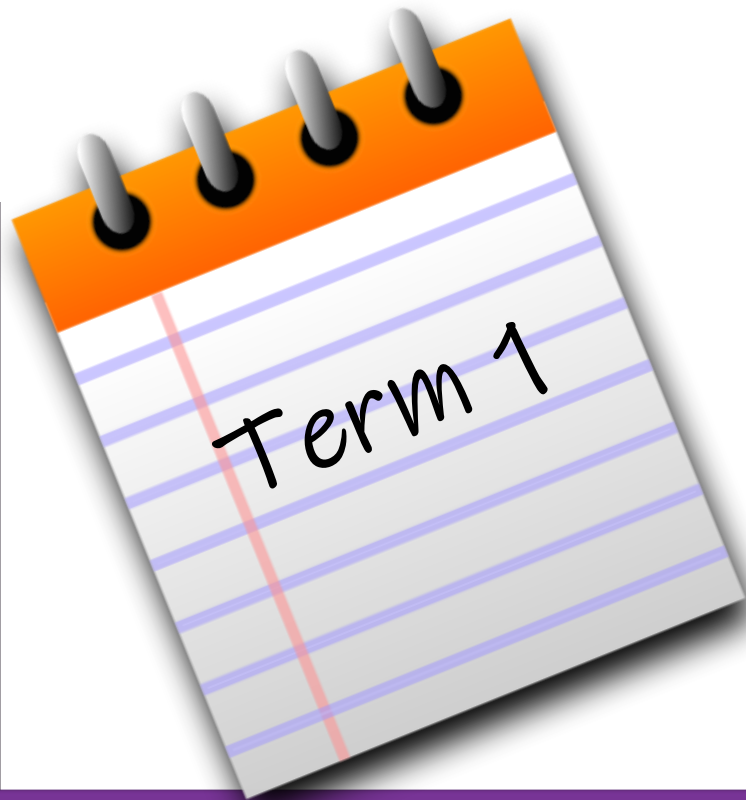


The Knowledge Organisers Pack



Year
9



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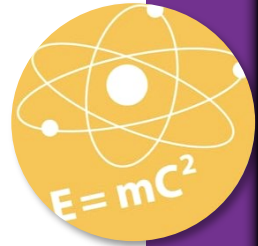
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BLOOD BROTHERS



Context – *Blood Brothers* was written by Willy Russell, and was first staged in 1983.

Willy Russell– William Russell (born 23rd August 1947) is an English dramatist, lyricist and composer. Amongst his most popular works are *Educating Rita*, *Shirley Valentine* and *Blood Brothers*. Russell is from Liverpool, and wrote his first play, *Keep Your Eyes Down*, in 1971 whilst he attended the city's St Katherine's College of Higher Education. Two of his plays, *Shirley Valentine* and *Educating Rita*, have become successful feature films.

Influences through Russell's Life – Much of Willy Russell's work is influenced by his own working class background. Russell was a child from a low-income family, with a father who struggled with drug addiction. His father worked in a factory and his mother worked as a nurse. Russell left school at age 15, without any academic qualifications, and became a h airdresser. He did not return to education until age 20. Russell has a love of popular music (one of his earlier plays is about The Beatles) which is evident in most of his plays.

Marilyn Monroe – Marilyn Monroe was an extremely famous Hollywood actress, whose fame transcended the boundaries of her Hollywood films. She was presented in the media as a 'fantasy' woman who lived a perfect life. Yet, the reality was very different – she became addicted to anti-depressants and eventually died from an overdose. From the 1950s onwards, Monroe was just one part star from a society in which everyday people became more influenced by pop/celebrity culture.

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

Mickey – Mickey is the biological twin of Edward who Mrs Johnstone opts to keep. Mickey has a harsh working-class upbringing, but at his heart he is honest and sincere. He takes a number of knocks in life (that Edward is fortunate enough to avoid) for example impregnating his girlfriend (Linda) and getting laid off from his industrial job. He hardens as the play goes on, becoming cynical after time in prison, and becomes addicted to anti-depressants.

Mickey Quote: "Do you wanna be my blood brother, Eddie?"

The Narrator – All-knowing and slightly menacing, the Narrator takes on a number of roles throughout the play. Sometimes he plays parts (e.g. the Milkman) whilst at other times he stands back and comments upon the action as it unfolds. The Narrator reminds the audience of the terrible act that causes the tragedy to unfold, and warns the audience of the tragic events that are to come.

Narrator Quote: "So did y'hear the story of the Johnstone twins?"

Mrs Johnstone – Mrs Johnstone is the biological mother of Mickey and Edward, as well as a number of other children. She is a deeply superstitious woman who has to struggle to get by, however she also has a good heart and a strong sense of right and wrong. She gives up one of her twins as she genuinely believes that she has no choice after being left by her husband. As the play progresses, she is overcome by regret, however she always remains kind and loving.

Mrs Johnstone Quote: "In the name of Jesus, the thing was done."

Themes – A theme is an idea or message that runs throughout a text.

Class and Money – The themes of class and money are dominant as they both control the actions of characters and significantly impact upon their lives. For example, the catalytic deed – Mrs Johnstone giving one of the twins away – comes about because she simply cannot afford to keep them both. Class then heavily influences the paths that Mickey and Edward then follow.

Fate and Superstition – The voice of fate is provided over and over again throughout the play by the Narrator, who reveals even at the outset that the two will die. Mrs Lyons plays on Mrs Johnstone's belief in superstition in order to keep her away from Edward. However ridiculous and made-up it sounds, it eventually comes to pass, almost as if the false threat is in itself a sin.

Nature vs Nurture – As Mickey and Edward are twins, they are genetically (nature) as similar as can be. Therefore, Russell is suggesting that it is in fact nurture (their upbringing) that causes their contrasting behaviours, actions, and mannerisms. It is clear that Russell feels that unjust society is the heaviest influence in where people end up.

Coming of Age – Although much of the play focuses on dark and complex ideas, one of the lighter themes within the play is the theme of the boys' 'coming of age.' Although the play ends tragically, much of it deals with the boys growing up, evolving from young boys, to teenagers, to men. As they mature, their experiences and preoccupations notably shift.

Margaret Thatcher – Margaret Thatcher was a Conservative politician who was elected as Prime Minister of the United Kingdom in 1979, four years before *Blood Brothers* was first performed. Seeing British manufacturing as uncompetitive, she blamed trade unions as being too strong in calling strikes on weakened employers. So, she reduced unions' powers and sold off and closed uncompetitive companies.

Effect in the UK/Liverpool – A short-term effect of companies being closed and sold off was that there was an economic downturn across the UK and unemployment soared. This particularly effected the more industrialised northern areas of the country, with Liverpool being a prime example. Liverpool's docks, a chief source of employment in the city, were allowed to fold, causing thousands of households to fall into poverty and unemployment. Crime levels increased, drug use -rocketed, and housing deteriorated in poorer areas.

Thatcher's Values vs. Russell's Values – One of the pivotal beliefs in Thatcher's system was that success and wealth came to those who chose to work hard. In *Blood Brothers*, Russell demonstrates opposition towards that view, suggesting that opportunities are more limited for those that are raised in working class backgrounds, when compared to those from the middle classes. This is divided society is demonstrated through showing the effect of different upbringings on a set of twins.

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

Edward – Edward is the biological twin of Mickey, who Mrs Johnstone gives to Mrs Lyons to raise as her own. Like Mickey, Edward is honest and sincere, remaining kind and down-to-earth despite his luxury upbringing with the snobbish Mrs Lyons. Unlike Mickey, however, Edward benefits from every advantage in life, such as attending private schools and university. He uses his position as a councilman to help Mickey, but also begins an affair with Linda.

Edward Quote: "It's just a secret, everybody has secrets, don't you have secrets?"

Linda – Linda begins the play as a tomboy who enjoys playing with Mickey and Edward, but she soon becomes an object for their desire. At the beginning of her adolescence, she seems solely attracted to Mickey, telling him that she loves him even before their first kiss. However, after years of poverty (and Mickey's imprisonment) she turns to Edward for comfort and the two begin an affair.

Linda Quote: "You can get up off the ground again"

Mrs Lyons – Mrs Lyons is the opposite of Mrs Johnstone – arrogant, snobbish, and infertile. She adopts Edward and brings him up as a wealthy, middle-class boy. Like Mrs Johnstone, Mrs Lyons is racked with guilt from the deed of separating the twins, but this influences her to create a superstition to keep Mrs Johnstone away. She eventually becomes so uninged and paranoid that she will lose her son that she attempts to kill Mrs Johnstone.

Mrs Lyons Quote: "Oh...you mean you're superstitious?"



BLOOD BROTHERS



Scene-by-Scene Summary – Alongside key quotations from each section of the play.		
Beginning of Act I	The play opens with Mrs Johnstone begging the Narrator to tell her 'it's not true', and the Narrator revealing that the Johnstone twins were separated at birth, and only found out when they died. Mrs Johnstone (a 30-something woman who looks much older) tells of her life having a shotgun wedding, having many children at a young age, and her husband leaving her. Mrs Johnstone cannot pay her bills, and her children are hungry. In the next scene, Mrs Johnstone is seen cleaning for the wealthy Mrs Lyons, who laments not being able to have children. Mrs Johnstone finds out that she is having twins (she cannot afford them both). Mrs Lyons begs her to give one of them to her. Initially, Mrs Johnstone is horrified, but Mrs Lyons is able to convince her. Mrs Lyons plays on Mrs Johnstone's belief in superstition to have her swear on a bible to tell no one. The deal is final.	<i>"So did y' hear the story Of the Johnstone twins? As like each other as two new pins Of one womb born, on the self same day, How one was kept and one given away?"</i>
Middle of Act I	Mrs Johnstone gives birth to twins, and when she returns from hospital creditors take her possessions to pay for bills. Mrs Lyons enters and forces Mrs J to give up the twin, as promised. Reluctantly, she does so. When returning to the house the next week, Mrs J plays with the twin she gave away – Mrs L arrives and is furious - she fires her. Mrs J threatens to take her baby with her, and then to tell someone, but Mrs L makes up a new superstition about twins secretly parted, who learn their origins, immediately die.	<i>"Surely, it's better to give one child to me. Look, at least if the child was with me you'd be able to see him every day, as you came to work."</i>
End of Act I	7 years later, Mickey remarks to his mother that he is sick of his older brother, Sammy, bullying him. By chance, he then meets Edward, and the two instantly become best friends – they realise that they have the same birthday and agree to become 'blood brothers.' When Mickey introduces Edward to his mother, she is alarmed, and sends him home. When Mrs L finds out the two have become friends, she is also incensed. Mickey and Edward decide to play together against their mothers' wishes. With Linda, they play with a toy gun, then throw stones at a window, but are caught by a Policeman. The Policeman acts v. differently to the Johnstones and the Lyons families. The Lyons move to the country. Edward and Mickey both miss each other dearly. Not too long after, Mrs J is receives a letter stating that her family is being relocated to the country. She sees it as a fresh start.	<i>"See this means that we're blood brothers an' that we always have to stand by each other. Now you say after me: 'I will always defend my brother. I will always defend my brother.'"</i>
Beginning of Act II	Mrs J sings happily about her new house and life. She pays bills on time. Mickey is now 14 and has begun to notice girls. Meanwhile, Edward now attends boarding school. Mickey now clearly has a crush on Linda. They get on a bus together, which Sammy attempts to rob before being chased away. Linda warns Mickey never to turn bad like Sammy. Meanwhile, Edward is suspended at school for wearing a locket given to him by Mrs J (with a picture of her and Mickey in it) before he left. Mickey and Linda are also suspended from their school for answering back to a teacher. Leaving school, Mickey longs to be able to tell Linda how he feels. He bumps into Edward, and the two recognise one another. They begin to talk about girls, and decide to go and watch a pornographic film together, in order to get some tips. Mrs Lyons watches their whole exchange, and follows them.	<i>"Linda...Linda...Don't... Linda, I wanna kiss y', an' put me arms around y' an' kiss y' and kiss y' an even fornicate with y' but I don't know how to tell y' because I've got pimples an' me feet are too big..."</i>
Middle of Act II	The boys stop at Mrs J's house to get money. She is shocked but happy to see Edward. She gives them money for a movie. Mrs Lyons (now increasingly unstable) confronts Mrs J, offering her large amounts of money to leave the area. Mrs J refuses. Angered, Mrs L tries to stab Mrs J, but Mrs J disarms her. Mrs L is becoming known as a 'mad woman.' Edward and Mickey emerge from the movie, impressed. Linda also emerges, having been at the same movie. Edward, excited, stands on a car, and the three are chased away by a policeman. The three spend a great deal of time together, and we see them grow from 14 to 18. At 18, Mickey now works in a factory, and Edward is going away to University. Although Edward clearly has feelings for Linda, he loyally encourages Mickey to ask her out, which he does. Mickey soon reveals to Mrs J that Linda is pregnant, and that they will marry soon. They get married, but shortly afterwards, Mickey is made redundant from the factory.	<i>"Due to the world situation The shrinking pound, the global slump And the price of oil I'm afraid we must fire you, We no longer require you, It's just another Sign of the times"</i>
End of Act II	Edward returns from university buoyant; however when he meets the depressed and cynical Mickey, the two argue. As they leave one another, Edward sees Linda, and confesses his love for her. Sammy then convinces Mickey to help him out in a robbery, which inevitably goes wrong – Mickey has to spend time in prison. When he is eventually released, his drug induced apathy (he's addicted to anti-depressants) prevent him from getting a job. Linda gets help from Edward (now on the housing committee) to get Mickey and her a new house. Mickey, however, continues to be cynical and depressed. Linda and Edward begin an affair. Mrs L shows Mickey Edward and Linda together, and Mickey is enraged. He finds the gun that Sammy hid in the botched robbery job, and tracks down Edward (who is at the town hall). Mrs J and Linda, realising what is going on, pursue him. He finds Edward and points the gun at him. A policeman asks Mickey to put the gun down. Mrs J emerges and reveals the two are brothers. Mickey, hysterical, torments his own position, and accidentally shoots Edward. The police then shoot Mickey.	<i>"And do we blame supersti- tion for what came to pass? Or could it be what we, the English, have come to know as class? Did you ever hear the story of the Johnstone twins, As like each other as two new pins"</i>
Russell's Dramatic Devices		The Features of Tragedy
Dramatic Irony	The audience is aware throughout the play that Mickey and Edward are twins, but they do not know this until the very last scene.	Tragic Hero - A main character cursed by fate and in possession of a tragic flaw (both Mickey and Edward display some features of tragic heroes).
"The Fourth Wall"	The Narrator and Mrs Johnstone break the fourth wall when they speak to the audience directly at the beginning and end of the play.	Hamartia - The fatal character flaw of the tragic hero (their upbringings/differences, and also their bond between one another).
Stage Directions	The precise directions detailing how Mickey, 'uncontrollable with rage', 'waves' the gun around before it explodes at Edward.	Catharsis - The release of the audience's emotions through empathy with the characters.
Dramatic Tension	The events leading up to the final scene, including Edward and Linda's affair, and Mickey finding out, help to build the dramatic tension.	Internal Conflict - The struggle characters engage with over incidents/flaws. (Mrs Johnstone's regret at giving one of her twins away).

Key learning—The big questions!

What makes a good story opening?

How does an author engage a reader with the opening of a story?

How does a writer set a good scene?

How does a writer present characteristics of his characters?



Include a good range of punctuation ? ! : ; ...

First person—written from the perspective of a character, uses I, me, mine, we.

Third person—written from the perspective of an omniscient narrator, uses they

Secrets to a good story:

Create interesting characters with a good back story

Keep to no more than two main characters Not too much dialogue

Set the scene, be descriptive, use quality , judicious adjectives

Consider what your characters want—all stories have characters that want something—they don't have to get what they want

Story openings Knowledge Organiser



Sentence types

Simple—one piece of information

Compound—includes more than one subject connected using one of these :for, and, now, but, or, yet , so.

