**Subject area** English **Department** English  
**HoD** Miss A Blaikie **HOD email** [ablaikie@airedaleacademy.com](mailto:ablaikie@airedaleacademy.com)  
**Department staff** A Blaikie, L Reader, C Sansom, J Richmond, G Skyner, K Wilson, S Heath, S Smyth and J Napper

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**Year group** 11 **Subject name** GCSE English Language  
Core  
**Periods/week** 3 **Qualification** WJEC GCSE English Language  
**Weblink** <http://www.wjec.co.uk/index.php?subject=51&level=7>

### Overview

Year 11 students will be rigorously prepared for their GCSE exams in both Literature and Language, instilling confidence and deeper level understanding of the skills and knowledge needed for the two exams. Students have separate English Language and Literature teachers, with specific focus given to the exam specification for both subjects.

### Units studied

#### Autumn Term 1 – Transactional writing

This scheme focuses explicitly on the transactional writing required in the Component 2 exam. These text types are as follows: formal letter writing; informal letter writing; speech; article; leaflet; report; review. Prior knowledge of these text types will come from lessons in earlier years and units: this topic focuses on personal, specific and targeted support for students to ensure they individually identify and make progress against their personal targets. An explicit focus will be given both to content and accuracy of spelling, grammar and punctuation to ensure students are confident and competent in this section of the exam.

#### Autumn Term 2 – Narrative Writing

This scheme allows students to develop their understanding and application of narrative writing skills. This includes reading and analysing example narratives and having the opportunity to craft and redraft narratives for a range of different focus questions. The focus on this scheme is on both the content and organisation as a text as well as the spelling, punctuation and grammar to ensure that the narratives are both original and accurate.

#### Spring Term – Reading Skills Across Component 1 and 2

Preparing students for the demands of the reading analysis needed for fiction and non-fiction texts, extracts across both Language components and across a range of centuries will be studied and compared. This scheme allows students to analyse and apply reading analysis skills, deepening understanding and application of the skills needed in the exams. Explicit exam type questions will be practised and assessed throughout the scheme to provide regular and individual feedback to students.

#### Summer Term 1 – Cycles of Revision of Language Exams

This term will allow class teachers to identify individual needs students and classes based on knowledge of ability and attainment, PPE results and in-class work. Students will be individually targeted with specific intervention and support across all of the Language GCSE specification, including: Reading comprehension for both fiction and non-fiction; narrative writing; and transactional writing.

### Assessment

Students will be assessed formatively throughout schemes through the use of questioning, a range of tasks and regular marking of books using the two week department policy. Each term, students will be assessed using a formal PPE modelled on an exam specification paper. This

will include both Literature and Language GCSE specifications which will be assessed and moderated in department, with external verification used to ensure marking is accurate. These grades will be communicated to parents formally.

#### Other info

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**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**   **Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

#### Overview

The aim of Enrichment is to allow students learning opportunities and activities that engage them in developing essential knowledge, skills, values, and relationships as a vehicle for inspiring learning and encouraging

#### Units studied

All activities are linked to academic standards and are creative, exciting, fun, engaging and relevant. The enrichment programming will hold pupils attention, awaken imagination, and inspire the desire for broader learning. The specific activities vary from year group to year group.

#### Assessment

Pupils will be assessed through written prices and photographic evidence of meeting their success criterion.

#### Other info

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**Subject area**  **Department**

**HoD**  **HOD email**

**Department staff**

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**Year group**  **Subject name**

**Periods/week**  **Qualification**

**Weblink**

### Overview

The GCSE will cover 4 skill areas of Listening, Speaking, Reading and Writing. Each of the skill areas will be examined in a final linear exam. Each skill is worth 25% and students will take Foundation or Higher level.

### Units studied

Units Studied

Core content

Students study all of the following themes on which the assessments are based.

Theme 1: Identity and culture

Theme 2: Local, national, international and global areas of interest

Theme 3: Current and future study and employment

### Assessment

GCSE French has a Foundation Tier (grades 1–5) and a Higher Tier (grades 4–9). Students must take all four question papers at the same tier. All question papers must be taken in the same series.

Students are encouraged to invest in the following revision booklet located at:

<https://www.amazon.co.uk/GCSE-French-AQA-Revision-Guide/dp/1847622852>

### Other info

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**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**   **Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

### Overview

What will I study?

Over the three year GCSE course you will cover lots of interesting topics.

Living with the physical environment

Discover more about the challenge of natural hazards and the living world, physical landscapes of the United Kingdom and human interaction with them. This unit develops an understanding of the tectonic, geomorphological, biological and meteorological processes and features in different environments. It provides you with the knowledge about the need for management strategies governed by sustainability and consideration of the direct and indirect effects of human interaction with the Earth and the atmosphere.

Challenges in the human environment

This unit is concerned with human processes, systems and outcomes and how these change both spatially and temporally. You will develop an understanding of the factors that produce a diverse variety of human environments; the dynamic nature of these environments that change over time and place; the need for sustainable management; and the areas of current and future challenge and opportunity for these environments.

### Units studied

Changing Economic World – Looking at the economic growth of a range of countries and what factors impact upon the growth and development.

Synoptic Paper – Analysing the pre-release material, and practicing potential exam questions.

Exam Skills – Development of a range of map skills from coordinates to basic map skills using data sets.

- Volcanoes are hazards resulting from tectonic activity. Their primary and secondary effects are positive as well as negative. Responses change in the aftermath of an eruption.
- Supervolcanoes are on a much bigger scale than other volcanoes and an eruption would have global consequences.
- Earthquakes occur at constructive, destructive and conservative plate margins.
- The effects of earthquakes and responses to them differ due to contrasts in levels of wealth.
- Tsunamis are a specific secondary effect and can have devastating effects in coastal areas.

