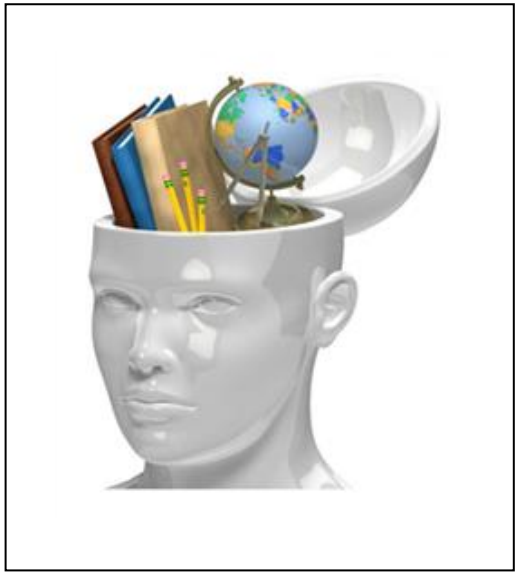
Name: **Form class:**

Year 8

Knowledge Organiser Autumn Term



Instructions for using your Knowledge Organiser

Self-testing

You can use your knowledge organisers and exercise book in a number of different ways but you should not just copy from the Knowledge Organiser into your book.

Below are some possible tasks you could do in your workbooks

- Ask someone to write questions for you
- Write your own challenging questions and then leave it overnight to answer them the next day
- Create mindmaps
- Create flashcards
- Put the key words into new sentences
- Look, cover, write and check
- Mnemonics
- Draw a comic strip of a timeline
- Use the 'clock' template to divide the information into smaller sections. Then test yourself on different sections
- Give yourself spelling tests
- Definition tests
- Draw diagrams of processes
- Draw images and annotate/label them with extra information
- Do further research on the topic
- Create fact files
- Create flowcharts

Presentation

You should take pride in how you present your work; each page should be clearly labelled with underlined title and date. There should be an appropriate amount of work.

The Knowledge Organisers are designed to help you learn a wide range of knowledge which in turn will mean you are more prepared for your lessons as well as the new style GCSEs that you will sit in the future.

To get the most out of your Knowledge Organiser, you should be learning sections and then self testing in your workbook.

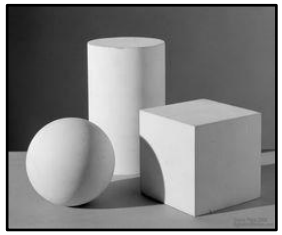
Do not just copy into your workbook

Always check and correct!

Subject: Art Year 8: Perspective (Clay Relief)

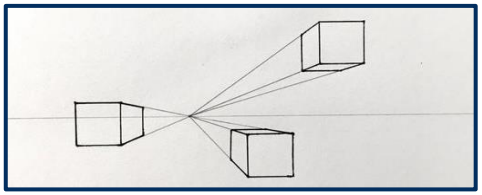
In this project you will learn observe and replicate both One and Two Point Perspective, step-by-step.

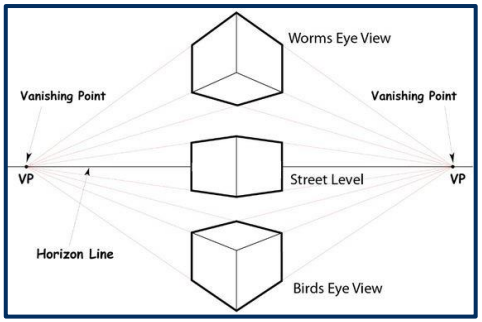
Students will select a Famous Landmark/building and make it using the Clay tile relief effect

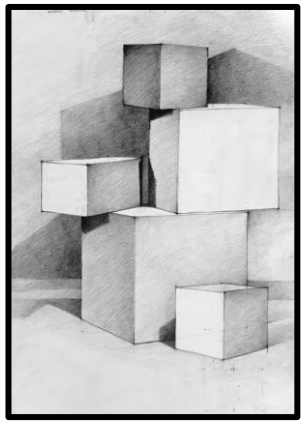


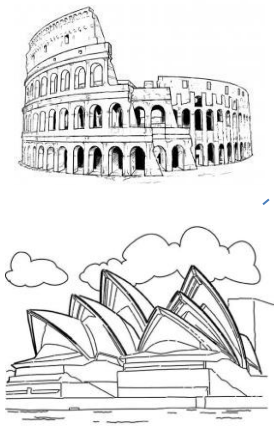
Famous Landmarks

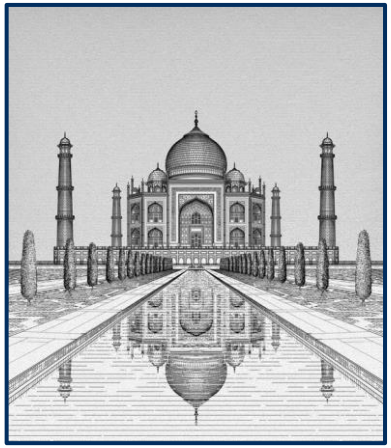
Roman Colosseum, Gherkin, Islamic, London Eye
Taj Mahal, Kremlin, Sydney Opera House.

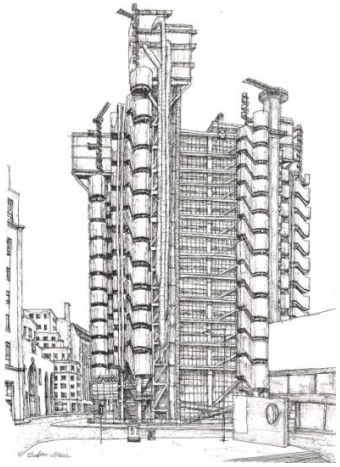






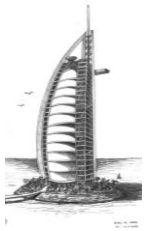






Key Words

- ✓ **Vanishing Point**
- ✓ **Vertical Line**
- ✓ **Horizontal Line**
- ✓ **Relief**
- ✓ **Buttering**
- ✓ **Scoring/scaring**
- ✓ **Architecture**



Key Skills & Knowledge

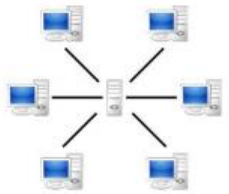
By the end of the project you should have gained the skills and knowledge to be able to do the following:

1. Understand how apply One and Two Point Perspective.
2. Can demonstrate how to manipulate clay and use a range of tools.
3. Successfully use resources to create a range of art works.
4. Present your work to a high standard.
5. Work in accordance to Health and Safety procedures.
6. Have written in more than **30 words** on why you have done a piece of work.

Computer Networks & The Internet

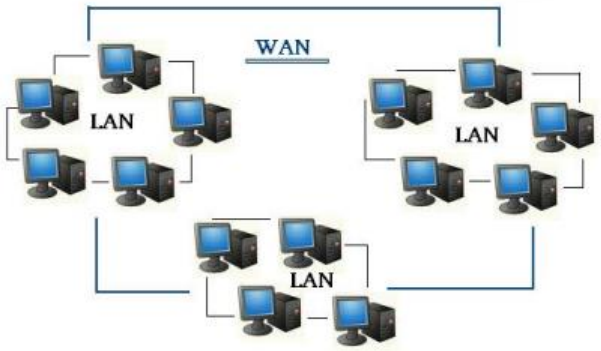
Key vocabulary	
Network	A collection of computer systems that are linked together and can share data.
Node	A device connected to a network via a link.
Links	The interface on which multiple devices can communicate. Such as a cable or wireless.
Client	A client is a piece of computer hardware or software that accesses a service made available by a server.
Server	A server is an instance of a computer program that accepts and responds to requests made by another program, known as a client.

Network Scale	
LAN	A Local Area Network. All devices are connected on one site. The network may be in a single building or campus or group of buildings in a small area. Management and maintenance is usually completed by a group of network engineers.
WAN	A Wide Area Network. Typically covers a large geographical area, talking in many cities or worldwide. The connections are typically provided by a telecoms company such as BT. The largest example of a WAN is the internet. A WAN connects multiple LAN networks.
PAN	Personal Area Network. Personal devices are often connected to each other in a home or a car.
WLAN	Wireless LAN
MAN	Metropolitan Area Network. Devices are connected in a city. Not commonly used as many devices now use the internet.
SAN	Storage Area Network where multiple servers provide a large-scale storage facility.
VPN	Virtual Private Network. A part of the internet that is sealed off from public use and reserved for an organisation. It is not a physical network but behaves as one.



Server-based

P2P-network



Network Organisation	
Client – Server	One or more computers are designated as servers, providing a service to clients on a network.
Peer-to-peer	A distributed system where functionality can be divided among the nodes on the network. All computers have an equal status and may partially act as a server to other devices. Peers are both suppliers and users of network data and services.

Understanding Computers - Operating Systems

Key vocabulary	
Operating System	(OS) A collection of programs that tell the hardware what to do. They are necessary on most computer systems, other than simple self-booting systems devoted to a single task.
Kernel	A part of the operating system that connects applications to the hardware. Applications do not have direct control over hardware.
User interface	A system for providing a means of communication between the user and the operating system. Sits above the kernel.
Batch file	A file that contains a series of command line instructions.
DLL	Dynamic Linked Library
Library	A series of instructions and commands available to a programmer.
Firmware	Software that is permanently stored on a device using a ROM device.
Multi-Tasking	If a current program is loading data from a slow peripheral, rather than allow the CPU to stand idle it will turn its attention to another process. Often used to run several programs at one time.
Multi-User OS	An operating system that allows many users to log into the same system simultaneously.
Real time OS	Safety-critical systems that require a short and guaranteed response, such as in a nuclear power plant.
Scheduling	The process of arranging, controlling and optimising commands within the CPU.
User management	A set of controls that allow the access and actions of users to be restricted.
Memory Management	Operating system ensures that all data is stored safely and efficiently in the correct location.
Paging	Splitting programs into equal sized pages to fill available blocks in memory.
Segmentation	Splitting programs into blocks to fill available blocks in memory.
Driver	A program that controls a peripheral device.
Peripheral Management	Managing the communication through signals between a device and its driver.

Roles of an operating system
Managing hardware & peripherals
Managing programs installed and being run
Managing data transfer between memory locations, the CPU and secondary storage
Providing the interface between the hardware and the applications
Providing an interface between the computer and user, managing display to the screen
Managing security and organising data so that it is not overwritten
Providing a file system for the storage and retrieval of files

User interfaces	
Command Line	Commands are given to the operating system through using text. Normally used by technicians as it can provide powerful instructions quickly.
Graphical User Interface (GUI)	The use of small icons that represent applications and actions that are performed to reduce the need to learn commands.
Voice Input	Mainly used on mobile devices to provide voice input to a computer system.

