## Key Stage 4 Art and design Learning Journey

#### Yr 11 Feb- Exam Unit

The exam unit counts for 40% of the marks. You will be given a theme and a least 10 weeks to prepare a portfolio and a final piece. The final piece will be completed over two days in exam conditions at the end of the preparatory period. The theme is set by the board. We will guide you through the exam paper and show you how to develop ideas and responses to the theme. The portfolio must cover the four assessment objectives.

Why? This tests your ability to develop your ideas in a given period of time. You will be expected to meet deadlines and work with greater independence. The final piece will be produced in exam conditions

ASSESSMENTS

<sup>YEAR</sup> 10

#### **Unit2 Reflections**

Explore a single theme from YR 10 into YR11. This will allow you to work in depth with increasing independence. You will become more confident about the way that you want to work and the techniques and materials that you wish to explore. We will look at a wide range of techniques and media as you develop your ideas. You will start to identify the features of your own way of working as you become more familiar with artists' work and the language used to analyse your work and the work of other artists. Annotating your work will help you to understand your ideas and express your ideas both visually and verbally. You will produce a portfolio and at least two final pieces in response to the theme. The skills you learn on this project will be tested in the exam unit.

Why? Art and designs is about developing your understanding of visual language in order to develop ideas with increasing subtlety and confidence. This project/theme will allow you to do this. The skills you learn are central to careers in Art and Design where you will be expected to develop ideas and show resilience and creativity

ASSESSMENTS

#### Yr10 Art and Design is a coursework based subject.

You will be expected to produce two units of coursework. This will account for 60% of your final mark.

Unit1 People, Places, Spaces.

The first project builds on the visual language skills and the personal responses that you have made in Key Stage 3. You will be expected to develop a project/portfolio in response to the theme. You will be supported through the initial stages as you increase your recording skills and learn how to research, explore and develop ideas. You will be shown how to create the portfolio and the final piece.

Why? This project will enable you to work in depth on your work and construct a coherent portfolio which covers the requirements of the exam board. The project allows you to gradually learn new techniques and to gain a firm understanding of how the visual elements can be understood and developed in your work. You will develop a personal response and be shown how to sustain and develop ideas in response to the theme.

#### **ASSESSMENTS**



#### SSESSMENTS 1.1 Enterprise & Entrepreneurship

- Risk: business failure, financial loss, lack of security
- Reward: business success, profit, independence The role of business enterprise and the purpose of business activity - produce goods or services meet customer needs - add value
- Why and how new businesses come about
- Identifying and understanding customer needs
- [price, quality, choice, convenience]

1.2 Spotting a business opportunity

- The purpose, methods and use of market research
- Primary and secondary
- Qualitative and quantitative •
  - Use of social media.

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- Good and bad points of market research
- How businesses use market segmentation to target customers
- Understanding the competitive environment



## Year 11 GCSE Business Learning Journey





# Why do I study Child Development?

You will have the opportunity to hone a range of skills in every unit, but there will be a keen focus on a skill and/or quality in each unit. These are mapped using the symbols.

## What transferrable skills will I gain?

**Communication** *Listening and responding to others* 

**Team Working** *Working with others to solve problems* 



Interpersonal Skills Understanding social 'norms' e.g. turn-taking

Analytical Skills Applying logic to unpick and evaluate

**Problem Solving** *Finding and implementing solutions* 

## What qualities will I develop?



Self-Reflective, Resilient and Adaptable

You will think about and change your own performance



**Empathy and Compassion** Understand the feelings of others



### **Cultural Awareness** Values, beliefs and perceptions of our own and other cultures



Self Motivated

Understand the importance of working hard for your own gain

### **Curious and Inquisitive**

Ask your own questions; find your own answers



## Year 10 Computer Science Coding Learning Journey



## Year 10 Computer Science Theory Learning Journey



## Year 11 Computer Science Coding Learning Journey



## Year 11 Computer Science Theory Learning Journey







Approved Centre

Pearson BTEC Level 1/ Level 2 Tech Award in Art and Design Practice



# Year 10 English Learning Journey

#### ASSESSMENTS

#### **Power and Conflict poems:**

This year, you will develop knowledge and skills in reading, writing and critical thinking. Students will begin by completing the Power and Conflict Poetry that was started in Year 9. You will develop a continuing focus on the big ideas within the poems and aim to relate some / many of them in the world in which you live. Homework for all units: stop / check and extended writing.

Assessment: termly assessments and End of Year Exams.

### SPRING TERM

#### Macbeth

As Macbeth is one of Shakespeare's most enduring and emotionally intense plays which tackles themes of ambition, power and tyranny. Students will examine the eponymous character's journey into despair, which remains a timeless warning of unchecked power. You will focus in particular on the character, plot, themes and audience.