Local Fieldwork Investigation

This controlled assessment requires candidates to use fieldwork to investigate one question or hypothesis at a local scale. Primary data collection must take place within the investigation. Candidates will submit an extended piece of work prepared under controlled conditions.

### Assessment

You'll have three written exams. Papers 1 and 2 are 1 hour 30 minutes long and together, they contribute to 70% of your final mark. Paper 3 is 1 hour 15 minutes and contributes to the final 30% of your GCSE grade.

**Other info**

Where will GCSE Geography take you?

In GCSE Geography you will learn how today's world was shaped and understand the challenges we face in the future. You'll also examine the Earth's natural resources and the increasing battles between the man-made and natural world. This knowledge, paired with your essential curiosity, will give you the sought-after transferable skills for success in further education and the workplace.

**Subject area** Health and Social Care **Department** Health and Social Care  
**HoD** Mrs C Shillito **HOD email** cshillito@airedaleacademy.com  
**Department staff** C Shillito, M Sanderson, E Harrap

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**Year group** 11 **Option** **Subject name** BTEC Health and Social Care  
**Periods/week** 2 **Qualification** BTEC Level 2 Diploma in Health and Social Care  
**Weblink** <http://www.edexcel.com/quals/firsts/hsc/Pages/default.aspx>

### Overview

This course is aimed at anyone who has an interest in working with people of all ages, in one of the many caring professions. The course will prepare students for the different types of jobs within the health and social care sector and for study at a higher level.

This course will appeal to you if you:

- Have a keen interest in Health and Social services and how they operate.
- Enjoy studying a subject that is relevant to your life and experiences.

You will follow a programme of study that enables progression to further courses and employment in the health and care services, and have the opportunity to develop key skills which are highly valued by employers and further education providers.

### Units studied

#### Unit 1 – Communication in Health and Social Care

The aim of this unit is to enable students to gain the knowledge, understanding and practical skills they need to be able to communicate effectively within a health and social care environment. Throughout this unit students will investigate and learn about different forms of communication, understand barriers to communication and be able to communicate effectively.

#### Unit 2 – Individual Rights in Health and Social Care

In this unit students gain a knowledge and understanding of the issues that need to be considered when working in health and social care environments within a multicultural society. Students will investigate the many factors that contribute to a diverse and equal society and the principles and values which underpin the support given to individuals.

#### Unit 4 – Ensuring Safe Environments in Health and Social Care

The aim of this unit is to enable students to explore the knowledge and skills related to health and safety issues, including legislation in health and social care environments, risk assessment and the actions that are necessary to minimise potential hazards and risks.

#### Unit 10 – Health and Social Care Services

The aim of this unit is to enable students to gain knowledge and understanding of how health and social

care services are provided and develop an insight into government policies which underpin service delivery.

### **Assessment**

This course is entirely coursework focused and students receive regular feedback on their progress. The work is then internally and externally verified. Students can achieve grade pass, merit, distinction or distinction\*

### **Other info**

Controlled assessment must be completed independently, though students will be given support and preparation time in class. Catch-up sessions are available after school for students who have missed lesson time and need to complete assignments.

At the end of the course with further training or study, you can go into a career such as nursing, social work or Early Years Management.

**Subject area** History **Department** History  
**HoD** Miss L Snaith **HOD email** lsnaith@airedaleacademy.com  
**Department staff** L Snaith, H Tordoff and C Hannam

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**Year group** 11 **Subject name** GCSE History  
Core  
**Periods/week** 2 **Qualification** Edexcel GCSE History  
**Weblink** <https://qualifications.pearson.com/en/qualifications/edexcel-gcses/history-2016.html>

### Overview

History sparks pupils' curiosity and imagination, moving and inspiring them with the dilemmas, choices and beliefs of people in the past. It helps pupils develop their own identities through an understanding of history at personal, local, national and international levels. It helps them to ask and answer questions of the present by engaging with the past. Pupils find out about the history of their community, Britain, Europe and the world. They develop a chronological overview that enables them to make connections within and across different periods and societies.

### Units studied

#### Term One:

The American West continued from year 10; Students will investigate the movement of people from the east to the west for America in the 1800s, looking at causes and consequences.

Weimar and Nazi Germany; students will identify the challenges that Germany faced following WWI, look at the changes within German society, discover how Hitler came to power and find out what life was like for different groups of people under Nazi rule.

#### Term Two:

Weimar and Nazi Germany; students will identify the challenges that Germany faced following WWI, look at the changes within German society, discover how Hitler came to power and find out what life was like for different groups of people under Nazi rule.

#### Term Three:

Students will revise all 4 examination topics in preparation for the final exams.

Throughout the three terms students are able to develop their source analysis and analytical skills through a variety of activities. They explore criteria for making judgements about the historical significance of events, people and changes. They investigate historical problems and issues, asking and beginning to refine their own questions.

### Assessment

Students will be assessed on a half-termly basis using a combination of end of unit tests and assessed pieces of writing. Students will be assessed on their historical knowledge and ability to interpret, analyse and evaluate historical evidence. They will be assessed in accordance with the edexcel exam questions.

#### Final Assessments to be taken in year 11:

Paper 1 – Medicine Through Time and WWI medical depth study = 30% of overall GCSE

Paper 2 – American West c1835 – 1895

The Anglo Saxon and Norman England = 40% of overall GCSE  
Paper 3 – Weimar and Nazi Germany 1918 – 1939 = 30% of overall GCSE

### Other info

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**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**  **Option**   
**Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

### Overview

The BTEC First Award In ICT aims to inspire and enthuse learners to become technology savvy producers of technology products and systems and not just consumers. It gives pupils the opportunity to explore the fundamentals of technology and gain the practical skills, knowledge and understanding to design, make and review information technology systems and creative technology products.

### Units studied

Unit 1: Online World. In this unit you will investigate online services and online communication, components of the internet and how digital devices exchange and store information and issues with operating online.