Typical operating systems	
Android	Developed by Google to run on mobile devices, based on Linux.
Mac OS	Apple's mobile device operating system used on iPhones, iPads and Apple TV.
Unix	A widely used platform for building alternative operating systems above including MAC OS X and Linux.
Linux	Available in many distributions, Linux is an open source operating system based on Unix.
Mac OS X	Operating system on Apple computers based on Unix.
Windows	Most commonly used operating system developed by Microsoft. Windows is used on laptop and desktop PCs and on a range of devices.

Pantomime

Key Terminology	Definition
Facial Expression	Using your facial features to show emotion to the audience.
Gesture	A hand or head movement that signals an emotion or information to the audience.
Proxemics	Use of space on stage.
Mime	Using gestures to signal to a prop or character that isn't on stage.
Narration	Breaking the forth wall to tell the story directly to the audience, filling in important details missed in the action.

Watch a Pantomime

Reading Material

Pantomime

The 5 stock characters of a Pantomime:

1. The Hero
2. The Fool
3. The Villain
4. The Damsel
5. The Dame

Key Elements of a Pantomime:

- Audience Interaction
- Call and Response
- Stock Characters
- Exaggeration
- Song and Dance
- Modernisation

The Six Golden Rules of a Still Image:

- Still
- Silent
- Facial Expressions
- Body Language
- Levels
- Focus

Year 8: English
Romeo and Juliet

Context – The play was written by William Shakespeare, and was first performed around 1594.

Shakespeare's Time – Shakespeare wrote his plays at the time of two monarchs: Queen Elizabeth I and James I. *Romeo and Juliet* was written relatively early in Shakespeare's career (the bulk of his tragedies were written in the 17th century) yet was extremely popular in his lifetime, as it is now. Shakespeare borrowed heavily from two texts: *The Tragical History of Romeo and Juliet* (1562) and *Palace of Pleasure (1567)*

Elizabethan England and Italy –Shakespeare frequently engaged with Italy in his plays, leading many to believe that he travelled there between the late 1580s and early 1590s. Italy was a place that Shakespeare's contemporaries would have had a keen interest in; it was already an advanced and beautiful place for travel. Shakespeare's depictions of many areas of Italian life at the time are deemed largely accurate.

Religion – The heavy religious presence is evident across several parts of *Romeo and Juliet*. This is reflective of a society across Europe that was deeply religious (predominantly catholic or protestant). Several characters demonstrate their commitment to the church, such as Romeo and Juliet who choose to marry rather than fornicate, and the Capulets, who are quick to contemplate that Juliet is in a better place (heaven) after she is found 'dead.'

Patriarchal Society –Society throughout the Middle Age and at Shakespeare's time was patriarchal – women were considered inferior to men. This was also the case in much of Europe, including Italy. Women belonged to their fathers (or brothers if their fathers had died) and then their husbands, so Juliet would be expected to obey her father. Women were not permitted to own land or enter most professions. They were instead expected to bear children, be gentle and womanly.

Astrology the Supernatural – At the time of Shakespeare, the belief in both astronomy and the supernatural was far more preeminent than in society today. The reference to 'star-cross'd lovers demonstrates the large role of horoscopes and planet positions in being used to predict fate. Also, Romeo and Juliet make reference to the fact that they feel they are being guided by a supernatural force (e.g. 'fortune's fool).

Healthcare and Medicine – Healthcare and medicine were not as advanced in Shakespeare's age as they are today – there were numerous ailments and diseases that were not yet understood. This makes it much more believable for both the Capulets and Romeo that Juliet could have died so suddenly and so young. The high death count in the play would seem slightly more common in those days!

Main Characters – Consider what Shakespeare intended through his characterisation of each of the below...

Romeo – The son and heir of Lord and Lady Montague. Romeo is handsome and intelligent, yet he is also impulsive and extremely sensitive. Romeo is a peaceful character, and is not interested in the violence that goes on around him, choosing instead to focus his energies on love. Although Romeo's love seems fickle (he loves Rosaline at the outset) his commitment can't be debated in the end!

First Scene: Act I Scene II **Final Scene:** Act V Scene III

Juliet – The daughter of Capulet and Lady Capulet. Juliet is a beautiful young girl (13 years old at the start of the play). Juliet is caring, compassionate, and at times demonstrates courage (she defies her parents in order to marry Romeo, and drinks the contents of the vial without fully trusting its effects). At times, she shows great intelligence and wit, particularly in conversations with her mother.

First Scene: Act I Scene III **Final Scene:** Act V Scene III

Prince Escalus– The most powerful character in the play, with the authority to govern the other characters and administer sentences. He is also a kinsman to Mercutio and Paris. As the seat of Verona, his main concern throughout most of his appearances are in relation to ensuring that the peace is kept. He is merciful in banishing Romeo for the death of Tybalt, as opposed to sentencing him to death.

First Scene: Act I Scene I **Final Scene:** Act V Scene III

Mercutio – A kinsman to the prince and one of Romeo's closest friends. Mercutio is an extraordinary character in that he has sparkling wit and a vivid imagination. Much of Mercutio's speeches deal in puns and word-play. He appears to see himself as being above the vices of love, choosing instead to view it as misplaced sexual appetite. His hot-headedness is eventually his downfall.

First Scene: Act I Scene IV **Final Scene:** Act III Scene I

Montague and Capulet – The patriarchs of the Montague and Capulet families, who have held a long and violent feud with one another from some time before the play begins. Both seem to deeply love their respective child, yet do not always seem appropriately aware of their emotional wellbeing. For example, Romeo chooses to walk the streets in melancholy rather than share his feelings with his father, and Capulet feels the best thing for Juliet would be a marriage with Paris.

Friar Laurence and the Nurse – Both Friar Laurence and the Nurse act as guidance counsel for Romeo and Juliet. They appear to be the two people that Romeo and Juliet trust more than any others in the world, as they are the two that they confide in. Friar Laurence is kind and civic-minded (believing the marriage may heal the feud), whilst the Nurse is kind and sentimental (yet at times vulgar). She seems as though she is more of a mother to Juliet than Lady Capulet has ever been.

Year 8 Subject: Drama

Romeo and Juliet

Themes – A theme is an idea or message that runs throughout a text.
Love – In Romeo and Juliet, love is an extremely overpowering force that supersedes all other values, emotions, and loyalties. Through their love, Romeo and Juliet conspire to go against the forces of their entire social world. Romeo returns to visit Juliet at points, even though he is well aware of the threat of death. At times, love is presented as fickle (Mercutio's speeches, Romeo + Rosaline). 
Individual vs Society – Romeo and Juliet are forced to undermine the oppressive rules of society at the time. For example, rules of the patriarchal family force Juliet to be subservient to her parents, rules of religion mean that they must marry in haste, and rules of masculinity force Romeo into conflict with Tybalt.
Violence – Extreme violence takes place sporadically throughout the play. The feud between the two families is so bitter that the mere sight of each other can be the cause of a fight to the death. Unchecked violence is personified through the character of Tybalt. The violence culminates in Act 3 Scene 1, in which both Mercutio and Tybalt are murdered. 
Fate – In the first address to the audience, the Chorus states that Romeo and Juliet are 'star-cross'd' lovers, meaning that fate had intended for their paths to cross, and that fate controls their actions. A series of unfortunate accidents towards the end of the play thwart Friar Laurence's plan and eventually manifest in both Romeo and Juliet committing suicide, thus adding to the sense of fate.

Dramatic Devices in Romeo and Juliet		**Features of a Tragedy in Romeo and Juliet**
Dramatic Irony	Mercutio and Benvolio think Romeo is still pining over Rosaline, but the audience knows he has moved on to Juliet. A2 S1	**Tragic Hero** - A main character cursed by fate and possessed of a tragic flaw (Romeo, and to an extent Juliet). 
Soliloquy	Juliet's opening speech in A3 S2 in which she pours her heart out over her love for Romeo.	**Hamartia** - The fatal character flaw of the tragic hero (his passion and impulsiveness).
Aside	Juliet secretly hopes for the 'villain' Romeo: *Villain and he be many miles asunder God pardon him!* A3 S5.	**Catharsis** - The release of the audience's emotions through empathy with the characters. 
Foreshadowing	Friar Laurence: *These violent delights have violent ends, And in their triumph die, like fire and powder.* A2 S6	**Internal Conflict** - The struggle the hero engages in with his/her fatal flaw.