Complex— a sentence that contains a main clause and a subordinate clause

Main clause—the part of the sentence that makes sense on its own

Subordinate clause—additional information that backs up the main clause

Genres—types of stories

Comedy	Mystery	Horror
Dystopian	Historical	Romance
Family	Thriller	Myth and magic
Science Fiction	Crime	
Folk Law	Fairy Tales	

Vocabulary

Target audience—who the book is aimed at

Genre—the category a story fits into

Author—the writer of the story

Illustration—picture/drawing/painting

Illustrator—person who produces the images

Structure—the order or way something is written

Blurb—a short description of a book

Protagonist—main character in a book

Antagonist—a character who opposes the protagonist

omniscient - all knowing, sees everything

Denouement—the final part of the story when the plot is drawn together

Preface—an introduction to a book, typically sets out its aims

Judicious—done with good judgement

Paragraph rules

New time—start a new sentence -

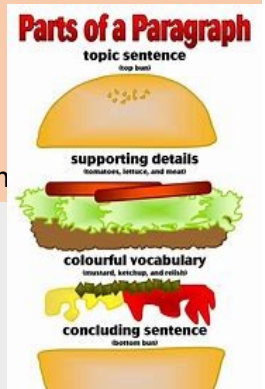
Eg: Later that day... A few minutes later...

The following day...

New place—Entering the garden... Walking up stairs...

New topic—introducing any new idea

New speaker—Every speaker starts on a new line—like a paragraph





Of Mice and Men



Context – Of Mice and Men was written by John Steinbeck in 1937.	
John Steinbeck – John Steinbeck was an American author, who lived between 1902 and 1968. He was a Nobel Prize winner for Literature. Many of his 27 books (including 16 novels) have been considered as classics of Western literature. His works frequently explore the themes of fate and injustice, as experienced by <u>everyman</u> characters. Many take place in the Salinas Valley of California.	The American Dream– The American Dream is a national ethos of the United States, which declares that freedoms, prosperity, success, and social mobility, can all be achieved through <u>hard work</u> . It implies that society has few barriers preventing anyone from achieving their dreams, should they be willing to put in enough effort. James Truslow Adams described it as life should be better and richer and fuller for everyone."
Racism– Life was tough for black people living in America in the 1930s. Racism was still rampant, and there were not yet laws ruling against racial discrimination. White and black people were segregated at the time, and black people were considered 2 nd class citizens. Black people often had to work harder for less money, often being given the 'dirty work' in their industry. The lynching of black people was common, sometimes for the most petty or unproven of crimes. The Jim Crow laws of post-1876 strongly reinforced racism.	The Wall Street Crash and The Great Depression –In the 1920s, the USA had been an enormously prosperous nation. However, in October 1929 millions of dollars were wiped out in an event that became known as the Wall Street Crash. This triggered the Great Depression across the country throughout most of the 1930s. In this time, between 12 and 15 million (one third of the population at the time) became unemployed, and many people lost their life savings as banks went bust. With no social support system, many families were left to face <u>poverty</u> .
Gender Inequality– Women had filled in for men when they had participated in the First World War. However, after the Great Depression, when many jobs were lost, women's jobs were often the first to go. Women were not trusted as they were seen to be 'taking jobs away from men.' With so few job prospects, many women consigned themselves to a life as a <u>housewife</u> . Curley's Wife provides an example of the difficulties for women at the time – she is forced into a marriage with a man she does not love to <u>stave off poverty</u> .	Golden California – To further compound the effects of the Great Depression, in the 1930s America received a number of severe <u>dust storms</u> , which greatly damaged the ecology and agriculture across much of the country. The only state that remained relatively unaffected was California on the west coast, which soon became known as ' <u>Golden California</u> .' Workers from all over the country descended upon the state in order to work for little pay as <u>farm-hands</u> . As men would often travel to do this alone, it was as an extremely solitary existence.
Main Characters – Consider what Orwell intended through his characterisation of each of the below...	
George – George is one of the two lead protagonists (with Lennie) in <i>Of Mice and Men</i> . Although he is occasionally short-tempered with Lennie, he is a <u>loyal</u> and caring friend. George could be described as an idealist, as he harbours dreams of one day owning his own farm and land. George is relatively <u>smart</u> , thinking and acting sharply in difficult situations.	Lennie– Lennie is a kind and simple character, who possesses enormous <u>physical strength</u> . At both the beginning and end of the novel he likes to pet soft things, is totally devoted to George, and is an unintentional threat to both himself and others. Lennie's huge size makes him a target of others – principally Curley. Lennie dreams of <u>tending the rabbits</u> on his and George's own farm.
George Quote: "Guys like us...the loneliest guys in the world" - p113	Lennie Quote: "I don't like this place, George." – p165
Curley – Curley is the <u>boss's son</u> , and is perhaps the chief antagonist throughout the novella. He is confrontational, mean-spirited and <u>violent</u> , and to back up his threats he is rumoured to be a former prizefighter. Curley tries to compensate for this small stature by picking fights with larger men – such as Lennie. As a recently married man, Curley is extremely <u>paranoid</u> , jealous and controlling.	Curley's Wife – Curley's Wife is initially introduced to the reader as a 'tramp', a 'rat-trap' and a 'tart', such are the views towards women on the farm. However, she emerges as one of the most complex characters in the text, revealing openly that she is disappointed with her life, that 'Curley ain't a nice fella' and that she is lonely. Eventually her longing for attention becomes her downfall.
Curly Quote: "You the guys the old man was waitin' for?" – p74	CW Quote: "I tell ya I could of went with shows" – p102-103
Crooks – Crooks is the <u>lively</u> and quick-witted stable-buck, who is named so because of his crooked back. As with many of the other characters in the novella, Crooks openly admits that he is lonely – however in his case this is caused by the <u>racial discrimination</u> and separation that he suffers. Crooks <u>loneliness</u> can manifest itself into cruelty towards those who are even weaker, such as when he taunts Lennie. More than anything else, Crooks seems to want to belong.	Candy – Candy is an <u>old</u> odd-job worker who lives on the farm, who only has one hand after an accident. Candy worries that one day the boss will declare him unfit to work and he will be cast aside, left to die in poverty. His <u>old, smelly dog</u> (that is shot by the other ranch workers) is a harsh reinforcement of this belief. Candy is revitalised as he begins to share in <u>George and Lennie's dream</u> of owning their own place.
Crooks Quote: "It's just bein' with another guy. That's all." – p39-40	Candy Quote: "Had him since he was a pup" – p56
Themes – A theme is an idea or message that runs throughout a text.	
Dreams – Each character in the text has their own dreams that they live and work for: George, Lennie, and Candy share in the dream of owning their own place. Curley's dream is to be respected by others, whilst Curley's Wife's dream is to be a famous actress. Crooks simply longs to be accepted and treated equally. None of the characters make their dream, showing the impossibility of the American Dream.	
Loneliness– All of the characters, in some sense, experience loneliness, except for Lennie (who has George). Curley's Wife (isolated because she is a woman) and Crooks (isolated due to his colour) bemoan their lonely existences at any given opportunity, whilst all of the other men on the ranches live solitary lives as farm-hands, without families. At the end of the text, George is lonely too.	
Inequality – <i>Of Mice and Men</i> was set in a time in which the laws favoured white people, and men held far more rights than women. This is evident through the characters of Crooks and Curley's Wife. Similarly, life at the time could be deemed more selfish and predatory, as the strong do not care for (and many actively attack) the weak. Other characters' behaviour towards Candy and Lennie is evidence of this.	
Animals and Nature – Steinbeck makes frequent references to animals and nature, both literally and figuratively. At the start and end of the novella, he vividly describes the scene of nature, including the animals that reside there. He also compares characters to animals, for example Lennie is compared to a bear, whilst Curley is compared to both a fish and a frog.	



Of Mice and Men



Scene-by-Scene Summary – Alongside key quotations from each scene.		
Section 1	<p>The story opens with a vivid description of the wooded area around the Salinas River in California. Two men approach: George and Lennie. As they talk more, it becomes clear that Lennie has a mild mental disability, and that George looks out for him. George catches Lennie petting a dead mouse and takes it off him, angrily. Lennie swears that he didn't kill it, although it becomes clear that Lennie's enormous strength means that he kills things unintentionally. George reminds Lennie that they are going to work on a ranch and he needs to behave. The two eat beans for dinner, with George losing his temper with Lennie for persistently asking for ketchup. He states that he would get along much better without Lennie. He then feels guilty about losing his cool, and reminds Lennie of their dream: one day, they are going to own their own farm. They then settle for the night.</p>	<p>"With us it ain't like that. We got a future. We got some body to talk to that gives a damn about us."</p>
Section 2	<p>The two men arrive at the ranch, and after being scolded by their new boss, are assigned to a picking team led by Slim. They meet Candy, and also Curley, who immediately becomes aggressive towards Lennie. After he leaves, Lennie tells George to stay away from Curley. Curley's Wife then appears at the bunk, who Lennie finds 'purty' and who flirts with them. George has to tell Lennie to stay away from her. Slim then enters, who is clearly admired by all. He stokes up a friendship with George and Lennie.</p>	<p>"She smiled archly and twitched her body. "Nobody can't blame a person for lookin'," she said."</p>
Section 3	<p>Slim gives one of his new pups to Lennie. George tells Slim of how they got chased out of the last town – Lennie grabbed hold of a girl's red dress, and wouldn't let go. Carlson begs Candy to let him shoot his old, stinking dog, to which Candy reluctantly agrees. After an awkward silence, the gunshot is heard. Curley comes in, asking where his wife is. When he learns that she is not there, and neither is Slim, he storms out. The others follow, hoping to see a fight. Thinking they are left alone, George discusses the dream again to Lennie. Candy overhears, and swears to devote his life savings to it if he can be in. The other men return, Curley apologising to Slim for false accusations. Being mocked by the others, Curley turns his attention on Lennie, beating him. Lennie only fights back when George tells him to, severely crushing Curley's hand. Curley is warned by Slim not to get them fired.</p>	<p>"Curley's fist was swinging when Lennie reached for it. The next minute Curley was flopping like a fish on a line."</p>
Section 4	<p>Crooks sits in his room alone. Lennie soon wanders in, lonely as the other men have gone out to town. Crooks initially tells him to go away, saying that he (as a black man) is not allowed in the others' bunk, and so they should not be allowed in his. Lennie persists, and eventually Crooks lets him in. Soon enough, Lennie begins to babble about his and George's dream. Crooks speaks of his own loneliness, before then taunting Lennie by suggesting that George might never return. He only relents when Lennie grows aggressive. Candy enters and begins to speak again of the men's dream. Curley's Wife interrupts, and taunts the men about being 'the weak ones' left behind. She speaks of her own loneliness. Crooks asks her to leave, but she threatens that she could easily have him lynched if he says too much more. The other men then return and Curley's Wife leaves.</p>	<p>"... You go on get outta my room. I ain't wanted in the bunk house, and you ain't wanted in my room." "Why ain't you wanted?" Lennie asked. "Cause I'm black..."</p>
Section 5	<p>Lennie sits in the barn, stroking his dead puppy, questioning why it died. He decides to try and hide the puppy but then gets angry with it for dying and hurls it across the room. Curley's Wife enters, reassuring him that it is safe to talk to her. She speaks of her loneliness, and her past dreams. She explains that she doesn't like Curley. She asks Lennie to stroke her hair, but he quickly becomes too excited and holds on too tight. When she cries out, he tries to silence her, and accidentally breaks her neck. He runs away, towards the clearing that he and George were in at the beginning of the story. Candy finds the body and informs George – they immediately know what has happened. George asks Candy to pretend that George hasn't seen it, so he can't be implicated. Candy agrees. After a while, he calls the other guys in. Curley almost instantly asks for his shotgun, to track down Lennie.</p>	<p>"And when they were gone, Candy squatted down in the hay and watched the face of Curley's wife. "Poor bastard," he said softly."</p>
Section 6	<p>Steinbeck starts the last chapter as he starts the first, by describing in some depth the riverside scene from the opening. Lennie appears, anxious, but also proud that he has remembered the place that he should come to if he finds himself in trouble. He has two visions: of his Aunt Clara scolding him for getting into trouble, and a giant rabbit telling him that George will leave him. George appears, seemingly unusually quiet. George tells Lennie that he is not made at him, comforting Lennie. Lennie asks him to talk about the dream again, which George does. As Lennie sits, listening to the story, looking out over the stream, George pulls Carlson's gun from his jacket and shoots Lennie in the back of the head. Lennie immediately dies, his body jerking to the ground. The sound of the gun causes the rest of the lynch party to locate the two. Carlson questions what happens, and George lies that he had to wrestle the gun from Lennie and shoot him with it. Only Slim understands what has truly happened and agrees with what George did. They walk away.</p>	<p>"Lennie said, "I thought you was mad at me, George." "No," said George. "No, Lennie, I ain't mad. I never been mad, and I ain' now. That's a thing I want ya to know."</p>
Steinbeck's Literary Devices		The Meaning of the Title
Simile	"Slowly, like a terrier who doesn't want to bring a ball to its master, Lennie approached, drew back." (p9)	<p>The title of the book is derived from a poem by the 18th Century Scottish poet: Robert Burns. In the poem, a mouse carefully builds a nest in a wheatfield, yet it is destroyed when the field is ploughed. The mouse had looked forward to a comfortable and prosperous future, only to have its dreams crushed – much like George and Lennie. It is written in a Scottish dialect: <i>The best laid schemes o' mice an' men Gang aft a-gley, An' lea'e us nought but grief an' pain, For promised joy!</i></p>
Personification	"The sycamore leaves whispered in a little night breeze." (p16).	
Metaphor	"Lennie covered his face with huge paws and bleated with terror." (p63)	
Foreshadowing	The shooting of Candy's dog if oreshadows the shooting of Lennie. Lennie killing animals foreshadows him killing people.	

Seasonal Creative Writing

WHY?:

The study of descriptive and creative writing is essential. Being able to be expressive and descriptive will benefit you, not just in the English classroom, but in most walks of life. Mastering aspects such as vocabulary, use of punctuation, sentence forms and language features will benefit you both inside and outside the classroom! Through this topic, you will get the chance to develop these skills whilst learning about a variety of different cultures and genres!

Key questions to consider...

Am I using the best vocabulary I can use?

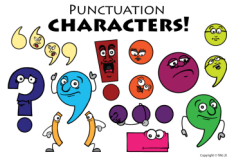
Am I varying my use of punctuation?

Am I using a variety of language features?

Is my writing detailed and engaging?



Key Skills...



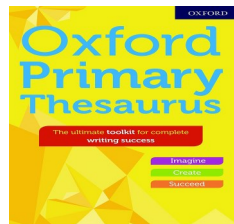
Vary use of punctuation



Writing is compelling, incorporating complicated ideas!



Make sure your writing is appropriate to the genre!



Always use your best vocabulary!

Work is structured into fluently linked paragraphs!

Key Vocabulary

Remembrance, Fortitude, Sacrifice, Ominous, Vivacious, Aghast, Morose, Pallid, Portentous, Grotesque, Gothic, Diverse, Impoverish, Congenial, Idyllic

Language Features

Simile— Comparing one thing to another using 'like' or 'as'.

Metaphor— Explicitly describing one thing as something else.

Personification— giving an inanimate object a human characteristic.

Sensory description— describes objects in a manner that can be experienced through the senses.

Alliteration— having the same sound at the start of closely linked words.

Foreshadowing— a warning, or indication, of a future event.

The Big Question: *Is my writing successfully adapted to the tone, audience and purpose?*

Y9 Poetry: Faces of Love Knowledge Organiser

Poetic Techniques

Term	Definition
Plosives	Repeated hard sounds such as 'b', 'p' or
Metaphor	When you say something IS something else which it cannot be. "She's a star."
Simile	When you compare using 'like' or 'as.' As brave as a lion"
Oxymoron	Linking two words with opposite meanings. "Silent scream"
Colloquial	Everyday informal expressions used by
Assonance	Repetition of a vowel sound. "o" "Go
Emotive Language	Language to create a specific emotion.
Figurative	Use of metaphor, simile and
Imagery	Description which appeals to our
Structure	The organisation of a poem.
Sibilance	Repeated 's' or 'sh' sound
Semantic	A group of words in the same poem
Caesura	A pause in the poem such as a comma,
Enjambment	Where one line runs into another with
Juxtaposition	Where two contrasting ideas are placed together

Poetic Forms

Term	Definition
Auto-	about the poet's life and experiences.
Narrative...	tells a story.
Dramatic Monologue...	by one speaker and reveals aspects of their character.
Ballad...	intended to be performed to music. Often romantic or sentimental.
Spoken Word...	Rhythmic performance which does not have to rhyme but focuses on intonation and word play.

Key Vocabulary

Nostalgia, Profound, Conflicted, Juxtapose, Connotations, Hyperbole, Infatuation, Inconsolable, Histrionic, Accusatory, Emancipation, Exclamative, Zeal, Anaphora, Patriotic, Xenophobic

Meet the Poets...

