



**HORNCHURCH**  
HIGH SCHOOL  
EXCELLENCE FOR ALL

# Year 9

**KNOWLEDGE**  
**IS**  
**POWER**

**KNOWLEDGE ORGANISER**

**HALF TERM 1**

# Contents

	Subject	Page
1.	English	3
2.	Maths	4,5
3.	Science	6
4.	Spanish	7
5.	History	8
6.	Geography	9
7.	Computing and Business	10,11
8.	PE	12,13
	Carousel Subjects	
10.	Performing Arts	14
11.	Music	15
12.	Food	16
13.	Art	17
14.	Design Technology	17

## English—The Great Gatsby

Characters	Description
Jay Gatsby	The protagonist of the novel. He is a wealthy young man living in a mansion in West Egg; famous for the lavish parties he hosts. However, no-one knows anything about him. As the story progresses, we learn that he made his fortune through criminal activities and he is willing to do anything to gain the social position necessary to win Daisy
Nick Carraway	The novel's narrator. He is honest, tolerant and inclined to reserve judgement. He befriends his next-door neighbour, Gatsby. He is Daisy's cousin and facilitates the rekindling of the romance between her and Gatsby. The story is told entirely from his perspective so his thoughts shape the story
Daisy Buchanan	Nick's cousin and the woman Gatsby loves. She fell in love with Gatsby during the war and promised to wait for him. However, she ends up marrying a wealthy, powerful man named Tom. Now a beautiful socialite, she lives with Tom across from Gatsby.
Tom Buchanan	Daisy's immensely wealthy husband. Powerfully built and hailing from a socially solid old family. He is an arrogant, hypocritical bully who possesses attitudes that are racist and sexist. He has no moral issues with his affair with Myrtle but becomes outraged at the idea of Daisy and Gatsby having an affair
Jordan Baker	Daisy's friend who becomes romantically involved with Nick. A competitive golfer, Jordan represents one of the 'new women' of the 1920s—cynical, boyish, and self-centered. Jordan is beautiful but also dishonest; she cheated in order to win her first golf tournament and continually bends the truth
Myrtle Wilson	Tom's lover and married to George Wilson. Myrtle herself possesses a fierce vitality and desperately looks for a way to improve her situation. Unfortunately for her, she chooses Tom, who treats her poorly
George Wilson	Myrtle's husband. The lifeless, exhausted owner of a run-down car garage in the valley of ashes. George loves Myrtle and is devastated by her affair with Tom. He is consumed with grief when Myrtle is killed
Wolfsheim	Gatsby's friend and a prominent figure in organised crime. Before the events of the novel take place, Wolfsheim helped Gatsby to make his fortune bootlegging illegal liquor. His continued friendship with Gatsby suggests that Gatsby is still involved in illegal business
<b><u>Symbols and Motifs</u></b>	
Glasses	T.J. Eckleberg and Owl eyes wear glasses. Both seem to have unique powers of perception. Eckleberg oversees the Valley of Ashes and inspires Wilson to murder Gatsby, perhaps representing some kind of omnipotence. Owl Eyes is able to see through Gatsby's facade
The Valley of Ashes	The Valley of Ashes represents the impact of capitalist excess. The place is dull and lifeless, almost inhuman, and as such, it is closely tied to the idea of class
Gatsby's Mansion	Gatsby's mansion and parties represent the excess and glamour of the Jazz age. Yet they are also clearly superficial and pretentious, representing the binary of glamour and repulsion Fitzgerald felt towards the Jazz Age
The Green Light	For Gatsby, this is initially a representation of Daisy. Later, it embodies the complex nature of Gatsby's desire, and shows how our dreams are always out of reach