Romeo and Juliet

Scene-by-Scene Summary – Take note of the key quotations from each scene.		
Prologue	The Chorus speaks of an ancient grudge between two households, from which two 'star-crossed lovers' appear.	*From forth the fatal loins of these two foes* *A pair of star-crossed lovers take their life. . .*
Act 1 Scene 1	A street brawl breaks out between the Montagues and Capulets. The Prince intervenes. He threatens the death sentence for anyone who breaks the peace again.	*To old Free-town, our common judgment-place.* *Once more, on pain of death, all men depart.*
Act 1 Scene 2	Paris speaks of his desire to marry Juliet to Capulet. They arrange a masquerade ball so that he can begin to woo her. Peter accidentally invites Romeo and Benvolio.	*One fairer than my love? The all-seeing sun* *Ne'er saw her match since first the world begun.*
Act 1 Scene 3	Lady Capulet discusses the prospect of Juliet getting married to Paris. She dutifully says that she will look upon him.	*I'll look to like if looking liking move/ But no more deep will I endart mine eye/ Than your consent gives strength to make it fly.*
Act 1 Scene 4	Before the ball, Mercutio mocks Romeo. He gives his 'Queen Mab' speech. Romeo fears the night will set fate in motion.	*O, then I see Queen Mab has been with you. . . .* *She is the fairies' midwife. . . .*
Act 1 Scene 5	Romeo and Juliet meet at the ball. They immediately fall for each other – Romeo uses metaphors to compare her to a pilgrim. Tybalt spots Romeo and wants to kill him, but Capulet stops him. Romeo and Juliet learn that they are from warring families.	*If I profane with my unworthiest hand* *This holy shrine, the gentle sin is this:* *My lips, two blushing pilgrims, ready stand* *To smooth that rough touch with a tender kiss.*
Act 2 Prologue	The chorus returns and delivers a sonnet about the new love.	*But passion lends them power, time means, to meet,*
Act 2 Scene 1	Benvolio and Mercutio search for Romeo, who has escaped them in the hope of re-finding Juliet.	*Go then, for 'tis in vain* *To seek him here that means not to be found.*
Act 2 Scene 2	The famous 'balcony scene.' Romeo decides that he cannot go home without seeing Juliet again. He trespasses into her garden, where she appears at a window. They decide that they will wed.	*If that thy bent of love be honorable,* *Thy purpose marriage, send me word tomorrow,* *By one that I'll procure to come to thee,*
Act 2 Scene 3	Romeo visits Friar Laurence to ask if he will wed him to Juliet. Whilst shocked at how fickle Romeo's love is, he agrees.	*Thy love did read by rote that could not spell.* *But come, young waverer, come go with me,*
Act 2 Scene 4	Romeo arrives to meet Mercutio and Benvolio. The Nurse and Peter then arrive, and Mercutio makes fun of the Nurse. When Mercutio leaves, Romeo arranges with the Nurse for Juliet to meet him at Friar Laurence's chamber.	*The sovereignty will fall upon Macbeth.* *Bid her devise/ Some means to come to shrift this afternoon.* *And there she shall at Friar Lawrence' cell* *Be shrived and married.*
Act 2 Scenes 5-6	The Nurse sends Juliet to Friar Laurence's cell, where they are married. The Friar warns them to love moderately.	*But come what sorrow can,/ It cannot countervail the exchange of joy/ That one short minute gives me in her sight.*
Act 3 Scene 1	Tybalt duels Mercutio. Romeo tries to make peace, but Tybalt stabs Mercutio dead under Romeo's arm. In rage, Romeo kills Tybalt. The Prince arrives and exiles Romeo.	*"A plague o' both your houses"* *"Ask for me tomorrow, and / you shall find me a grave man"*
Act 3 Scene 2	The Nurse tells Juliet of the fight. Juliet is traumatised by the idea of an exiled Romeo. The Nurse says she knows where he is hiding.	*O nature, what hadst thou to do in hell/ When thou didst bower the spirit of a fiend/ In moral paradise of such sweet flesh?*
Act 3 Scenes 3-4	Romeo despairs at hearing of being banished. The Friar makes a plan for him to visit Juliet before leaving. Elsewhere, Capulet contacts Paris and arranges for Juliet to marry him.	*There is no world without Verona walls* *But purgatory, torture, hell itself.* *Hence "banished" is banished from the world.*
Act 3 Scene 5	Romeo reluctantly leaves Juliet. Her mother then tells of the marriage to Paris. She rejects it. Capulet threatens to disown her.	*Hang thee, young baggage! Disobedient wretch!* *I tell thee what: get thee to church o' Thursday,*
Act 4 Scenes 1-2	Juliet meets Friar Laurence, saying that she would rather kill herself than marry Paris. Friar Laurence proposes the sleeping potion plan. She agrees, returns to her parents, and repents.	*Take thou this vial, being then in bed,* *And this distilled liquor drink thou off,*
Act 4 Scene 3	Juliet is scared, but drinks the contents of the vial.	*Romeo, Romeo, Romeo! Here's drink. I drink to thee.*
Act 4 Scenes 4-5	The Nurse finds Juliet dead on her wedding morning. The family are distraught, but agree to make the funeral arrangements.	*O me, O me! My child, my only life,* *Revive, look up, or I will die with thee!*
Act 5 Scene 1	Romeo is told of the death by Balthasar. Romeo decides that he will return to Verona to kill himself. Before doing so, he purchases poison from an apothecary.	*Well, Juliet, I will lie with thee tonight.* *Let's see for means. O mischief, thou art swift*
Act 5 Scene 2	Friar Laurence learns that Romeo has not received his letter informing him of the plan, and is worried. He doesn't know that Romeo now thinks that Juliet is dead.	*Unhappy fortune! By my brotherhood,* *The letter was not nice but full of charge,*
Act 5 Scene 3	Romeo finds Juliet's body and kills himself. She awakens and kills herself. Montague and Capulet commit to resolve.	*For never was a story of more woe* *Than this of Juliet and her Romeo.*

Year 8: Food Technology

In this project you will learn to use **The practical activities which involve food preparation and cooking will give student an insight into the role of different types of chefs. For example, within the kitchen brigade, they are the executive head chef, sous chef, chefs de partie, commis chef , butcher, vegetable chef, fry chef, cold food and pantry chef, grill chef, pastry chef, fish chef, roast chef and sauté chef. Some of the job roles (e.g. executive chef and sous chef) are suited for the higher attainers in the subject and these student will be given leadership responsibilities. These skills required by chefs will be developed by students following recipes to make dishes using a variety of commodities. These activities will be supported by teacher demonstrations and video clips.**

Key Vocabulary

Equipment	Food Safety
Knife	Use by date
Table spoon	Best before date
Butter Knife	Frozen Food
Measuring Jug	Chilled Food
Chopping Board	High risk foods
Saucepan	Low risk foods
Mixing Bowl	Salmonella
Wooden Spoon	E Coli
Frying pan/Wok	Vitamins & Minerals
Food Mixer	Carbohydrates
Baking tray	Gluten in
Rolling Pin	Gluten

Weighing and measuring are skills needed by food scientist and chefs and are practised during the mise en place stage of cooking. This is facilitated by teacher demonstrations and students following recipes. The investigative work done on the impact of cooking methods on nutritional value also links to the job role of a food scientists.

By studying about nutrients and healthy eating using the Eat well guide as a framework, students are to the role of a dietitian and a nutritionists. These lessons will be delivered through home learning, group work activities, power points presentations and a visiting speaker.

Researching where our food comes from give students the opportunity to hone the skills of a food writer, culinary librarian and food journalist. This piece of work will be done through classwork (market place activity and home learning.

Food presentation skills are encouraged by adding a finishing technique to dishes made. This is within the remit of a food stylist, food photographer, food artist as well as a molecular gastronomist.

Students practise being a health and safety officer when conducting risk assessment of the food room before their practical tasks. Through role play, students will study the role of an Environmental Health Officer. Linked to these two careers, is the unit of work on health and safety and bacteria and food poisoning .

Conducting sensory analysis gives students insights into the job of a food taster and a quality assurer. This activity is conducted after practical activities in class as well as at home.

Careers in the hospitality industry include managers, administrators, front house staff as well as back house staff. These careers are studied at KS4 through power point presentations, trips, role plays, independent work and home learning activities.

Key Skills & Knowledge

By the end of the project you should have gained the skills and knowledge to be able to do the following:

Nutrients
Bacteria and food poisoning
Food labelling and traffic light system
Where does our food come from
Practical activities – making food dishes
Food presentation techniques

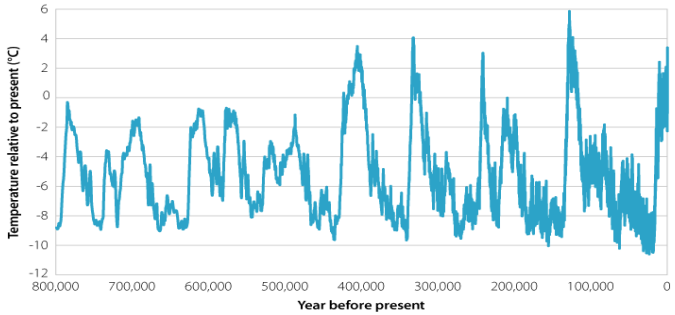
<u>Influential Chefs:</u> Gordon Ramsey, Jamie Oliver

Autumn 1

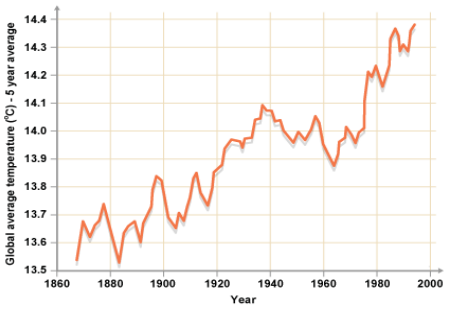
Ma maison					
1	**À la campagne**	In the countryside	18	**La chambre de mon frère**	My brother's room
2	**À la montagne**	In the mountains	19	**La véranda**	Veranda/patio
3	**Au bord de la mer**	At the seaside	20	**La chambre de mes parents**	My parent's room
4	**En ville**	In town	21	**Le jardin**	Garden
5	**Dans un village**	In a village	22	**La salle à manger**	Dining room
6	**Dans une grande-ville**	In a city	23	**La buanderie**	Laundry room
7	**Une maison individuelle**	A detached house	24	**Le séjour / le salon**	Living room
8	**Une maison jumelée**	A semi-detached house	25	**À gauche**	On the left
9	**Un appartement**	An apartment	26	**À droit**	On the right
10	**Un pavillon**	A detached house	27	**En face de**	Opposite
11	**En banlieue**	In the suburbs	28	**À côté de**	Next to
12	**La salle de bains**	Bathroom	29	**derrière**	Behind
13	**Le garage**	Garage	30	**devant**	In front of
14	**Les WC/toilettes**	toilets	31	**Sale**	dirty
15	**La chambre de ma sœur**	My sister's room	32	**Propre**	clean
16	**La cuisine**	Kitchen	33	**Bruyant(e)**	Noisy
17	**Le bureau**	Office	34	**Beau/belle**	Beautiful (m/f)

Climate Change

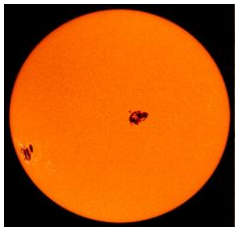
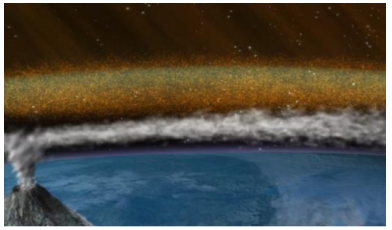
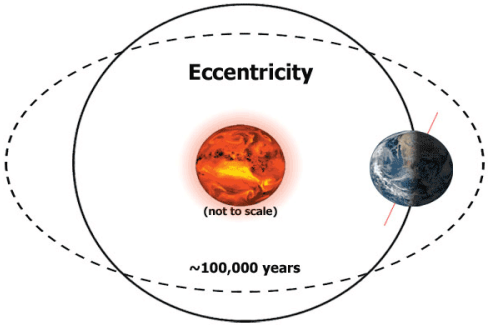
LONG TERM CLIMATE CHANGE

How have global temperatures changed over the past 800,000 years? More specifically…..	Over the past 800,000 years the earth's climate has fluctuated with periods of warm weather and periods of colder weather.  300,000 years ago, average global temperatures were 4°C warmer than today, where as approximately 420,000 years ago, average global temperatures were 9°C colder than today.
HISTORICAL RECORDS	Historical documents show that temperature changes have resulted in periods of history where the earth was colder than today (glacials) and warmer than today (interglacials). *During the Little Ice Age, Napoleon's army froze to death.*
PAINTINGS	Paintings from 1677 show that the Thames was previously frozen over!
Geological time scale	Is a calendar of rocks through time. It can be used to identify time periods or climate patterns from a rock or fossils.

