

The Academic Curriculum

The intent of our academic curriculum is to deliver **Powerful Knowledge** to our students. At Creative Education Trust this is not contextualised as ‘the knowledge of the powerful’, but specialised knowledge in a range of subject disciplines. This will include both disciplinary knowledge and substantive knowledge within each area of study. This curriculum is not only designed to endow children with the social assets, skills and cultural capital needed to succeed and achieve, but also to instil in our children the power and confidence to question, synthesise and scrutinise in a range of disciplines, a variety of social contexts and in their own lives. Beyond achieving a range of academic qualifications, the intended impact of this curriculum is for our students to be able to integrate into any social, academic or professional environment, as well as to question, instigate change or lead within those environments.

Below you will find a detailed overview of what Year 10 students are learning in each of their subjects in Half Term 3 and 4 (January – Easter).

Subject	Spring Term Topics
English	<p>Half Term 3 Theme: Macbeth Students will extend their knowledge of Shakespeare's work and engage with paper one texts using the requirements of the exam criteria to be able to produce an evaluative, written response. Students will be extending prior knowledge and understanding of texts to identify, understand and analyse how writer's use:</p> <ul style="list-style-type: none"> • Character, structure and setting to communicate their ideas. • Their understanding the context of production and reception over time • Ideas in the texts are contextually linked and shaped by society at the time. • The ability to engage with the whole text and tracking character and theme throughout in order to formulate a perceptive and critical argument. <p>Half Term 4 Theme: Writers' Viewpoints and Perspectives Non-fiction texts (Language Paper 2) Students will extend the knowledge of non-fiction for Language paper two texts and use the requirements of the exam criteria to be able to produce an evaluative, written responses. Students are extending prior knowledge of non-fiction texts in order to understand and analyse how the writer's use:</p> <ul style="list-style-type: none"> • Implicit and explicit meanings • Contextual situations to influence their text • Language and structure to create meaning • The structure of a text • Form, tone and a range of other methods to influence reader response • Convey their own viewpoints and perspectives in a clear and convincing manner • Adapt tone, style and register for different forms, purposes and audiences in their own writing • Vocabulary and sentence structure for quality, purpose and effect

<p>Maths</p>	<p>Students will study the following topics</p> <p>Core</p> <ul style="list-style-type: none"> • Rounding and Error Intervals • Fractions decimals and percentages • Direct and Inverse proportion including real life applications • Standard Form and Index Laws • Expanding and Factorising • Solving Equations • Averages and Spread <p>Extension</p> <ul style="list-style-type: none"> • Direct and Inverse Proportion • Similarity in 2d and 3d • Surface Area and Volume including cones, spheres and frustums • Coordinate geometry
<p>Science</p>	<p>Biology: Bioenergetics (Photosynthesis and Respiration) Students are learning how plants harness the Sun's energy in photosynthesis in order to make food. This process of photosynthesis liberates oxygen which has built up over millions of years in the Earth's atmosphere. Both animals and plants use this oxygen to oxidise food in a process called aerobic respiration which transfers the energy that the organism needs to perform its functions. Conversely, anaerobic respiration does not require oxygen to transfer energy. During vigorous exercise the human body is unable to supply the cells with sufficient oxygen and it switches to anaerobic respiration. This process will supply energy but also causes the build-up of lactic acid in muscles which causes fatigue</p> <p>Chemistry: Energy Changes, Rate and Equilibrium</p> <p>Energy Changes Students are learning that energy changes are an important part of chemical reactions. The interaction of particles often involves transfers of energy due to the breaking and formation of bonds. Reactions in which energy is released to the surroundings are exothermic reactions, while those that take in thermal energy are endothermic. These interactions between particles can produce heating or cooling effects that are used in a range of everyday applications. Some interactions between ions in an electrolyte result in the production of electricity. Cells and batteries use these chemical reactions to provide electricity. Electricity can also be used to decompose ionic substances and is a useful means of producing elements that are too expensive to extract any other way.</p> <p>Rates and Equilibrium</p>