# Maths

Key Term	Definition
<b><u>Number</u></b>	
Prime number	A number which has exactly two factors. The number one and itself
Factor	A number that divides another number exactly
Multiple	A number which is part of another number's times table.
HCF	Highest Common Factor. It is the largest factor common to a set of numbers.
LCM	Lowest Common Multiple. It is the smallest multiple common to a set of numbers
Fraction	How many parts of a whole you have
Numerator	The top part of the fraction
Denominator	The bottom part of a fraction
Mixed number	Is an integer and fraction combined
Improper fraction	A fraction where the numerator is bigger than the denominator
<b><u>Angles—Giving Reasons</u></b>	
Straight line	Angles on a straight line add up to $180^\circ$
Triangle	Angles in a triangle add up to $180^\circ$
Isosceles Triangle	Base angles in an isosceles triangle are equal
Intersecting lines	Vertically opposite angles are equal
Quadrilaterals	Angles in a quadrilateral add up to $360^\circ$
Parallelograms	Diagonally opposite angles in a parallelogram are equal
Kites	One pair of opposite angles in a kite are equal
Parallel lines	Alternate angles are equal
Parallel lines	Corresponding angles are equal
Parallel lines	Co—interior angles add up to $180^\circ$

# Maths

Key Term	Definition
<b><u>Algebra</u></b>	
Term	A number, letter or combination of both which forms part of an expression.
Expression	A collection of terms which can contain letters and numbers.
Equation	Two expressions which have the same value, separated by an '=' sign.
Expand	To multiply out brackets in an expression.
Factorise	To put an expression into brackets by taking out a common factor or factors
Solve	Find the value of the letter (unknown) in an equation
<b><u>Percentages</u></b>	
Percentage	Out of 100
Increase	Make bigger
Decrease	Make smaller
Percentage multiplier	A number you multiply by to increase or decrease in one calculation
Simple interest	Same amount every year
Compound interest	Worked out yearly
Percentage change	The percentage increase or decrease
<b><u>Statistics</u></b>	
Frequency polygon	A graph that uses lines to join the mid points of each interval
Interval	A range of numbers
Pie chart	A circular chart that shows the proportion of each group
Stem and leaf diagrams	Is a table where the data is split into 'stems' and 'leaves'
Venn Diagrams	Are made up of two or more circles and are a way of grouping information
Set	Is a collection of items

# Science

Key Term	Definition
<b><u>Radioactivity</u></b>	
Alpha radiation	Alpha particles, each composed of two protons and two neutrons, emitted by unstable nuclei
Beta radiation	Beta particles that are high-energy electrons created in, and emitted from, unstable nuclei
Gamma radiation	Electromagnetic radiation emitted from unstable nuclei in radioactive substances
Atomic number	The number of protons (which equals the number of electrons) in an atom. It is sometimes called the mass number
Mass number	The number of protons and neutrons in a nucleus
Isotopes	Atoms with the same number of protons and different numbers of neutrons
Ionisation	Any process in which atoms become charged
Irradiation	Exposure of an object to ionising radiation
<b><u>Cell Biology</u></b>	
Nucleus	Organelle found in many living things that controls the activities of the cell and contains the genetic information
Cytoplasm	The water-based gel in which the organelles of all living cells are suspended and most of the chemical reactions of life take place
Cell membrane	Controls what moves in and out of the cell
Mitochondria	The site of aerobic cellular respiration in a cell
Ribosomes	The site of protein synthesis in a cell
Cell wall	The rigid structure around plant and algal cells. It is made of cellulose and strengthens the cell
Cellulose	The complex carbohydrate that makes up plant and algal cell walls and gives them strength

## Spanish

Spanish	English
¿Qué cosas te gustan?	What things do you like?
Me encanta	I love
El baile	dance
El cine	cinema
El deporte	sport
En mi tiempo libre	In my spare time
Voy al parque	I go to the park
Dos veces a la semana	Twice a week
Muy a menudo	Very often
Bailo	I dance
Cocino	I cook
Escribo	I write
Juego en mi consola	I play on my games console
Leo revistas/libros	I read magazines/books
Monto en bici	I ride a bike
Después del insti	After school
Este fin de semana	This weekend
Voy a ver	I'm going to watch
Una comedia	A comedy
acción	action
animación	cartoon
aventuras	adventure
El teatro	theatre
La moda	fashion
La naturaleza	nature
La pesca	fishing
Los cómics	comics