RECENT GLOBAL WARMING

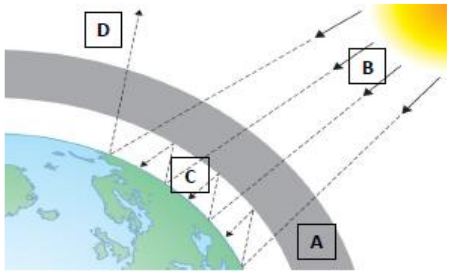
How has global temperature changed since 1860? More specifically…	More recently the earth's temperature has shown a rapidly warming trend, with average temperatures continuing to grow. *In 1883, the average temperature was 13.5°C, whereas in 1960 the average temperature had risen t 14.0°C. By 1985, the average temperature had risen to almost 14.4°C.* 
THERMOMETER RECORDS	• Average global temperatures have risen by 0.8°C in the last 100 years. • Most of the warming has occurred recently. • In the last 35 years, average temperatures have risen by 0.5°C. • The 20 warmest years on record have all come since 1995. • The five warmest years on record have come since 2010, with 2016 being the warmest year yet.
SATELLITE IMAGES	Arctic ice cover has decreased since the 1970s. It has reduced by approximately 4% and has halved in thickness in many places.
SEA LEVEL RISE	Rises in temperature and melting ice sheets has resulted in a rise in sea levels.

NATURAL CAUSES OF CLIMATE CHANGE

Solar output	A sunspot is dark patch on the sun that appears from time to time. Every 11 years the number of sunspots changes from very few to lots to very few again. *Lots of sunspots = warmer* *Very few sunspots = cooler* • *During 1645–1715 there were very few sunspots. During this time, there was a very cold period known as the 'Little Ice Age'.* 
Volcanic Activity	Violent volcanic eruptions blast lots of ash, gases (e.g. sulphur dioxide) and liquids into the atmosphere. Major volcanic eruptions lead to a brief period of global cooling. This is because the ash, gases and liquids can block out the sun's rays, reducing the temperature. • *Pinatubo 1991 eruption = world temperatures fell by 0.5°C for a year.* 
Orbital Change	Orbital change refers to changes in how the earth moves round the sun. It affects how close the earth is to the sun and therefore how much energy we get from the sun. When the earth is very close to the sun, it is warmer. When the earth is further away from the sun, it is cooler. • *Eccentricity: how the earth orbits the sun. Every 100,000 years the orbit changes from circular to elliptical (egg-shaped). This affected how earth is to the sun.* 

HUMAN CAUSES OF CLIMATE CHANGE

The Greenhouse Effect	A) Humans produce greenhouse gases, which create a blanket around the earth. B) Sunlight travels to earth as shortwave radiation. C) Sunlight bounces off the earth's surface as long-wave radiation. This reflected sunlight is trapped in the earth's atmosphere by the greenhouse gases = earth heats up. A) Some heat does manage to escape.



How does human activity = greenhouse gases?

Methane Humans are to blame because….	Cows produce a methane when they fart, belch and poo. Methane is a GHG that traps longwave radiation in the earth's atmosphere. *The world's population is rising and countries are becoming more developed = there are more people and more families that have money to spend on food (e.g. meat) = rising demand for meat = more animals farmed = more methane produced.*
Carbon dioxide CO_2 Humans are to blame because…	CO_2 is the GHG that people are most worried about. CO_2 adding to the atmosphere fastest. ➢ Fossil fuels (coal, gas, oil) are burnt to make energy = carbon dioxide is released into the atmosphere. ➢ Humans drive cars, which release carbon dioxide, nitrous oxide and methane into the atmosphere. *Rising population and more developed countries = increased demand for electricity = more carbon dioxide produced.*

EFFECTS OF CLIMATE CHANGE

Sea level rise due to melting ice sheets = flooding in low lying countries (Bangladesh). 80% of people exposed to river flooding live in developing countries.

Extreme weather (drought) = crops will die = famine. A famine occurred in Somalia (2008-9) where 258,000 died due to a lack of food.

Pests & diseases: an increase of 2°C will mean more pests = more crops will die. *E.g. wheat yields losses will increase by 46% in countries such as China.*

Habitats will be lost due to extreme weather associated with climate change.

Extreme weather events = increase in refugees as people are forced to leave their homes due to famine or flooding.

Pests & diseases: mosquitoes love hot weather. Global warming will = 90 million people will be exposed to malaria by 2030.

Extreme weather (hurricanes). In 2017 there were 83 storms and 42 hurricanes. This was above average. Climate change will result in more hurricanes in the future.

CASE STUDY OF HOW CLIMATE CHANGE AFFECTS LICS: BANGLADESH FLOODS

Location:	Southern Asia, along the Tropic of Cancer. It neighbours Burma, India and the Indian Ocean.
How has climate change increased flooding ?	• It's low altitude (<10m above sea level) and long coastline (580km) makes it vulnerable to sea level rise. • The Himalayas lie to the north of Bangladesh. The ice and snow melts in the summer, which then rushes down into the rivers in Bangladesh. This occurs more due to increased temperatures. • Bangladesh is prone to cyclones and monsoonal rains which bring a huge amount of rain. Due to climate change, these storms will occur more often.
Primary effects	• 1000s of homes were destroyed • Rice fields were underwater, crops died. In 2020, 0.15 million hectares crop lands were damaged in two successive floods • Salt water got into the ground water, which meant drinking water was contaminated. • Storm surges contaminated drinking water • Land lost to the sea, due to sea level rise. Predicted that by 2050 over 17% of Bangladesh will be lost • Roads and transport links are destroyed
Secondary effects	• 1000s of people were evacuated • Farmers lost their livelihood and land • Waterbourne diseases such as cholera spread. 5000 people in the 2020 floods suffered from diarrhoea and water-borne disease. • Mass migration. People leave the area and move to the near by cities. In 2020 it was recorded that in Bangladesh, 4.4 million people have been displaced due to disasters such as flooding) • Trade was reduced = less income/GDP

CASE STUDY OF HOW CLIMATE CHANGE AFFECTS THE UK

Where is the UK located?	The UK is located in the west of Europe. It is made up of England, Scotland, Wales and Northern Ireland.
How has climate change increased flooding ?	• Extreme weather will be more common – floods, droughts, heatwaves…etc. • Sea level will cause coastal flooding
Negative effects	• Flooding due to extreme weather (precipitation and storms) and sea level rise. The number of people at risk of flooding is likely to double to 1.9 million by 2050. Current flooding costs the UK £1.9 million. • Sea level rise and storms = more coastal erosion. It is expected that sea levels will rise by 1 – 2m by 2080. The most at risk areas will be soft rock coastlines, such as South Wales, North-West Scotland, Yorkshire and the Thames Estuary. • Water shortages due to extreme weather (lack of precipitation). Many places will have a lack of water. • Increases in temperature can lead to heatwaves, such as the 2003 heatwave, during which temperatures reached 38.5° C = 2045 deaths. This will become normal summer weather by the 2040s. • Climate change in other countries (Kenya, Peru, Indonesia) will affect crop yields in these countries. The UK will suffer as it will be more difficult to import food from these countries.
Positive effects	• A warmer, wetter climate will increase crop yields in the UK. • Tourism will increase due to warmer weather = more jobs and income for the UK.

Year 8 Subject: Geography

What has the UK pledged to do bout climate change under the Paris agreement?

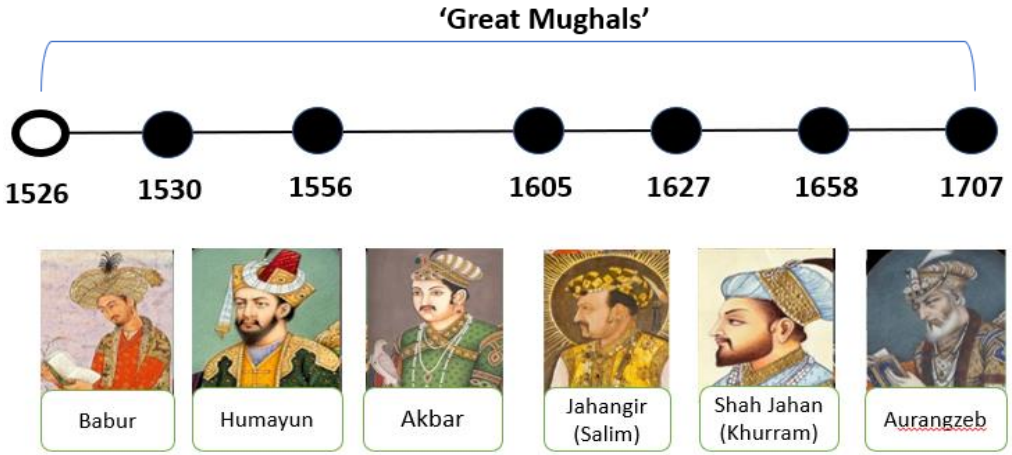
The Paris Agreement	• The Paris Agreement – an international agreement to tackle climate change and it's effects. 196 countries are involved. • Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) in line with Article 4 of the Paris Agreement. • The UK = pledged to Reduce their emissions by 68% by 2030 compared to 1990 levels • To keep the global temperature increase below 2 degrees above pre-industrial levels. At best max 1.5 degrees below. • Implemented a Climate Change Act in 2008 to make it law that Climate Change is combatted. • The UK = target of 'Net Zero by 2050. (doesn't mean no carbon emissions but, the UK should offset what it does produce.

How can you make a difference?

Making a difference	• Speak up - Make your voice heard, share your opinions on climate change. • Share your climate change knowledge so that people understand their impact. • Join a charity, action group, school project to bring about change locally/globally - Take action and join a group that has a larger audience to get your voices heard. • Join in community events – safely and peacefully. Join marches or protests (safely with permission) and take a stand against climate change • Lobby the government. Contact your local MP or government representative asking them to act on climate change • Make changes to your lifestyle Small changes can make a difference and reduce your impact. In your Academy consider how you can improve the following: The type of lighting – Waste and Recycling –Energy usage and type of energy used- Type of windows What improvements could be made to reduce your academy's carbon emissions and contribution to climate change

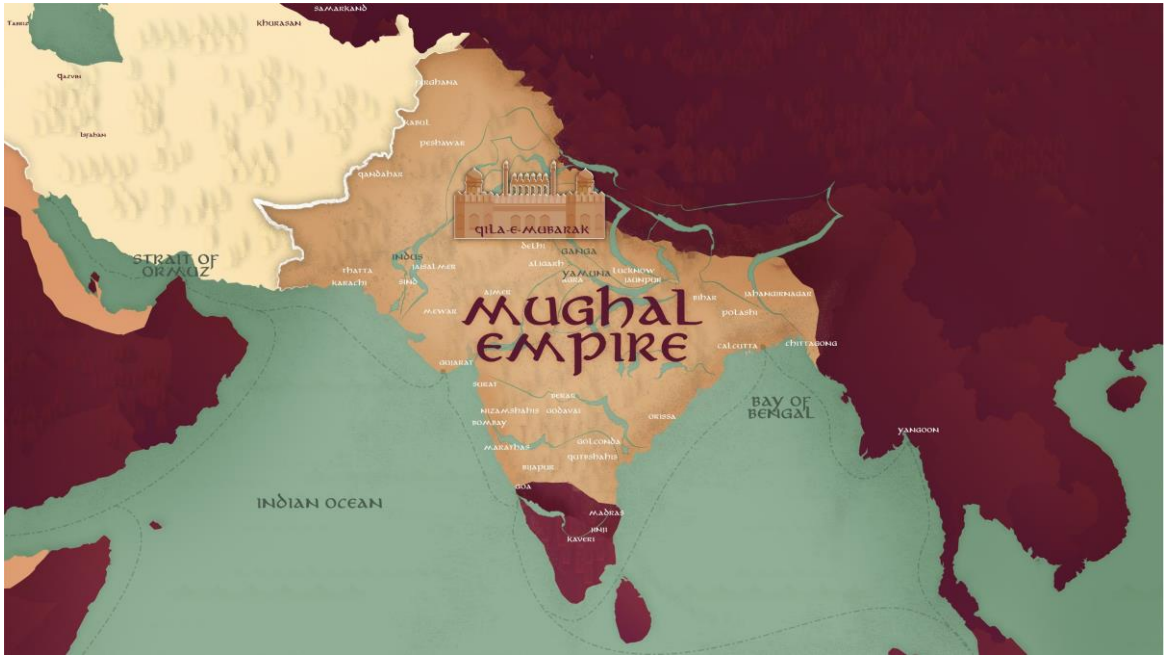
How is the UK responding climate change?