#### **Unseen poetry**

Unseen poetry will enable you to truly grasp the crossover between skills and techniques that they use in different aspects of the English Language and Literature GCSEs, which will therefore really enhance the ability to succeed. A focus on the power of words, the poet's intentionality in terms of organisation and form really allows English to come alive. Key sills will be embedded: understanding, analysis, evaluation. ASSESSMENTS

TERM

#### ASSESSMENTS

#### GCSE Language Paper 2

The specification will enable you to develop the skills you need to read, understand and analyse a wide range of different texts covering the 19<sup>th</sup>, 20<sup>th</sup> and 21<sup>st</sup> century time periods as well as to write clearly, coherently and accurately using a range of vocabulary and sentence structures.. The power to analyse, summarise and evaluate are skills for life as is the power to communicate persuasively, skilfully and evocatively

#### A Christmas Carol

The novella is an allegory in that it features events and characters with a clear, fixed symbolic meaning. In the novella, Scrooge represents all the values that are opposed to the idea of Christmas – greed, selfishness, and a lack of good will towards one fells man. The focus is therefore on ideas regarding social justice, redemption, relationships, conflict and identity. You will be assessed on your ability to understand Dickensian England, language analysis and explore the themes and purpose of the novella.

Homework: stop / check and extended writing (planning and essay writing.





# Year 10 French Learning Journey



## GCSE Geography Learning Journey

TERM		l
V10 AUTUMN TENM	Content	Assessment
Component 1 – Topic: Development Dynamics	<ul> <li>Enquiry Questions:         <ol> <li>What is the scale of global inequality and how can it be reduced?</li> <li>How is ONE of the world's emerging countries managing to develop?</li> </ol> </li> <li>Place Knowledge:         <ol> <li>India</li> </ol> </li> </ul>	<ul> <li>Practice tests - Formative SAQs and 8 mark essays</li> <li>MS forms quizzes &amp; retrieval quizzes</li> <li>Revision notes</li> <li>End of term assessment graded 9-1</li> </ul>
<ul> <li>Connections:</li> <li>Y7 Development, Y8 Ghana, Population, Y9 World Trade</li> <li>KS5 Globalisation, Superpowers</li> </ul>	WTP: To understand why some countries are doing well and why others are creating <b>global inequality</b> . In order to close the <b>development gap</b> , a number the impact of development should also be considered, such as the <b>costs</b> that progress (environmental implications, or the increasing gap to those left beh how a specific country can develop, and the consequences of this development the country's changing relationship with the wider world.	making limited progress, thus of strategies can be used. However, come with <b>emerging nations</b> ' ind). An in depth study of <b>India</b> shows ent for people, the environment, and
Component 1 – Topic: Hazardous Earth Connections: < Y7 Volcanoes & Earthquakes,	<ul> <li>Enquiry Questions:         <ol> <li>Why do the causes and impacts of tectonic activity and management of tectonic hazards vary with location? (started in year 9)</li> <li>How are extreme weather events increasingly hazardous for people?</li> <li>How does the world's climate system function, why does it change and how can this be hazardous for people?</li> </ol> </li> <li>Place Knowledge:         <ol> <li>Haiti, New Zealand, USA, Philippines</li> </ol> </li> </ul>	<ul> <li>Practice tests - Formative SAQs and 8 mark essays</li> <li>MS forms quizzes &amp; retrieval quizzes</li> <li>Revision notes</li> <li>End of term assessment graded 9-1</li> </ul>
Changing Climate, Y8 Extreme Weather, Y9 Ice > KS5 Tectonics, Physical Systems & Sustainability	WTP: To understand a big-picture overview of the key tectonic and climatological processes that shape the world and create hazardous situations for people. Physical processes and the impacts that are created are studied, as well as how different people respond to the resulting hazard depending on their level of economic development.	
Component 1 – Topic: Challenges of an Urbanising World Connections:	<ul> <li>Enquiry Questions:         <ol> <li>What are the causes and challenges of rapid urban change?</li> <li>Why does quality of life vary so much within ONE megacity in an emerging country?</li> </ol> </li> <li>Place Knowledge:         Rio de Janeiro, Brazil     </li> </ul>	<ul> <li>Practice tests - Formative SAQs and 8 mark essays</li> <li>MS forms quizzes &amp; retrieval quizzes</li> <li>Revision notes</li> <li>End of term assessment graded 9-1</li> </ul>
<ul> <li>Y7 Sport, Y8 Population, Y9 World Trade, Y10 Development</li> <li>Y11 UK's Evolving Landscape, KS5 Globalisation, Regeneration, Superpowers Microtion</li> </ul>	WTP: To understand urbanisation trends since 1980 in the developed, emerging and developing world, and also by global region. Economic activity (industrialisation, economic sectors, formal/informal economy) and migration (national and international) have caused varying urbanisation trends across the world. This explains how and why cities and their land use change over time. A particular focus is on understanding the changes taking place in a rapidly growing/developing megacity in the emerging world. This creates both challenges and opportunities for people, varying quality of life, and requires various strategies for achieving sustainability.	
Connections:	<ul> <li>Enquiry Questions:         <ol> <li>People and the Biosphere - Why is the biosphere so important to human wellbeing and how do humans use and modify it to obtain resources?</li> <li>Forests Under Threat - What are the threats to forest biomes and how can they be reduced?</li> <li>Consuming Energy Resources - How can the growing demand for energy by met without serious environmental consequences?</li> </ol> </li> <li>Place Knowledge:</li> </ul>	<ul> <li>Practice tests - Formative SAQs and 8/12 mark essays</li> <li>MS forms quizzes</li> <li>Revision notes</li> <li>End of term assessment graded 9-1</li> </ul>
<ul> <li>Y7 Changing Climate, Y8 Ecosystems, Y9 Resources, Y1 Development, Climate</li> <li>KS5 Physical Systems &amp; Sustainability</li> </ul>	<ul> <li>Amazon Rainforest, Taiga Forest, Arctic, Alaska, London, Norway, Canada</li> <li>WTP: to get an overview of the biosphere, and to understand why it is so impunderstand how humans use and modify it to obtain resources. The character tropical rainforests and the taiga forests), are increasingly being threatened and sustainably manage these different ecosystems. An understanding of reshows the impacts on the biosphere and forests in particular, in addition to e globally and differences in access which can lead to energy security issues.</li> </ul>	portant to <b>human wellbeing</b> and to eristics of the <b>ecosystems</b> (especially by humans and we must conserve <b>newable and non-renewable energy</b> examining its supply and demand

