Year 10 OPTIONS

Cycle 3 Assessments

Revision Support

In this booklet, you will find **tips for parents**, **knowledge organisers** and **'what I need to know'** checklists for options subjects.

Use these to support your preparation for assessments. These begin on **Monday 10th June 2019** and will take place in lesson time.

Year 10

History

What I must know (be able to describe D) and explain importance (E)			
The Weimar Republic 1918-29			
The Legacy of WW1, Abdication, Armistice and Revolution,1918-19			
The Weimar Republic: Strengths and Weaknesses			
Reasons for the early unpopularity of the Republic: 'stab in the back' theory and Treaty of Versailles			
Political Threats – Left and Right: Spartacists, Freikorps and Kapp Putsch			
The Challenges of 1923: hyperinflation and the Invasion of the Ruhr			
Reasons for economic recovery: Stresemann, Rentenmark, Dawes and Young Plan			
The impact of Stresemann on foreign affairs: Locarno, League of Nations and the Kellogg-Briand Pact.			

What I must know (be able to describe D) and explain importance (E)			
Hitler's Rise to Power 1919-33			
The Early Years of the Nazi Party 1919-20			
The early growth and features of the Party. The 25 Point Programme and role of SA			
The reasons for, events of and consequences of the Munich Putsch			
Reasons for limited support for the Nazis, 1924-28: Party reorganisation, Mein Kampf and Bamberg Conference of 1926			
The growth of unemployment causes and impact. Weimar governments reactions. Communist growth			
Reasons for the growth in support of the Nazi Party: Appeal of Hitler, propaganda and work of SA			
Political developments in 1932: Hindenburg, Bruning, von Papen and von Schleicher			

What I must know (be able to describe D) and explain importance (E)			
Nazi Control and Dictatorship 1933-39			
The Reichstag Fire and the Enabling Act			
The threat from Rohm and the SA. The Night of the Long Knives and the death of Hindenburg. Fuhrer and Army Oath			
Role of the Gestapo, SS, SD and concentration camps			
Nazi control of the legal system, judges and law courts			
Nazi policies towards Catholics and Protestants			
Goebbels, censorship, media, rallies and sport			
Nazi control of culture and the arts			
Opposition to the regime: Churches and Niemoller. Swing Youth and Edelweiss Pirates			

What I must know (be able to describe D) and explain importance (E)			
Life in Nazi Germany 1933-39			
Nazi views on women and the Family			
Nazi policies towards women: marriage, family, employment and appearance			
Nazi aims and policies towards the young: Hitler Youth and the League of German Maidens			
Nazi control of youth through education, curriculum and teachers			
Nazi policies to reduce unemployment: labour service, autobahns, rearmament and invisible unemployment			
Changes in the standard of living: The Labour Front, Strength Through Joy, Beauty of Labour			
Nazi racial beliefs and the treatment of minorities: Slavs, gypsies, homosexuals and those with disabilities			
The persecution of the Jews: Boycotts, the Nuremberg Laws and Kristallnacht			

Knowledge Organiser: Weimar and Nazi Germany 1918-39
KT1: The Weimar Republic, 1918-29

The Weimar Republic	
1	This was the name given to Germany after the Kaiser had abdicated in November 1918. This was a time of despair and hope for Germany. At first, the country faced lots of chaos but under Gustav Stresemann, there was some stability.
Key events	
2	**1918** World War One ended. The Kaiser abdicated and Germany became a country without a monarch (a Republic).
3	**1919 January** Spartacist Uprising
4	**1919 June** Signing of the Treaty of Versailles
5	**1919 August** Weimar Constitution finalised
6	**1920** Kapp Putsch
7	**1923** French occupation of the Ruhr and hyperinflation
8	**1924** Dawes Plan
9	**1925** Locarno Pact
10	**1926** Germany joins League of Nations
11	**1928** Kellogg Briand Pact
12	**1929** Young Plan
Key Concepts	
13	**The Weimar Republic** faced much opposition, It was disliked by the left wing who wanted Germany to be like Communist Russia and it was disliked by the right wing who wanted the monarchy back.
14	**The Treaty of Versailles** caused many problems for Germany. The German people disliked the politicians for signing it and it caused political problems and economic problems.
15	**Gustav Stresemann** helped to bring about recovery in Germany after 1924. He solved economic problems by making friends with other countries. However, historians have very different views about the extent of this recovery.
16	**The Golden Age** was the period from 1924-29 and it saw significant changes in culture, the standard of living and the position of women.