Students are learning that chemical reactions can occur at vastly different rates. Whilst the reactivity of chemicals is a significant factor in how fast chemical reactions proceed, there are many variables that can be manipulated in order to speed them up or slow them down. Chemical reactions may also be reversible and therefore the effect of different variables needs to be established in order to identify how to maximise the yield of desired product. Understanding energy changes that accompany chemical reactions is important for this process. In industry, chemists and chemical engineers determine the effect of different variables on reaction rate and yield of product. Whilst there may be compromises to be made, they carry out optimisation processes to ensure that enough product is produced within a sufficient time, and in an energy-efficient way.

Physics:

Atomic Structure

Students will be learning about the different types of nuclear radiation (alpha, beta and gamma). They will understand the terms Ion, Ionisation, Isotope, contamination, irradiation and half-life and how these relate to specific uses. They will also understand the mechanisms isotopes use to become more stable, constructing nuclear equations to explain these.

Students will know the nature of Alpha, Beta and Gamma radiation (and neutron emission) and their dangers and uses.

Triple Science Students will also study nuclear fission and fusion as a means to generate electricity.

Forces in action

Students will be learning about how forces interact in a wide range of contexts, referring to interaction pairs. They will Know the connection between weight, mass and gravity including how to use the equation.

Students will be able to draw freebody diagrams to show resultant force and vector diagrams (HT) to illustrate resolution of forces and how to calculate work done

They will study how the extension of an object is proportional to the force applied until elastic limit and how to calculate the energy stored in a stretched object.

Triple students will also study moments and the effects of levers and gear systems, learning how to calculate pressure in a fluid and its effects, to include atmospheric pressure.

History

Edexcel: <https://qualifications.pearson.com/content/dam/pdf/GCSE/History/2016/specification-and-sample-assessments/gcse-9-1-history-specification.pdf>

Students will study

The British sector of the Western Front 1914-18; injuries, treatment and the trenches.

The historic environment section of paper 1 enables students to examine the relationship between a place and historical events and developments. Students will need to develop the skills necessary to analyse, evaluate and use contemporary sources to make substantiated judgements, in the context of the historical events studied.

-The context of the British sector of Western Front and the theatre of war in Flanders and northern France: the Ypres salient, the Somme, Arras and Cambrai. The trench system - its construction and organisation, including frontline and support trenches. The use of mines at Hill 60 near Ypres and the expansion of tunnels, caves and quarries at Arras. Significance for medical treatment of the nature of the terrain and problems of the transport and communications infrastructure.

-Conditions requiring medical treatment on the Western Front, including the problems of ill health arising from the trench environment. The nature of wounds from rifles and explosives. The problem of shrapnel, wound infection and increased numbers of head injuries. The effects of gas attacks.

-The work of the RAMC and FANY. The system of transport: stretcher bearers, horse and motor ambulances. The stages of treatment areas: aid post and field ambulance, dressing station, casualty clearing station, base hospital. The underground hospital at Arras.

-The significance of the Western Front for experiments in surgery and medicine: new techniques in the treatment of wounds and infection, the Thomas splint, the use of mobile x-ray units, the creation of a blood bank for the Battle of Cambrai.

-The historical context of medicine in the early twentieth century: the understanding of infection and moves towards aseptic surgery; the development of x-rays; blood transfusions and developments in the storage of blood.

-Knowledge of national sources relevant to the period and issue, e.g. army records, national newspapers, government reports, medical articles. Knowledge of local sources relevant to the period and issue, e.g. personal accounts, photographs, hospital records, army statistics. Recognition of the strengths and weaknesses of different types of source for specific enquiries. Framing of questions relevant to the pursuit of a specific enquiry and selection of appropriate sources for specific investigations.

Early Elizabethan England 1558-88

This is a depth study which focuses on a substantial and coherent short time span and requires students to understand the complexity of a society or historical situation and the interplay of aspects such as social, economic, political, religious and military factors.