Unit 3: Digital Portfolio. In this unit you will design a digital portfolio, create and test a digital portfolio and review the digital portfolio. You will showcase your CV and projects you have completed in ICT.

Unit 6: Digital Graphics. In this unit you will understand the applications and features of digital graphic products, design digital graphic products and create, test and review digital graphic products. You will design and showcase a variety of graphics for a company.

Unit 7: Digital Video: In this unit you will understand the applications and features of digital video products, design a digital video product and create, test and review a digital video product. You will advertise the school production Fame.

### Assessment

Unit 1 is an online test (25%)  
Unit 3 is controlled assessment (25%).  
Unit 6 is controlled assessment (25%).  
Unit 7 is controlled assessment (25%).

### Other info

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**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**  **Option**  **Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

### Overview

BTEC Firsts in Creative Digital Media Production aims to provide a practical, real-world approach to learning and develop specific knowledge and skills learners need to work successfully in the Media industry. The qualification allows students to develop an understanding about the digital media sector and its many products. It also requires students to research, plan and present ideas for a new digital media product in response to a client brief.

### Units studied

Unit 1: Digital Media Sectors and Audiences – in this unit, learners will explore the digital media industry and all the five key sectors that fall under it (Digital Moving Image, Digital Audio Production, Digital Publishing, Website Production and Digital Games Production). They will also explore the different types of audiences and how audiences can engage with each sector.

Unit 2: Planning and Pitching a Digital Media Product – in this unit, learners will use their verbal, written and visual communication skills to enable them to formulate, develop and pitch ideas for a product, which they then plan to produce.

Unit 3: Digital Moving Image Production – in this unit, learners investigate key features of digital moving image productions, including structures and generic conventions. Practical production focuses on the use of camerawork and how it is used to convey meaning in a specific product.

Unit 7: Digital Games Production – in this unit, learners will gain knowledge of 2D and 3D digital games platforms and audiences. Learners will then chose either a 2D or 3D game as the focus for practical production and will create pre-visuals for it as well as documenting all aspects of the game and the requirements of the player. A working game demo will be produced using assets that are placed in a game engine.

### Assessment

Unit 1 is an online test (25%)  
Unit 2 is controlled assessment (25%).  
Unit 3 is controlled assessment (25%).  
Unit 7 is controlled assessment (25%).

### Other info

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**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**  **Option**   
**Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

### Overview

Computing is fast becoming a part of curriculums in schools, with the advancement of technology and with the need for more technical people in many work areas. GCSE Computing is an introduction to the world of computers and similar devices, how they work, how they communicate, and how we make them work. With elements of computer hardware, software, networking, programming and study of technology in society this is perfect for developing not only an understanding of technology, but of logical thinking and problem solving.

### Units studied

Unit A451 - Computer systems and programming  
Unit A452 - Current trends in computing (Controlled Assessment)  
Unit A453 - Programming project (Controlled Assessment)

### Assessment

Unit A451 is worth 40% of the overall grade (Written paper, examiner verified)  
Unit A452 is worth 30% of the overall grade (centre marked and examiner verified)  
Unit A453 is worth 30% of the overall grade (centre marked and examiner verified)

### Other info

GCSE Computing is part of the EBacc.

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**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**  **Option**  **Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

### Overview

This course offers up to date and engaging content. Students will learn about current and emerging digital technologies and the issues raised by their use in a range of contexts. They will be encouraged to keep up-to-date with emerging technology as part of their learning experience.

### Units studied

The course consists of:

Unit 1 – Living in an Online World (Externally a

In this unit students explore how digital technology impacts on the lives of individuals, organisations and society. They learn about current and emerging digital technologies and the issues raised by their use in a range of contexts (learning and earning, leisure, shopping and money management, health and wellbeing and on the move). They develop awareness of the risks that are inherent in using ICT and the features of safe, secure and responsible practice.

Unit 2: Using Digital Tools

This is a practical unit. Students broaden and enhance their ICT skills and capability. They work with a range of digital tools and techniques to produce effective ICT solutions in a range of contexts. They learn to reflect critically on their own and others' use of ICT and to adopt safe, secure and responsible practice.

### Assessment

Unit 1 – Living in an Online World is externally assessed. It is a 1 hour thirty minute exam paper. (40%)

Unit 2: Using Digital Tools is internally assessed under controlled conditions. (60%)

### Other info

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**Subject area** Maths **Department** Maths  
**HoD** Mrs S Moore **HOD email** smoore@airedaleacademy.com  
**Department staff** S Moore, L Greaves, S Kemp, D Lockett, M Arbon, M Robinson, B Coleman, and J Coleyshaw

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**Year group** 11 **Subject name** GCSE Mathematics  
Core  
**Periods/week** 4/5 **Qualification** GCSE Maths  
**Weblink** <http://www.aqa.org.uk/subjects/mathematics/gcse>

### Overview

In previous years students will have covered all of the knowledge and skills necessary to be able mathematicians.

In Year 11, we concentrate upon developing the knowledge, skills and understanding of mathematical methods and concepts to ensure success in public exams.

Using knowledge and understanding to make connections between mathematical concepts applying the functional elements of mathematics in everyday and real-life situations.

Students receive 4 or 5 periods per week of lessons depending on band

### Units studied

In Year 11, we concentrate upon developing the knowledge, skills and understanding of mathematical methods and concepts to ensure success in public exams, including:

- Number
- Algebra
- Geometry
- Measures
- Statistics
- Probability

### Assessment

Weekly past papers. November, March and June entry Edexcel 1MA0 Mathematics paper. All MATHS PUPILS

-Students are expected to know:

- Times tables up to 12x12
- Square numbers up to 15x15
- Cubed numbers 1, 2, 3, 5, and 10

-Students are expected to take PRIDE in their work. We will expect to see:

- Underlined date, title and subheadings (starter, plenary, example, red, amber, green etc)
- Worked examples with any additional notes
- Numbered questions
- Clear method with all workings out shown
- Students responding to feedback

-Should students want to undertake independent study they can access the following websites:  
[www.mymaths.co.uk](http://www.mymaths.co.uk)

www.kerboodle.com

They can get their individual logins/passwords from their class teacher.