Poet	Background
Day-Lewis	1904-72. Irish born poet with communist views. His work often focuses on social commentary, personal experiences and
Burns	1759-96. National poet of Scotland. A pioneer of the Romantic movement. His work is often blunt, sometimes political and deals with strong emotional highs and
Browning	1812-89. Famous for his DMs. His work is known for its irony, characterisation, social commentary and challenging vocabulary.
Byron	1788-1824. Another pioneer of the Romantic movement but from England. Known for his long intricate poetry and his
Angelou	1928-2014. Famous for her autobiographical work in all forms which focus on her difficult early life being a
Walsh	1965-present. Manchester born, working class performance poet most widely famous for "This is the Place" written in response to the Manchester bombing.

What is 'Love'?

How many forms can 'Love' take?

Standard Form

Key vocabulary

- Standard form
- Ordinary number
- Power
- Index Laws
- Convert
- Ordinary number
- Adding, subtracting
- Multiplying, dividing

Picture perfect

Basic Structure

$$1 \leq a < 10 \leftarrow a \times 10^b \rightarrow \text{Whole number}$$

$$2.83 \times 10^6 = 2830000$$

Positive power of 10 = Large number

$$3.14 \times 10^{-4} = 0.000314$$

Negative power of 10 = Small decimal number

Standard Form

Positive Power = Large Number

$$4.3 \times 10^6 = 4\,300\,000$$

Negative Power = Small Number

$$2.1 \times 10^{-3} = 0.021$$

Standard Form Examples www.cazoommaths.com

Ordinary Number	Standard Form
29	2.9×10^1
350	3.50×10^2
4716	4.716×10^3
600000000	6×10^8
0.3	3×10^{-1}
0.09	9×10^{-2}
0.0071	7.1×10^{-3}
0.000502	5.02×10^{-4}

Assessment style question Peter has multiplied two numbers using his calculator. The calculator shows the answer. He can remember that one number was 5000. What was the other number used in the multiplication?

The mass of Earth is 5.97×10^{24}

The mass of Jupiter is 1.898×10^{27}

Using a calculator, work out how many times heavier Jupiter is than Earth. Give your answer to one decimal place.



Always remember

A number is converted into **standard form** when the number is very large or very small, this mainly used in science and astronomy.

• The format of a number in standard form consists of a number between 1 and 10 **but cannot be 10**, multiplied by a power of 10.

$$(1 \leq x < 10) \times 10^n$$

• Converting a **very small number into standard form**: Size of a bacteria is 0.00000037 $0.00000037 = 3.7 \times 10^{-7}$

• Converting a **very large number into standard form**: Distance from Earth to the sun is 147100 million metres $147\,100\,000\,000 = 1.471 \times 10^{11}$

• Converting into a **small ordinary number** $2.4 \times 10^{-6} = 0.0000024$

• Converting into a **large ordinary number** $5.67 \times 10^9 = 5\,670\,000\,000$

Common mistakes:

• When not in standard form but in the same format as the number is not between $1 \leq x < 10$
(too big) $76.18 \times 10^6 = 7.618 \times 10^7$ and (too small) $0.12 \times 10^{-6} = 1.2 \times 10^{-7}$
When the number is getting smaller the power gets bigger, and when the number gets bigger the power gets smaller

Multiply/Divide Standard form

Separate the numbers and powers of 10.
Multiply/Divide numbers,
Apply laws of indices to power of 10s
Give answer in Standard form

$$(4.6 \times 10^4) \times (3 \times 10^3)$$

$$4.6 \times 3 \times 10^4 \times 10^3$$

$$13.8 \times 10^7 \times$$

$$1.38 \times 10^8 \checkmark$$

$$(1.56 \times 10^{-4}) \div (7.5 \times 10^{-7})$$

$$1.56 \div 7.5 \times 10^{-4} \div 10^{-7}$$

$$0.208 \times 10^3 \times$$

$$2.08 \times 10^2 \checkmark$$

LCM and HCF

Key vocabulary

Multiple - a number which can be divided by another number without a remainder.

Divisor - the number you divide by.

Factor - An exact divisor of a number.

Prime - a number which only has two factors

Product - the result of multiplying to numbers together

Prime Factorisation - a list of prime numbers which multiply together to create another number

Picture perfect

Prime Factor Decomposition

Break numbers down into prime factors

Tree method and ladder method

$$72 = 2 \times 2 \times 2 \times 3 \times 3$$

$$72 = 2^3 \times 3^2$$

$$84 = 2 \times 2 \times 3 \times 7$$

$$84 = 2^2 \times 3 \times 7$$

Divide by a prime

Multiply Primes

Write in index form

Prime factor decomposition

Identify shared factors

Multiply values

Multiply together all prime factors apart from duplicates

In index form: Multiply Highest Power of each prime

HCF

Highest common factor

The largest number that divides into two or more numbers

Use long format of Prime Factor Decomposition

LCM

Lowest common multiple

The smallest number that occurs in the times table of two or more numbers.

HCF of 48 and 120

$$48 = 2 \times 2 \times 2 \times 2 \times 3$$

$$120 = 2 \times 2 \times 2 \times 3 \times 5$$

$$2 \times 2 \times 3 = 12$$

LCM of 6 and 45

$$6 = 2 \times 3$$

$$45 = 3 \times 3 \times 5$$

$$2 \times 3 \times 3 \times 5 = 90$$

HCF of 84 and 980

$$84 = 2 \times 2 \times 3 \times 7$$

$$980 = 2 \times 2 \times 5 \times 7 \times 7$$

$$2 \times 2 \times 7 = 28$$

LCM of 48 and 180

$$48 = 2^4 \times 3$$

$$180 = 2^2 \times 3^2 \times 5$$

$$2^4 \times 3^2 \times 5 = 720$$

Assessment style question

A bus leaves Antrim Bus Station every 12 minutes.
A train leaves Antrim Train Station every 18 minutes.
At 8am a bus and a train leave the stations at the same time.

- When is the next time that a bus and a train leave at the same time?
- Between 8am and 11am, on how many occasions does a bus and a train leave at the same time?



The lowest common multiple of two numbers is 60.
Only one of the numbers is a multiple of 4.
Write down two possible numbers.

Olivia thinks of two numbers.
The lowest common multiple (LCM) of the two numbers is 36.
The highest common factor (HCF) of the two numbers is 3.
Both numbers are less than 15.
Write down two possible numbers that Olivia could be thinking of.

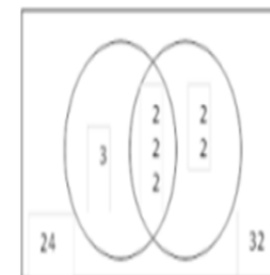
Penny and Kenny have the same number of football cards.
Penny has sorted her cards into piles of 10.
Kenny has sorted his cards into piles of 18.
Penny has less than 100 cards.
How many football cards do they have?

Key Concept: Using Venn Diagrams to find the HCF and LCM

E.g. Find the HCF and LCM of 24 and 32
Express these numbers as a product of their primes
then put them into a Venn diagram

$$24 = 2 \times 2 \times 2 \times 3 \text{ or } 2^3 \times 3$$

$$32 = 2 \times 2 \times 2 \times 2 \times 2 \text{ or } 2^5$$



The HCF is found by multiplying together the numbers in the intersection of the two circles.
HCF: $2 \times 2 \times 2 = 8$

The LCM is found by multiplying together the numbers from all three sections of the circles.
LCM: $3 \times 2 \times 2 \times 2 \times 2 \times 2 = 96$

Multiples

A **multiple** is a number which can be divided by another number without a remainder.

For example: 15, 20, 100, 150 are **multiples** of 5 because they can be divided by 5 and have no remainder

Always remember

Primes

A **prime** number is a number which only has two factors - itself and 1.

The first 10 **prime** numbers are:
2, 3, 5, 7, 11, 13, 17, 19, 23, 29

A common mistake is that people think 1 is a **prime** number. The only way to make 1 is by doing 1×1 , so the number 1 only has one factor NOT two factors, therefore it is NOT **prime**.

Examples

Is 11 **prime**? - 1×11 Yes it's **prime**

Is 12 **prime**? - 1×12 , 2×6 , 3×4 No it's not **prime**

Factors

An exact divisor of a number is called a **factor**.

Factors can be written in pairs to help find all the factors of a given number.

E.g. **Factors** of 12 can be written like this....



Rules of indices and surds

Key vocabulary

Power

Square

Cube

Square root

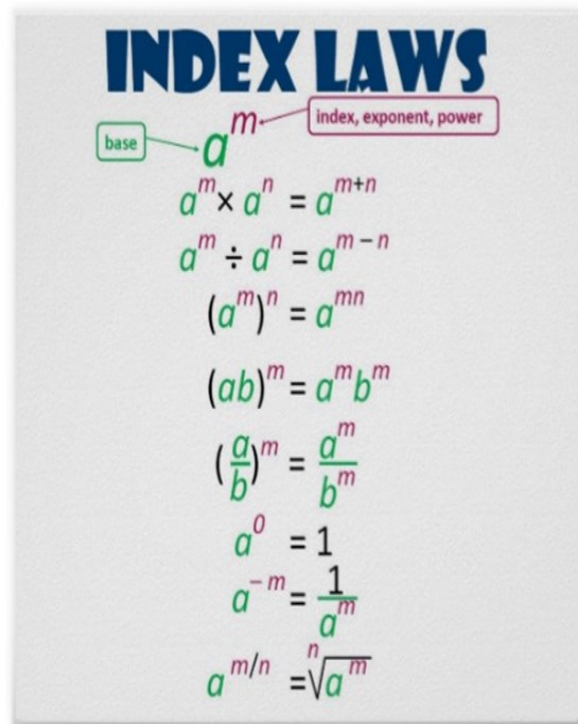
Cube root

Index

Indices

surd

Picture perfect



Always remember

Basic Laws of Indices

Special indices to consider

$$x^1 = x \quad \text{Anything to the power 1 = itself}$$

$$x^0 = 1 \quad \text{Anything to the power 0 = 1}$$

$$1^x = 1 \quad \text{1 to the power of anything = 1}$$

These laws can be applied if the bases are the same

$$x^a \times x^b = x^{a+b} \quad \text{When multiplying powers with the same base - Add the powers}$$

$$z^3 \times z^7 = z^{10}$$

$$x^a \div x^b = x^{a-b} \quad \text{When dividing powers with the same base - Subtract the powers}$$

$$s^2 \div s^5 = s^{-3}$$

$$(x^a)^b = x^{a \times b} \quad \text{When raising the power (brackets) - Multiply the powers}$$

$$(e^4)^3 = e^{12}$$

Surds

Surds are expressions which contain an irrational square root

$$\sqrt{a} \times \sqrt{b} = \sqrt{a \times b} \quad \sqrt{3} \times \sqrt{7} = \sqrt{3 \times 7} = \sqrt{21}$$

$$\frac{\sqrt{a}}{\sqrt{b}} = \sqrt{\frac{a}{b}} \quad \frac{\sqrt{6}}{\sqrt{10}} = \sqrt{\frac{6}{10}} = \sqrt{\frac{3}{5}}$$

$$\sqrt{a} + \sqrt{b} \neq \sqrt{a+b} \quad \sqrt{5} + \sqrt{20} = \sqrt{25} \times$$

Writing in the form $a\sqrt{b}$

Think square numbers $\sqrt{200}$ Square Factors = 4, 25, 100
Choose the largest square factor

$$\sqrt{100} \times \sqrt{2} = 10\sqrt{2}$$

Assessment style question

Question 1: Can you spot any mistakes?

Question 2: Find three different pairs of values for m and n.

$$c^m \times c^n = c^8$$

A shed has dimensions, in metres, of height $\sqrt{5}$, width $\sqrt{6}$ and length $\sqrt{10}$.
Find the volume of the shed.
Give your answer as a simplified surd.

$$2^6 \times 2^3 = 4^9$$

$$7^{15} \div 7^5 = 7^3$$

$$6^3 \times 6^4 = 6^{12}$$

Calculating with Fractions

Key vocabulary

Fraction - A quantity which is not a whole number.

Decimal - A decimal number is often used to mean a number that uses a decimal point followed by digits that show a value smaller than one.

Percentage - Amount out of one hundred.

Improper fraction - The numerator is larger than the denominator.

Mixed Number - A whole number and a fraction together.

Equivalent - When 2 amounts are equal they are equivalent

Numerator - The top number of a fraction.

Denominator - The bottom number of a fraction.

Picture perfect



Always remember

There are three types of fraction:

Smaller → $\frac{3}{5}$
Larger → $\frac{5}{3}$
Proper Fraction

Larger (or equal) → $\frac{9}{5}$
Smaller (or equal) → $\frac{5}{9}$
Improper Fraction

$2\frac{1}{3}$
Mixed Fraction

Mixed numbers to improper fractions and vice versa:

Mixed numbers are things like $3\frac{1}{3}$, with an integer part and a fraction part. **Improper fractions** are ones where the top number is larger than the bottom number. You need to be able to convert between the two.

EXAMPLES:

1. Write $4\frac{2}{3}$ as an improper fraction.

1) Think of the **mixed number** as an **addition**:

$$4\frac{2}{3} = 4 + \frac{2}{3}$$

2) Turn the **integer part** into a **fraction**:

$$4 + \frac{2}{3} = \frac{12}{3} + \frac{2}{3} = \frac{12+2}{3} = \frac{14}{3}$$

2. Write $\frac{31}{4}$ as a mixed number.

Divide the top number by the bottom.

1) The **answer** gives the **whole number part**.

2) The **remainder** goes **on top** of the fraction.

$$31 \div 4 = 7 \text{ remainder } 3 \text{ so } \frac{31}{4} = 7\frac{3}{4}$$

4 operations with mixed fractions - make it easy and convert to improper fractions first and then use methods below

Assessment style question

13 9 21 5 2

Using the cards, create an improper fraction that is:

- (a) between 1 and 2 (b) between 2 and 3
(c) between 4 and 5 (d) between 5 and 10
(e) greater than 10

The distance from Newtown to Milton is $7\frac{2}{3}$ miles.

The distance from Milton to Redville is $2\frac{2}{5}$ miles

Work out the distance from Newtown to Redville.

A wall measures $3\frac{3}{4}m$ by $4\frac{1}{3}m$

Each can of paint cover $2.5m^2$ and costs £5.50

Work out the cost of painting the wall.



Shown is a rectangle.
Find the value of x

x

$$\text{Area} = 20cm^2 \quad 2\frac{1}{6}cm$$

Multiplying Fractions



Multiply the numerators
Multiply the denominators

$$\frac{5}{6} \times \frac{1}{11} = \frac{5}{66}$$

Dividing Fractions



$$\frac{2}{3} \div \frac{5}{7} = \frac{10}{21}$$

Adding and subtracting simple fractions

We can use **equivalent** fractions to add fractions that do not have the same **denominator**.

For example:

$$\frac{3}{4} + \frac{1}{8}$$

We need to change $\frac{3}{4}$ into an equivalent fraction with a denominator of 8.

$$\frac{3}{4} = \frac{6}{8}$$

Now we have:

$$\frac{6}{8} + \frac{1}{8} = \frac{7}{8}$$

Calculating with Percentages

Key vocabulary

Fraction - A quantity which is not a whole number.

Decimal - A decimal number is often used to mean a number that uses a decimal point followed by digits that show a value smaller than one.

Percentage - Amount out of one hundred.

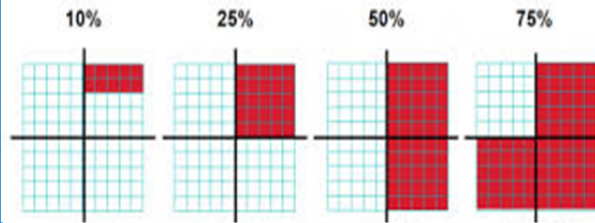
Increase - To make bigger.

Decrease - To make smaller.

Depreciate - Decrease in value over time.

Multipliers - a quantity by which a given number is to be multiplied.

Picture perfect



Reverse percentages

John pays £60 for a bag after getting 20% discount. How much did it originally cost?

Remember: Original price is always equal to 100%

$$\text{Sale price} = 100\% - 20\% = 80\%$$



Assessment style question

Raheem and Ben invest money in 2010.

Raheem invests £1000 at Banks'R'us, who pay 3% interest per year.
Ben invests £1400 at Bank World, who pay 1% interest per year

In which year will Raheem's investment be worth more than Ben's?

The population of a country increases by $x\%$ each year.
In 2014 the population of the country was 24,000,000.
Three years later, the population was 26,996,736.
Find x .