Key topic 1: Queen, government and religion, 1558–69

- The situation on Elizabeth’s accession: Elizabethan England in 1558: society and government. The Virgin Queen: the problem of her legitimacy, gender, marriage. Her character and strengths. Challenges at home and from abroad: the French threat, financial weaknesses.
- The ‘settlement’ of religion: Religious divisions in England in 1558. Elizabeth’s religious settlement (1559): its features and impact. The Church of England: its role in society.
- Challenge to the religious settlement: The nature and extent of the Puritan challenge. The nature and extent of the Catholic challenge, including the role of the nobility, Papacy and foreign powers.
- The problem of Mary, Queen of Scots: Mary, Queen of Scots: her claim to the English throne, her arrival in England in 1568. Relations between Elizabeth and Mary, 1568–69.

Geography

Half Term 3 Theme: Paper 1: Coasts

Students will learn to:

- Know what the UK’s landscape looks like and the location of the main upland, lowland and river systems.
- Understand how coasts are responsible for shaping the landscape of the UK and the landforms they create.

	<ul style="list-style-type: none"> • Explore the opportunities and challenges created by coasts and how they can be managed. <p>Half Term 4 Theme: Paper 1: Rivers. Paper 2: Urban Issues</p> <p>Students will learn to:</p> <ul style="list-style-type: none"> • Understand how rivers are responsible for shaping the landscape of the UK and the landforms they create. • Explore the opportunities and challenges created by rivers and how they can be managed. • Begin to explore the growth of urban areas.
RE	<p>Half Term 3</p> <p>Students will study religious teachings, and religious, philosophical and ethical arguments, relating to the issues that follow, and their impact and influence in the modern world. They should be aware of contrasting perspectives in contemporary British society on all of these issues in order to judge the value of these for everyday life today and the value of these views to different people. They must be able to explain contrasting beliefs on the following three issues with reference to the main religious tradition in Britain (Christianity) and Islam: Abortion, Euthanasia and Animal experimentation. These are controversial issues in today's world and students will be involved in discussion and debate around these both inside and outside school.</p> <p>Half Term 4</p> <p>Students should be aware that Islam is one of the diverse religious traditions and beliefs in Great Britain today and that the main religious tradition in Great Britain is Christianity. Students should study the beliefs, teachings and practices of Islam and their basis in Islamic sources of wisdom and authority. They should be able to refer to scripture and other writings where appropriate. Some texts are prescribed for study in the content set out below and questions may be set on them. Students may refer to any relevant text in their answers. Students should study the influence of the beliefs, teachings and practices studied on individuals, communities and societies. Common and divergent views within Islam in the way beliefs and teachings are understood and expressed should be included throughout. Students may refer to a range of different Muslim perspectives in their answers, including those from Sunni and Shi'a Islam.</p>
Citizenship	<p>Students will study the foundations of how the government works</p> <ul style="list-style-type: none"> • Getting elected • Does every vote count? • Who shall I vote for? • Getting into power • Forming a government • How are laws made? • Balancing the budget <p>Student will also study the justice system</p>

	<ul style="list-style-type: none"> • What is the Law? • Criminal vs Civil law • Who puts the law into practice • Criminal Courts • Defending violent criminals
German	<p>Half term 3: Family and Relationships</p> <p>Content: Describing photos, physical descriptions of people, friendship, family relationships, views on marriage, weekend activities, comparing life now and in the past</p> <p>Grammar:</p> <ul style="list-style-type: none"> • 3rd person verbs, • mit + dative, • separable verbs, • prepositions (in, an) <p>Half term 4: Exchange</p> <p>Content: Greeting an exchange partner, describing your home, describing a typical day, food and drink, shopping for food, traditional German meals, eating in a restaurant</p> <p>Grammar:</p> <ul style="list-style-type: none"> • Using du/Sie, • prepositions with cases, • separable verbs, • reflexive verbs
Spanish	<p>Half term 3 + 4: Family and Relationships</p> <p>Students are learning to discuss Family and relationships and describing people and their hobbies. Using social networks, reading preferences and making arrangements to go out.</p> <p>They are revising:</p> <ul style="list-style-type: none"> • Present • Preterite • Future tenses. <p>They will be comparing 'then and now' using the imperfect tense. They are also learning the present continuous.</p>