### **Other info**

-Students should be prepared to complete weekly homework to inform their independent learning.

-Students should come to lesson equipped with: pens, pencil, rubber, planner, ruler, calculator (Casio FX-83GT Plus).

-Students should be prepared to practise and learn the formulae and facts in preparation for the weekly quizzes.

-It is imperative that students attend weekly revision sessions on a Tuesday afternoon.

Mymaths Booster Packs can be found using

login: airedale and

password: triangle523

These contain online lessons and revision practice

**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**  **Option**  **Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

### Overview

Students who opt for GCSE Music receive 6 lessons per week throughout the course. The course follows the Eduqas specification and consists of three components:

### Units studied

#### Component 1: Performing music

This component is worth 30% of the qualification and internally assessed. A programme of 4 minutes of music must be performed, and at least 1 minute must be an ensemble performance. The rest of the programme may be either solo, ensemble or a mixture of both.

#### Component 2: Composing music

This component is worth 30% of the qualification and internally assessed. Two compositions must be submitted, each at least three minutes long. The composition completed in Year 10 is a free composition for which students set their own brief, and the composition completed in Year 11 must be a response to a brief set by the exam board.

#### Component 3: Appraising music

This component is worth 40% of the qualification and is an externally assessed listening and appraising examination. The duration of the examination is one hour 15 minutes and based on four areas of study:

- Musical forms and devices
- Music for ensemble
- Film music
- Popular music

There will also be one question each on two set works:

- Eine Kleine Nachtmusik, Movement 2, Mozart
- Since you've Been Gone, Rainbow.

### Assessment

### Other info

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**Subject area** PE **Department** PE

**HoD** Mrs K Ball/Mr R Singleton **HOD email** kball@airedaleacademy.com/rsingleton@

**Department staff** K Ball, R Singleton, E Ward, A Dean and B Coleman

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**Year group** 11 **Subject name** BTEC Sport  
Option

**Periods/week** 2 **Qualification** BTEC First in Sport

**Weblink** <http://www.edexcel.com/quals/firsts10/sport/Pages/default.aspx>

### Overview

The BTEC First In Sport qualification is very demanding with an average of 70% of the teaching time being spent in the classroom. Throughout the course students will develop both their theoretical and practical understanding of sport as well as enhancing their independent learning skills, time management, group work skills, communication, ICT skills and literacy skills.

Students will have the opportunity to take part in a range of sporting activities which are closely related to the assignments that they will be completing. Students will be expected to adapt to different roles within the sporting industry such as coaches, sports leaders, analysts and much more. The variety of activities covered with the course will enable students to gain a clear insight into possible future education and employment pathways available to them in the sports industry.

### Units studied

The BTEC First In Sport qualification covers a wide range of topics. Students will develop their knowledge in the following areas:

Unit 1: Fitness for Sport and Exercise Students will learn about a range of fitness tests used to measure an athlete's sporting prowess. They will be expected to take part and conduct these tests alongside their classmates.

- Unit 2 Practical Sport: Students will analyse the tactics, skills, rules and techniques used in a selected team and individual sport. They will be expected to take part in practical sessions linked to their assignment.

- Unit 5 Training for personal Fitness Students will produce an individual training programme which is linked to their specific requirements. They will be expected to design and take part in practical sessions linked to their PEP.

- Unit 6 Leading Sport Activities Students will develop their knowledge and understanding of how to lead sports sessions They will deliver skills sessions to groups of students and take ownership of running a sports session.

### Assessment

Assessment is completed through 75% coursework. Each individual module is assessed at a Pass, Merit or Distinction level. Accumulative scores from all modules will determine the overall grade. Students will also have to complete a multiple choice exam worth 25% of overall grade.

### Other info

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**Subject area** PE **Department** PE  
**HoD** Mrs K Ball/Mr R Singleton **HOD email** kball@airedaleacademy.com/rsingleton@  
**Department staff** K Ball, R Singleton, E Ward, A Dean and B Coleman

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**Year group** 11 **Subject name** GCSE PE  
**Option**  
**Periods/week** 2 **Qualification** Edexcel GCSE Physical Education  
**Weblink** <https://qualifications.pearson.com/en/.../edexcel-gcses/physical-education-2016.html>

### Overview

GCSE PE will appeal to you if you're active and want to study a course which is physically and academically challenging, It is ideal for students who have a keen interest in sport in and out of school and see PE and sport as part of their future careers.

### Units studied

Students will receive a well-rounded and full introduction to the world of PE, sport and sport science by developing an understanding of how the mind and body works in relation to performance in physical activity. Students will learn;

- Anatomy and physiology – the key body systems and how they impact on health, fitness and performance
- Physical training – the principles of training and training methods
- Health, fitness and well-being – the benefits of participating in physical activity and sport
- Movement analysis – the basic principles of movement and biomechanics
- Sports Psychology – the psychological factors that can affect performance
- Socio-cultural influences – the socio-cultural factors that impact on physical activity and sport and the impact of sport on society
- Develop their knowledge and practical skills in a variety of physical activities

### Assessment

The course assessment is divided into 4 sections

1. Written examination – Fitness and Body Systems, 1 hour 45 minutes, 36% of the qualification
2. Written examination – Health and Performance, 1 hour and 15 minutes, 24% of the qualification
3. Practical Performance – One team, one individual and one other activity, 30% of the qualification
- Personal Exercise Programme – Controlled assessment coursework, 10% of the qualification