## GCSE Geography Learning Journey

AUTUM	NTERIO	Content	Assessment
Component 2 Topic: The UK's Evolving Human Landscape		<ul> <li>Enquiry Questions:</li> <li>1. Why are places and people changing in the UK?</li> <li>2. How is ONE major UK city changing?</li> <li>Place Knowledge:</li> <li>London</li> </ul>	<ul> <li>Exam practice - Formative SAQs and 8 mark essays</li> <li>MS forms quizzes</li> <li>Revision notes</li> <li>End of term assessment graded 9-1</li> </ul>
Connections: < Y7 Sport, Ya Trade, Y10 and Urban > KS5 Globali Regeneration	Coasts, Y9 World Development sation, on, Migration	WTP: To understand the changing and varied human landscape of the UK, including social economic and political processes that influence it. The theory of the core-periphery model helps to understand the varying quality of life across the country, and explains why government and EU policies have attempted to reduce it. Dynamic urban places are shaped by migration patterns and the changing demographics of the UK in terms of its ethnic and cultural diversity. To examine the decline in primary and secondary sectors and how this has changed the industrial structure of rural and urban areas in the UK towards tertiary and quaternary employment. To understand the impacts of globalisation, free trade policies and TNCs on the UK economy.	
Component 2– Topic: The UK's Evolving Physical Landscape: Geology, Coastal Change/Conflicts and Rivers (Rivers you studied in Year 10) Connections: SPRING TERM Second State Coasts, Y9 Ice, Y10 Climate SKS5 Dynamic Landscapes Water	<ul> <li>Enquiry Questions:</li> <li>1. Why does the physical landscape of the UK vary from place to place?</li> <li>2. Why is there a variety of distinctive coastal landscapes in the UK and what are the processes that shape them?</li> <li>Place Knowledge:</li> <li>UK</li> </ul>	<ul> <li>Exam practice - Formative SAQs and 8 mark essays</li> <li>MS forms quizzes</li> <li>Revision notes</li> <li>End of term assessment graded 9-1</li> </ul>	
	<ul> <li>WTP: To understand how the varied physical landscapes in the UK result from geology, geomorphic processes and human activity over time. This topic requires you to explore the processes that have formed the distinctive landscapes of the UK and how humans increasingly have to manage flood risks, both at the coast and near rivers. The interaction of human and physical processes present challenges along coastlines and rivers and there are a variety of management options.</li> <li>Key ideas: <ul> <li>How geology and past processes have influenced the physical landscape of the UK</li> <li>How human processes work together to create distinct UK landscapes</li> <li>Distinctive coastal landscapes are influenced by geology interacting with physical processes</li> <li>Distinctive coastal landscapes are modified by human activity interacting with physical processes</li> <li>The interaction of human and physical processes present challenges along coastlines and there are a variety of management options.</li> </ul> </li> </ul>		
<b>THROUGHOUT</b> Component 2 – Topic: Geographic Investigatio (Fieldwork)	al ns Ps	<ul> <li>Investigating river processes and pressures - Investigating how and why drainage basin and channel characteristics influence flood risk for people and property along a river in the UK.</li> <li>Investigating dynamic urban areas - Investigate how and why quality of life varies within urban areas.</li> <li>Place Knowledge:</li> <li>Stratford &amp; Epping Forest</li> </ul>	<ul> <li>Exam practice - Formative SAQs and 8 mark essays</li> <li>MS forms quizzes</li> <li>Revision notes</li> <li>End of term assessment graded 9-1</li> </ul>

WTP: The experience of fieldwork will help you to develop new geographical insight into two contrasting

conclusions when supported by reliable secondary data sources.

environments (river / urban areas). Collecting geographical data first-hand is an important skill geographers use to

learn more about the world around them. Going on to present and analyse this data allows you to draw evidenced

Connections:

- < KS3 Fieldwork, Y10 Evolving Physical Landscapes, Human Landscapes
- > KS5 Independent Investigation



# History Learning Journey Year 10-11



# Year 9 Spanish Learning Journey



#### INTRODUCTION TO GCSE

<u>Daily routine</u> – This unit introduces "reflexive verbs" and recaps the formation of the present tense, which you should have mastered by now.