<p>Computer Science</p>	<p>Students are learning about Algorithms.</p> <ul style="list-style-type: none"> • To be able to understand what computational thinking is and to be able to identify and solve problems in a computational manner. • To be able to design, create and refine algorithms to a given problem • To be able to identify and use searching and sorting algorithms <p>Students are learning about Systems Software.</p> <ul style="list-style-type: none"> • To be able to understand the various roles of an operating system • To understand what utility software is and be able to discuss the tasks different utility software might undertake <p>Students are learning about computer networks, connections and protocols.</p> <ul style="list-style-type: none"> • To understand what a network is • To be able to identify different topologies and the advantages and disadvantages of each • To be able to explain the difference between wired and wireless networks and how the various protocols and layers enable the transfer of information
<p>iMedia</p>	<p>Students will begin development of their Creating Digital Graphics coursework. This will include the following elements:</p> <p>Students are learning to understand the purpose and properties of digital graphics. This will include:</p> <ul style="list-style-type: none"> • Why digital graphics are used (e.g. to entertain, to inform, to advertise, to promote, to educate) • How digital graphics are used (e.g. magazine covers, CD/DVD covers, adverts, web images and graphics, multimedia products, games) • Types of digital graphics • File formats • The properties of digital graphics and their suitability for use in creating images • How different purposes and audiences influence the design and layout of digital graphics <p>Coursework</p> <p>Students are learning to be able to plan the creation of a digital graphic. This will include:</p> <ul style="list-style-type: none"> • Interpret client requirements for a digital graphic based on a specific brief • Understand target audience requirements for a digital graphic • Produce a work plan for an original graphics creation • Produce a visualisation diagram for a digital graphic • Identify the assets needed to create a digital graphic • Identify the resources needed to create a digital graphic • How legislation applies to images used in digital graphics, whether sourced or created.
<p>IT</p>	<p>Student will look at how data and information are used in the IT industry and how to store it safety.</p>

	<ul style="list-style-type: none"> • What is data • Data types • What is information • How data and information are related • Data collection and storage • Data collection • Big data • Data stores <p>Students will look at how data and computers are impacted by external threats and how to manage them.</p> <ul style="list-style-type: none"> • Malware • Social engineering • Hacking • Botnets and DDoS attacks • Physical vulnerabilities • Impacts of attacks • Consequences of attacks • Preventative measures • Legal protection • Ethical and morals • Pharming
Art	<p>Students will take close up photographs of confectionary and will use them to create larger pieces outside of their sketch books. They will study the work of Sarah Graham.</p> <p>They will focus on developing high quality colours skills and painting techniques</p>
Photography	<p>We are exploring working with pattern and colour and still life photography.</p> <p>We are learning Photoshop skills that will lead to making a Photoshop collage inspired by the work of Daniel Gordon.</p>
Graphics	<p>Half term 3</p> <p>Students will study</p> <ul style="list-style-type: none"> • Investigation, primary and secondary data • Environmental, social and economic challenge • The work of others • Design strategies • Communication of design ideas