### Other info

MUST be able to participate in 3 sports to a high level  
Be motivated to participate in both theory and practical lessons.  
Be committed to extra-curricular activities and teams and show a willingness to attend after school revision and catch up sessions.  
Be organised when participating in practical lessons by bringing full Airedale Academy PE kit

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**Subject area** PE **Department** PE

**HoD** Mrs K Ball/Mr R Singleton **HOD email** kball@airedaleacademy.com/rsingleton@

**Department staff** K Ball, R Singleton, E Ward, A Dean and B Coleman

**Year group** 11 **Subject name** PE

Core

**Periods/week** 2 **Qualification** None

**Weblink** None

### Overview

The Physical Education curriculum at Airedale Academy enables all pupils to enjoy and succeed in many kinds of physical activity. Students will develop a wide range of skills and the ability to use tactics, strategies and compositional ideas to perform successfully. They will develop the confidence to take part in different physical activities and learn about the value of healthy, active lifestyles. Physical Education helps students to discover what they like to do and what their aptitudes are at school, and how and where to get involved in physical activity helps them make informed choices about lifelong physical activity

### Units studied

In Year 11 students are encouraged to take on different roles and responsibilities, including leadership, coaching and officiating. Lessons are taught through game orientated activities to develop students' tactical ability and knowledge of rules. Lessons explore exciting new sports from around the world and give students the opportunity to enhance their engagement with the new concepts, processes and techniques.

Sporting areas including;

- Invasion games - football, rugby, netball, basketball, tchoukball, handball, american football, unihockey
- Net and wall activities – badminton, table tennis, tennis, volleyball
- Striking and fielding sports – rounders, baseball, table tennis, cricket
- Physical Challenge – athletics, orienteering
- Artistic performance– trampolining, gymnastics
- Health and Fitness – circuits, weights, fitness suite, cross country, method of training, bikes

### Assessment

Assessment is through successful completion of ten targets that are set according to the Key Stage 4 Curriculum. Students have to achieve all targets various sporting areas. Attitude to learning grades are also given to students in line with the school policy

### Other info

Extra-curricular activities provide great opportunities for students to participate in an Airedale Academy team. A successful PE inter-house system takes place throughout the year. Students have the opportunity to represent their house and compete in different sporting activities. Enrichment Opportunities such as educational trips, Inter-School sporting events and coaching courses will be offered. Airedale Academy is proud to have designed a comfortable and smart PE kit that students wear with pride in all lessons.

**Subject area** Science **Department** Science  
**HoD** Mr S Miller **HOD email** smiller@airedaleacademy.com  
**Department staff** S Miller, M Sanderson, D Gardner, J Halman, J Weatherill and C Pope

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**Year group** 11 **Subject name** GCSE Biology  
Core  
**Periods/week** 5 **Qualification** AQA GCSE in Biology  
**Weblink** <http://www.aqa.org.uk/subjects/science/gcse/biology-8461>

### Overview

GCSE Biology is designed to be taken alongside GCSE Chemistry and GCSE Physics. The GCSE is split into two parts. The first part is taught in Y9 and the second part is taught in Y10. Y11 is a consolidation year.

### Units studied

The GCSE is split into 7 topics. In Year 9, students will study topics 1-4 and in Year 10, students will study topics 5-7:

#### 1: Cell biology

In this topic, students will learn about: eukaryotes and prokaryotes, animal and plants cells, cell specialisation, cell differentiation, microscopy, culturing microorganisms, chromosomes, mitosis and the cell cycle, stem cells, diffusion, osmosis and active transport.

#### 2: Organisation

In this topic, students will learn about: organisational hierarchy, the human digestive system, the heart and blood vessels, blood, coronary heart disease: a non-communicable disease, health issues, the effect of lifestyle on some non-communicable diseases, cancer, plant tissues and organs and plant organ systems.

#### 3: Infection and response

In this topic, students will learn about: communicable diseases, viral diseases, bacterial diseases, fungal diseases, protist diseases, human defence systems, vaccinations, antibiotics and painkillers, discovery and development of drugs, producing monoclonal antibodies, uses of monoclonal antibodies, detection and identification of plant diseases.

#### 4: Bioenergetics

In this topic, students will learn about: the photosynthetic reaction, rates of photosynthesis, uses of glucose from photosynthesis, aerobic and anaerobic respiration, response to exercise and metabolism.

#### 5: Homeostasis and response

In this topic, students will learn about: the structure and function of the nervous system, the brain, the eye, control of body temperature, the human endocrine system, controlling blood glucose concentration, maintaining water and nitrogen balance in the body, hormones in human reproduction, contraception, the uses of hormones to treat infertility, negative feedback, control and coordination and uses of plant hormones.

#### 6: Inheritance, variation and evolution

In this topic, students will learn about: sexual and asexual reproduction, meiosis, advantages and disadvantages of sexual and asexual reproduction, DNA and the genome, DNA structure, genetic inheritance, inherited disorders, sex determination, variation, evolution, selective breeding, genetic engineering, cloning, the theory of evolution, speciation, the understanding of genetics, evidence of evolution, fossils, extinction, resistant bacteria and classification.

#### 7: Ecology

In this topic, students will learn about: communities, abiotic factors, biotic factors, adaptations, levels of organisation, how material are cycled, decomposition, impact of environmental change, biodiversity, waste management, land use, deforestation, global warming, maintaining biodiversity, trophic levels, pyramids of biomass, transfer of biomass, factors affecting food security, farming techniques, sustainable fisheries role of biotechnology.

#### **Assessment**

2 external papers in June of Y11. (1hr, 45 minutes each):

Paper 1: Topics 1–4

Paper 2: Topics 5–7

Students are also required to carry out 10 'required practicals', which will be examined in the two external tests.