Spanish	English
Las artes marciales	Martial arts
Voy de pesca	I go fishing
Soy miembro de un club	I am a member of a club
Navego por internet	I surf the internet
Preparo la cena	I prepare dinner
Saco fotos	I take photos
Toco el teclado	I play the keyboard
Veo un partido de fútbol	I watch a football match
Por la tarde	In the evening
mañana	tomorrow
¡Ni en sueños!	Not a chance!
¡Qué rollo!	How boring!
Celebré	I celebrated
Fui/fuimos al parque de	I went/we went to the
Invité a mis amigos	I invited my friends
Bebí/bebimos	I drank/we drank
Comí/comimos	I ate/we ate
Recibí...	I received
Fue alucinante/increíble	It was amazing/incredible
Así que	So, therefore
casi	almost
primero	first
luego	then
o	or
Por supuesto	Of course
quizás	perhaps
además	In addition/furthermore

# History

Key Term	Definition
Tsar	Emperor of Russia before 1917. They were Russian Royalty
Imperial	Empire ruled over by a monarch
Reactionary	When you oppose/challenge progress e.g. social or political reform
Reformist	When you support or help to bring about positive change e.g. social or political
Abdicate	When a monarch gives up their throne
Revolution	A forceful overthrow of a government or social order, in favour of a new system
Petrograd	St Petersburg was renamed Petrograd in August 1914
Communism	A type of government and economics system. Individual people don't own land, businesses etc. Everyone shares the wealth of the land
Soviet	Councils of peasants and workers. Often worked alongside Communist groups
Bolshevik	A majority group of the Russian Social Democratic Labour Party. It was founded by Lenin
Civil War	A war between people of the same country
The Cheka	It was the "sword and shield" of the revolution. They were the secret police
Propaganda	Information, especially of a biased or misleading nature, used to promote a political cause or point of view
The Great Purge	Refers to the political terror and cruelty that took place in the Soviet Union under Joseph Stalin from 1936 to 1938
Show trial	A trial where the outcome is already determined in advance, rather than a fair trial, and used for political propaganda
Gulag	Russian labour-prison camps
Militarism	The desire of nations to build up their armies and navies so as to be militarily dominant
Alliances	Pacts and agreements made between nations, often to support one another in the case of war breaking out
Imperialism	The rush to conquer as much land as possible so as to grow a nation's empire as large and powerful as possible
Nationalism	The belief that one's nation is superior to others and therefore has the right to be dominant and more influential
Triple Entente	The Alliance formed between Britain, France, and Russia
Triple Alliance	The Alliance formed between Germany, Italy, and, Austria-Hungary
Western Front	Refers to where the German forces fought the British, French, etc. This was in Northern France and Belgium which is to the West of Germany
Front Line	Where the actual fighting took place
No-Man's Land	The stretch of land between the two enemy trenches which belonged to neither side



## Geography

Key Term	Definition
Cold water port	Harbors/ports whose waters freeze over during parts of the year
Coniferous	Trees that produce cones and have needles instead of leaves
Crimea	A region of the southern area of Ukraine on the Crimean Peninsula
Deforestation	The removal of trees on a large scale
Ethnic group	A community or population of people who share a common cultural heritage, history, or descent
Evergreen	Any species of tree which does not lose its leaves in the Autumn, but keeps them all year round
Hydroelectric power	A type of renewable energy that uses the power of moving water (hydropower) to generate electricity
Industrial development	The transformation from a largely farming based economy to a manufacturing based economy
Lake Baikal	The largest freshwater lake in the world (by volume) and the world's deepest lake
Mineral extraction	The removal of solid mineral resources from the earth
National Park	An area set aside by a national government for the protection of the natural environment
Natural resource	Something that is found in nature and can be used by people
Peninsula	A piece of land that is almost entirely surrounded by water but is connected to the mainland on one side
Permafrost	The layer of frozen soil under the Earth's surface
Ruble	The national currency of Russia
Steppe biome	A type of biome characterized by grassland
Taiga Forest	Also known as a Boreal forest, a cold and dry biome
Tar sands	Fossil fuel that is thick in consistency and mixed with sands
Temperate	Climates that are not too hot or too cold
Ural Mountains	A mountain range in the Russia, extending North and South from the Arctic Ocean to near the Caspian Sea, forming a natural boundary between Europe and Asia
Yakutsk	Coldest city in Russia and on earth