Charlotte invests £5000.

The bank pays 10% interest for the first year and then $y\%$ every year after that.
After three years, Charlotte has £5610.55
Calculate y .



When a tennis ball is dropped, it bounces and then rises.
The ball rises to 80% of the height from which it is dropped.
The ball is dropped from a height of 4 metres.

- Calculate the height of the rise after the first bounce.
- Calculate the height of the rise after the second bounce.

The ball carries on bouncing, each time rising to 80% of the last rise.

- For how many bounces does the ball rise to a height greater than 10cm?

Dorothy organises a charity raffle.

She sells 800 tickets for £2 each.

4% of the tickets win a prize that costs £20.

65% of the profit goes to Charity A and the rest goes to Charity B.

How much money does Dorothy raise for Charity B?

Always remember

on a calculator

$$39\% \text{ of } 82$$

$$0.39 \times 82$$

Change to a decimal and multiply

increasing

Increase £60 by 12%

$$12\% \text{ of } 60 = 0.12 \times 60 = \text{£}7.20$$

$$\text{New amount} = \text{£}60 + \text{£}7.20 = \text{£}67.20$$

ADD

fraction to %

$$\frac{15}{20} = \frac{75}{100} = 75\%$$

OR

$$15 \div 20 \times 100 = 75\%$$

Percentages

%

decreasing

decrease £60 by 12%

$$12\% \text{ of } 60 = 0.12 \times 60 = \text{£}7.20$$

$$\text{New amount} = \text{£}60 - \text{£}7.20 = \text{£}52.80$$

SUBTRACT

without a calculator

50% - half

10% - divide by 10

25% - half and half

5% - half 10%

75% - 50% + 25%

20% - double 10%

Compound Growth

An amount is increased or decreased by a percentage

The process is repeated several times at each interval

The most efficient way to do this is using a Multiplier

The general formula for compound growth and decay

$$\text{Interest} \Rightarrow \text{Amount} \times \left(1 \pm \text{Rate}\right)^{\text{Years}}$$

£4000 is invested at a rate of 5% p.a for three years. Calculate Final value of the investment after three years.

$$\text{£}4000 \times 1.05^3 = \text{£}4630.50$$

A car worth £15000 depreciates in value at a rate of 15% p.a. What is the depreciated value of the car after 4 years

$$\text{£}15000 \times 0.85^4 = \text{£}7830.09$$

To calculate other parts of the formula, you will need to change the subject

Simple Interest

$$\text{Interest} \Rightarrow \text{Amount} \times \text{Rate} \times \text{Years}$$

Calculate the Simple Interest earned on £350 at a rate of 9% p.a for 4 years?

$$\text{Interest} \Rightarrow \text{£}350 \times 0.09 \times 4 = \text{£}126$$

Remember to convert the % to a decimal

To calculate other parts of the formula, you will need to change the subject

How many years would it take for £45000 to receive £19800 Simple Interest at a rate of 5.5% p.a?

$$\text{Interest} \Rightarrow \frac{\text{Amount} \times \text{Rate}}{\text{Years}}$$

Rounding and Estimating

Key vocabulary

Rounding - to alter a number making it less accurate but easier to use in calculations.

Estimation - A rough calculation using a mathematical method.

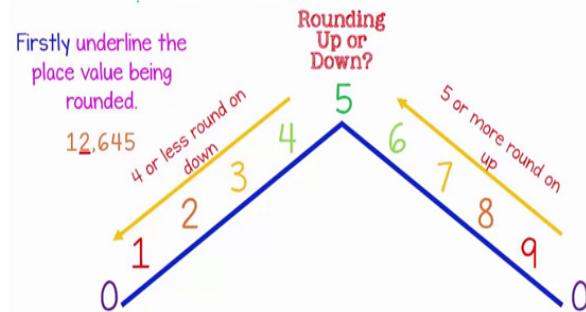
Decimal place - Place value after the decimal point.

Integer - A whole number.

Significant figures (S.F of Sig Fig) - Digits that carry meaning.

Bounds - Upper and lower values of rounded numbers.

Picture perfect



number	85674.87589	
	rounded to	
10	85670	33
100	85700	32.5
1000	86000	32
1 decimal place	85674.9	31.5
2 decimal places	85674.88	31
3 decimal places	85674.876	
4 decimal places	85674.8759	

A rounding instruction tells how many digits to keep.

Always remember

ROUND DOWN	0,1,2,3,4	Rules of rounding	5,6,7,8,9	ROUND UP
Place Value	Decimal Places	Significant Figures		
Thousands	Count Right from the Decimal Point	Count Right from first non-zero Digit		
14672	1234 12.5298	123456 325484		
To the nearest ten	To 1 decimal place	To 1 significant figure		
14670	12.5	300000		
To the nearest hundred	To 2 decimal places	To 2 significant figures		
14700	12.53	330000		
To the nearest thousand	To 3 decimal places	To 3 significant figures		
15000	12.530	325000		
Be careful when rounding up a nine (A double rounding will occur)				

Approximation

Estimates tell us the rough value of a calculation

$$\frac{103.5 \times 1.92}{51.36} \approx \frac{100 \times 2}{50}$$

Rounding off makes it easier to calculate

Round values to 1s.f.	Perform Calculation
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$$\frac{8.41 \times 3.2}{0.00216} \approx \frac{8 \times 3}{0.002} = \frac{24}{0.002} = \frac{24000}{2} = 12000$$

Error Intervals

By definition, a rounded number does not give us the exact value

Lower Bound The minimum a value might be

Upper Bound The maximum a value might be

Continuous Values (Decimal values)

Halve accuracy level	Add on for Upper bound	Subtract for Lower bound
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240m to nearest 10m

$$235m \leftarrow 240m \rightarrow 245m$$

$$235m \leq x < 245m$$

Discrete values (Whole values)

The number of people on a train is 400 to the nearest 100

$$350 \leftarrow 400 \rightarrow 449$$

Assessment style question

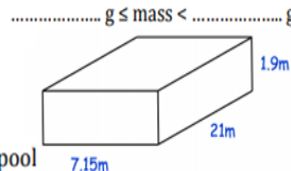
Nicole has rounded a number to one decimal place.

Her answer is 9.2

Write down 10 different possible numbers that she could have rounded.

Andrew fills the swimming pool with water at a constant rate of 2.1 litres per second.

Given $1m^3 = 1000$ litres, estimate how long it takes to fill the pool



Grace and George complete a crossword.

It takes Grace 9 minutes to complete the crossword to the nearest minute.

It takes George 11 minutes to complete the crossword to the nearest minute.

Show that the total time for both people to complete the crossword could be 20 minutes 50 seconds.

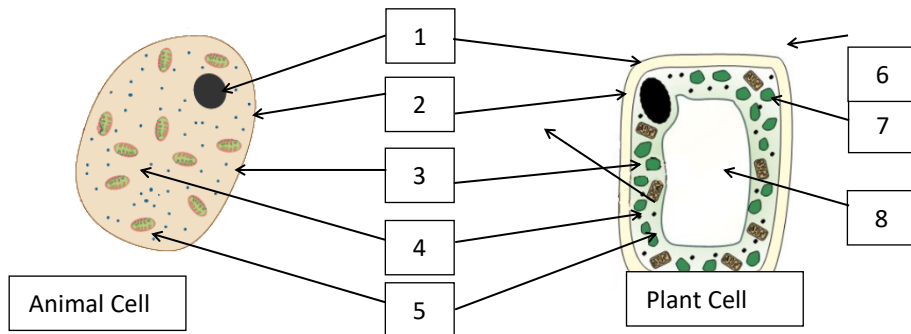
The mass of a coin is 8 grams to the nearest gram.
Complete the error interval for the mass of the coin

Science: Cell Biology

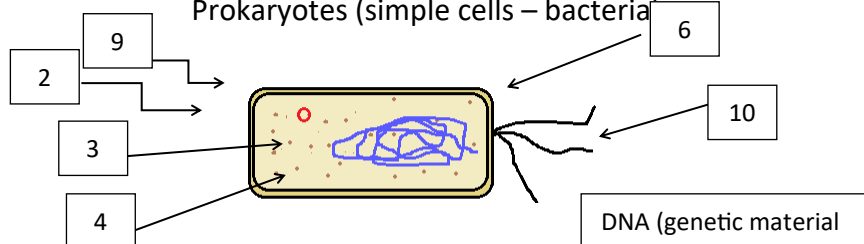
Key Words

	Organelle	Function
1	Nucleus	Controls the cell Contains genetic material
2	Cell membrane	Controls the exchange of substances in and out of the cell
3	Ribosomes	Protein synthesis
4	Cytoplasm	Where chemical reactions occur
5	Mitochondria	Releases energy from aerobic respiration
6	Cell wall	Supports the cell
7	Chloroplasts	Where photosynthesis occurs
8	Vacuole	Contains cell sap
9	Plasmid	Circular ring of DNA
10	flagella	Provides movement for single celled organisms

Eukaryotes (complex cells)



Prokaryotes (simple cells – bacteria)



Specialised Cells

Cell	Function	Adaptation
Sperm cell	Fertilised the egg cell	Tail to swim to egg Many mitochondria to release energy
Nerve cell	Carry electrical impulses around the body	Long to reduce the number of synapses Lots of branches to connect to many cells
Muscle cell	Contracts and relaxes to cause movement	Many mitochondria to release energy Contains protein fibres that can contract
Root hair cell	Absorbs water and minerals from the soil	Large surface area to increase absorption No chloroplasts to allow a larger vacuole
Palisade cell	Where most photosynthesis occurs	Many chloroplasts, so more photosynthesis Rectangular shape to fit more cells along the upper surface of the leaf
Phloem cell	Transports sugars, ions and other minerals around the plant	Many mitochondria to release energy for active transport Perforated ends so cytoplasm of adjacent cells connect speeding up exchange
Xylem cell	Transports water from the root to the leaves.	Contains lignin to prevent water loss Hollow so water and minerals can travel through

Comparing microscopes

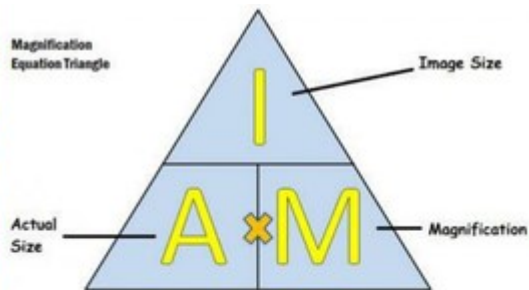
Type	Advantages	Disadvantages
Light Microscope	Can see colours Cheaper Can see live specimens	Lower magnification Lower resolution
Electron Microscope	Higher resolution Higher magnification	Cannot see colour Only see dead specimens

Conversions:



Science: Cell Biology

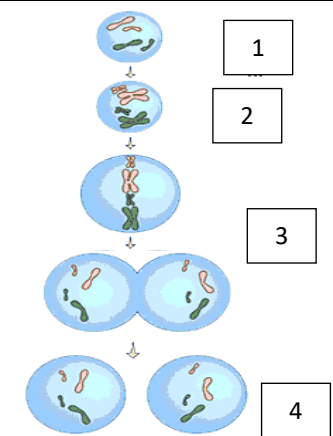
Calculating magnification



1. Magnification = image size ÷ actual size.
2. Actual size = image size ÷ magnification.
3. Image size = actual size x magnification.

Stages of the cell cycle (mitosis in lilac)

- | | |
|---|--|
| 1 | Organelles are copied and DNA condenses into chromosomes |
| 2 | Chromosome number doubles and nuclear membrane dissolves |
| 3 | Chromosomes line up along the centre and duplicate chromosomes are pulled apart |
| 4 | Cell membrane closes around each set of chromosomes (cytokinesis) and 2 identical cells are formed |



Cell differentiation and stem cells

Differentiation	When a stem cell changes into a specialised cell
Stem cells	Cells that have not differentiated yet
Adult stem cells	Stem cells found in body tissues such as skin and bone marrow
Embryonic stem cells	Stem cells from the embryo that have the potential to turn in to any type of specialised cells
Meristems	Tips of the roots and shoot where the plant stem cells are found
Chromosomes	Condensed strand of DNA containing the genes for characteristics (23 pairs in humans)
Cell cycle	The process where the cell divides
Mitosis	A type of cell division that produced 2 identical diploid daughter cells
Therapeutic cloning	Creating a cloned embryo to have the same genetics as the patient to treat genetic diseases.

Types of exchange

Key Word	Definition	Example
Diffusion	Movement of solutes from a high to a low concentration across a semi-permeable membrane	Oxygen and carbon dioxide exchanged in the lungs
Osmosis	Movement of water from a low to high concentration across a semi-permeable membrane	Water moving into the blood in the large intestine or into the roots of a plant
Active transport	Movement of solutes from a low to a high concentration against a concentration, requiring energy	Minerals moving into the root hair cells and sugars moving in to the blood in the small intestines

Challenge Questions

- | | |
|---|---|
| 1 | Why do prokaryotes not contain mitochondria? |
| 2 | Compare and contrast plant, animal and prokaryotic cells. |
| 3 | Using a Venn diagram, compare and contrast diffusion, osmosis and active transport. |
| 4 | Evaluate the use of adult stem cells and embryonic stem cells to treat patients |

Science: Chemistry of the Atmosphere

Composition of the atmosphere

Modern atmosphere (Today)		Early Atmosphere (4 billion years ago)	
78%	Nitrogen	95%	Carbon dioxide
21%	Oxygen	4%	Water vapour
0.04%	Carbon dioxide	1%	Trace amounts of CO ₂ , CH ₄ and ammonia (NH ₃)
0.96%	Trace amounts of Ar, He, CH ₄ , NH ₃ , water vapour and other gases		

Why carbon dioxide levels decreased

Dissolved in oceans	As water vapour cooled and condensed the carbon dioxide in the air dissolved in the water becoming trapped in the ocean
Photosynthesis	<p>Approximately 2.7 billion years ago algae formed and absorbed carbon dioxide from the atmosphere to produce glucose, plants evolved over the next billion years</p> <p>Carbon + water → Glucose + oxygen dioxide $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$</p>
Trapped in sediments	Plants and animals died and became covered in mud that formed the layers in sedimentary rocks or became fossil fuels. This trapped the carbon dioxide from early life in the rocks

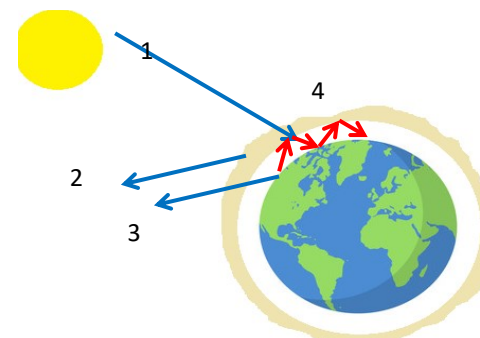
How the Earth and Atmosphere changed

Formation of oceans	As the Earth cooled the water vapour released from volcanic eruptions condensed and fell as rain. This pooled in valleys and crevices and formed the oceans
Increase in oxygen	As plants and algae began photosynthesising they released oxygen into the air.
Increase in nitrogen	The oxygen in the air reacted with ammonia to form nitrogen and water.

Greenhouse Effect

The greenhouse effect is an essential process that maintains the warm temperatures on Earth.

1	Radiation from the sun	The sun emits waves of energy with different wave lengths. These can travel through space to the Earth
2	Reflection of shortwave radiation	Short wavelength radiation such as x-ray and some UV is reflected back into space as it cannot pass through the atmosphere
3	Reflection of light from the Earth's surface	Visible light, UV radiation and other short wavelength radiation is reflected off the Earth's surface and passes through the atmosphere back into space
4	Trapping infra-red radiation	Radiation from the sun that is absorbed by the Earth is then radiated as a longer wavelength infra-red radiation back towards the atmosphere. This is then reflected it back to the Earth.



Science: Chemistry of the Atmosphere

Human Activities that increase the levels of greenhouse gases		
Greenhouse gases		
Carbon dioxide	Water vapour	Methane
What	How	Why
Deforestation	Large areas of forest are cut down to make way for farm land, houses, building materials and other resources	This reduces the amount of carbon dioxide absorbed by plants.
Burning fossil fuels	Fossil fuels are burned to generate electricity and power transport such as cars, trains and planes	When the fuels are burned they release carbon dioxide into the air
Farming of cattle	An increased demand for beef and milk has led to an increase in the number of cows being farmed	Cows release methane during the digestion of plant based foods. More cows, means more methane
Farming of rice	Increasing amounts of rice are being grown to feed the growing population	Rice paddies, release methane as the plants grow
An increase in greenhouse gases can amplify the effects of the Greenhouse Effect, increasing the amount of IR radiation trapped in the Earth's atmosphere. This increases the average temperature of the Earth.		