Grades will be awarded on a 9-1 scale

#### **Other info**

The department holds regular revision sessions after school. Ask your teacher for more information. A range of revision guides are on sale. See Mr Miller for more details.

Breakfast revision is available most mornings – Mondays and Wednesdays it is available until 8 am

**Subject area** Science **Department** Science

**HoD** Mr S Miller **HOD email** smiller@airedaleacademy.com

**Department staff** S Miller, M Sanderson, D Gardner, J Halman, J Weatherill and C Pope

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**Year group** 11 **Subject name** GCSE Chemistry

Core

**Periods/week** 5 **Qualification** AQA GCSE in Chemistry

**Weblink** <http://www.aqa.org.uk/subjects/science/gcse/chemistry-8462>

### Overview

GCSE Chemistry is designed to be taken alongside GCSE Physics and GCSE Biology. The GCSE is split into two parts. The first part is taught in Y9 and the second part is taught in Y10. Y11 is a consolidation year.

### Units studied

The GCSE is split into 10 topics. In Year 9, students will study topics 1-5 and in Year 10, students will study topics 6-10:

#### 1: Atomic structure and the periodic table

In this topic, students will learn about: atoms, elements and compounds, mixtures, scientific models of the atom, relative electrical charges of subatomic particles, size and mass of atoms, electronic structure, the periodic table, development of the periodic table, metals and non-metals, group 0, group 1, group 7 elements and typical properties of transition metals,

#### 2: Bonding, structure and the properties of matter

In this topic, students will learn about: chemical bonds, ionic bonding, ionic compounds, covalent bonding, metallic bonding, the three states of matter, the state symbols, properties of ionic compounds, polymers, giant covalent structures, properties of metals and alloys, metals as conductors, diamond, graphite, graphene and fullerenes, size of nanoparticles and uses of nanoparticles.

#### 3: Quantitative chemistry

In this topic, students will learn about: conservation of mass and balanced chemical equations, relative formula mass, mass changes when a reactant or product is a gas, moles, amounts of substances in equations, uses moles to balance equations, limiting reactants, concentration of solutions, percentage yield, atom economy, using concentration of solutions in mol/dm<sup>3</sup> and use of amount of substance in relation to volumes of gases.

#### 4: Chemical changes

In this topic, students will learn about: metal oxides, the reactivity series, extraction of metals and reduction, oxidation and reduction in terms of electrons, reactions of acids with metals, neutralisation of acids and salt production, soluble salts, the pH scale and neutralisation, strong and weak acids, the process of electrolysis, electrolysis of molten ionic compounds, using electrolysis to extract metals, electrolysis of aqueous solutions and representation of reactions at electrodes as half equations.

#### 5: Energy changes

In this topic, students will learn about: energy transfer during exothermic and endothermic reactions, reaction profiles, the energy change of reactions, cells and batteries and fuel cells.

#### 6: The rate and extent of chemical change

In this topic, students will learn about: calculating rates of reactions, factors which affect the rates of chemical reactions, collision theory and activation energy, factors that increase the rate of reaction, catalysts, reversible reactions, energy changes and reversible reactions, equilibrium, and the effect of changing different conditions.

#### 7: Organic chemistry

In this topic, students will learn about: crude oil, hydrocarbons and alkanes, fractional distillation and petrochemicals, properties of hydrocarbons, cracking and alkenes, structure and formulae of alkene, reactions of alkenes, alcohols, carboxylic acids, addition polymerisation, condensation polymerisation, amino acids, DNA and other naturally occurring polymers.

#### 8: Chemical analysis

In this topic students will learn about: pure substances, formulations, chromatography, tests for hydrogen, oxygen, carbon dioxide and chlorine, flame tests, metal hydroxides, carbonates, halides, sulfates, instrumental methods and flame emission spectroscopy.

#### 9: Chemistry of the atmosphere

In this topic, students will learn about: the proportions of different gases in the atmosphere, the Earth's early atmosphere, how oxygen increased, how carbon dioxide decreased, human activities which contribute to an increase in greenhouse gases in the atmosphere, global climate change, the carbon footprint and its reduction, atmosphere pollutants from fuels and properties and effects of atmospheric pollutants.

#### 10: Using resources

In this topic, students will learn about: using the Earth's resources and sustainable development, portable water, waste water treatment, alternative methods of extracting metals, life cycle assessment, ways of reducing the use of resources, corrosion and its prevention, alloys as useful materials, ceramics polymers and composites, the Haber process and production and uses of NPK fertilisers.

### Assessment

2 external papers in June of Y11. (1hr, 45 minutes each):

Paper 1: Topics 1–5

Paper 2: Topics 6–10

Students are also required to carry out 8 'required practicals', which will be examined in the two external tests.

Grades are awarded on a 9-1 scale.

### Other info

The department holds regular revision sessions after school. Ask your teacher for more information. A range of revision guides are on sale. See Mr Miller for more details.

**Subject area** Science **Department** Science  
**HoD** Mr S Miller **HOD email** smiller@airedaleacademy.com  
**Department staff** S Miller, M Sanderson, D Gardner, J Halman, J Weatherill and C Pope

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**Year group** 11 **Subject name** GCSE Combined Science (Trilogy)  
Core  
**Periods/week** 5 **Qualification** AQA GCSE in Combined Science: Trilogy  
**Weblink** <http://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464>

### Overview

Students will gain 2 GCSEs through this route. In Year 9, students will learn the topics for paper 1 of Biology, Chemistry and Physics. In Year 10, students will learn the topics for paper 2 of Biology, Chemistry and Physics. Year 11 will be a consolidation year in preparation for the 6 exams in June.

### Units studied

#### Biology Topics

##### 1: Cell biology

In this topic, students will learn about: eukaryotes and prokaryotes, animal and plants cells, cell specialisation, cell differentiation, microscopy, chromosomes, mitosis and the cell cycle, stem cells, diffusion, osmosis and active transport.