Improving public transport	The UK government has invested £840million in public transport across 10 UK cities. London have improved buses = more people use the bus & less drive = less greenhouse gases. ➢ *Live information boards at bus stops tell bus users when their bus will arrive making it easier.* ➢ *Bus lanes give buses priority on the roads = shorter journey times.* Cycle hire schemes in UK cities encourage people to cycle rather than drive = less greenhouse gas emissions.
National Parks	Planting trees and preventing deforestation = more trees = more photosynthesis = more carbon dioxide removed from the atmosphere = less global warming. Many governments have created national parks to protect trees. *The Gola Forest (Sierra Leone - Africa) is a national park that protects 71,000 hectares of trees.*
Renewable energies	Generating energy from natural renewable sources (*solar panels, hydro-electric power, wind turbines*). They do not produce greenhouse gases.
International agreements	Many of the governments around the world meet to discuss climate change and how they can work together to reduce global carbon emissions. I*n 2016 world leaders met at the Paris Climate Summit where 196 countries signed a climate agreement, where they promised to:* ➢ *Reduce greenhouse gas emissions and keep global temperature increase below 2°C.* ➢ *HICs to support LICs by providing $100 billion per year*
Local Responses	➢ Solar panels: *Using the sun to create energy, therefore less fossil fuels are burned.* ➢ Insulation and double-glazed windows Traps heat in the house = less heating is needed = less energy used = less fossil fuels burned. ➢ A shower instead of a bath: Less water is used = less heating is needed for water = less energy used = less fossil fuels burned ➢ Switch off electrical goods: Prevents the overuse of energy. . ➢ Turn down heating: Less energy is used = less fossil fuels are burned. ➢ Use low energy light bulbs: Less energy is used = less fossil fuels are burned.



Great Mughals
The first Mughal Emperor, and founder of the Mughal Dynasty was **Babur**, 'the tiger' who ruled from 1526 until 1530 (For more information on Babur, read pages 6-9 in the anthology)
As a dying Babur had decreed, **Humayun** succeeded him as the next Mughal Empire. (For more information on Humayun, red pages 10-13 in the anthology)
From the very beginning, **Akbar** was keen on innovation and reform. The Mughal army had always used firearms, but under the rule of Akbar, it became one of the world's leading exponents of this new weapon technology. (For more information on Akbar read pages 14-17 in the anthology)
Almost as soon as **Jahangir** ascended to the throne in late 1605, he faced a challenge from an unexpected source; his own eldest son, Prince Mirza. (For more information on Jahangir read pages 18-21 in the anthology
What the imperial Mughal army did in Malwa and Deccan was described by both contemporary Mughal chronicles and foreign travellers. **Shah Jahan** ordered the Mughal army to 'ravage the country from end to end'. (For More information on Shah Jahan read pages 22-25 in the anthology)
Shah Jahan became ill in 1658 and this immediately prompted a fight for the succession amongst his sons. Three immediately raised armies and began a brief but bitter civil war. The eventual victor was his third son, **Aurangzeb**. (For more information on Aurangzeb read pages 26-29 in the anthology)

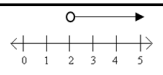
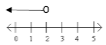
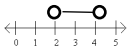
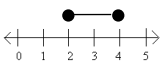
Year 8 Subject: History



What mattered to the Mughals?
Family (Ancestors/Son/Wives)
Military (Army/Battles/Technology)
Wealth (Money/Tax/Revenue/Spending/Gems)
Empire (Controlling land, expanding existing area of control/Conquering new territory)

Year 8: Maths – Autumn 1

Unit 1- Sequences		
No.	**Question**	**Answer**
1.1	What is the position-to-term rule?	This is the rule that can be applied to a term to get the next term
1.2	What is the nth term?	An algebraic expression giving the rule to find any number in a sequence
1.3	What is the term (in a sequence)?	The numbers in a sequence
1.4	What does consecutive mean?	Next to e.g. 5 and 6 are consecutive
1.5	What is a linear or arithmetic sequence?	A sequence that increases or decreases by the same amount between terms
1.6	What is the common difference?	The difference between any two consecutive terms

Unit 3 – forming and solving inequalities			
No.	**Question**	**Answer**	**Example**
3.1	>	Greater than	
3.2	<	Less than	
3.3	$x > 2$	x is greater than 2	
3.4	$x \geq 2$	x is greater than or equal to 2	
3.5	$x < 2$	x is less than 2	
3.6	$x \leq 2$	x is less than or equal to 2	
3.7	$2 < b < 4$	b is greater than 2 and smaller than 4	
3.8	$2 \leq b \leq 4$	b is greater than or equal to 2 and smaller than or equal to 4	

Unit 2 – forming and solving equations		
No.	**Question**	**Answer**
2.1	What is a variable?	A letter used to represent an unknown number e.g. x
2.2	What is a term?	Each part of an expression e.g. 2x; 4; x^2
2.3	What is the constant?	The number on its own without a letter whose value does not change
2.3	What is an expression?	A mixture of numbers and letters e.g. 2x + 5
2.4	What is an equation?	Two expressions equal to one another e.g. 2x + 5 = 10
2.5	What is a coefficient?	The number in front of the variable e.g. 2x (2 is the coefficient of x)
2.6	What does substitute mean?	Replace the variable with a number
2.7	What does solve mean?	Find the variable
2.8	What are like terms?	Terms that have the same letter and same index e.g. $2x^2$ and $5x^2$
2.9	What does simplify mean?	Collect the like terms e.g. $2x^2 + 5x^2 = 7x^2$

Keyboard Skills: The essentials

Layers of sound

Melody = **tune. One note at a time.** Can be sung or played on an instrument.

1. Melody

See opposite

2. Chords

Bass line = the **lowest** part. **One note at a time.**

3. A bass line

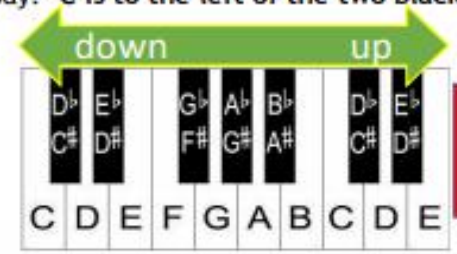
Played on a **low-pitched instrument** such as bass guitar, cello, double bass, tuba.

4. A beat

Beat = **rhythm**. Played on **unpitched** instruments such as **drums**.

Notes on a keyboard

1. Notes are in **alphabetical order, going up to G**
2. Say: **'C is to the left of the two black keys: C D E F G A B'**

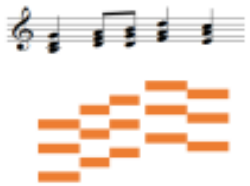


A note by itself CANNOT be major or minor!

3. Every **black note** has two names: **sharp #** and **flat b**
4. F*l*at = *l*ower than white note
5. S*h*arp = *h*igher than white note

Chords

1. Chord = **2+ notes played together**



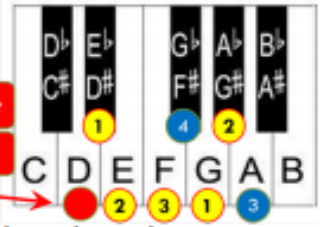
2. Chords can be **major or minor**

Major = 4 then 3 semitones. Sounds **happy**	Minor = 3 then 4 semitones. Sounds **sad**

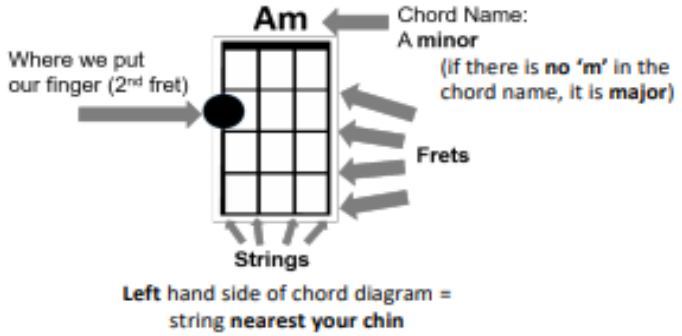
Semitone = the next note, counting white AND black

The bottom note of the chord = the **root**. The **root gives its name to the chord.**

D major
D F# A



3. Chords are usually played on the **keyboard, guitar, or ukulele.**



Left hand side of chord diagram = string **nearest your chin**

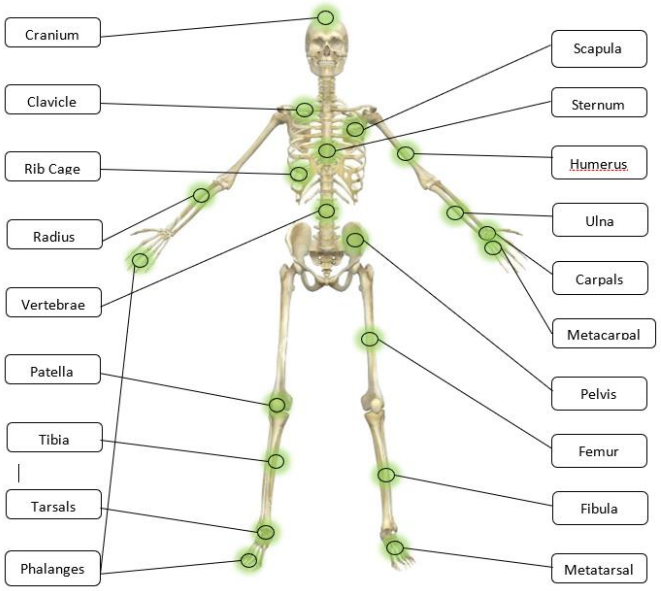
1.1a – The Structure and Function of the Skeletal System

Component	% of overall GCSE (9-1) in Physical Education (J587)			
	AO1	AO2	AO3	AO4
1: Physical factors affecting performance	12.5	10	7.5	0

Assessment Objectives	
AO1	Demonstrate knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.
AO2	Apply knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.
AO3	Analyse and evaluate the factors that underpin performance and involvement in physical education and sport.