Challenge Questions

1	How could a person reduce their carbon footprint?
2	How do new theories about the evolution of the atmosphere and climate change become accepted?
3	Explain how global dimming could increase the effects of global warming.
4	Evaluate why it is difficult to reduce the global carbon footprint.

Climate change			
Global warming	The gradual increase of average global temperatures due to an increase in greenhouse gases.		
Global dimming	A decrease in the levels of light reaching the Earth's surface due to an increase in particulates in the atmosphere.		
Carbon footprint	The total amount of carbon dioxide released over the lifetime of a process, product or event.		
Acid rain	Acidic gases dissolved in rain water that can causes damage to buildings, statues, lakes and trees.		
Consequences of Climate Change			
Flooding, rising sea levels and melting polar ice caps	More frequent and intense storms	Drought and difficulty producing foods with changing weather patterns	Changes in distribution of species when habitats change or extinction

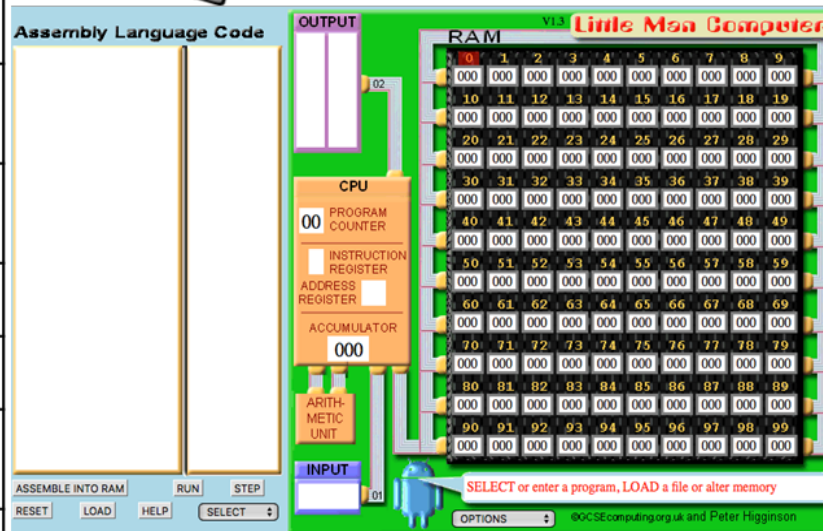
Human Activities that increase the levels of greenhouse gases		
Pollutant	Source	Effect
Carbon dioxide	All combustion	Global warming
Carbon monoxide	Incomplete combustion	Toxic, breathing problems
Soot (particulate)	Incomplete combustion	Global dimming
Sulphur dioxide	Burning sulphur impurities in fossil fuels	Acid rain
Oxides of nitrogen	Vehicle engines	Acid rain

Key Vocabulary...

Von Neumann Architecture	CPU design for a stored program.
Control Unit	The part of the CPU that controls the flow of data and execution of instructions.
Arithmetic Logic Unit	The part of the CPU that does all the mathematical and logical calculations.
Cache	Quick access memory in the CPU.
Registers	A temporary data store inside the CPU.
Program Counter	Holds the memory address of the next instruction needed by the CPU.
Memory Address Register	Holds the memory address of the instruction needed by the CPU.
Memory Data Register	Holds data and instruction
Low-Level Language	A language that is close to what the CPU would use. For example machine code.
High-level language	A language that has a lot of common English words in it such as Print, IF, ELSE. An example is Python.
Random Access Memory	Memory that is used when the computer is running. Data is not held when the power is switched off.
Read Only Memory	Memory that is used to store the operating system and the BIOS on a chip. It can't be written over and doesn't lose the contents when the power is switched off.



Picture This...



Little Man Computer is a simulator that shows how a CPU works with the registers. You will learn how to type an assembly language which is very basic but will allow you to write some programs.

```
INP
STA 99
LDA 99
OUT
HLT
```

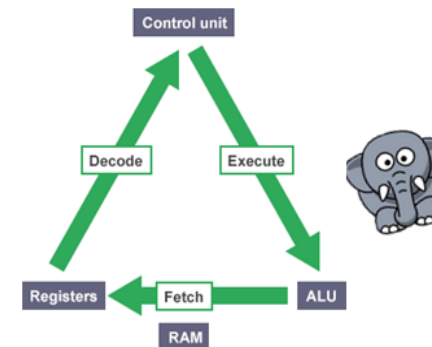
This code will ask a user to enter a number and then store it and load the number.

Questions

1. Which part of the CPU will control the flow of data?
2. Explain what is meant by a low-level language.
3. Which memory is used when the computer is switched on?
4. What is the job of the program counter?
5. How can a High-level language be recognised?
6. A temporary data store in the memory is known as what?

Always Remember...

CPUs are very fast at performing the FETCH-DECODE-EXECUTE cycle. This is the process of a CPU going to collect an instruction from RAM, decoding it and then completing that instruction.



All of the data and instructions that the computer needs when it is working is in the working memory. It is loaded in from the secondary storage because it is quicker to get information from there.

Deeper Learning...

CPUs only store a small amount of data as cache. Cache is very quick memory. Most of the time the working memory that the CPU needs to complete the tasks are held in the RAM. Sometimes the RAM will become full, if the application is too powerful, then virtual memory (VM) will be used. VM is part of the secondary storage (Hard Drive). The computer will move data that is not needed at that time from the RAM to the secondary storage and bring it back when it is needed. This can make the computer slower to respond.

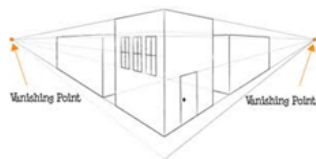




Activity – Write a program in LMC which asks a user to enter two numbers and prints out the largest number.

Key Vocabulary...

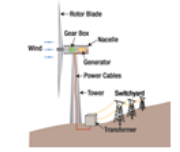
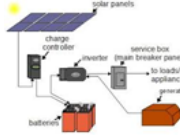
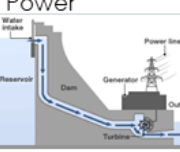

Finite resource	A finite resource is a useful material or substance that cannot be replenished over time.
Sustainable resources	A sustainable resource is a resource that can be continuously replenished, or there is an endless amount of it.
User Centred Design	User Centred Design (UCD) process outlines the phases throughout a design and development life-cycle all while focusing on gaining a deep understanding of who will be using the product.

Always remember...

Two Point Perspective 	Two point perspective drawing is a type of linear perspective. Linear perspective is a method using lines to create the illusion of space on a 2D surface. Two point perspective has two vanishing points.
Elevations 	ELEVATION PLAN. An elevation drawing is an orthographic projection drawing that shows one side of the house. The purpose of an elevation drawing is to show the finished appearance of a given side of the house and furnish vertical height dimensions.
Floor Plans 	In architecture and building engineering, a floor plan is a drawing to scale, showing a view from above, of the relationships between rooms, spaces, traffic patterns, and other physical features at one level of a structure. Dimensions are usually drawn between the walls to specify room sizes and wall lengths.

Activity – Using the two point perspective drawing technique, draw your house as accurately as you can. Bring it in to your next lesson so that you can show your classmates.

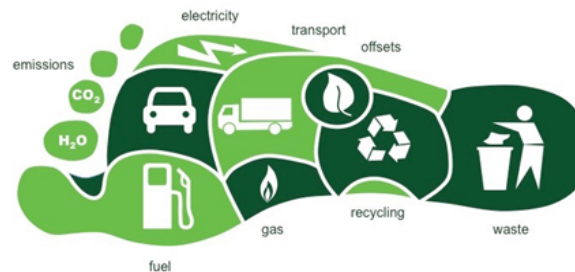
Renewable Energy...

Wind Power 	Generates electricity through the use of wind turbines. It is reliant on a steady source of wind and maintenance can be costly over time.
Solar Power 	This form of energy relies on the nuclear fusion power from the core of the Sun. This energy can be collected and converted in a few different ways.
Hydroelectric Power 	This form uses the gravitational potential of elevated water that was lifted from the oceans by sunlight. It is not strictly speaking renewable since all reservoirs eventually fill up and require very expensive excavation to become useful again.
Biomass 	is the term for energy from plants. Energy in this form is very commonly used throughout the world. Unfortunately the most popular is the burning of trees for cooking and warmth. This process releases copious amounts of carbon dioxide gases into the atmosphere and is a major contributor to unhealthy air in many areas.

Sustainable Living...

Sustainable living is a **lifestyle** that attempts to reduce an individual's or society's use of the Earth's natural resources and personal resources. Practitioners of **sustainable living** often attempt to reduce their carbon footprint by altering methods of transportation, energy consumption, and diet.

Carbon Footprint



Deeper Learning...

Social, Moral, Environmental and Sustainability issues

Social
We are all part of one world and we do rely upon each other. Any thing we can do to promote positive work or play is good however as designers we also have a responsibility to make sure designs don't have a negative impact. Products can really influence us as people and as designers we need to be positive role models encouraging 'Social Harmony'.

Moral

As a designer you have a moral responsibility to do the right thing. Moral issues is about being fair and honest. You should be thinking about what is 'right' for the consumer. For example a moral designer should be considering the safety of potential users as a high priority as well as making sure they don't feel uncomfortable or come to any harm. People with strong morals are honest and decent and will put other people before their own personal gain.

Environmental & Sustainability

When developing designs you need to think about environment and sustainability issues as we only have one planet and need to make sure we look after it.

- The materials will have an impact of some kind
- using materials that can be easily recycled is a good start

- locally sourced uses less fuel
- open cast mines and deforestation have negative impact

Energy consumption is also important. A lot of energy comes from fossil fuels so needs to be reduced. An efficient making process uses less electricity and relies less on fossil fuels.

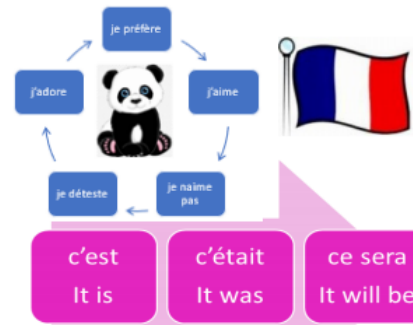
The Big Question...

How can designers lessen the impact on our environment when designing new products?



Time phrases

Present		Past		Future	
normalement	normally	hier	yesterday	demain	tomorrow
d'habitude	usually	Avant-hier	the day before yesterday	cet après-midi	this afternoon
tous les jours	every day	Ce matin	this morning	ce soir	tonight
de temps en temps	from time to time	hier soir	last night	le weekend prochain	next weekend
parfois / quelquefois	sometimes	la semaine dernière	last week	la semaine prochaine	next week
toutes les semaines	every week	le mois dernière	last month	le mois prochain	next month
tous les mois	every month	l'année dernière	last year	l'année prochaine	next year
chaque année	every year	samedi dernier	last Saturday	dans quelques années	In a few years
toujours	always	le weekend dernier	last weekend		
souvent	often	il y a longtemps	a long time ago		
jamais	never				



I speak: parler -> parl -> je parle

Present tense	ER	IR	RE
je	e	is	s
tu	es	is	s
il/elle	e	it	-
nous	ons	issons	ons
vous	ez	issez	ez
ils / elles	ent	issent	ent



I spoke: j'ai parlé

Passé composé	AVOIR (present)	ÊTRE (present)	
j'ai or je	j'ai	je suis	-ER - é
tu	as	es	-IR - i
il/elle	a	est	-RE - u
nous	avons	sommes	
vous	avez	êtes	
ils / elles	ont	sont	



I was speaking: nous parlons -> ie parl -> je parlais

Imparfait	ER / IR / RE
je	ais
tu	ais
il/elle	ait
nous	ions
vous	iez
ils / elles	aient

à mon avis (In my opinion)	je trouve que (I find that)	je pense que (I think that)
je crois que (I believe that)	je suis passionné(e) de (I am passionate about)	j'aime beaucoup (I like...a lot)
j'ai l'impression que (I have the impression that)	j'aime aussi (I also like)	j'aime surtout (I especially like)

JUSTIFICATIONS	
parce que	because
car	because
comme	as
puisque	since
étant donné que	given that
ayant dit cela	having said that

à (at)	à la piscine	à la maison	à la plage	à la campagne	à la montagne
--------	--------------	-------------	------------	---------------	---------------

au (at)	au collège	au bord de la mer	au centre sportif	au centre commercial	au cinéma
---------	------------	-------------------	-------------------	----------------------	-----------

chez (in/to)	chez moi	chez mon ami	chez mes grandparents	chez mes copains
--------------	----------	--------------	-----------------------	------------------

dans (in)	dans le parc	dans le jardin
-----------	--------------	----------------

en (in)	en Paris	en Madrid
---------	----------	-----------

avec (with)	avec mes parents	avec mes amis	avec mes copains
-------------	------------------	---------------	------------------



Quantifiers			
très	very	pas très	not very
assez	quite	complètement	completely
un peu	a bit	sérieusement	seriously
tellement	really	extremement	extremely
vraiment	really	certainement	certainly
raiment	really	plutôt	rarely

et	and	surtout	especially
mais	but	cependant	however
ou	or	d'abord	firstly
où	where	puis	then
aussi	also	ensuite	next
par exemple	for example	après	after
heureusement	luckily	alors	then/so
malheureusement	unfortunately	finalement	finally
par contre	on the other hand	pendant que	while

Dr and Mrs Vandertramp (Être)



Positive	Negative
génial (great)	difficile (difficult)
amusant (funny)	ennuyeux (boring)
facile (easy)	bête (stupid)
intéressant (interesting)	nul (rubbish)
agréable (pleasant)	fatigant (tiring)
sympa (nice)	désagréable (unpleasant)
utile (useful)	affreux (awful)
passionnant (exciting)	mauvais (bad)



Key Vocabulary...

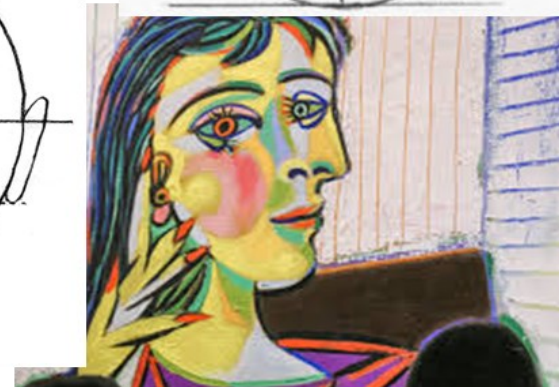
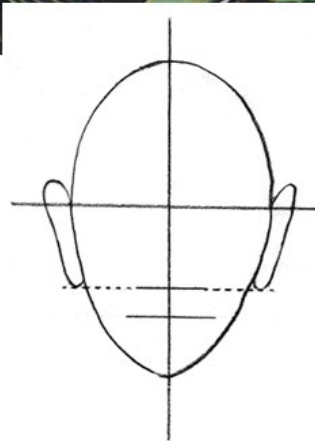
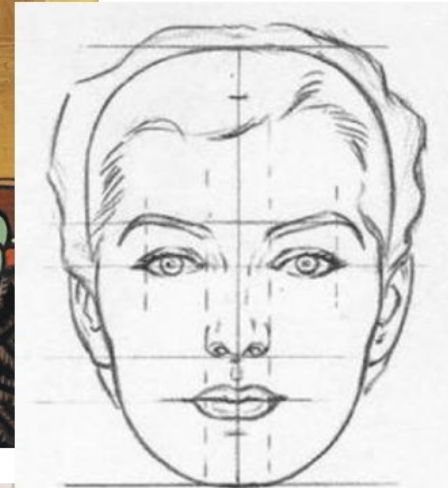
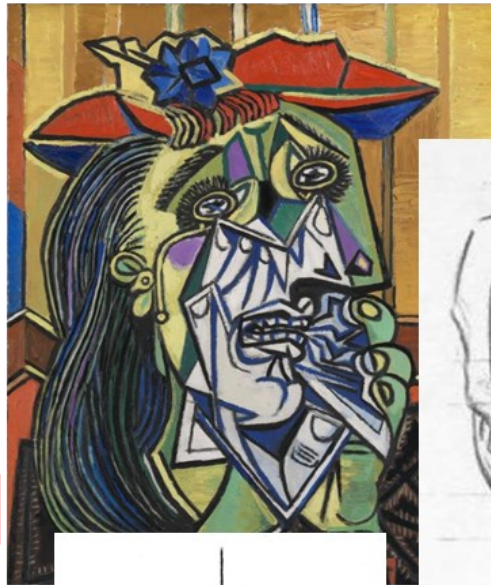
PICASSO	Pablo Ruiz Picasso (1881 – 1973) was a Spanish painter, sculptor, printmaker, ceramicist, stage designer and poet.
PORTRAITURE	Portraiture is the recording of an individual's appearance and personality. It can be a photograph, painting or sculpture and dates back to at least Ancient Egypt, where it flourished around 5000 years ago.