##### 2: Organisation

In this topic, students will learn about: organisational hierarchy, the human digestive system, the heart and blood vessels, blood, coronary heart disease: a non-communicable disease, health issues, the effect of lifestyle on some non-communicable diseases, cancer, plant tissues and organs and plant organ systems.

##### 3: Infection and response

In this topic, students will learn about: communicable diseases, viral diseases, bacterial diseases, fungal diseases, protist diseases, human defence systems, vaccinations, antibiotics and painkillers, discovery and development of drugs.

##### 4: Bioenergetics

In this topic, students will learn about: the photosynthetic reaction, rates of photosynthesis, uses of glucose from photosynthesis, aerobic and anaerobic respiration, response to exercise and metabolism.

##### 5: Homeostasis and response

In this topic, students will learn about: the structure and function of the nervous system, the human endocrine system, controlling blood glucose concentration, maintaining water and nitrogen balance in the body, hormones in human reproduction and contraception

##### 6: Inheritance, variation and evolution

In this topic, students will learn about: sexual and asexual reproduction, meiosis, DNA and the genome, genetic inheritance, inherited disorders, sex determination, variation, evolution, selective breeding, genetic engineering, evidence of evolution, fossils, extinction, resistant bacteria and classification.

## 7: Ecology

In this topic, students will learn about: communities, abiotic factors, biotic factors, adaptations, levels of organisation, how material are cycled, biodiversity, waste management, land use, deforestation, global warming and maintaining biodiversity

## 8: Key ideas in Biology

The complex and diverse phenomena of the natural world can be described in terms of a small number of key ideas in biology. These key ideas are of universal application, and we have embedded them throughout the subject content. They underpin many aspects of the science assessment.

## Chemistry Topics

### 9: Atomic structure and the periodic table

In this topic, students will learn about: atoms, elements and compounds, mixtures, scientific models of the atom, relative electrical charges of subatomic particles, size and mass of atoms, electronic structure, the periodic table, development of the periodic table, metals and non-metals, group 0, group 1 and group 7 elements.

### 10: Bonding, structure and the properties of matter

In this topic, students will learn about: chemical bonds, ionic bonding, ionic compounds, covalent bonding, metallic bonding, the three states of matter, the state symbols, properties of ionic compounds, polymers, giant covalent structures, properties of metals and alloys, metals as conductors, diamond, graphite, grapheme and fullerenes.

### 11: Quantitative chemistry

In this topic, students will learn about: conservation of mass and balanced chemical equations, relative formula mass, mass changes when a reactant or product is a gas, moles, amounts of substances in equations, uses moles to balance equations, limiting reactants and concentration of solutions.

### 12: Chemical changes

In this topic, students will learn about: metal oxides, the reactivity series, extraction of metals and reduction, oxidation and reduction in terms of electrons, reactions of acids with metals, neutralisation of acids and salt production, soluble salts, the pH scale and neutralisation, strong and weak acids, the process of electrolysis, electrolysis of molten ionic compounds, using electrolysis to extract metals, electrolysis of aqueous solutions and representation of reactions at electrodes as half equations.

### 13: Energy changes

In this topic, students will learn about: energy transfer during exothermic and endothermic reactions, reaction profiles and the energy change of reactions.

### 14: The rate and extent of chemical change

In this topic, students will learn about: calculating rates of reactions, factors which affect the rates of chemical reactions, collision theory and activation energy, factors that increase the rate of reaction, catalysts, reversible reactions, energy changes and reversible reactions, equilibrium, and the effect of changing different conditions.

### 15: Organic chemistry

In this topic, students will learn about: crude oil, hydrocarbons and alkanes, fractional distillation and petrochemicals, properties of hydrocarbons, cracking and alkenes.

### 16: Chemical analysis

In this topic students will learn about: pure substances, formulations, chromatography, tests for hydrogen, oxygen, carbon dioxide and chlorine.

#### 17: Chemistry of the atmosphere

In this topic, students will learn about: the proportions of different gases in the atmosphere, the Earth's early atmosphere, how oxygen increased, how carbon dioxide decreased, human activities which contribute to an increase in greenhouse gases in the atmosphere, global climate change, the carbon footprint and its reduction, atmosphere pollutants from fuels and properties and effects of atmospheric pollutants.

#### 18: Using resources

In this topic, students will learn about: using the Earth's resources and sustainable development, portable water, waste water treatment, alternative methods of extracting metals, life cycle assessment and ways of reducing the use of resources.

#### 19: Key ideas in Chemistry

The complex and diverse phenomena of the natural world can be described in terms of a small number of key ideas in biology. These key ideas are of universal application, and we have embedded them throughout the subject content. They underpin many aspects of the science assessment.

#### Physics Topics

##### 20: Energy

In this topic, students will learn about: energy stores and systems, changes in energy, energy changes in systems, work, power, energy transfers in a system, efficiency and national and global energy resources.

##### 21: Electricity

In this topic, students will learn about: standard circuit diagram symbols, electrical charge and current, current, resistance and potential difference, resistors, direct and alternating current, mains electricity, power, energy transfers in everyday appliances and the National Grid

##### 22: Particle model of matter

In this topic, students will learn about: density of materials, changes of state, internal energy, temperature changes in a system and specific heat capacity, changes of heat and specific latent heat and particle motion in gases

##### 23: Atomic structure

In this topic, students will learn about: the structure of the atom, mass number, atomic number and isotopes, the development of the model of the atom, radioactive decay and nuclear decay, nuclear equations, half-lives and the random nature of radioactive decay and radioactive contamination.

##### 24: Forces

In this topic, students will learn about: scalar and vector quantities, contact and non-contact forces, gravity, resultant forces, work done and energy transfer, forces and elasticity, describing motion along a line, forces, accelerations and Newton's Law of motion, forces and braking.