<u>Environmental problems</u> – You will no doubt have strong opinions to voice over this topic! This revisits modal verbs (covered in the 1<sup>st</sup> term in the context of school regulations).

<u>Hispanoamérica</u> – You will gain cultural capital by learning about Spanish-speaking countries in Latin America. This unit will be delivered mainly in English and will provide you with the opportunity to research on a topic of your choice related to a Latin American country.

#### FUTURE ASPIRATIONS (continued)

<u>Talking about jobs</u> – Discussing professions in the masculine and feminine form. <u>Past jobs</u> - You will revisit all

previously-learnt vocabulary and will be expected to form accurate sentences in the present tense (describing your current job), the preterite tense (describing a past job) and the near future tense (talking about a future career).

### SPRING TERM

#### HEALTH

<u>Body parts</u> – You will learn "me duele/ me duelen", which follow a similar pattern to "me gusta/ me gustan", encountered in the Autumn term.

<u>At the pharmacy</u> – Describe common ailments and symptoms using the verbs "tener" and "estar". Use the phrase "tienes que", which works as a modal verb.

<u>Healthy diet</u>- Frequency expressions are revised when discussing your eating habits.

<u>How to lead a healthy life</u> – You will revise the near future tense in order to detail how you are going to lead a healthier lifestyle. <u>Resolutions for the future</u> – You will be expected to form accurate sentences in the present tense (describing you current state of health) and the near future tense (making resolutions). FUTURE ASPIRATIONS

<u>Pocket money</u> – Helping with house chores, irregular verbs "hacer" and "poner" and how to talk about how you spend your pocket money.

<u>Future career aspirations</u> – You will describe your skills, aptitudes and future career aspirations using "me gustaría" + infinitive. <u>Using languages at work</u> – Why learning MFL? You will be given the opportunity to see languages being used in a variety of jobs. You'll be encouraged to think about your future plans with the use of the future tense.



AUTUMN

TERM

SUMMER

TERM



Writing

Reading

Translation

SP → EN

SCHOOL

<u>A typical day in school</u>- Describe your school and the activities you do at break. You will be introduced to some common question words. Asking (and understanding) questions is one of the skills required for the GCSE speaking exam. <u>Subjects</u> - Talk about your choice of subject for next year using the near future tense. <u>School rules</u> – Modal verb "deber" is introduced here. You will become familiar with the notion that infinitives always follow modal verbs. <u>What happened in school yesterday</u>- while remaining on the topic of school, in this unit you will describe past events using the preterite tense.

#### MEDIA

<u>My Computer</u> - This unit starts with vocabulary related to computer use. It is essential for you to become familiar with the latest technological terminology.

<u>TV and films</u>– Both leisure activities will lead to revising the concept of adjectival agreement and also the use of "me gusta" + singular and "me gustan" + plural. You will also learn how to form comparative sentences, which reinforces the notion of adjectival agreement.

<u>Music</u> – This leisure activity is introduced now, as it's related to the use of computers/ phones. The next grammar point covered is the near future tense, which you will have learnt earlier on at KS3 but needs to be mastered.

<u>A concert</u> – Following on from the topic of music, this unit describes a past concert. It revises the preterite of regular verbs and irregular "ser" and "ir.





## YEAR 10 - IVRIT GCSE Learning Journey





Customs & festivals in Modern Hebrew speaking countries- We will focus on typical customs as they occur through the Jewish yearly cycle. You will be able to express Jewish traditions and relate it to your family

Iv **→**EN

Gran

Y11

Year 11 - Thematic Studies (Judaism only) and Christian responses to religious, philosophical & ethical issues Why we Study it: The study of religious, philosophical and ethical issues in any religion gives us an insight into how followers think and form their opinion based on the beliefs and teachings of their faith along with demonstrating how the Jewish faith applies Torah teachings to modern day issues. In addition, the AQA examining board requires you to understand Christian beliefs on a number of issues in each theme.

YEAR 11

Theme A - Relationships & Families: lewish teachings about sexuality, sexual relationships before and

outside marriage, contraception, Jewish teachings about marriage & divorce and gender equality.

Theme B - Religion & Life: Jewish beliefs about the origins of the universe & human life, use and abuse of the animals, the environment, abortion and euthanasia.

Theme D - Religion, Peace & Conflict: lewish teachings about peace, justice and reconciliation, violent protest and terrorism, war, nuclear weapons and pacifism.

Theme E - Religion, Crime & Punishment: Jewish beliefs about crime and punishment, reasons for crime

### YEAR Year 10-Beliefs and Teachings of Judaism & Islam

Why we study it: These are the basics of any religion. When studying different faiths it is essential to understand what the followers are taught and what they believe through texts and founders of the religion.