## Computing and Business

Key Term	Definition
Marketing Mix	Sometimes known as the '4 p's'. Product, Price, Promotion, Place
Product	Goods or a service that is sold to customers or other businesses.
Price	The amount a business charges its customers for its product or service
Promotion	Any communication that attempts to influence people to buy products or services
Place	The point where products are made available to customers
Market Research	Used to find out if there is demand from the public for a certain product or service
Primary Research	Is research you conduct yourself (or hire someone to do for you.) It involves going directly to a source
Secondary Research	Is research that has already been compiled, gathered, organized and published by others.
Target Market	The people you are aiming your product or service at
Market segmentation	Ways of splitting up the public and aiming specifically at a certain segment. Can be by age, gender, income, lifestyle, occupation
Respondents	People that give you answers to your research questions
Analysing data	When you look at what the results show, draw conclusions and inform your next move
Branding	Used to identify a product. Colours, name, logo, slogan, packaging, font style
Celebrity endorsement	Where a famous celebrity is paid to promote your product
Competitor	A company that sells a very similar product to yourselves
Market share	How much of a percentage of the total sales in that market your product has
Market leader	The company/product that sells more than all their competitors
Patent	Protects your design idea from being copied by anyone else
Differentiation	Making your product stand out from other competitors on the shelf
Unique Selling Point	Something about your product that cannot be seen in any of your competitors products
Packaging	Protects the product and can be used to promote also
Quality	Making sure that products are made to a minimum standard or better

## Computing and Business

Key Term	Definition
Spreadsheet	A computer program used for recording “data” using rows and columns, into which information can be entered
Cell reference	Is the intersection between a row and a column on a spreadsheet that starts with “cell” A1
Absolute cell reference	Ensures that 1 cell always remains constant even when autofill is used. E.g. \$E\$4
Formula	Are usually simple calculations, They always start with an equals sign.
Functions	Are predefined formulas and are already available in Excel
Merge	Is a function that enables different nearby cells to be joined into a single larger cell
Operators	Are symbols used in a formula, — minus , / divide, * multiply and + add
Chart	Is a graphical representation of data entered in spreadsheet
Sort & Filter	Sorting data organises it in a specific way, this makes it easy for us to find one specific piece of data without having to look through every piece of data
Conditional formatting	Helps make patterns and trends in your data more apparent. To use it, you create rules that determine the format of cells based on their values
IF statement	The Excel IF Statement tests a given condition and returns one value for a TRUE result and another value for a FALSE result
V Lookup	'Vertical Lookup'. It is a function that makes Excel search for a certain value in a column (the 'table array'), in order to return a value from a different column in the same row