##### 25: Waves

In this topic, students will learn about: transverse and longitudinal waves, properties of waves, type of electromagnetic waves, uses and applications of electromagnetic waves,

##### 26: Magnetism and Electromagnetism

In this topic, students will learn about: poles of a magnet, magnetic fields, electromagnetism, Fleming's left-hand rule and electric motors.

##### 27: Key ideas in Physics

The complex and diverse phenomena of the natural world can be described in terms of a small number of key ideas in biology. These key ideas are of universal application, and we have embedded them

throughout the subject content. They underpin many aspects of the science assessment.

### **Assessment**

6 assessments in Year 11, all 1hr 15 minutes each:

Biology Paper 1: Topics 1-4

Biology Paper 2: Topics 5-7

Chemistry Paper 1: Topics 8-12

Chemistry Paper 2: Topics 13-17

Physics Paper 1: Topics 18-23

Physics Paper 2: Topics 24-26

Students are also required to carry out 21 'required practicals', which will be examined in the two external tests.

This course is double weighted, so students will be graded on a seventeen point scale, ranging from 1-1 (lowest) to 9-9 (highest)

### **Other info**

The department holds regular revision sessions after school. Ask your teacher for more information. A range of revision guides are on sale. See Mr Miller for more details.

Breakfast revision is available most mornings – Mondays and Wednesdays it is available until 8 am.

**Subject area** Science **Department** Science

**HoD** Mr S Miller **HOD email** smiller@airedaleacademy.com

**Department staff** S Miller, M Sanderson, D Gardner, J Halman, J Weatherill and C Pope

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**Year group** 11 **Subject name** GCSE Physics

Core

**Periods/week** 5 **Qualification** AQA GCSE in Physics

**Weblink** <http://www.aqa.org.uk/subjects/science/gcse/physics-8463>

### Overview

GCSE Physics is designed to be taken alongside GCSE Chemistry and GCSE Biology. The GCSE is split into two parts. The first part is taught in Y9 and the second part is taught in Y10. Y11 is a consolidation year.

### Units studied

The GCSE is split into 8 topics. In Year 9, students will study topics 1-4 and in Year 10, students will study topics 5-8:

#### 1: Energy

In this topic, students will learn about: energy stores and systems, changes in energy, energy changes in systems, work, power, energy transfers in a system, efficiency and national and global energy resources.

#### 2: Electricity

In this topic, students will learn about: standard circuit diagram symbols, electrical charge and current, current, resistance and potential difference, resistors, direct and alternating current, mains electricity, insulation, fuses and circuit breakers, power, energy transfers in everyday appliances, the National Grid, static charge and electric fields.

#### 3: Particle model of matter

In this topic, students will learn about: density of materials, changes of state, internal energy, temperature changes in a system and specific heat capacity, changes of heat and specific latent heat, particle motion in gases, pressure in gases and increasing the pressure of a gas.

#### 4: Atomic structure

In this topic, students will learn about: the structure of the atom, mass number, atomic number and isotopes, the development of the model of the atom, radioactive decay and nuclear decay, nuclear equations, half-lives and the random nature of radioactive decay, radioactive contamination, background radiation, different half-lives of radioactive isotopes, uses of nuclear radiation, nuclear fission and nuclear fusion

#### 5: Forces

In this topic, students will learn about: scalar and vector quantities, contact and non-contact forces, gravity, resultant forces, work done and energy transfer, forces and elasticity, moments, levers and gears, pressure in a fluid, atmospheric pressure, describing motion along a line, forces, accelerations and Newton's Law of motion, forces and braking, momentum, conservation of momentum and changes in moment.

#### 6: Waves

In this topic, students will learn about: transverse and longitudinal waves, properties of waves, reflection of waves sound waves, waves for detection and exploration, type of electromagnetic waves, uses and applications of electromagnetic waves, lenses, visible light, emission and absorption of infrared radiation, perfect black bodies and radiation.

#### 7: Magnetism and Electromagnetism

In this topic, students will learn about: poles of a magnet, magnetic fields, electromagnetism, Fleming's left-hand rule, electric motors, loudspeakers, induced potential, uses of the generator effect, microphones, transformers

#### 8: Space physics

In this topic, students will learn about: our solar system, the life cycle of a star, orbital motion, natural and artificial satellites and red-shift.

### Assessment

2 external papers in June of Y11. (1hr, 45 minutes each):

Paper 1: Topics 1-4

Paper 2: Topics 5-8

Students are also required to carry out 10 'required practicals', which will be examined in the two external tests.

Grades will be awarded on a 9-1 scale

The controlled assessment will be carried out in September.

### Other info

The department holds regular revision sessions after school. Ask your teacher for more information. A range of revision guides are on sale. See Mr Miller for more details.

Breakfast revision is available most mornings – Mondays and Wednesdays it is available until 8 am.

**Subject area**  **Department**   
**HoD**  **HOD email**   
**Department staff**

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**Year group**   **Subject name**   
**Periods/week**  **Qualification**   
**Weblink**

#### Overview

Student Wellbeing allows students to develop their personal skills as well as their understanding of the wider world outside of school and how they can keep themselves safe from harm. It gives pupils the opportunity to learn about topics they would not learn about in conventional lessons within set lessons and also through guest speakers.

#### Units studied

Student wellbeing is split into six different topics of learning each with a different teaching focus throughout the year pupils will look at risk and keeping themselves safe, finance and career pathways, sex and relationships, identity society and equality, citizenship and health and wellbeing. Within each of these areas pupils will do different activities including discussions, debates, group work and individual research tasks.

#### Assessment

Pupils will assess themselves at the beginning and the end of each of the topics of work against set knowledge based criteria, they will also reflect on their own learning throughout each unit of work to see how their attitudes, thoughts and opinions of different topics have changed.

#### Other info

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