What we study for Judaism: Beliefs about the nature of Gd, the Covenants and the mitzvoth (commandments), Life after death, The nature and role of The Messiah, The Promised land, Key moral principles, sanctity of life and free will.

What we study for Islam: Beliefs about Allah (Gd), the prophethood, The Qur'an, the Imamate in Shia Islam, angels, life after death, the prophets Ibrahim and Muhammed.

#### Year 10 - Practices in Judaism & Islam

Why we study it: To explore why followers of a religion do what they do. By studying the practices and rituals of any religion, we learn about the foundations of faith and how followers live their life according to it.

What we study for Judaism The importance of the synagogue and worship, daily prayer, Shabbat in the home and synagogue, lifecycle ceremonies, Dietary laws and festivals.

What we study for Islam: The 'Five Pillars' of Islam, daily prayer, fasting during Ramadan, giving charity, pilgrimage, lihad and festivals

#### What we study at KS4:

Beliefs and Teachings of Judaism & Islam Practices in Judaism & Islam

Thematic Studies: Religious, Philosophical and Ethical Issues in Judaism Only

Theme A - Relationships & Families

Theme B - Religion & Life

**Theme D** - Religion, Peace & Conflict

**Theme E** - Religion, Crime & Punishment Christian responses to the religious, philosophical and ethical issues above







## Year 10 Foundation Mathematics Learning Journey



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## Year 10 Higher Mathematics Learning Journey

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## Year 10 Accelerated Maths Learning Journey

#### Transformations of Graphs

Closely linked to transformations of shapes, but has an algebraic swing. Very crucial to understand other topics and relations at advanced GCSE and A Levels

**Coordinate & Circle Geometry** 

Equation of a circle and gradient to circles are studied here and create links to graphs in statistics, algebra and measurement. Forms a good foundation for some aspects of A Level maths.

**Direct and Inverse Proportion** 

In the real world, ratios and proportions are used on a daily basis. They are used in business, art and manufacturing. This topic develops our understanding of scale drawings, used both in maps and in the planning stages of construction and architecture.

### Further Trigonometry

This topic widens your knowledge of measuring angles and bearings. It is used extensively in triangulation to calculate position and distance in real-life. Sine waves pattern occurs often in nature, including wind waves, sound waves, and light waves, so used in Music, Physics, Geography.

This unit will help to better understand angles which can be formed within unterstand

feature in many human activities, including sports, pottery, clock and wheels. En

use it to help create safe and functional gears, pulleys. It also used in the creative

#### Probability: Combined Events + Choices & Outcomes

industry and gives meaning to various art forms.

Decisions of everyday life are often based on chances, which is studied in probability. You will also study probabilities of outcomes which are dependent on the outcome of other events.

#### Algebraic Proofs

Here we use very advanced mathematical reasoning using algebra for logical arguments and finding counter examples to prove and disprove assumptions.

Pilot, computer scientists, Meteorologist,

software designers

Careers

in Term 3

SUMMER

TERM

### SPRING TERM

#### Simple Trigonometry & Bearings

Use Pythagoras' theorem and trigonometric ratios to solve problems. This area of maths is used in construction of buildings, bridges and other large structures. Bearings are used essentially in plane and boat navigation

#### Sequences

Here you will learn how to recognise and express rules for linear and quadratic sequences in words and algebraically. As well as being important in Mathematics; number patterns can also help in the study of nature and geometric patterns.

**Construction & Loci; Plans & Elevations** 

Careers

in Term

Data analyst

Scientist

Physicist

Engineer

Architecture

Town planners and building contractors use skills developed in these topics extensively to create safety, beauty and in our homes and wider community, eg in determining locations for train lines.

#### **Congruence & Similarity**

Linked with ratio and proportionality. Used in the creation of prototypes and models in many industries eg, fashion, foods, photography, architects, engineers and other designers. Vector Geometry

Pilots use vectors as they consider the speed and direction of the wind when planning to land. Vectors are an integral part of the

computerised landing system. Meteorologists use it to map out weather patterns. Used in the science of aerodynamics, in particular, the design of an aircraft. Links translations of shapes. Angles in **Further Graphs** 

Graphs are found in newspapers, on the internet and in textbooks for most subjects. They give visual representations of the relationships between variables and can be used to compare data and give information in a unique, yet comprehensive way. Distance-time, velocity-time, cubic, reciprocal relations, exponential growth, depth of container can all be calculated usi graphs

Investment banking Statistician Architect, Designers Engineers **Digital marketing** Builders,

Researcher

ASSESSMENTS

Careers

in Term 2

### **AUTUMN** TERM

#### Volumes and Surface Areas ASSESSMENT

You will find volumes and surface areas of more complex prisms, in addition to pyramids, cones, spheres., frustum. These will allow you to do various 'real-life' problem solving questions and provide opportunity for developing your problem solving skills.

#### Equations, Linear & Quadratic Inequalities

Involves graphing and solving inequalities a concept which leads into linear programming.