Key Words		
17	**Abdication**	When a monarch leaves the throne
18	**Republic**	A country without a King or a Queen
19	**Ebert**	The first President of the Republic
20	**Stresemann**	The Chancellor of Germany from the Summer of 1923
21	**Article 48**	The President could use this to ignore the Reichstag and rule as he saw fit
22	**Kaiser**	King
23	**Armistice**	An agreement to end war
24	**Weimar**	The new government could not meet in Berlin as it was so dangerous, so they met here instead
25	**Constitution**	This is an agreement about how the country would be ruled
26	**Reichstag**	German parliament
27	**Gewaltfrieden**	An enforced peace
28	**Freikorps**	Ex military soldiers who wanted to overthrow the Republic
29	**Rentenmark**	The currency of Germany after November 1923
30	**Hyperinflation**	When money looses its value
31	**Dawes Plan**	An agreement where the USA would lend Germany money
32	**Young Plan**	This lowered the reparations payment and gave Germany longer to pay
33	**Treaty of Versailles**	This decided how Germany was going to be treated after WW1
34	**Locarno Pact**	An agreement on borders signed by Britain, France, Italy and Belgium
35	**Kellogg Briand Pact**	65 counties including Germany agreed to resolve conflict peacefully
36	**Coalition**	A government of two or more political parties

Knowledge Organiser: Weimar and Nazi Germany 1918-39
KT2: Hitler's Rise to Power, 1919-33

Hitler's Rise to Power	
1	Hitler sets up the Nazi Party in 1920 and becomes Chancellor in January 1933. This happens for a variety of reasons – Hitler's strengths, inbuilt problems of the Weimar Republic, and the weaknesses of others.
Key events	
2	**1919** Hitler joins the German Worker's Party
3	**1920** Hitler sets up the Nazi Party
4	**1921** Hitler introduces the SA
5	**1923** The Munich Putsch
6	**1925** Mein Kampf published
7	**1926** Bamberg Conference
8	**1928** Nazis win 12 seats in Reichstag
9	**1929** Death of Stresemann and Wall Street Crash
10	**1930** Nazis win 107 seats in Reichstag
11	**1932 July** Nazis win 230 seats in Reichstag
12	**1932 November** Nazis win 196 seats in Reichstag
13	**1933 January** Hitler becomes Chancellor
Key Concepts	
14	**The Munich Putsch** is a significant event. Although a failure, Hitler gained publicity, he wrote Mein Kampf and he realised that if he was to win power, he needed to do this by votes and not by force.
15	**Stable Stresemann** caused problems for the popularity of the Nazi Party. When times were good, voters were not attracted to the Nazi policies.
16	**The Wall Street Crash** was a major turning point in the fortunes of the Nazi Party. The Nazi message did not change but people were now prepared to hear it.
17	**The Backstairs Intrigue** - At a time when Nazi popularity at the polls was decreasing, Hitler was handed power by political elites who feared a Communist take over and Civil War.

Key Words		
18	**NSDAP**	The Nazis
19	**Iron Cross Award**	Given for bravery in war
20	**Volk**	The notion of pure German people
21	**25 Point Programme**	The political manifesto of the Nazi Party
22	**Volkischer Beobachter**	People's Observer, a Nazi newspaper
23	**Fuhrerprinzip**	Belief that one person should run a Party
24	**Swastika**	Emblem of the Nazi Party
25	**SA or Sturmabteilung**	Private army of the Nazi Party headed by Himmler
26	**Aryan**	Pure German people
27	**Anti-Semitism**	Hatred of the Jewish people
28	**Mein Kampf**	Hitler's autobiography
29	**Putsch**	An attempt to get power illegally
30	**Blood Martyrs**	16 Nazis who died at the Munich Putsch
31	**Gaue**	Local party branches
32	**SS or Schutzstaffel**	Hitler's bodyguards
33	**KPD**	German Communist Party
34	**Propaganda**	Goebbels attempted to make people think in a certain way
35	**Hindenburg**	The President of the Republic from 1925 to 1934
36	**Roter Frontkampferbund**	The Communist's own private army

Knowledge Organiser: Weimar and Nazi Germany 1918-39
KT3: Nazi Control and Dictatorship

Nazi Control and Dictatorship	
1	This was a time when Hitler formed a legal dictatorship and put in place methods of propaganda and censorship to persuade and encourage all Germany people to support Nazi ideals.
Key events	
2	**1933 January** Hitler becomes Chancellor
3	**1933 February** Reichstag Fire
4	**1933 March** Nazis win 288 seats
5	**1933 March** Enabling Act passed
6	**1933 July** Nazis become the only legal party in Germany
7	**1934 June** Night of the Long Knives
8	**1934 August** President Hindenburg dies
9	**1934 August** Hitler combines the post of Chancellor and President and becomes Fuhrer
10	**1934** August German army swears allegiance to Hitler
11	**1938** Over the course of the year, Hitler removes 16 army generals from their positions
Key Concepts	
12	**Removal** – From 1933 to 1934, Hitler removed all opposition and established himself as Fuhrer.
13	**Control** – There was an attempt to control and influence attitudes. This was done by propaganda and terror.
14	**Opposition** – The youth and the churches opposed the regime.