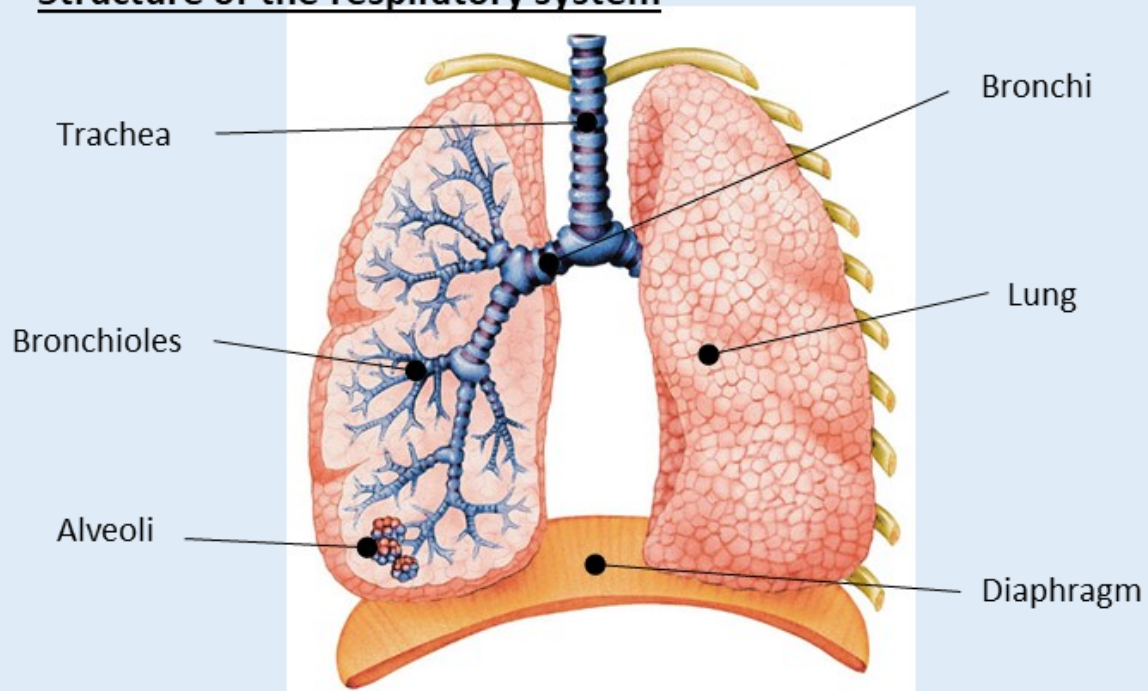
### Finance

Revenue / Inflow	Money coming in to a business
Outflow / Costs / Expenses	Money leaving the business
Profit	Is calculated using this formula Total revenue — Total costs
Cash flow forecast	This is a business accounting method used to predict future sales
Net cash flow	The difference between inflow and outflow in a given month
Starting balance	How much money you start with on the first day of the month. This will be the closing balance from the previous month
Closing balance	This will be your net cash flow with the starting balance added on. If the starting balance is a minus number it will have to be taken off the net cash flow.

## PE

Key term	Definition
----------	------------

### Structure of the respiratory system



Trachea	The tube that takes air into the chest, also known as the windpipe
Bronchi	Tube along which air passes from the trachea into the lungs
Bronchioles	Smaller branches coming from the bronchi
Alveoli	Tiny air sacs at the end of bronchioles where gaseous exchange takes place
Diaphragm	The primary muscle used in the process of inspiration. A dome-shaped sheet of muscles that separates the chest from the rest of the body cavity.

### Respiratory values

Tidal Volume	the amount of air inhaled and exhaled per breath. Resting value = 500ml
Vital Capacity	The maximum amount of air exhaled following a maximal breath in.
Residual volume	The amount of air remaining in the lungs after maximal expiration
Oxygen debt	The amount of oxygen required to remove the lactic acid, and replace the body's reserves of oxygen

### Gaseous exchange and diffusion

Gaseous exchange	The movement of oxygen and carbon dioxide between the lungs and the blood at the alveoli
Diffusion	Occurs when gases move from a high concentration to a low concentration

## PE

### Structure of the alveoli

Tiny air sacs at the end of bronchioles

They have very thin walls (one cell thick) and a large surface area.

Surrounded by capillaries.

Short diffusion distance.

Gaseous exchange during exercise	Gaseous exchange increases as the intensity of the activity increases to cope with:
	An increase demand for oxygen at working muscles
	An increase in carbon dioxide production and the need to rid this waste product.

### Composition of inhaled and exhaled air

Gas	Inhaled air	Exhaled air
Oxygen	21%	16%
Carbon dioxide	0.04%	4%
Nitrogen	78%	78%

### Mechanics of breathing during exercise

During inspiration	During expiration
The intercostal muscles contract-pulling rib cage upwards and outwards	The intercostal muscles relax- meaning the rib cage goes downwards and inwards
This causes the lung space to get bigger- air pressure decreases	This means the lung space gets smaller (air pressure increases)
Air rushes into the lungs to fill the extra space	Air is forced out of the lungs
The diaphragm contracts and flattens-moving downwards	The diaphragm relaxes- this pushes up onto the lungs in a 'dome' shape
This causes the lung space to get bigger- air pressure decreases	This means the lung space gets smaller (air pressure increases)
Air rushes into the lungs to fill the extra space	Air is forced out of the lungs