Statistics

By drawing, interpreting, analysing and representing data is various forms, Computer scientist you will be better able to understand and appreciate your society and the world that you live in. Helps with the understanding of population density . Used extensively in research in a wide cross-section of careers to collect and process data. For example, in politics, economics, medicine, law, psychology and the sciences.

#### Integers and Decimals, Rounding, Standard Form, Bounds

This unit extends your knowledge of fractions and decimals to the study of irrational numbers, reciprocals indices (powers) and surds. You will understand the difference between rational and irrational numbers. Indices and standard form are used extensively in Science and computer programming for writing very large or very small numbers

#### Simplifying, expanding and factorising, rearranging

Skills such as simplifying, collecting like terms, expanding brackets and factorising will enable you to improve your problem solving. You will learn how to rearrange formula. You will manipulate algebraic fractions and find inverse and range of a function. These skills are essential to the successful study of maths in A Levels and to do calculations in a real-life context.

#### FDP, Ratio & Proportion, Compound Measures, Surds

Compound interest is really important and can help you choose the best bank deals. Depreciation can show how much value a car can lose over the years. Chefs will use ratio and proportion in recipes to cook in large quantities, builders will use ratio when making cement, decorators will use ratio when mixing paint colours. You will learn how to simplify surds, rationalise denominators and expand brackets with surds.

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ASSESSMENTS Probability

### Careers

Computer analyst; Programming Actuary

in Term 2

Statistician

### 14. Probability

What is the probability you will throw heads on a fair coin or a 6 on a fair die? In this topic, you will be exploring experiments like these as well as learning key probability terminology. As well as learning about theoretical and experimental probability, you will also learn how to use two way tables and Venn diagrams to solve probability questions.

#### 15. Trigonometry

The geometry content we focus on in this unit looks at angles between two lines, a line and a plane or two planes. We move into 3-Dimensional geometry and the use of further trigonometry for problem solving. Applications are commonly found in engineering and nautical professions.

In this unit we focus on the use Pythagoras's theorem and trigonometry. Trigonometry is used in every aspect of engineering and also essential for architects and surveyors. Space exploration and motion/positioning of satellites would not be possible without trigonometry. Mobile telephones, video games and computers make much use of this area of mathematics.

SPRING

TERM

#### 12. Simultaneous Equations and Proportion.

#### Simultaneous equations and proportion

Now we begin to work on common skills that are required at A level and extend into degree level in mathematics, computer science, engineering and many other courses. Simultaneous equations and inequalities involving multiple variables are used in solving real-life problems. Given a variety of constraints, cost can be minimised and profit can be maximised, along with other optimisation situations. Proofs become hugely important in understanding how it is essential to order a process using the right grammatical form; something which extends to any language.

#### 13. Angles and Angles on Polygons Angles

Knowing angle facts can help when designing the plan of a kitchen or a safety ramp for wheelchair access for example. These angle facts are the basics for topics such as sectors, trigonometry and circle theorems.

We will look at angles in polygons, angles around a point and more complex real life angle problems.

ASSESSMENTS

Careers in Term 2

Surveyors, Pensions; Aeronautic and Mechanical Engineers; Builders; Pilots; Actuary; Software engineering

> AUTUMN TERM

SUMMER

TERM

Term 3

**GCSE Exams** 

#### SSESSMENTS

**Careers in** 

Term 1

Data analyst;

Economists;

Computer scientist.

Scientist:

#### 11. Transformations, Similarity, Congruence and Vectors

#### Transformations

Rotations, reflections, translations and enlargements are often seen in product design or engineering and architectural drawings and creating patterns.

#### Similarity and congruence

Similar triangles are used in real life to find the heights of tall objects. In this area you will learn how to calculate missing sides of similar shapes.

#### Vectors

Vectors show magnitude and direction. We can describe where a shape has moved to using these.

#### 10. Graphs

#### Linear Graphs

You will learn how to find equations of linear graphs give two points, given a point and a gradient, etc.

#### Non-linear graphs

You will learn about quadratic, cubic and reciprocal graphs. You will also learn about the equation of a circle.

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![](_page_27_Picture_1.jpeg)

Careers

in Term 2

Programming

Statistician

Actuary

Computer analyst;

#### 15. Probability Probability

What is the probability you will throw heads on a fair coin or a 6 on a fair die? In this topic, you will be exploring experiments like these as well as learning key probability terminology.

As well as learning about theoretical and experimental probability, you will also learn how to use two way tables and Venn diagrams to solve probability questions.

#### **16. Bearings and Further Trigonometry** The geometry content we focus on in this unit looks at angles between two lines, a line and a plane or two planes. We move into 3-Dimensional geometry and the use of further trigonometry for problem solving. Applications are commonly found in engineering and nautical professions.