Always remember...

THE 'ROSE' PERIOD	The Rose Period lasted from 1904 to 1906. This period signifies the time when the style of Picasso's painting used cheerful orange and pink colours.
THE 'BLUE' PERIOD	The works produced by Picasso between 1901 and 1904 when he painted in shades of blue and blue-green to show he was dealing with depression.
THE 'AFRICAN' PERIOD	Picasso began painting in a style influenced by the two figures on the right, which is based on African art.

Picture This...



"Cubism is like standing at a certain point on a mountain and looking around. If you go higher, things will look different; if you go lower, again they will look different. It is a point of view."

Deeper Learning...



Who is Pablo Picasso?

Pablo Picasso is probably the most important figure of 20th century, in terms of art, and art movements that occurred over this period.

Before the age of 50, the Spanish born artist had become the most well known name in modern art, with the most distinct style and eye for artistic creation.

There had been no other artists, prior to Picasso, who had such an impact on the art world, or had a mass following of fans and critics alike, as he did.

Pablo Picasso was born in Spain in 1881, and was raised there before going on to spend most of his adult life working as an artist in France.

The Big Question...

NEXT STEPS:

How does Picasso use colour to portray emotion in his artwork?

Activity: What other emotions can you think of that link to a colour? For example, blue could mean sadness and red could mean love. What could yellow mean?

YEAR 9 term 1a KNOWLEDGE ORGANISER

Cross contamination is the spread of bacteria around your kitchen, from food to surfaces and from surfaces to food and can be a major cause of food poisoning. There are stages to be aware of cross-contaminating food, for example when preparing and storing food. **An example of cross contamination** during storage is: A high risk food, such as a raw chicken thawing in a refrigerator, is placed in contact with cooked meat. The bacteria from the raw chicken contaminates the cooked meat. Barbecues are often the scene of cross-contamination. One of the most common food handling mistakes involves people putting cooked chicken or meat back on the same plate that contains raw juices so be sure you have plenty of clean utensils and platters. Do not pour liquid that has been used to marinade raw meat or poultry on to cooked meats. Store uncooked food and ready-to-eat foods in separate sealed containers. Always wash your hands after touching raw meat. Use separate utensils (plates, tongs, containers) for cooked and raw meat. Cooking with disposable barbecues can take longer.

THE BIG QUESTION

What are considered high risk foods?

- Dairy products (milk, cream, cheese, yogurt, and products containing them such as cream pies and quiches)
- Eggs.
- Meat or meat products
- Poultry.
- Fish and seafood



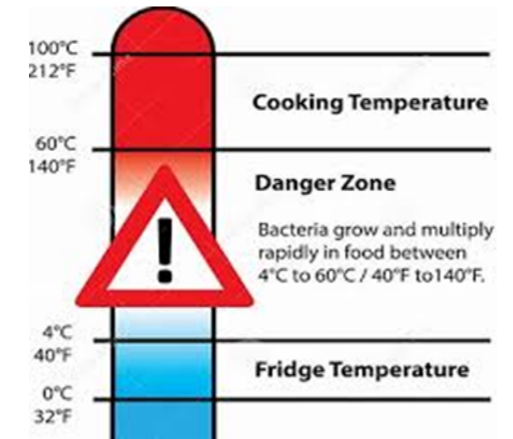
PROPERTIES 5 principles of food safety

1. Prevent contaminating food with [pathogens](#) spreading from people, pets, and pests.
2. Separate raw and cooked foods to prevent contaminating the cooked foods.
3. Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens. 75C
4. Store food at the right temperature. Fridge temperature is 0 – 5C
5. Use [safe water](#) and safe [raw materials](#)

DEEPER LEARNING

Bacteria	Source	symptom
Salmonella	chicken, pork, fruits, nuts, eggs, beef and sprouts. Animals and their environments: Particularly reptiles, baby chicks and pet food and treats	Diarrhoea, fever, stomach cramps, vomiting
E coli	undercooked ground beef, raw milk and fruit juice, soft cheeses made from raw milk, and soil on raw fruits and vegetable. Animals and their environment	Severe diarrhoea that is often bloody, severe stomach pain, and vomiting. Usually little or no fever is present.
campylobacter	Raw and undercooked poultry, unpasteurized milk, contaminated water	diarrhoea (frequently bloody), abdominal pain, fever, headache, nausea, and/or vomiting.

PICTURE PERFECT



NEXT STEPS

Our hands are a main way that germs are spread. Harmful bacteria can be spread very easily from people's hands to food, work surfaces and equipment. Find out why you should never wash raw chicken. Hygiene tips: use different chopping boards for raw and ready-to-eat foods and store raw meat and fish in a sealed container on the bottom shelf of the fridge. Check the packets – follow the cooking instructions carefully. Wash fruit and vegetables under cold running water first.

KEY VOCABULARY

High risk food	Multiply
Core temperature	Danger zone
Chilled foods	Under cooked
Cross contaminate	Symptom
Pathogen	Vomit
salmonella	diarrhoea

Key Vocabulary...


Climate	Climate means the usual condition of the temperature, humidity, atmospheric pressure, wind, rainfall, and other meteorological elements in an area of the Earth's surface for a long time. In simple terms climate is the average condition for about thirty years.
Natural causes	These are natural occurring, NOT influenced by humans. For example, Orbital changes, Volcanic activity and Solar output
Human causes	These are causes influenced by human activity for example, Burning fossil fuels, deforestation, dumping waste in landfill and agriculture.
Impacts	Impacts can be social (people), economic (money or environmental). It is how climate change effects us and our surroundings
Sustainable management	Sustainable management means ensuring that it is a sustained in a way for future generations to use. Sustainable management also involves making sure local people are not disadvantaged, and ensuring that management is environmentally friendly.

Did you know..?

Methane is a greenhouse gas and it is produced by cows. In fact methane enters our atmosphere when a cow passes wind! Due to our growing population and more people than ever eating meat, we need more cows to feed everyone; therefore more methane in our atmosphere. Scientists believe by eating just one meat free meal a week can help reduce the effects of climate change on our planet!



Key summits...

Kyoto Protocol		The Kyoto Protocol was adopted on 11 December 1997. It is an international treaty among industrialized nations that sets mandatory limits on greenhouse gas emissions.
Doha Amendment		The Doha Amendment refers to the changes made to the Kyoto Protocol in 2012. The Amendment adds new emission reduction targets for Second Commitment Period (2012-2020) for participating countries.
Paris Agreement		The Paris Agreement is a pact within the United Nations Framework Convention on Climate Change (UNFCCC) between 197 countries that focuses widely on reducing greenhouse gases emissions, adapting to the impacts of climate change, and to provide financial assistance to developing countries affected by a changing climate.

Sea levels will rise...

According to an IPCC report, parts of London could be submerged if the sea levels rise by more than two metres. Coastal and low-lying areas will be the affected the most, meaning large areas of the North East could also disappear if ice caps melt.



Picture this...

Agriculture



Deforestation



The BIG questions..

1. Explain the social, economic and environmental impacts of climate change
2. Do you think climate change is a more natural or human cause? Discuss your answer

Deeper Learning...

Everywhere on Earth ice is changing. The famed snows of Kilimanjaro have melted more than 80 percent since 1912. Glaciers in the Garhwal Himalaya in India are retreating so fast that researchers believe that most central and eastern Himalayan glaciers could virtually disappear by 2035. Arctic sea ice has thinned significantly over the past half century, and its extent has declined by about 10 percent in the past 30 years. NASA's repeated laser altimeter readings show the edges of Greenland's ice sheet shrinking. Spring freshwater ice breakup in the Northern Hemisphere now occurs nine days earlier than it did 150 years ago, and autumn freeze-up ten days later. Thawing permafrost has caused the ground to subside more than 15 feet (4.6 meters) in parts of Alaska. From the Arctic to Peru, from Switzerland to the equatorial glaciers of Man Jaya in Indonesia, massive ice fields, monstrous glaciers, and sea ice are disappearing, fast.

Activity: You live on a coastal town effected by rising sea levels in the UK. Write a letter to your local MP informing them of the impacts (S,E,EN) and what management strategies they should put in place to help your community.

Selected Key words and definitions	
Arab Spring	A wave of unrest and protests which began in Tunisia (North Africa) in 2010, and spread to other Arab countries.
Conflict	Serious disagreement, which may lead to violence and even full-scale war.
Desalination plant	Where sea water is turned into fresh water which people can drink, by removing the salt.
Development	A process of change to improve people's lives
Dictatorial	Keeps tight control over the people, so they have little freedom.
Hydroelectricity	Electricity generated when flowing water spins a turbine.
Independence	When a country that had been a colony begins to govern itself.



Did you know?

- The Dead Sea is so salty that no animals can live in it.
- The salty water is so dense that you can float around in it, reading a book



The Middle East has an abundance of Oil and a shortage of Water. The money made from selling oil has meant parts of the region can afford to use technology to help solve the problem of a lack of water.

WATER IN THE MIDDLE EAST AND NORTH AFRICA IS A CRISIS WAITING TO HAPPEN

WATER USE EXCEEDS SUSTAINABLE LIMITS



6 out of 10 of the region's population live in areas with high or very high surface water stress

SOME OF THE SOLUTIONS



82% of the wastewater is not recycled



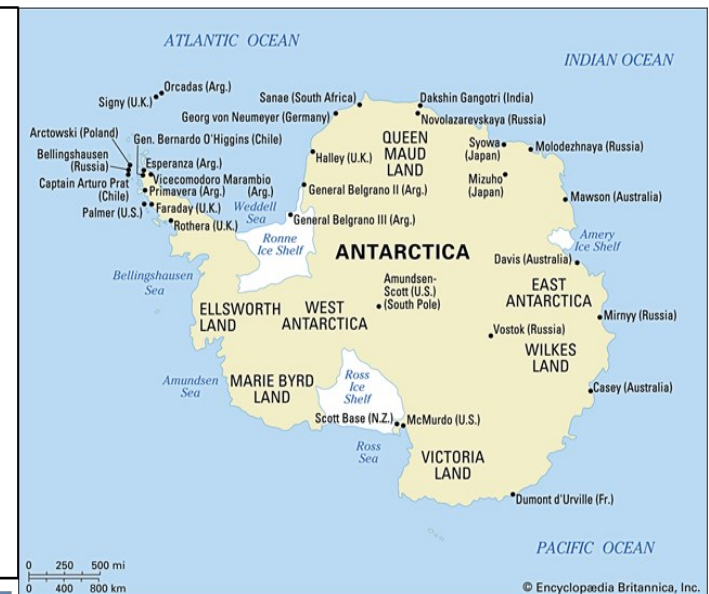
PLANNING to manage freshwater resources sustainably



HARNESSING PRIVATE SECTOR Innovation and financing for recycling wastewater

© 2017 Infographic: Lynn Segler / World Bank

Project: Who owns the South Pole?
Research into the ownership of Antarctica and create a leaflet explaining which countries own the least populated continent. Use maps, diagrams and your own text (not cut and paste) to explain.

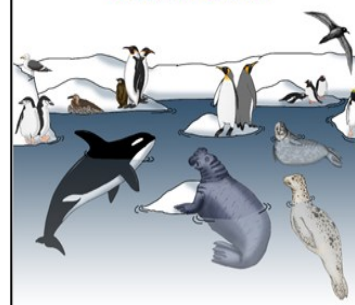


TRAVEL TO ANTARCTICA IN 2019/20 WITH THE EXPERTS



NATIONAL GEOGRAPHIC | PONANT
EXPEDITIONS
FROM ANTARCTICA TO AFRICA
24th Nov 2019 - 10th Dec 2019
EMBLEMATIC ANTARCTICA
From Nov 2019 to Dec 2019
FALKLANDS, SOUTH GEORGIA & ANTARCTICA

Antarctica



Halley Research Station is an internationally important platform for global earth, atmospheric and space weather observation in a climate sensitive zone. Built on a floating ice shelf in the Weddell Sea, Halley VI is the world's first re-locatable research facility.

Temperatures at Halley rarely rise above 0°C although temperatures around -10°C are common on sunny summer days. Typical winter temperatures are below -20°C with extreme lows of around -55°C



Key Vocabulary...

Cause	A person or thing that gives rise to an action.
Consequence	A result or effect.
Militarism	The belief that a country should maintain a strong military and be prepared to use it aggressively to defend or promote national interests
Alliances	A union between countries based upon shared interests.
Imperialism	Extending a countries power through military force, usually by taking control of other countries
Nationalism	A strong love of ones own country and the belief that it is better than other nations.
Propaganda	Information which is biased or misleading to promote a certain view
Conscientious Objector	A person who refuse to fight in armed conflict based upon their conscience.

Causes of WWI

The causes of the First World War can be split into two categories:

Long-term causes (over the course of several years) can be remembered by using the word MAIN

M - Militarism
A - Alliances
I - Imperialism
N - nationalism

Short-term cause (immediately before WWI began). The assassination of the Austro-Hungarian prince, Archduke Franz Ferdinand was blamed on Serbia. This led to Austro-Hungary declaring war on Serbia. This 'triggered' the rest of the alliance system into action and the beginning of WWI

Key Events in Order...

1914

June 28 - Archduke Franz Ferdinand, prince to the Austria-Hungary throne, is assassinated in Sarajevo by a Serbian named Gavrilo Princip.
August 3 - Germany declares war on France as part of the Schlieffen Plan.
August 4 - Germany invades Belgium. Britain declares war on Germany.
August 23 to 30 - The Battle of Tannenberg is fought between Germany and Russia. The Germans defeat the Russian Second Army.
September 5 to 12 - The advancing German army is stopped before Paris by the British and French at the First Battle of the Marne. The Germans dig in and four years of trench warfare begins.
October 19 to November 22 - The Allies defeat the Germans at the First Battle of Ypres.
November 2 - The British begin a naval blockade of Germany.
December 24 - An unofficial truce is declared between the two sides at Christmas.

1915

February 4 - The Germans begin to use submarines against Allied merchant ships around the island of Britain.
April 25 - The Allies attack the Ottoman Empire at the Battle of Gallipoli. This campaign will last over eight months and will end as a victory for the Ottomans and the retreat of the Allies.
May 7 - The Lusitania, a luxury British passenger ship, is sunk by a German submarine. 1,195 civilians were killed. This act sparks international outrage and contributes to the United States joining the war against Germany.

1916

February 21 - The Battle of Verdun begins between France and Germany. This battle will last until December of 1916 and will finally result in a French victory.
May 31 - The largest naval battle of the war, the Battle of Jutland, is fought between Britain and Germany in the North Sea.
July 1 - The Battle of the Somme begins. Over 1 million soldiers will be wounded or killed.

1917

March 8 - The Russian Revolution begins. Tsar Nicholas II is removed from power on March 15.
April 6 - The United States enters the war, declaring war on Germany.
November 7 - The Bolsheviks, led by Vladimir Lenin, overthrow the Russian government.
December 17 - The Russians agree to peace with the Central powers and leave the war.

1918

January 8 - President Woodrow Wilson issues his "Fourteen Points" for peace and an end to the war.
July 15 - The Second Battle of the Marne begins. This battle will end on August 6 as a decisive victory for the Allies.
November 11 - Germany agrees to an armistice and the fighting comes to an end at 11am on the 11th day of the 11th month.

Important People



Lord Kitchener - Senior British army officer and responsible for recruitment of soldiers.



Kaiser Wilhelm II - German Emperor during WWI



Gavrilo Princip - Serbian terrorist, part of the Black Hand - assassinated Archduke Franz Ferdinand (Austro-Hungarian Prince)



Alfred Von Schlieffen - Developed Germany's plans for the invasion of Belgium and France at the start of WWI



Field Marshall Haig - Leading British military figure who planned the battle of the Somme

Life in the Trenches

In World War One, hundreds of miles of muddy trenches became the home to thousands of soldiers. These long narrow ditches dug into the ground were as busy as a small town where soldiers lived all day and night. These trenches were the only thing stopping the advance of the German army. We can all get out of the mud and wet when we want to, but many soldiers during World War One couldn't and didn't get the chance to go home.