1.1a – The Structure and Function of the Skeletal System

The Skeletal Structure



The Skeletal Functions

1. **Support –** the skeleton keeps the body upright and provides a framework for muscle and tissue attachment.
2. Posture – the skeleton gives the correct shape to our body.
3. **Protection –** the bones of the skeleton protect the internal organs and reduce the risk of injury on impact. For example, the cranium protects the brain, the ribs offer protection to the heart and lungs, the vertebrae protect the spinal cord and the pelvis offers protection to the sensitive reproductive organs.
4. **Movement –** the skeleton allows movement of the body as a whole and its individual parts. The bones form joints and act as levers, allowing muscles to pull on them to produce movement. The bones of the skeleton provide surfaces for the attachment of muscles.
5. **Blood cell production –** certain bones in the skeleton contain bone marrow which produces red blood cells, white blood cells and platelets. Examples of bones that contain marrow are the pelvis, sternum, humerus and femur.
6. **Storage of minerals -** the bones store minerals such as calcium, iron, potassium and phosphorous and release them into the blood when the body needs to use them.

1.1a – The Structure and Function of the Skeletal System

Synovial Joint Structure (Freely Moveable Joints)

Synovial joints (freely movable joints):

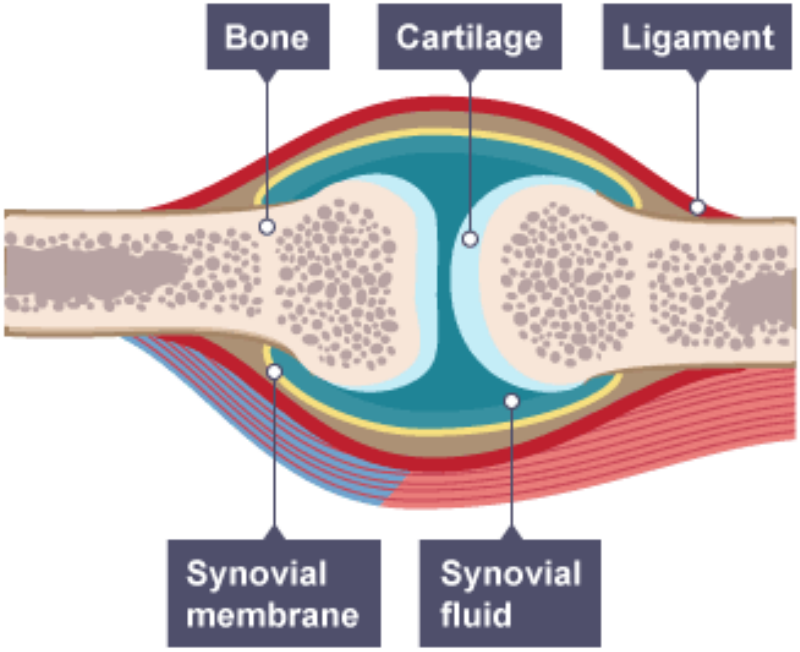
- Enable the free movement to perform skills and techniques during physical activity.
- Have synovial fluid in the joint cavity that lubricates or 'oils' the joint, so it moves smoothly. Synovial fluid is made by the synovial membrane.
- The ends of the bones are covered with cartilage which cushions the joint and prevents friction and wear and tear between the bone ends. Cartilage is a soft, spongy connective tissue.

Ligaments:

- Connect bone to bone to keep the joint together.
- A connective tissue and are tough, fibrous and slightly elastic.
- Stabilise the joints during movement and prevent dislocation by restricting actions outside the normal joint range.
- Absorb shock because of their elasticity, which protects the joint.
- Help maintain correct posture and movement.

Tendons:

- Connect muscle to bone.
- Are very strong, inelastic connective tissues.
- Allow movement at a synovial joint by attaching the muscles across the joint to pull a bone.

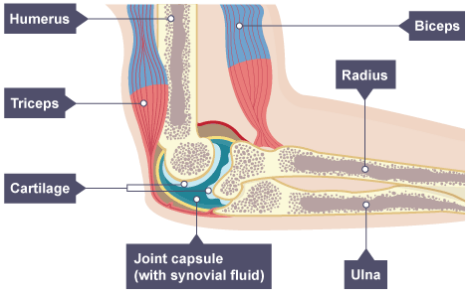


1.1a – The Structure and Function of the Skeletal System

Four Synovial Joint

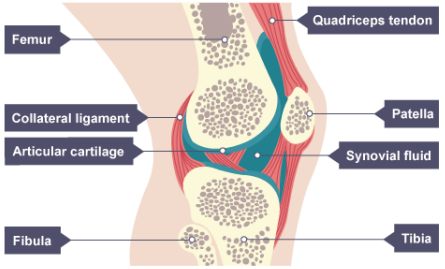
Elbow joint

- Hinge joint.
- Articulating bones are humerus, radius and ulna.
- Allows bending (flexion) and straightening (extension).
- Muscles which move the elbow are biceps and triceps.



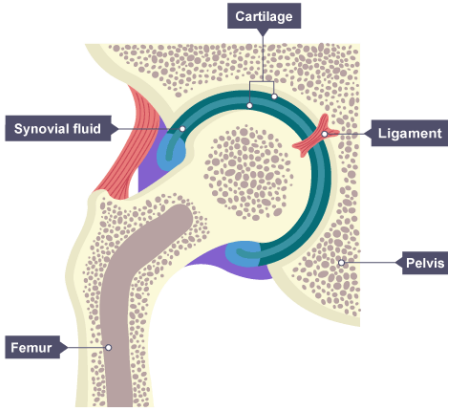
Knee joint

- Hinge joint.
- Articulating bones are femur and tibia (the patella is not classed as part of the joint, nor is the fibula).
- Allows bending (flexion) and straightening (extension).
- Muscles which move the knee are quadriceps and hamstrings.



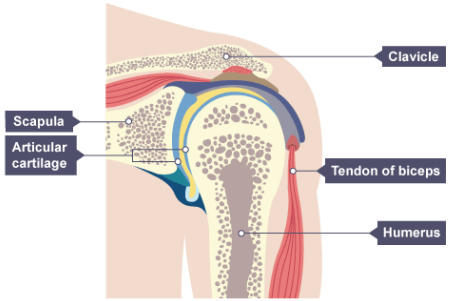
Hip joint

- Ball and socket joint
- Articulating bones are pelvis and femur (head of femur is 'ball' and cup in pelvis is 'socket')
- Allows a large range of movement in all directions
- Many muscles are used to move the hip joint, including the gluteals



Shoulder joint

- Ball and socket joint.
- Articulating bones are humerus and scapula (the clavicle is not part of the shoulder joint).
- Allows a great range of movement in all directions.
- Many muscles are used to move the shoulder joint, including the deltoid, trapezius and latissimus dorsi.



Year 8 Subject: GCSE Physical Education

1.1a – The Structure and Function of the Skeletal System

Types of Joint Movement

Flexion: The decrease in the angle around a joint.

Extension: The increase in the angle around a joint.

Abduction: The movement of a limb away from the midline of the body.

Adduction: The movement of a limb towards the midline of the body.

Rotation: The turning of a bone about its longitudinal axis within a joint. (Rotation towards the midline of the body is called medial rotation, while the rotation away from the midline of the body is called lateral rotation).

Circumduction: The combination of flexion, extension, abduction, adduction and rotation – a circular movement of a limb at a joint.

Hinge Joint

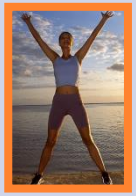
Flexion: The elbow flexes when performing a biceps curl. The knee flexes in preparation for kicking a ball.

Extension: The elbow when throwing a shot put.

Ball and Socket Joint

Flexion: The hip joint occurs when the femur (upper leg) moves forwards, which happens when long jumpers land or at the end of kick in football.

Extension: The shoulder occurs when the humerus moves backwards from the rest of the body, which happens at the end of the pull stroke in front crawl.

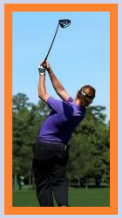


Abduction: The hip and shoulder joints during a jumping jack movement.

Adduction: The hip and shoulder, returning the arms and legs back to their original position from a jumping jack movement.

Circumduction: The shoulder joint during an overarm tennis serve.

Rotation: The hip joint in golf while performing a drive shot.



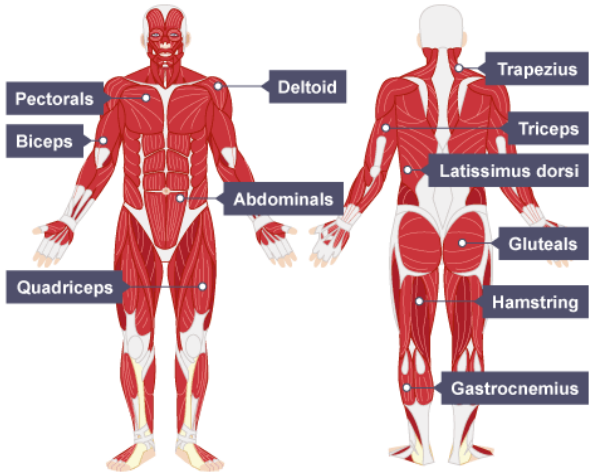
1.1b – The Structure and Function of the Muscular System

Component	% of overall GCSE (9-1) in Physical Education (J587)			
	AO1	AO2	AO3	AO4
1: Physical factors affecting performance	12.5	10	7.5	0

Assessment Objectives	
AO1	Demonstrate knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.
AO2	Apply knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.
AO3	Analyse and evaluate the factors that underpin performance and involvement in physical education and sport.

1.1b – The Structure and Function of the Muscular System

The Muscular Structure



Involuntary, Voluntary and Skeletal Muscles

Involuntary muscles are not under our conscious control which means we can't make them contract when we think about it.

Voluntary muscles are under our conscious control so we can move these muscles when we want to. These are the muscle we use to make all the movements needed in physical activity and sport.

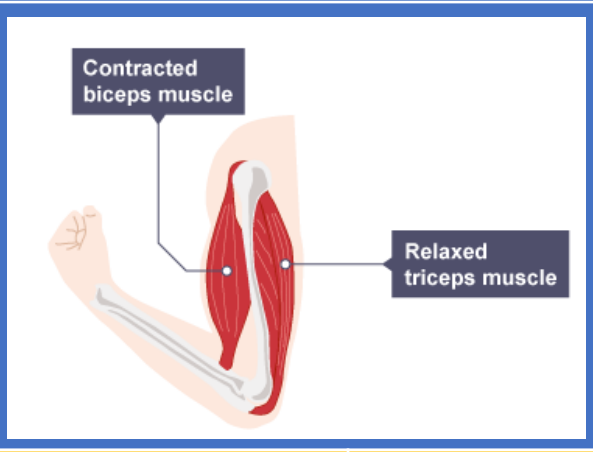
1. Smooth muscle: found in the internal organs and blood vessels (involuntary).
2. Cardiac muscle: found only in the heart (involuntary).
3. Skeletal muscle: attached to the skeleton (voluntary).