# Carousel Subjects

## Performing Arts

Key Term	Definition
Brief for Production	The document provided to you before the creation of a performance idea. The brief will have important information about the constraints of your performance idea.
Creative proposal	A creative proposal is where you present your ideas to a panel of people who are going to help pay for your idea to come to life
Structure	The order in which you want to present or perform extracts or scenes
Stimulus	An object, image, word, piece of music that is used as inspiration for a performance
Monologue	A speech given by a single performer on stage
Genre	This is the style of a performance and the kinds of story, characters and design that go along with it. For example: Horror or Sci-Fi
Target Audience	This is the type of person you are aiming at with your performance. This could be based on age, interests, hobbies and many more factors
Vocal skills	Pace, pitch, volume and tone are all classed as basic vocal skills
Physical Theatre	A type of theatre that relies on the use of movement and the body to tell it's stories
Devising	This is creating a performance based on a stimulus or brief. The performance should be original
Reflection	This is analysing your rehearsal or performance and understanding what went well and what needs to be improved for next time.
Audience Interaction	When performers onstage interact with the audience. This technique is effective as it brings the audience closer to the action onstage.

## Music

Key Term	Definition
Dynamics	The volume of the music
Pianissimo	Very quiet
Piano	Quiet
Mezzo-Piano	Medium quiet
Mezzo-Forte	Medium loud
Forte	Loud
Fortissimo	Very loud
Crescendo	Getting louder
Diminuendo	Getting quieter
Hands together	Using both hands to play the keyboard
Hand position	The note that the thumb sits on (standard is C)
Sharp	Raises the pitch of a note by a semitone (1 step)
Flat	Lowers the pitch of a note by a semitone (1 step)
Natural	Play the note without any sharps or flats added

## Food

Key Term	Definition
Nutrients	Natural chemical substances in foods that are essential for body growth, function and health
Balanced Diet	A diet that provides a person with the right amount of nutrients for their needs
Diet	The food people eat every day
Biological Value	A measure of the amount of essential amino acids a protein based food contains
Braising	Slow cooking food in a covered pot that also contains liquid, herbs and vegetables
Boiling	Cooking food by heating it in a pan of boiling liquid ( usually water)
Steaming	Cooking food with steam from boiling water or stock
Blanching	Part cooking food in boiling water for a very short time before putting it in cold water
Poaching	Cooking food in a pan of liquid below boiling point
Baking	Cooking food using dry heat, usually in the oven
Frying	Cooking food in fat or oil
Fibre	A type of carbohydrate found in fruits and vegetables
Yeast	A microorganism that is used as a raising agent in bread making
Life Stages	Stages of development that people go through during their life
Boning Knife	A knife that is used to remove bones from poultry, meat and fish. It tends to have a narrow
Climate Change	Changes in the earth's temperature that can lead to unusual and extreme weather conditions
Carbon Footprint	The measure of the amount of Carbon Dioxide gas that is released into the atmosphere from
Food Provenance	Where food and the ingredients in them originally come from



## Art

Key Term	Definition
Graphic Design	Is the art or skill of combining text and pictures in advertisements, magazines, or books
Typography	Is the art of arranging letters and text in a way that makes the copy legible, clear, and visually appealing to the reader
Type face	A typeface is a set of characters of the same design. These characters include letters, numbers, punctuation marks, and symbols
Serif	In typography, a serif is a small line or stroke regularly attached to the end of a larger stroke in a letter or symbol within a particular font or family of fonts
Kerning	In typography, kerning is the process of adjusting the spacing between characters in a proportional font
Layout	Refers to the arrangement of text and graphics. The layout of a document can determine which points are emphasized, and whether the document is aesthetically pleasing.
Composition	Is the arrangement of everything in a way that brings all the elements together
David Carson	Is an American graphic designer and art director. He is best known for his innovative magazine designs and use of experimental Typography
Neville Brody	Is an English graphic designer, typographer and art director. He is known for his work on The Face magazine, Arena magazine, and designing record covers for Music Artists

## Design Technology

Key Term	Definition
CAD	Computer Assisted Design
Sublimation Printing	The design is printed using a sublimation printer. Pressure and heat is applied which then produces a permanent image
Heat Press	A piece of equipment used for transferring designs
Composition	Is the arrangement of everything in a way that brings all the elements together
Research	Research design refers to the framework of market research methods and techniques that are chosen by a researcher
Analysis	Detailed examination of the elements or structure of something
Concept	An abstract idea, a plan or intention
Prototype	Is an early sample, model, or release of a product built to test a concept or process
Brief	A document that specifies all the core details of the design project
Target audience	Refers to the specific group of consumers most likely to want your product or service