	<ul style="list-style-type: none"> • Prototype development <p>NEA focus – Section C&D: Generating and developing design ideas</p> <p>Half term 4 Students will study</p> <ul style="list-style-type: none"> • Energy, storage and generation • Developments in new materials • Systems approach to designing • Mechanical Devices <p>NEA focus – Mini NEA - contextual challenge. Section A & B focus in preparation for the NEA 2 brief release in June.</p>
Food	<p>Spring 1</p> <p>Students will develop their knowledge and understanding of dairy foods and non-dairy alternatives. The learning topics covered are below:</p> <ul style="list-style-type: none"> • Introduction to dairy foods and non-dairy alternatives. • Nutrition related to dairy – Focussing specifically on micronutrients A, D, E & K, and calcium and fluoride. • Water- and fat-soluble vitamins. • Denaturation and preservation of water-soluble micronutrients caused by cooking methods / storage techniques. • Functional and chemical properties - to cover antioxidants A & E and their role in the prevention of disease and preservation of food quality (oxidation). • Food safety - will look at all food poisoning bacteria, consider the use of microorganisms in food production i.e. mould and bacteria in cheese/yoghurt and will discuss bacterial contamination when preparing, buying, cooking and storing foods. • Discussion of the preservation of food quality via antioxidants (Vitamins A & E). • Lactose intolerance – symptoms, treatment, alternatives. Rickets and osteoporosis will be discussed. • Religious diets in relation to dairy (e.g., Buddhism) • Primary and secondary processing of dairy foods. Milk, cheese, yoghurt and butter making will be taught and the associated loss of vitamins. The effect of heating and drying on the sensory characteristics of milk will be discussed. • Fortified and organic foods <p>NEA focus – developing their preparation, cooking and presentation skills. All dishes cooked to contain dairy. The list of dishes that students will be cooking is below:</p> <ul style="list-style-type: none"> • Quiche • Crème Brulee • Chicken kebabs, tzatziki and pitta breads • Potato dauphinoise

- Key lime pie
- Homemade butter and cheese scones made with buttermilk.
- NEA 2 – Assessment criteria

Spring 2

Students will develop their knowledge and understanding of topics surrounding butter, spreads, sugars and syrup. The learning topics covered are below:

- Introduction to the food commodity – Types of butter, spread, sugars and syrups.
- Nutrition related to the macronutrient - Fat. Dietary reference values will be discussed.
- Differences between types of fats and their chemical structure: solid/liquid animal, solid/liquid plant, monounsaturated, saturated and polyunsaturated fats and their impact on health. Amounts of fat needed at varying life stages. Excess and deficiency discussed.
- Recap carbohydrate knowledge learnt in Autumn 2 (sources and functions of carbohydrates, monosaccharides, disaccharides and polysaccharides).
- Functional and chemical properties to cover shortening, aeration, plasticity, emulsification.
- Food safety - will consider theory related to how these products are low risk due to low water activity.
- Will consider health conditions e.g., obesity, high blood pressure, cholesterol and diabetes. Will discuss BMR and PAL.
- Food processing and productions - Will consider cholesterol lowering spreads and their impact on health. Primary and secondary processing of milk to make butter (re-cap) and sugar production. Will discuss how vitamins A and D are added to fats and low fat spreads.
- What the world eats and why?

NEA focus – developing their preparation, cooking and presentation skills. All dishes cooked to contain either butter, spreads, sugar or syrup. Students will cook every week this half term. The NEA focus this half term is NEA 2 Assessment criteria.

Engineering	<p>Students will develop knowledge, skills and understanding in:</p> <ul style="list-style-type: none"> • Health and safety legislation • Engineering drawings (developing technical Engineering drawing techniques, reading and interpreting Engineering drawings). • Drawing conventions • Standards of measurements • Equations • Energy, forces and motion • Develop skills of workshop routine and the correct selection of tools, machinery and materials. • British standards • Completing a Synoptic Project Assessment. The brief this term focuses on Hydraulic Excavators. Students to analyse the brief, create CAD and hand-drafted drawings, research materials and tools, show evidence of machinery testing, create a production plan and complete an evaluation.
PE	<p>Students are learning to tackle complex and demanding physical activities. They will get involved in a range of activities that develops personal fitness and promotes an active, healthy lifestyle. Students will be taught to use and develop a variety of tactics and strategies to overcome opponents in team and individual games. They will further develop their technique and improve their performance in other competitive sports. They will take part in a range of environments which present intellectual and physical challenges, which encourage them to work in a team, building on trust and developing skills to solve problems, either individually or as a group. They will evaluate their performances compared to previous ones and demonstrate improvement across a range of physical activities to achieve their personal best.</p>
BTEC SPORT	<p>Students continue to study Unit 1: Fitness for Sport and Exercise in preparation for the exam before half term. Pupils work on how they can use sports examples to help answer exam style questions.</p> <ul style="list-style-type: none"> • Know about the components of fitness, exercise intensity, the principles of training and additional principles of training. • Explore different fitness training methods • Investigate fitness testing to determine fitness levels <p>During the second half term students start Unit 2: Practical Sports Performance and students will:</p> <ul style="list-style-type: none"> • Understand the rules, regulations and scoring systems for selected sports • Practically demonstrate skills, techniques and tactics for selected sports • Be able to review a sports performance.
Business Studies	<p>Unit 2 Marketing</p> <p>Student will learn about how marketing is used in a business to increase sales and profit.</p> <ul style="list-style-type: none"> • The Role of marketing • Market Research • Market Segmentation