Muscle	Function	Example in Sport
Deltoid	Lifting the arm at the shoulder (the deltoid muscle has different parts which flex, extend and abduct the shoulder joint)	Lifting the arms to block in volleyball; upward arm swing when trampolining
Trapezius	Shoulder horizontal extension (moving the arms backwards at shoulder level)	Preparation phase of an overarm throw or badminton smash
Pectorals	Adduction of the shoulder (moving the arm towards the body); Shoulder horizontal flexion (moving the arms forwards in front of the body)	Upwards phase of a press up; rugby player making a tackle
Triceps	Extension of the elbow (straightening the arm)	Shooting and chest passing in netball (execution phase)
Biceps	Flexion of the elbow (bending the arm)	Drawing a bow in archery; 'backscratch' position during tennis serve
Abdominals	Flexion of the spine (sitting upwards)	Performing a sit up or a forward roll
Latissimus dorsi	Adduction of the shoulder (moving the arm down towards the mid-line of the body)	Hitting in hockey – left shoulder during preparation, right shoulder during execution and recovery
Gluteals	Hip extension (moving the femur backwards)	Pulling leg back at the hip before kicking a ball
Quadriceps	Extension of the knee (straightening the leg)	Kicking a ball (execution and recovery phase)
Hamstrings	Flexion of the knee (bending the leg)	Performing a hamstring curl on a weights machine; preparation phase of a rebound jump in basketball
Gastrocnemius	Plantar flexion of the ankle (pointing the toes downwards)	Standing on tiptoe to mark a shot in netball or pointing the toes during a gymnastic or dance move

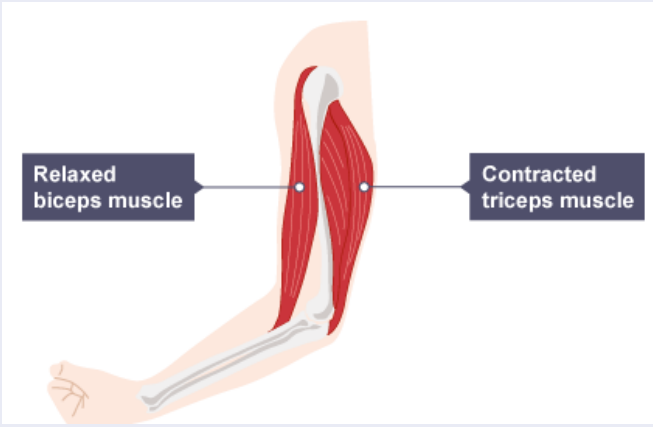
1.1b – The Structure and Function of the Muscular System

Antagonistic Muscle Pairs

Agonist: Contracting muscle that shortens and bulges, pulling on a bone to create movement.



Antagonist: Relaxing muscle that lengthens and thins, controlling the movement through resistance.



Joint	Antagonistic pair	Movements produced	Sport example	Fixator
Elbow	Biceps; triceps	Flexion; extension	Chest pass in netball; badminton smash	Deltoid; Trapezius
Knee	Hamstrings; quadriceps	Flexion; extension	Jumping to block in volleyball; tuck jump in trampolining	Gluteals; Abdominals
Shoulder	Latissimus dorsi; deltoid	Adduction; abduction	Golf swing; breaststroke arms	Trapezius; abdominals
Hip	Gluteals; Hip flexor	Extension; Flexion	Shot in football; Sprinting in athletics	Abdominals

1.1b – The Structure and Function of the Muscular System

Fixators: Support and stabilise

The trapezius muscle can act as a fixator when the biceps is flexing the elbow joint.

The abdominals can act as fixators to stabilise the body for hip and knee movements.

Exam Question: Describe how the antagonistic muscle pairs are working at the elbow during the downwards and upwards phase of a press up.

During the downwards phase, flexion occurs at the elbow. The biceps are the agonist, and they contract, and the triceps are the antagonist relaxing and lengthening to stabilise the movement by adding resistance so the body is lowered under control down towards the floor. During the upwards phase, the triceps are the agonist and contract, shortening and bulging to pull the ulna creating extension at the elbow. The biceps are the antagonist, relaxing and lengthening stabilising the movement

Antagonistic Muscles Pairs in Action

Preparation and execution and recovery phase in football

In the preparation phase, when a footballer prepares to kick a football, their hamstrings contract to flex the knee while the quadriceps lengthens to allow the movement. The hamstrings are the agonist and the quadriceps are the antagonist.

In the contact and recovery phase, the quadriceps contract to extend the knee while the hamstrings lengthen to allow the movement. The quadriceps are the agonist and the hamstrings are now the antagonist.

The abdominals would be acting as fixators.

AUTUMN 1: Periodic table and materials

50%	Use the periodic table to calculate the number of protons, neutrons and electrons in an atom State some properties of the halogens and alkali metals Define endothermic and exothermic reactions. Describe the tests for oxygen, hydrogen and carbon dioxide gases Define 'period' and 'group'	1) Lithium- e=3, p=3, n=4 (b) Hydrogen – e= 1, p=1, n=0 (c) Helium - e=2, p=2, n=2 (d) Magnesium - e=12, p=12, n=12 2) Halogens – reactive, gases, liquids then solids as you move down the group, diatomic. Alkali metals – reactive, all solids at room temp, low melting and boiling points, react with water and oxygen. 3) Exothermic - A reaction that transfers energy to the surroundings so the temperature of the surroundings increases (feels HOT). Endothermic - A reaction that takes in energy from the surroundings so the temperature of the surroundings decreases (feels COLD). 4) To test for carbon dioxide, bubble the gas produced through limewater, which turns cloudy. To test for oxygen, use a glowing splint, which will relight. To test for hydrogen, use a lit splint, which will produce a squeaky pop sound. 5) Hydrogen 7) Periods are the rows in the periodic table and describe the number of electron shells/energy levels an atom has. Sodium etc 8) Groups are the columns in the periodic table and describe the outer shell electrons an atom has. Aluminium etc
40%	Identify the atomic number and mass number of an element on the periodic table Identify six signs of a chemical reaction occurring Describe the properties of metals and non-metals Name 4 elements in the Alkali metals, Halogens and Noble gases Identify elements and symbols on the Periodic table. Identify solids, liquids and gases on the periodic table. Identify metals and non-metals on the Periodic table. Identify the periods and groups in the periodic table	1) Odour, 2) colour change, 3) precipitate formed, 4) temperature change, 5) gas produced, 6) light emitted 2) Match the piece of equipment to what it is used to measure: Mass Volume Temperature Speed Time Force  3) Circle the properties that describe metals. Box the properties of non-metals Brittle Sonorous Shiny Dull Ductile Malleable **Using the periodic table on the right:** 4) Na, Fe, Cl. 5) Put a red circle around a solid metal (Any group 1, 2 metal, transition metal, boron, aluminium etc), a blue circle around a liquid (see table) and a green circle around a gas (Any group 0 fluorine, chlorine, hydrogen, helium, oxygen, nitrogen). 6) Draw a black line between the metals and non-metals. 7) Highlight the alkali metals in pink, the halogens in green and the noble gases in yellow. 8) Number the groups and the periods.

AUTUMN 1: Periodic table and materials

70%	Calculate the relative atomic mass and relative formula mass for different substances (Extension only) Draw the electronic structure and write the electronic configuration of an atom (Extension only) Recall the rules for naming salts (-ide and -ate) (Extension only) Describe differences between early versions of the periodic table and the modern periodic table (Extension only) Describe the structure of atoms in a pure metal (Extension only)		1) Lithium -  2.1 Hydrogen -  1 Helium -  2 Magnesium -  2.8.2 2)a) Neon has a full outer shell and so does not need to gain or lose electrons to become stable b) As you go down group 0, the number of electron shells increases. 3) Mendeleev left gaps so that elements with similar properties could be placed together. 4) Find the relative formula mass (Mr) of the following: 1. Beryllium nitrate $Be(NO_3)_2$ 133 2. Ammonium sulphate $(NH_4)_2SO_4$ 132 3. Aluminium nitrate $Al(NO_3)_3$ 213 5) The atoms in pure copper are all the same size and are in regular rows, which can slide over each other.
60%	Name some common compounds from their symbol State some trends in the properties of the alkali metals State some trends in the properties of the halogens Describe the difference between endothermic and exothermic reactions Name common salts Find elements on the periodic table based on a description of their group and period. Calculate the relative formula mass for different substances (Extension only)		1) Can you name these compounds? (a) NaCl (b) H_2SO_4 (c) $CuSO_4$ (d) $Ca(OH)_2$ (e) H_2O (f) SO_4 (a) Sodium Chloride (b) Sulphuric acid (c) Copper sulphate (d) Calcium Hydroxide (e) Water (f) Sulphur dioxide 2) a) Reactivity increases as you go down the group, softness increases as you go down the group. 3) a) Reactivity decrease as you go down the group, melting and boiling point of the halogens increases as you move down the group. 4) Exothermic reactions give out energy to the surroundings, heating it up, whereas endothermic reaction take in energy from the surroundings, cooling it down. An example of an exothermic reaction is: magnesium reacting with oxygen, hand warmers and self-heat cans. 5) The tube gets hotter because the reaction is an exothermic reaction and so energy is given out to the surroundings, heating it up. 6) Name these salts: Calcium chloride magnesium chloride sodium sulphate Calcium carbonate aluminium oxide sodium hydroxide 7) Calculate the relative formula mass (Mr) for the following: 1. Sulphur monoxide (SO) 44 2. Hydrochloric acid (HCl) 36.5 3. Nitric acid (HNO_3) 63 8) a) Name the element that is in Group 1 and Period 3. Sodium b) Name the element that is in Group 0 and Period 1. Helium c) Name the element that is in Group 4 and period 2. Carbon

AUTUMN 1: Periodic table and materials

80%+

Use trends to predict the properties of a substance based on its position in the periodic table

Describe the trends in properties of the noble gases (Extension only)

Explain how the structure of alloys makes them stronger than pure metals (Extension only)

Evaluate which material is most suitable for various uses. (Extension only)

Write formulae for given salts (Extension only)

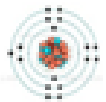
Describe the structure of atoms in an alloy (Extension only)

1) Fizz rapidly, moving across the surface of the water, producing a gas.

2) I would place it in group 0 (noble gases) because the noble gases are inert and are all gases at room temperature, which fits the description of the newly discovered element.

3) Steel is stronger than pure iron because the atoms in steel are different sizes and are arranged irregularly. This means the rows cannot slide over each other when hit, making steel harder and stronger.