The Poppy

The significance of the poppy as a lasting memorial symbol to the fallen was realised by the Canadian surgeon John McCrae in his poem '*In Flanders Fields*'. The poppy came to represent the immeasurable sacrifice made by his comrades and quickly became a lasting memorial to those who died in World War One and later conflicts. It was adopted by The Royal British Legion as the symbol for their Poppy Appeal, in aid of those serving in the British Armed Forces, after its formation in 1921



Activity - Write a letter to home from the trenches. Remember these letters would have been censored (checked to ensure nothing too negative was written/details of Britain's war effort were not given away). Include your daily routine and think of what you may want to ask/want from home.

Key Vocabulary...

Suffrage	The right to vote in elections.
Suffragettes	Women who organised protest in order to get the vote.
Reparations	The action of making amends for a wrong one has done, by providing payment or other assistance to those who have been wronged.
General Strike	A strike by workers in all/most industries.
Economy	The state of a country in terms of production (making goods), consumption (buying goods) and the supply of money.
Dictator	A ruler with total power over a country.
Democracy	A system of government where people exercise power through voting
Appeasement	Appeasement in an international context is a policy of making concessions to an aggressive power in order to avoid conflict.

The General Strike (1926)

The strike was called by the TUC (Trade Union Congress - an organization that represents the rights and interests of workers) for one minute to midnight on 3 May, 1926. For the previous two days, some one million coal miners had been locked out of their mines after a dispute with the owners who wanted them to work longer hours for less money. In solidarity, huge numbers from other industries stayed off work, including bus, rail and dock workers, as well as people with printing, gas, electricity, building, iron, steel and chemical jobs.

The aim was to force the government to act to prevent mine owners reducing miners' wages by 13% and increasing their shifts from seven to eight hours.

The industrial action came against a backdrop of tough economic times following the First World War and a growing fear of communism

Treaty of Versailles

The Treaty of Versailles was a peace treaty signed on 28th June 1919, exactly five years after the assassination of Archduke Franz Ferdinand. It officially brought an end to WWI. However, the Germans were not invited to the negotiations but were forced to sign the treaty – known as forced peace or 'diktat'. We remember the terms of the treaty and the things that Germany had to agree to/give up with the acronym – LAMB.

Land:
Germany lost 13% of its land all of its empire

Army:
100,00 men/no air force/
6 battleships



Money:
Had to pay £6.6bn in war damages (reparations)
Guilt'

Blame:
Had to sign the 'War
clause and accept blame
for starting WWI

Important People



Benito Mussolini - Ruled Italy from 1922 - 1943. He became dictator in 1925.



Joseph Stalin - Revolutionary Soviet born in Georgia. He led the Soviet Union (Russia) from the mid 1920s - 1953.



Adolf Hitler - Born in Austria, fought for Germany in WWI and became leader in of the Nazi party in 1921. He became chancellor of Germany in 1933 and dictator by 1934. He led Germany until the end of WWII in 1945.



Neville Chamberlain - Conservative politician and Prime Minister from 1937-1940. Remembered for the policy of appeasement towards Germany.

Wall St Crash 1929

- Ending of the 'boom' of the 1920s
- Lower land prices
- Too many goods produced and not enough people wealthy enough to buy them.
- Too much food - prices went down.
- Banks did not enough money when people started to withdraw their savings.
- 16 million shares were sold in one day on the New York Market (October 1929) and led to the stock market crashing.
- This in turn led to the Great Depression of the 1930s

The Depression

- America had lent huge sums of money to European countries. When the stock market collapsed, they suddenly recalled those loans. This had a devastating impact on the European economy.
- The collapse of European banks caused a general world financial crisis.
- Unemployment - 13 million people were out of work.
- Industrial production dropped by 45 per cent between 1929 and 1932.
- House-building fell by 80 per cent between 1929 and 1932.
- The entire American banking system reached the brink of collapse. From 1929 to 1932, 5,000 banks went out of business.
- These effects were mirrored in Britain and Europe.

Activity - Write a letter to the Prime Minister in 1925 arguing that women should have equal voting rights to men. Remember to use persuasive language

Key Vocabulary...

Citizen	A person who is legally a member of a certain country and has the absolute right to live there.
Nation	A group of people who share a common language, history or culture.
Religion	An organised set of beliefs based on the idea that there is more than just the physical world.
Marriage	The legal joining of two people in which they share everything.
Heterosexual	A person who is attracted to people of the opposite sex than themselves.
Homosexual	A person who is attracted to people of the same sex as themselves.
Bisexual	A person who is attracted to people of the same sex or other sex than themselves.
Gender	An identity based on how a person would like to be perceived and treated, not limited to simply male or female.
LGBTQ+	A community of people who may be lesbian, gay, bisexual, transgender, queer or belong to one of many other groups.
Human Rights	The basic rights which any person should always have without exception.

The Big Idea

There are more than 7 billion people in the world and most of them believe in some form of religion. It is therefore really important to understand some of these religious beliefs. The more we know about each other, the better our chances are of all surviving together on the same planet - there's no getting off it for the foreseeable future! With that in mind, we need to understand we people hold the beliefs that they do and what that means for their communities. This can lead us to understand how they interact with each other in terms of building a family, what those families look like and how people of different religions raise their children.

The British Values and Some Other Rights

Democracy	The idea that the people should be able to collectively choose their leaders.
The Rule of Law	The idea that all people should follow the law and be treated equally by the law.
Individual Liberty	The idea that people should be free to choose their own path in life.
Mutual Respect and Tolerance	The idea that no one should be mistreated based on their race, gender, religion, disability or any other difference.
Freedom of Speech	The idea that people should be free to express themselves and their views without fear of punishment.
The Right to Protest unfair Treatment	Within certain rules, UK citizens are legally allowed to protest against treatment or rules that they deem unfair.
Human Rights	The basic rights which are considered to be common to all people rather than having to be earned.

Always Remember...

- Religions affect our lives even if you don't have a religious belief.
- Religions have affected the ways our laws have been decided and our calendar.
- Within Britain there is a huge amount of diversity, not only of race or ethnicity, but of religious belief.
- There are many different styles of family which have the same rewarding and supportive relationships as the tradition one father and one mother with children.
- All people deserve respect in life, especially if you hope to get respect.
- Religious texts may not always reflect more modern ideas of equality as centuries may have past since they were written.

Religious Matters

The Bible	The Christian holy book, actually a collection of different books.
The Koran	The Muslim holy book, communicated to Muhammad by Allah
Church	The name for a Christian place of worship.
Mosque	The name for a Muslim place of worship.
Priest Minister Vicar Pastor	Various names for a leader/teacher of the Christian faith.
Imam	A leader/teacher in the Islamic faith.

Deeper Learning...

State three key beliefs of Christians and three key beliefs of Muslims.

Describe the key features of a Christian wedding ceremony.

Explain three important features of an Islamic wedding or marriage.
Explain the methods used by Jesus to explain how Christians should behave, as written down in The Bible.

'Christians and Muslims have very similar beliefs about marriage'. How far do you agree with this statement?

Activity - Research the British Values online and then explain which you think is the most important and why.

Knowledge Organiser

Always Remember (When part of a Production Company)



What is the Performing Arts?



Different forms of art are explored separately or combined together to create performance work. The most common are drama, dance and music.

Use the ideas of everyone in the group



Always build a team with likeminded people that will work hard and do their best



Explore your chosen theme/ topic with workshops and activities before you start to create the final piece



Throughout the creative process always think about your target audience. Does your piece work for them?



As you create your performance piece always refer back to your aim/ purpose. Does the piece fit?

Does the opening have impact? Have you gripped your audience?

Starting a Production Company

What will I need?



A creative name



A theatre specialism

To advertise

A pot of money to start

Develop a business plan



Build a website



Acquire Equipment

Build contacts

Find a space to work

Roles within a Production Company



Playwright

Choreographer

Set designers

Understudies

Performers

Sound Designers

Stage Manager

Lighting Designers

Puppet Designers

Costume Designers

Directors

Technicians



Musical Theatre Facts

DID YOU KNOW...?

Musical Theatre combines song, spoken dialogue, acting and dance.

Musical Theatre originated in Ancient Greece.

The 'musical' was invented by a French composer called 'Herve' when he was experimenting with a form of comic musical theatre he called 'Operette'.

The Phantom of the Opera is the most successful musical of all time.

Key Points to Remember



Every musical has **Libretto**, which is the overall text including the spoken and sung parts. It also has the **Lyrics**, which are the words to the songs.

Songs are either **action** songs which move the plot forward or **character** songs which enable a character to express their feelings.

The amount of songs versus spoken dialogue vary from one musical to the next.

Where do you go from here?



If you decide to study musical theatre to a greater depth there are a number of career paths that will be open to you, such as:

Actor, Teacher, Lecturer, Choreographer, Stage Manager, Musical Director, Acting Director, Singer, Musician, Professional Dancer, Private Coach, Casting Director, Make up artist, Playwright, Costume Designer, Sound Engineer or Lighting Technician to name a few!!

Key Features of Musical Theatre

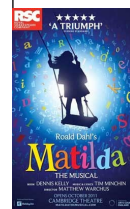
Catchy music in a popular style.

Solo songs, duets, choruses and ensembles.

Orchestra or band accompaniment.

Spoken dialogue

Dance sequences, stage spectacles and eye catching costumes.



Unit 1— Exploring Media

Always remember...

Whether it be a TV show, film, video game or magazine cover, everything we consume contains lots of small choices made by its creator. These small choices combine to produce the full product we consume. Our job is to break down these products and analyse these choices!



Deeper Learning...

How can the product I am analysing link to...



- **The specific target audience? (Age, gender, socio-economic background)**
- **The specific purpose? (Inform, entertain, educate, provoke thought, highlight issues)**



Analysis Areas...

Genre Conventions

Genre conventions are the key features of a media product that means it adheres to that genre. For example, horror films will frequently use dark lighting as a technique to build suspense.

Types of Narrative

Storylines, whether they are in film, a series or an advert, can manipulate the narrative as they please. Some narratives are linear, some are specifically non-linear and withhold information to keep the viewer interested. How many times have you seen a film that has started with a controversial scene before heading back in time?

Character Representation

In everything we watch, different groups of people are represented in different ways. These groups can be based on gender, social circles, ethnicity, religion and/or social class. Script editors, producers and directors have a choice at how they portray these groups within their products.

Key vocabulary...

- **Mise-en-Scene**
- **Typography**
- **User Interface**
- **Genre**
- **Narrative**
- **Representation**
- **Audience**
- **Interactive features**
- **Layout**
- **Design**
- **Sound**
- **Editing**
- **Usability**
- **Photographic techniques**
- **Primary Audience**
- **Secondary Audience**
- **Socio-economic**
- **Demographic**
- **Characterisation**
- **Stereotypes**



The Big Question: What features are used in the chosen media products that adhere to its genre, audience and purpose?

Subject Knowledge Organiser

Badminton – Rules, Scoring & Officials

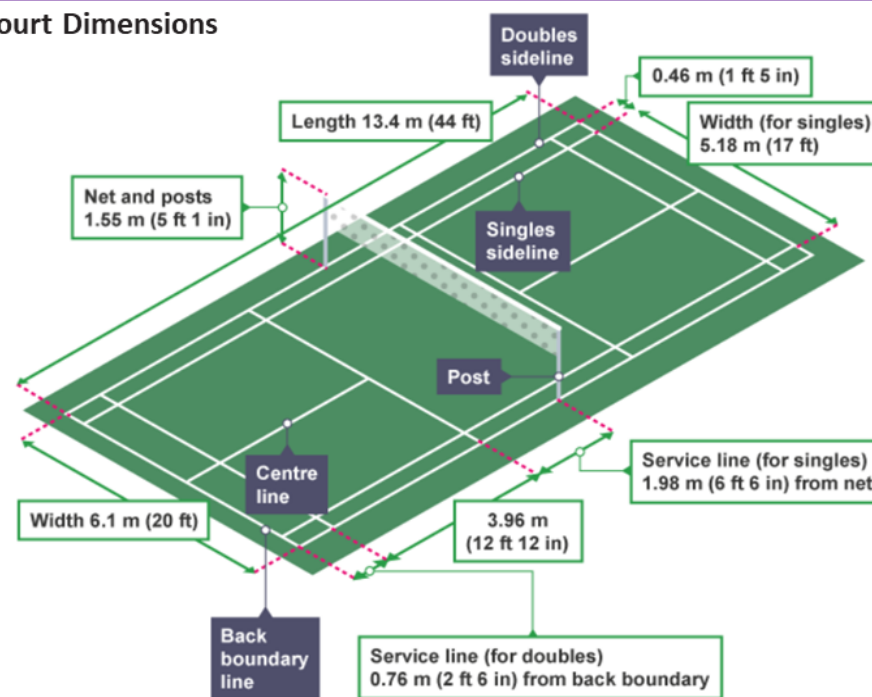
Rules

- ☐ A match consists of the best of three games of 21 points.
- ☐ The player/pair winning a rally adds a point to its score.
- ☐ At 20-all, the player/pair which first gains a 2-point lead wins that game.
- ☐ At 29-all, the side scoring the 30th point wins that game.
- ☐ The player/pair winning a game serves first in the next game.
- ☐ A badminton match can be played by two opposing players (singles) or four opposing players (doubles).
- ☐ A competitive match must be played indoors utilising the official court dimensions.
- ☐ A point is scored when the shuttlecock lands inside the opponent's court or if a returned shuttlecock hits the net or lands outside of the court the player will lose the point.
- ☐ At the start of the rally, the server and receiver stand in diagonally opposite service courts.
- ☐ A legal serve must be hit diagonally over the net and across the court.
- ☐ A badminton serve must be hit underarm and below the server's waist height with the racquet shaft pointing downwards, the shuttlecock is not allowed to bounce. After a point is won, the players will move to the opposite serving stations for the next point.
- ☐ The rules do not allow second serves.
- ☐ During a point a player can return the shuttlecock from inside and outside of the court.
- ☐ A player is not able to touch the net with any part of their body or racket.
- ☐ A player must not deliberately distract their opponent.
- ☐ A player is not able to hit the shuttlecock twice.
- ☐ A 'let' may be called by the referee if an unforeseen or accidental issue arises.
- ☐ A game must include two rest periods. These are a 90-second rest after the first game and a 5-minute rest after the second game.

Always remember: If yours or your opponents score is even you serve/receive from the right hand side, if it is odd you serve/receive from the left.

Always remember: serve, return, clear, flick, serve, drop shot, smash shot, drive shot, backhand, forehand, service line, tram lines, base line, net, umpire.

Court Dimensions



Scoring

In recent years, badminton has changed how players can score a point. In 2006, the rules were changed to a rally point system and this now allows both players to score a point during a rally, regardless of who served.

In competitive adult matches, all games are played to a best of three games. To win a game, a player must reach 21 points. However, if the game is tied at 20-20 (or 20-all) then you are required to win by two clear points. Unlike most sports, however, if the score becomes 29-29 (or 29-all), the player or team to score the 30th point will win the game.

Progress Vocabulary: *Identify, Define, describe, explain, compare and contrast, sporting links, analyse, evaluate*

Subject Knowledge Organiser

Badminton – Forehand Clear, Forehand Drop Shot & Forehand Smash

Forehand Clear

The forehand clear shot enables players to move their opponent to the back of the court, creating space in the mid and front court to exploit.

Stage one

Stand in position on the balls of your feet, with knees slightly bent. Turn sideways with your left foot pointing towards the target and your right foot parallel to the baseline. The left shoulder and fully extended elbow will be pointing towards the shuttlecock. The racket elbow should be extended backwards behind the head at 90° with the face of the racket above head height. Transfer weight onto the back foot.

Stage two

Keep your eyes on the shuttlecock. Flex your wrist and elbow backward until the racket is parallel with the floor. Rotate your body and step forward towards the shuttle with your racket leg, transferring your weight through the shot. Extend your racket elbow upwards into a throwing position.

Stage three

Keep your eyes on the shuttlecock. Extend your racket elbow quickly towards the shuttlecock, with the non-racket arm rotating backwards. Make contact with the shuttlecock as high as possible in front of your body. Extend your elbow and flex your wrist on contact, to allow for a 'whip' action. Drive the shuttlecock with a high trajectory towards the back of the court.