Key Words		
15	**Marinus van der Lubbe**	The Reichstag Fire was blamed on this Communist
16	**Enabling Act**	Gave the Nazis full power for the next 4 years
17	**Gleichschaltung**	Hitler's attempt to bring German society into line with Nazi philosophy
18	**German Labour Front (DAF)**	Set up to replace Trade Unions
19	**Dachau**	First concentration camp
20	**Centralisation**	Germany had been divided into districts called Lander. Now Germany was run from Belin alone
21	**Purge**	To get rid of opposition
22	**Gestapo**	Secret police headed by Goering.
23	**Night of the Long Knives**	Removal on internal and external opposition
24	**Sicherheitsdienst (SD)**	The intelligence body of the Nazi Party
25	**Concordat**	In July 1933 the Pope agreed to stay out of political matters if the Nazis did not interfere with Catholic affairs
26	**Eidelweiss Pirates and Swing Youth**	Groups who apposed the Hitler Youth
27	**Confessional Church**	Followed traditional German Protestantism and refused to allow the Nazification of religion. Led by Pastor Martin Niemoller
28	**Mit Brennender Sorge (With Burning Concern)**	The Pope wrote to priests in Germany about his concerns over the Nazi attempts to control religion

Knowledge Organiser: Weimar and Nazi Germany 1918-39
KT4: Life in Nazi Germany, 1933-39

Life in Nazi Germany	
1	The lives of German citizens were changed after Hitler's appointment as Chancellor. For some, life was better under the Nazis but for others, it was much worse.
Key events	
2	**1933** Boycott of Jewish shops and businesses. Law for the Encouragement of Marriage. Sterilisation Law passed.
3	**1935** The Nuremberg Laws were passed.
4	**1935** Conscription introduced.
5	**1936** Membership of the Hitler Youth made compulsory.
6	**1938** Jewish children were not allowed to attend German schools. Lebensborn programme introduced. Kristallnacht.
7	**1939** The euthanasia campaign began. Designated Jewish ghettos established.
Key Concepts	
9	**Anti-Semitism** – Persecution of the Jews grew continuously after 1933.
10	**Young**– The Nazis placed much emphasis on controlling the young as only then could they secure a 'thousand year Reich'. Youth organisations and education indoctrinated the German youth.
11	**Women** – The Nazis had traditional family values but even these were tested by the needs of war and the desire to ensure a growing Aryan population.
12	**Living Standards** – The Nazis did reduce unemployment but they did this by banning Jews and women from the workplace and by putting Germany on a war footing. Workers had limited rights.

Key Words		
13	**Kinder, Kuche, Kirche**	Children, Kitchen, Church. This summed up the Nazi ideal of womanhood
14	**The Motherhood Cross Award**	Given to women for large families
15	**Lebensborn**	Where unmarried women were impregnated by SS men.
16	**Napola**	Schools intended to train the future leaders of Germany
17	**Nazi Teachers League**	All teachers had to swear an oath of loyalty to the Nazis
18	**Reich Labour Service**	A scheme to provide young men with manual labour jobs
19	**Invisible unemployment**	The Nazi unemployment figures did not include women, Jews, opponent and unmarried men under 25
20	**Autobahn**	Motorway
21	**Rearmament**	Building up the armed forces I readiness for war
22	**Volksgemeinshaft**	The Nazi community
23	**Strength Through Joy**	An attempt to improve the leisure time of German workers
24	**Beauty of Labour**	Tried to improve working conditions of German workers.
25	**Volkswagon**	People's car
26	**Eintopf**	A one pot dish
27	**Herrenvolk**	The master race or the Aryans
28	**Nuremberg Laws**	Jews were stripped of their citizenship rights and marriage between Jews and no Jews was forbidden
29	**Kristallnacht (Night of the Broken Glass)**	A Nazi sponsored event against the Jewish community

Weimar and Nazi Germany 2 Page History

Birth of the Weimar Republic

- **Germany loses WW1** (2 million dead, huge debt & 700,000 civilians starve)
- Kaiser Wilhelm II abdicates (leaves) after revolution and Weimar Republic starts in August 1919.
- Weimar Republic signs armistice ending WW1 & Germans believe they have been *stabbed in the back* by government & Jews
- Weimar Constitution is first German democracy, equal voting rights and proportional representation have fair share of votes/seats in government.
- However, causes lack of strong government as too many coalitions (parties working together)
- Article 48 gave President too much power, could pass laws in crisis