In this unit we focus on the use Pythagoras's theorem and trigonometry and circle theorems. What will be new too is the introduction of trigonometric equations and identities. Trigonometry is used in every aspect of engineering and also essential for architects and surveyors. Space exploration and motion/positioning of satellites would not be possible without trigonometry. Mobile telephones, video games and computers make much use of this area of mathematics. SUMMER TERM

Term 3

**GCSE Exams** 

### SPRING TERM

#### 13. Simultaneous Equations and Proportion.

#### Simultaneous equations and proportion

Now we begin to work on common skills that are required at A level and extend into degree level in mathematics, computer science, engineering and many other courses. Simultaneous equations and inequalities involving multiple variables are used in solving real-life problems. Given a variety of constraints, cost can be minimised and profit can be maximised, along with other optimisation situations. Proofs become hugely important in understanding how it is essential to order a process using the right grammatical form; something which extends to any language.

#### 14. Angles and Angles on Polygons and Circle Theorems

#### Angles

Knowing angle facts can help when designing the plan of a kitchen or a safety ramp for wheelchair access for example. These angle facts are the basics for topics such as sectors, trigonometry and circle theorems. **Circle theorems** 

You will learn about basic circle theorem. Circles feature in many sorts of human activity, from pottery to clocks to wheels. Studying circle theory can help you understand how they can interact – vital knowledge for engineers who use gears and pulleys. Careers

ASSESSMENTS

Surveyors, Pensions; Aeronautic and Mechanical Engineers; Builders; Pilots; Actuary; Software engineering

> AUTUMN TERM

#### ASSESSMENTS

#### Careers in Term 1

Data analyst; Economists; Scientist; Computer scientist.

#### 12. Transformations, Similarity, Congruence and Vectors

**Transformations** Rotations, reflections, translations and enlargements are often seen in product design or engineering and architectural drawings and creating patterns.

#### Similarity and congruence

Similar triangles are used in real life to find the heights of tall objects. In this area you will learn how to calculate missing sides of similar shapes. **Vectors** 

Vectors show magnitude and direction. We can describe where a shape has moved to using these.

11. Graphs Including Inequalities

#### Linear Graphs

You will learn how to find equations of linear graphs give two points, given a point and a gradient, etc.

#### Non-linear graphs

You will learn about quadratic, cubic and reciprocal graphs. You will also learn about the equation of a circle. Inequalities

You will also learn how to form and solve inequalities.

#### 10 Functions Proof and Iteration Function Notation

You will learn how to understand and use function notation for example f(x). You will substitute values in a function and find the values of a function given a specific value of

#### Proof

You will learn show that and proof questions using consecutive integers, even and odd numbers and understand interpret and use composite and inverse functions. Iteration

You will find approximate solutions for equations using the process of iteration and use and understand suffix notation in recursive formulae.

## Year 11 Accelerated Maths Learning Journey

![](_page_28_Picture_1.jpeg)

Unit 9 - Matrices

#### Matrices

Matrices allow us to have a systematic way to carry out calculations and produce transformations. It combines different knowledge learnt through the course. Simultaneous equations and transformations of shapes will be the main focus.

Matrices are used in discrete mathematics to represent networks for a variety of situations such as water or traffic flow, or a railway network. They can also be used to solve problems which require costs to be minimised, or profits to be maximised. Matrices have application in most scientific fields, including quantum mechanics, electromagnetism. Computer programmers also make use of matrices when coding graphics. GCSE and Level 2 Revision

SUMMER

TERM

### SPRING TERM

#### Geometry

#### Unit 5 - Coordinate geometry

This unit is where we begin to form links between coordinates, their equations and properties. We can use information to find the rate of change of a straight line, midpoints and divide a line in a given ratio. You will also be introduced to equations of circles. All of this coordinate geometry is useful for engineers, designers and architects for producing accurate drawings.

#### Unit 6 - Geometry I

In this unit we focus on the use Pythagoras's theorem and trigonometry and circle theorems. What will be new too is the introduction of trigonometric equations and identities. Trigonometry is used in every aspect of engineering and also essential for architects and surveyors. Space exploration and motion/positioning of satellites would not be possible without trigonometry. Mobile telephones, video games and computers make much use of this area of mathematics.

#### Geometry and Calculus

The geometry content we focus on in this unit looks at angles between two lines, a line and a plane or two planes. We move into 3-Dimensional geometry and the use of further trigonometry for problem solving. Applications are commonly found in engineering and nautical professions.

#### Jnit 8 - Calculus

Unit 7 - Geometry II

Calculus is a term we use to describe the process of integration and differentiation. Differentiation is used to find rates of change for functions that are not linear. You will derive standard differentials and be able to then apply to the knowledge you have gained in coordinate geometry and areas of algebra that you have been exposed to in the first term. Differentiation is used in the study of motion. It can also be used to solve problems with growth and decay. Video gaming uses a particular form of differential equations which can also be used in the design of aircrafts and cars, the study of blood flow, designs of power stations and the analysis of many other things which can be found in monetary/socio-economic industries ASSESSMENTS

Careers in Term 2

Surveyors, Pensions; Aeronautic and Mechanical Engineers; Builders; Pilots; Actuary; Software engineering

![](_page_28_Picture_19.jpeg)

#### Careers in Term 1

Data analyst; Economists; Statistician; Scientist; Weather analyst; Computer scientist.