- The marketing mix
- Price
- Place
- Product
- Promotion
- Interpretation of market data.
- Marketing project

Theme: How individuals deal with life events

Half Term 3:

Students are exploring how life events are expected or unexpected that occur in an individual's life. This will include:

- Applying the theory learnt to real life scenarios to develop an understanding of expected and unexpected life events.
- Studying a range of case studies

Examples of expected life events:

- Giving birth and parenthood
- Job
- School
- Relationships

Examples of unexpected life events:

- Illness
- Accidents
- Divorce
- Bereavement
- Redundancy

Half Term 4:

Students are exploring how individuals can adapt or be supported through changes caused by life events.

This includes:

- Developing a deeper understanding of how a person can cope with life events using both formal and informal support.
- Consider how well individuals can adapt to the changes caused by life events and cope with it by seeking support from various sources.

Sources of support:

Formal – support that is received from a professional for example a GP, Counsellor or a Psychiatrist

Health and
Social Care

	<p>Informal support – Physical and emotional support received from family and friends.</p>
<p>Child Development</p>	<p>Students will explore the different factors that can affect a child’s growth and development from birth to five years old. Different factors will have an impact on different aspects of growth and development. Students will consider the impact of factors in the following life stages: Main age ranges:</p> <ul style="list-style-type: none"> • 0–18 months • 18 months–3 years • 3–5 years <p>Physical: prenatal – genetics and how genetic abnormalities occur (e.g. Down's syndrome, muscular dystrophy) maternal nutrition/exercise, effects of parental drug or substance abuse premature/low birth weight mother’s mental health health status – chronic or life limiting illness o diet and dietary deficiencies o amount of exercise.</p> <p>Environmental: housing – living in areas of deprivation or experiencing housing needs home environment – living with a high level of parental conflict, experiences of abuse and neglect effects of exposure to drugs, alcohol and smoking.</p> <p>Socioeconomic: experiences of discrimination on social, racial or cultural grounds income and poverty – unemployed and workless families, access to good early education experiences (e.g. nursery and preschool) poor relationships with significant adults – level of warmth, affection and attention received</p>
<p>Drama</p>	<p>Students are continuing to develop an understanding of devising techniques, practitioner knowledge and core acting skills. Students will:</p> <ul style="list-style-type: none"> • Participate in characterisation workshops • Learn how to work in response to a given stimulus • Learn how to record ideas and to write a devising log showing their awareness of the process and how to communicate ideas. • Understand and explore the genre and styles of Stanislavski, Brecht, Artaud, Miller and Boal <p>During half term 4, Students will create a final devised performance based on an exploration of stimuli. Students will learn how to work in response to given stimulus and complete their final drafts of their written coursework log.</p>

Music	<p>Students are to work on two Units for Btec Music.</p> <p>Students will study music sequencing using an online DAW.</p> <p>Students will learn about the music industry. They will focus on Learning Aim B – Job Roles in the Industry.</p>
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