Stage four

Your body should have fully rotated with your racket foot now bearing all the weight and facing towards the target. The racket will follow through finishing to the left hand side of your body. Return back to ready position for the next shot.

Forehand Drop Shot

The forehand drop shot enables players to move their opponent to the front court to either win a point or create space in the mid and back court to exploit.

Stage one

As the shuttlecock is returned, stand in position on the balls of your feet, with knees slightly bent. Turn sideways with your left foot pointing towards the target and your right foot parallel to the baseline. The left shoulder and fully extended elbow will be pointing towards the shuttlecock. The racket elbow should be extended backwards behind the head at 90° with the face of the racket above head height. Transfer weight onto the back foot.

Stage two

Keep your eyes on the shuttlecock. Flex your wrist and elbow backward until the racket is parallel with the floor. Rotate your body and step forward towards the shuttlecock with your racket leg, transferring your weight through the shot. Extend your racket elbow upwards into a throwing position.

Stage three

Keep your eyes on the shuttlecock. Extend your racket elbow towards the shuttlecock, with non-racket shoulder rotating backwards. Make contact with the shuttlecock as high as possible in front of your body. Extend your elbow and flex your wrist on contact. Slice across the shuttlecock with the face of the racket slightly open, or just before contact, slow the speed of the racket down, tapping the shuttle gently over the net. Hit the shuttlecock at a flat trajectory, allowing it to drop just over the net.

Stage four

Your body should have fully rotated with your racket foot now bearing all the weight and facing towards the target. The racket will follow through, finishing to the left hand side of your body. Return back to ready position.

Forehand Smash

The forehand smash shot is hit with power and speed downward into the opponent's court. The angle/steepness of the shuttlecock's trajectory make it hard for the opponent to return.

Stage one

As the shuttlecock is returned, stand in position on the balls of your feet, with knees slightly bent. Turn sideways with your left foot pointing towards the target and your right foot parallel to the baseline. Left shoulder and fully extended elbow will be pointing towards the shuttlecock. The racket elbow should be extended backwards behind the head at 90° with the face of the racket above head height. Transfer weight onto the back foot.

Stage two

Keep your eyes on the shuttlecock. Flex your wrist and elbow backward until the racket is parallel with the floor. Rotate your body and step forward towards the shuttle with your racket leg, transferring your weight through the shot. Extend your racket elbow upwards into a throwing position.

Stage three

Keep your eyes on the shuttlecock. Extend your racket elbow quickly towards the shuttlecock, with the non-racket elbow extended and shoulder rotating backwards. Make contact with the shuttlecock as high as possible in front of your body. Extend your elbow and flex your wrist on contact, to allow for a 'whip' action. Drive the shuttlecock downwards towards the floor of your opponent's court with a low trajectory.

Stage four

Your body should have fully rotated with your racket foot now bearing all the weight and facing towards the target. The racket will follow through, finishing to the left hand side of your body. Return back to ready position for the next shot.

Subject Knowledge Organiser

Gymnastics - Key Components of Fitness, Key Terms & Chronology

Key Components of Fitness for Gymnasts

A gymnast requires **flexibility** at the joints to allow for a larger range of motion around a joint.

A gymnast requires **muscular strength** to be able to balance on certain body parts. This is exerting their body against a given force.

A gymnast requires **power** in their arms and legs, which is speed x strength.

A gymnast requires **agility** to change direction at speed.

A gymnast requires **muscular endurance** to keep using the same muscle groups over and over again when performing a skill such as a forward roll.

A gymnast requires a certain levels of **speed** as they slow down their speed and increase their speed depending on the sequence they are performing.

Gymnastics Key Terms

Apparatus The equipment used in gymnastics.

Balance Position A static position, holding a distinct shape.

Dismount To leave an apparatus at the end of a routine.

Equilateral Triangle A triangle in which all three sides have equal length.

Jeté A move where the gymnast springs from one foot to the other.

Pike Body position where the body is bent forward 90 degrees at the waist with the legs kept straight.

Pivot A turn on the ball of the foot.

Plié Feet angled at 90 degrees.

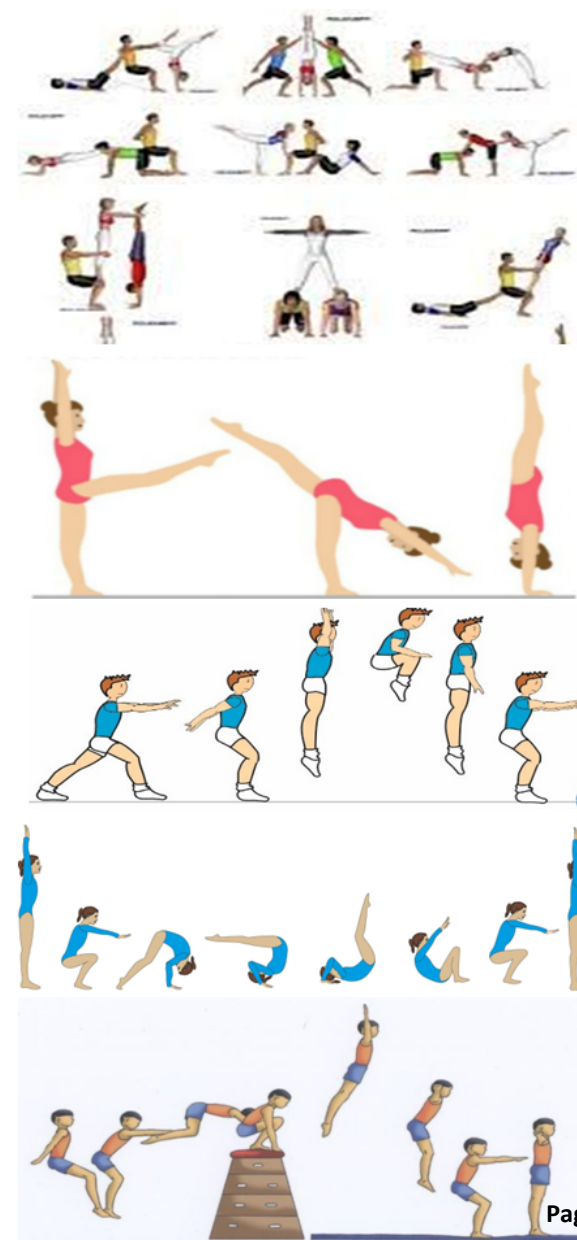
Routine A combination of moves and sequences performed on one apparatus.

Spotting Spotting a landing before take off.

Supporting When a second person assists the gymnast through a move and prepares to cushion them to avoid injury in the event of a fall.

Tuck A position where the knees are bent into the chest, with the body folded at the waist.

Walkovers A move where a gymnast transfers from a standing position to a handstand to a standing position.



Subject Knowledge Organiser

Gymnastics – Travelling, Jump, Roll, Weight on Hands, Balance & Vault

Travelling

Travelling in floor gymnastics is being able to move around the mat using different movements such as rolls, steps, turns, jumps, cartwheels, walkovers, handsprings, and being as creative as possible.

Standing Upward Jump

Bending your legs slightly, jump up while raising your arms forwards and upwards above your head. Keep your arms slightly in front of your body. As you land, it is important to keep your arms raised above your head, and place your feet slightly apart in the 'plie' position at an angle of 45 degrees, with your knees bent. As you make contact with the floor continue to bend the knees to absorb the downward force of landing. Bring your arms down sideways to stabilise the landing, without taking a step.

Forward Roll

From standing, crouch down. Place your hands on the floor in front of you, shoulder-width apart with your fingers facing forwards, while simultaneously placing your chin on your chest. This will ensure your hips are raised high enough and your spine is rounded so you can roll on to your back. Bend your arms as you place your neck on the floor, slightly extending the legs and pushing on the floor with your feet until the roll commences and you roll on to your back. Try to keep your legs straight as you commence the roll forwards. In the last part of the roll, bend your legs tightly so that your heels are close to your bottom. At the point where your feet contact the floor, stretch forwards with your arms so that your head and chest move over your feet. Once your body weight is in a position of balance you will be able to stand.

Cartwheel

Raise your hands above your head and place your leading leg forward. Reach forward to place the first hand (the hand on the same side as the leading leg) on the floor by bending your front leg and bending at the waist. When the first hand contacts the floor, straighten your front leg while kicking upward with your back leg over your head. Continue the movement by rocking over from your first to your second hand (which is still extended above your head). To do this, push strongly against the floor with your first hand, keeping your arms stretched up over your head. As your body rocks over your second hand, bring your second leg down to the ground and place it close to your second hand.

Headstand

Crouch down and place your hands and forehand on the floor to form an equilateral triangle. Your head should be approximately 30cm in front of your hands and your arms bent at an angle of 90 degrees. Extend your legs so that your pointed toes are resting on the floor. By pressing with your hands, slowly move your bottom over your forehead into a balanced position. Maintain the equilibrium by continually pressing with your hands. By exerting more pressure you will reach a point at which you can lift your feet from the floor. Continue to raise your legs above your head by pressing constantly against the floor with your hands. Make sure that your back is kept straight at all times by tightening your bottom and stomach muscles.

Headspring

To obtain the necessary height and rotation, a fast but controlled approached run is required. On take-off, drive your arms upwards and extend the body. Think of the lower body rotating over the upper body. You must still be moving upwards at the point when your hands strike the vault. In the strike phase, the angle of the body and the vault should be between 60 and 80 degrees to the vertical. Your hands should leave the box just before your body reaches the vertical. To achieve this the strike phase must be short and extremely powerful. During post-flight, keep the body as straight as possible. Just before landing, bend the knees.

Always remember: You need to make sure you show aesthetic appreciation when performing making sure arms and legs are kept as straight as possible where possible and your moves are controlled, smooth and balanced.

Progress Vocabulary: *Identify, Define, describe, explain, compare and contrast, sporting links, analyse, evaluate*

Subject Knowledge Organiser

Rugby – Laws, Player Positions & Pitch Dimensions

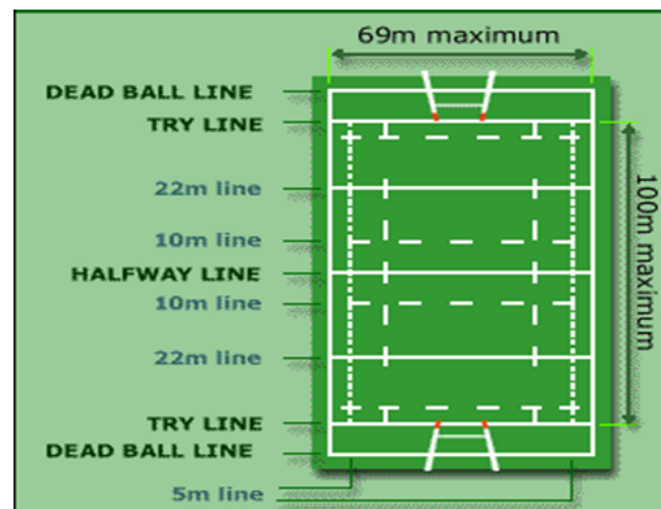
Laws

- ❑ The rugby game is broken down into two 40-minute halves with a 10-minute rest period in between.
- ❑ The time during a game can be stopped for an incident. Therefore, the game stops on exactly 80 minutes.
- ❑ The game must have one referee and two touch judges.
- ❑ The game is stopped if a player is fouled and there is no subsequent advantage. Unlike most sports, a referee can wait to see how an incident unfolds before deciding whether the attacking had an advantage.
- ❑ A tackle cannot be made above the nipple line or by tripping a player with your feet.
- ❑ A lineout is called if the ball travels past the side-line.
- ❑ A lineout consists of up to seven players and players can be lifted in order to catch the ball.
- ❑ At a lineout, both teams can compete to win the ball.
- ❑ To successfully covert a kick, the ball must travel the top section of the goal.
- ❑ If a ball, when kicked, hits the post and bounces in field, then play can continue.
- ❑ In order to stay onside in rugby, the attacking players must remain behind the ball of the player passing to them.
- ❑ A referee may award a foul if they believe an unfair act is committed by a player. A foul contravenes the laws of the game and can be for a range of offences (kicking the player, offside, dropping the ball).
- ❑ In cases of foul play, a referee can award players with either a yellow or red card. A yellow card provides a player with a warning about their conduct (sin binned for 10 minutes) and a red card requires them to leave the pitch immediately.

Player Positions



Pitch Dimensions



Subject Knowledge Organiser

Rugby – Tackle, Grubber Kick, Spin Pass & High Ball Catch

Tackle

- ☐ The tackle is an essential skill for winning the ball back in rugby or stopping an attacking player. It is very important to complete it with good timing and technique to prevent injury or accidents.
- ☐ Position your body to the opponent's right-hand side (safe side).
- ☐ Position your left foot forward into a slight opposition.
- ☐ Make contact by putting your right shoulder into the opponent's mid-right thigh.
- ☐ Make sure your head is on the other side of the ball carrier so their body is between your shoulder and head.
- ☐ Bring your arms up and wrap them around the ball carrier, just above their knees (do not lock your hands together).
- ☐ Squeeze your arms and pull the ball carrier into your body.
- ☐ As you squeeze, push your shoulder into the ball carrier, as though you are trying to push him away with your head.
- ☐ Continue pushing until both you and the ball carrier fall to the ground.
- ☐ Keep your head as close as you can to their thigh throughout.

Grubber Kick

- ☐ The grubber kick is a simple low kick that aims to move the ball past defences for attacking players to try and retrieve. It is very good at breaking defensive positions and forces defenders to turn around and chase.
- ☐ Stand in opposition on the balls of your feet, with the non-kicking foot in front.
- ☐ Lean forward so the head and chest should be comfortably over the ball.
- ☐ Hold the ball vertically at waist height, with hands either side of the ball.
- ☐ Extend arms fully so the ball is half a metre out in front.
- ☐ Drop the ball and point toes towards the ground.
- ☐ Keep the knee bent and over the ball.
- ☐ Strike the upper half of the ball with the laces, just before it bounces.
- ☐ Extend the leg through so it is straight, with toes pointing at the target.

Key Words: pop pass, pocket pass, spin pass, grubber, spiral, tackle, bind, maul, ruck, scrum, hooker, prop, scrum half, line out, thigh, drive, squeeze, knock on, forward pass, high tackle.

Spin pass

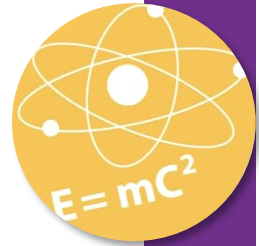
- ☐ A spin pass enables a team to quickly pass a ball and help maintain possession.
- ☐ Stand on balls of feet in opposition (left foot forward), knees slightly bent with body facing forward.
- ☐ Hold the ball out in front of you with extended arms.
- ☐ Put the right hand on the bottom half of the right hand side of the ball.
- ☐ Point the thumb up along the seam of the ball and spread the fingers around the side of the ball.
- ☐ Put the left hand on the top half of the left hand side of the ball.
- ☐ Point the thumb up along the seam of the ball and spread the fingers around the side of the ball.
- ☐ Bring the ball in towards your waist and flex your elbows at a 90° angle.
- ☐ Rotate your shoulders round until your left shoulder is pointing forward.
- ☐ Draw the ball back across to the right hip, keeping your elbows slightly bent.
- ☐ Sweep the ball across your body, keeping the elbows close to your body and shift your weight from your back leg to your front foot.
- ☐ Release the ball when arms are nearly fully extended with a flick of the wrists and fingers.
- ☐ Follow through with your fingers pointing to the target.

High ball catch

- ☐ A high ball catch is an attacking and defending skill. It is useful for attackers when completing an up and under kick or as a defender to stop an attacking team's momentum by safely winning possession back.
- ☐ Call for the ball.
- ☐ Get in line with the ball's path and keep your eyes on the ball at all times.
- ☐ Move towards the ball and extend your arms out in front of you at chest height.
- ☐ Slightly bend your elbows and have your palms facing up and fingers spread.
- ☐ Jump up off one foot.
- ☐ As you are about to catch the ball, turn slightly to one side, so the side of the body is pointing downfield.
- ☐ Raise the other knee up towards the waist to generate additional upward momentum.
- ☐ Catch the ball with the hands at or above eye level.
- ☐ Bring the ball into your body.
- ☐ Secure the ball against your body as you land on the ground.

Always Remember: When tackling, bind your arms around your opponents knees, shoulder to thigh, cheek to cheek. squeeze and drive with your shoulder.

Notes



Notes