#### Unit 3 - Algebra III

This unit is an introduction to areas of the curriculum that you will be introduced to for the first time. Functions are explored and we begin to use the formal vocabulary and notation used to describe a function and its properties. It is essential for you to become familiar with how functions and inverse functions are defined as it plays a huge part across the content in algebra, coordinate geometry and calculus. All of these skills are intertwined and used in many fields implicitly, for example in scientific experiments.

#### Unit 4 - Algebra IV

Now we begin to work on common skills that are required at A level and extend into degree level in mathematics, computer science, engineering and many other courses. Simultaneous equations and inequalities involving multiple variables are used in solving real-life problems. Given a variety of constraints, cost can be minimised and profit can be maximised, along with other optimisation situations. Proofs become hugely important in understanding how it is essential to order a process using the right grammatical form; something which extends to any language.

#### Unit 16 GCSE – Algebraic proof

Algebraic proof is the foundation of deriving theorems or functions, First principles of algebraic concepts need to be understood in order for the process of carrying out a proof

#### Unit 1 - Number and Algebra I

This unit starts with key number skills. These skills are implicitly tested throughout the Further Maths qualification; being able to convert between units, apply proportional reasoning and know how to use fractions, decimals and percentages in real life problems. These skills are used in algebra where we move onto next. One area that will be new is the 'Binomial expansion' which has many applications in the real world like the distribution of IP addresses. Economists use it in helping make predictions for the future behaviour of markets **Unit 2 - Algebra II** 

Technical and higher order algebra skills are extended in this unit. The ability to manipulate algebraic expressions and solve equations is fundamental to much of Pure Mathematics. Transition will be from basic ideas learnt into efficient use of fractions and a cohesive use of the language of algebra. You will be able to then apply these skills in other areas of the course.

![](_page_28_Picture_31.jpeg)

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# KS4: GCSE Music Learning Journey

KEY SKILLS:

1. Performing

Composing
 Listening &
 Appraising

SPRING & SUMMER TERMS: Theme: Unfamiliar Listening - retrieval of appraisal skills. AoS 1 – 4: Revision.

Mock Papers: Rhinegold listening pack, Previous exam paper (2018).

Performance: Solo & Ensemble (1 March deadline - tbc).

Composition: Final coursework x 2 (1 April deadline - tbc).

### AUTUMN TERM:

Theme: Unfamiliar Listening – retrieval of appraisal skills. **AoS4: Fusions** – focus on analysis. Performance: Solo and Ensemble. Composition: Brief set by Edexcel (1 Sept release) – focus on all compositional skills. Mock Y11: Previous year's exam paper (2019). Link to previous learning: develop skills of analysis, performing and composing.

SPRING TERM:

Theme: Unfamiliar Listening – retrieval of appraisal skills.

**AoS 2: Vocal Music** – focus on analysis. Performance: Solo.

Composition: Song – focus on lyrics, structure and accompaniment.

*Link to previous learning: develop skills of analysis, performing and composing.* 

SUMMER TERM:

Theme: Unfamiliar Listening – retrieval of appraisal skills.

AoS 3: Music for Stage and Screen – focus on analysis.

Performance: Solo & Ensemble.

Composition: 'Film/Musical' Brief – focus on contrast, variety and development of ideas. Mock Y10: Specification paper. Link to previous learning: develop skills of analysis, performing and composing

#### KEY SKILLS:

Year 11

Performing
 Composing
 Listening &
 Appraising

Year 10

#### AUTUMN TERM

Theme: Elements of Music / Basic Theory. AoS 1: Instrumental Music – focus on analysis.

Performance: Solo.

Composition: Ternary Form – focus on melody and harmony.

Link to previous learning: develop K/S/U at KS3.

#### KEY SKILLS:

- 1. Performing
- 2. Composing
- 3. Listening & Appraising

#### AIMS:

Follow the sequence of the SoW as set by the exam board builds and develops students' existing skills, knowledge and understanding from the familiar to the unfamiliar / Develops students as confident and informed performers, creative and skilled composers, critical appraisers and understanding listeners / Provide the key context of musical elements, musical contexts and musical language through the AoS and set works / Link different aspects of skills, knowledge and understanding throughout the course to create depth and breadth of musical understanding.

![](_page_30_Figure_0.jpeg)

![](_page_31_Figure_0.jpeg)

muscle fibres, effects of exercise.

## T **f** Year 10 & 11 Core Physical Education

Core PE

KS4

Take on sports and activities, as voted for and selected by JFS students, that you can take with you for the rest of your life. Be able to succesfuly use a gym, join a sports club, have experience in varied activities and have the confidence to stay healthy and active for years to come.

![](_page_32_Figure_3.jpeg)

# JfS

# **BTEC First Award in Sport**

## Coursework 75%

**Exam** 25%

![](_page_33_Picture_4.jpeg)

![](_page_34_Picture_0.jpeg)

![](_page_35_Figure_0.jpeg)

![](_page_36_Figure_0.jpeg)