4) Chlorine and Fluorine below:



5) Chlorine's outer electrons / shell closer to the nucleus so the chlorine nucleus has greater attraction for outer electrons / shell so chlorine gains an electron more easily

Material	Brittleness	Water resistance	Transparency	Rigidity	Weight
Clay ceramic	Brittle	No	Opaque	Hard	Heavy
fibreglass	Shatter resistant	Yes	Opaque	Hard	Light
Poly(methyl methacrylate)	Shatter resistant	Yes	Transparent	Hard	Light
Concrete	Tough	Yes	Opaque	Hard	Very heavy

a) Fruit bowl – clay ceramic would be best as it can be covered in a glaze to make it waterproof and is the cheapest material that could support the weight of the fruit.

b) Skis – fibreglass would be the best material as it is shatter resistant and light, to allow for speed, and opaque, for visibility in snow.

c) A protective barrier for spectators at an ice hockey game – poly(methyl methacrylate) would be the best material as it is shatter resistant and hard, to withstand collisions from hockey players and equipment to protect spectators, but transparent so that spectators can see the game through it.

6) I would use concrete to build the foundations of a large building because it is a strong and rigid material which can support the weight of large building

AUTUMN 2: Chemical reactions and the environment

50%

- Write word and symbol equations for oxidation reactions
- Define conservation of mass
- Write word and symbol equations for metal and acid reactions
- Describe combustion reactions
- Describe how fossil fuels have formed

1) Complete the sentence below:
As the size of marble chip increases the volume of Carbon Dioxide produced decreases.

Size of marble chips	Volume of Carbon Dioxide produced in 1 minute (cm^3)
Powder	75
Small	53
Medium	30
Large	10

2) Match the unit to the measurement

Time	Temperature	Force	Mass	Speed	Length	Volume
s	*°C*	*N*	*kg*	*m/s*	*cm*	*cm^3*

3) Write the general word equation for metal oxidation reactions
Metal + oxygen → metal oxide
4) Write the word equations for complete combustion and incomplete combustion:
Fuel + oxygen -> carbon dioxide + water
Fuel + oxygen -> carbon monoxide + carbon + water
5) Describe the conditions in which fossil fuels are form, including what they form from:
Fossil fuels form from the remains of dead plants and animals, requiring a high temperature and high pressure over millions of years to undergo the chemical change.
6) Complete this simple prediction:
As the temperature increases the rate of reaction will increase.

40%

- Decide which reaction happens at fastest rate
- Describe the oxidation reactions
- Describe metal and acid reactions
- Name three greenhouse gases
- Name three fossil fuels

1) Shaquan adds some hydrochloric acid to some copper sulphate. Give things he should be looking out for to show that there has been a chemical reaction. Colour change, formation of a precipitate, formation of a gas, odour change, temperature change, light emitted.

2) What is oxidation? Give an example.
The addition of oxygen to an element, for example, when zinc reacts with oxygen to produce zinc oxide.

3) Using the diagram on the right put the **four** metals in the order of how strongly they react with the acid:
most reactive magnesium
zinc
iron
least reactive copper

4) Name two products of metals and acids reacting together. Salt and hydrogen gas

5) Name three greenhouse gases. Carbon dioxide, methane, water vapour

6) Name three fossil fuels. Coal, natural gas, oil

AUTUMN 2: Chemical reactions and the environment

70%	**Predict whether displacement reactions will occur or not** **Write word equations for displacement reactions.** **Explain why humans should recycle linking to the carbon cycle and finite resources** **Describe the effect of a catalyst on rate of reaction (Extension only)** **Describe how a scientist can increase the rate of reaction in an experiment (Extension only)** **Describe the greenhouse effect (EXT)**		1) Are the following displacement reactions possible or not? (a) Copper and Zinc Sulphate -> Copper Sulphate and Zinc Not possible (b) Iron and Gold Nitrate -> Iron Nitrate and Gold Yes (c) Potassium and Copper Sulphate -> Potassium Sulphate and Copper Possible 2) Write a word equation for the following displacement reactions: (a) zinc + copper sulphate -> zinc sulphate + copper (b) magnesium + silver nitrate → silver + magnesium nitrate (c) potassium + zinc nitrate → zinc + potassium nitrate 3) Describe the ways in which recycling helps reduce the amount of carbon dioxide produce by humans. Recycle = turning a waste product/item into something useful e.g. plastic can be melted and recycled, glass can be crushed and melted, metal can be melted and reshaped. This means there are less finite resources taken from the earth to make something new, less crude oil taken from the earth to make plastic, less waste is dumped onto landfill sites and it creates jobs. 4) Describe how adding manganese oxide (a catalyst) to hydrogen peroxide will affect the rate at which oxygen and water are produced. Adding manganese oxide will increase the rate of the reaction because it lowers the activation energy and is not used up in the reaction. 5) A scientist is reacting marble chips (calcium carbonate) with acid. What are the ways in which the rate of this reaction could be increased? Grinding the marble chips into a powder to increase surface area, heating the mixture gently, increasing the pressure and increasing the concentration of the acid. 6) Explain why the average global temperature is increasing. Include in your answer an explanation of the greenhouse effect. The average global temperature is increasing due to an increase in greenhouse gases in the atmosphere. More greenhouse gases then absorb more of the long wavelength radiation emitted by the earth, heating the atmosphere.
60%	**Investigate the reactivity of different elements and use this to place them in to a reactivity series (Extension only)** **Place metals in order of reactivity.** **Identify factors affecting the rate of reaction** **Describe two ways in which humans are contributing to climate change** **Link photosynthesis, respiration and combustion to the carbon cycle** **State factors that will affect rate of reaction (Extension only)**		1) Put these three metals in order from most to least reactive: Third - Gold First - Potassium second - Magnesium 2) Abdulrahman is carrying out an investigation into the effect of temperature on rate of reaction. He puts the magnesium into hydrochloric acid and measures how long the reaction takes at different temperatures; 30˚C, 40˚C and 50˚C. a) What are the independent (the one he is changing) and dependent (the one he is measuring) variables? Changing the temperature (IV) and measuring how long the reaction takes (DV) 3) Give two ways human are contributing to climate change and suggest a way to reduce this. Burning fossil fuels – reduce the use of fossil fuels in cars and industry by using renewable sources of energy. Deforestation – plant a tree for every tree cut down. Sustainable cutting down of trees. 4) Describe the movement of carbon in photosynthesis, respiration and combustion. Atmospheric carbon dioxide is absorbed by plants during photosynthesis. Respiration in living organisms releases carbon dioxide into the atmosphere and combustion similarly increases the amount of carbon dioxide in the atmosphere. 5) Use the data in the table below to write a scientific conclusion linking concentration of acid to rate of reaction. Concentration of acid (mol) / Time taken for reaction to finish (s) 0.2 / 159 0.4 / 143 0.6 / 121 0.8 / 118 1.0 / 78 1.2 / 63 1.4 / 39 1.6 / 19 As the concentration of the acid increases, the time taken for the reaction to finish decreases, in other words, the rate of the reaction increases as concentration increases. 6) Name the factors that affect rate of reaction: Temperature, pressure, concentration, surface area, catalyst present

AUTUMN 2: Chemical reactions and the environment

80%+	**Write balanced symbol equations for displacement reactions** **Describe acid + metal hydroxide reactions** **Write word and symbol equations for acid + metal hydroxide reactions** **Describe acid + metal carbonate reactions (EXT)** **Write word and symbol equations for acid + metal carbonate reactions (EXT)** **Use the reactivity series to predict the outcome of reactions involving metals (EXT)** **Link conservation of mass to balanced symbol equations (EXT)**		1) Write a balanced symbol equation for each of the reactions in 70% Q2. $CuSO_4 + Zn \rightarrow ZnSO_4 + Cu$ $Mg + Ag(NO_3)_2 \rightarrow Ag + Mg(NO_3)_2$ $2K + Zn(NO_3)_2 \rightarrow 2KNO_3 + Zn$ 2) Write the general word equation for metal hydroxides reacting with acids. metal hydroxide + acid → salt + water 3) For each of the reactions: Potassium would displace aluminium because it is more reactive. Copper would not displace iron because it is not as reactive. Calcium would displace silver because it is more reactive. (i) Potassium and Aluminium Chloride (ii) Iron Sulphate and Copper (iii) Silver nitrate and Calcium Potassium + aluminium chloride → potassium chloride + aluminium 3 $K + AlCl_3 \rightarrow 3KCl + Al$ Silver nitrate + calcium → calcium nitrate + silver $Ca + Ag(NO_3)_2 \rightarrow Ag + Ca(NO_3)_2$ 4) Write out the products for the following reactions: Sodium hydroxide + hydrochloric acid → sodium chloride + water Magnesium hydroxide + sulphuric acid → magnesium sulphate + water 5) Write out the products for the following reactions: calcium carbonate + hydrochloric acid → calcium chloride + water + carbon dioxide magnesium carbonate + sulphuric acid → magnesium sulphate + water + carbon dioxide Write the symbol equations for the above reactions: $CaCO_3 + HCl \rightarrow CaCl_2 + H_2O + CO_2$ $MgCO_3 + H_2SO_4 \rightarrow MgSO_4 + H_2O + CO_2$

Autumn 1

My House					
1	**Un sótano**	A basement	18	**Cómodo**	Comfortable
2	**Un salón**	A living room	19	**Incómodo**	Uncomfortable
3	**Un comedor**	A dining room	20	**Grande**	Big
4	**Una cocina**	A kitchen	21	**es/ son**	It is/they are
5	**Un ático**	An attic	22	**Hay**	There is
6	**Un jardín**	A garden	23	**Vivir**	To live
7	**Un cuarto de baño**	A bathroom	24	**El campo**	The countryside
8	**Un dormitorio**	A bedroom	25	**La montaña**	The mountains
9	**Un despacho/una oficina**	An office	26	**La playa**	The beach
10	**Un garaje**	A garage	27	**Una aldea**	A village
11	**Pequeño**	Small	28	**Una ciudad**	A city
12	**Lujoso**	Luxurious	29	**Un pueblo**	A town
13	**Bonito**	Pretty	30	**El norte**	The north
14	**Feo**	Ugly	31	**El sur**	The south
15	**Limpio**	Clean	32	**El este**	The east
16	**Verde**	Green	33	**El oeste**	The west
17	**Antiguo**	Old	34	**En el centro**	In the centre

Year 8 Subject: Drama

Autumn 1

My House					
1	**Un sótano**	A basement	18	**Cómodo**	Confortable
2	**Un salón**	A living room	19	**Incómodo**	Uncomfortable
3	**Un comedor**	A dining room	20	**Grande**	Big
4	**Una cocina**	A kitchen	21	**es/ son**	It is/they are
5	**Un ático**	An attic	22	**Hay**	There is
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14	**Feo**	Ugly	31	**El sur**	The south
15	**Limpio**	Clean	32	**El este**	The east
16	**Verde**	Green	33	**El oeste**	The west
17	**Antiguo**	Old	34	**En el centro**	In the centre