Treaty of Versailles

- Weimar forced to accept Treaty of Versailles, the 'Diktat' which placed
- Military – 100,000 men, conscription banned, 6 battleships, Rhineland demilitarised. Germany felt weak
- Article 231, Germany had to accept full blame for the war (hated this!)
- Reparations - £6.6 billion in fines.
- Territory – lost 10% of land, Alsace-Lorraine to France, no empire, Saar coalfields given to France for 15 years and Polish Corridor given to Poland
- Other – no union with Austria, LON set up, forced to sign the Treaty
- Caused intense hatred grew Germans

Challenges from Right and Left

- **Spartacists, 1919** – Left wing Spartacists, led by Rosa Luxembourg take over govt. newspaper and attempt takeover. Government sends Freikorps to stop it, revolt fails
- **Kapp Putsch, 1920,** Right wing Freikorp led by Wolfgang Kapp march on Berlin, army refused to help and government flees. Government ask unions to strike, they do which causes chaos and putsch fails
- 376 assassinations 1919–21

The Ruhr Crisis , 1923

- Government was bankrupt, struggling to pay reparations to France, who decided to invade Ruhr (industrial region) to take payment in goods
- German workers go on strike & Weimar prints more money to pay striker & make up for loss of coal/iron
- Causes hyperinflation, mark worthless and serious problems

Hyperinflation, 1923

- Hyperinflation, prices rise rapidly whilst value of £ drops
- Prices rise: Bread 1 mark in 1919 to 200,000 billion in 1923.
- Mass poverty and starvation, children even play with money
- **Positives;** Workers do well as wages rises and rich have land
- **Negatives:** Pensioners and Middle class lose savings

Stresemann and German Recovery

Aug 1923, Gustav Stresemann made Chancellor and he engineers recovery

- **Dawes Plan:** Gains loans from US ($800m), burns currency and introduces Rentenmark which ends Hyperinflation and resets prices
- **Ruhr Crisis:** ends Ruhr strike, France leaves and German industry starts again
- **International Relations:** Signs Locarno Treaty 1925 with UK/FR/BL to accept ToV, joins League of Nations and signs Kellogg Briand Pact, 1928 with 64 countries for peace
- **Political Stability:** Gets coalitions to work together so decisions can be made
- Stresemann starts **Weimar 'Golden Age'**

Weimar Culture and Society

- **Women:** could vote and be politicians, enjoyed social freedom (fashion, smoking and drinking) and improved jobs, 3000 doctors by 1930
- **Standard of living:** Wages increase 10%, unemployment benefits & new housing
- **Culture:** Germany is a culture capital
- New architecture like Bauhaus spreads
- Cinema blooms, famous film Metropolis

Birth of the Nazi Party

- Hitler joins DAP (set up by Drexler) in 1919, changes it to the Nazi Party in 1920
- 1920, they launch 25 Point Plan
  - Destroy ToV, Expel Jews, Build up army, expand German territory & give jobs
- Hitler becomes leader of Nazis in 1921, promotes loyal supporters like Goering
- SA (Stormtroopers) set up in 1921 from ex soldiers, called *Brownshirts*. They disrupted opposition meetings and were violent.
- Membership grows to 55, 000 by 1923

The Munich Putsch

November 1923, Hitler's attempts **the Munich Putsch** a violent uprising to overthrow the Weimar Republic

Causes

- Weimar weak after 1923 crises
- Hatred of Weimar (WW1, ToV)

Events

- Hitler and 600 SA force Von Kahr and Lossow to support Putsch
- Rohm and SA takeover police
- 9th Nov 1923, Hitler and 1000 SA march into Munich, hoping army would support a takeover but did not
- Police face Nazis, shots fired and 14 killed, Hitler arrested, Putsch fails

Impact

- Hitler jailed, Nazi party banned
- Nazis get national press in Hitler's trial, seen as turning point and Hitler accepts votes will get him to power

Nazi Reorganisation

- **Hitler in prison** – Writes Mein Kampf, released after 9 months where Nazi party relaunched 1925

Reorganisation of the Party

- Bamburg Conference 1926, Hitler keeps total power of Nazi party
- Sets up the SS, personal bodyguard
- Goebbels controlled propaganda, targeted key groups; women/rich
- Sets up 35 Nazi Gaue (areas)
- By 1929, 100,00 members

The Lean Years

- Despite changes, Nazis only get 3% of votes in 1928 election (12 seats)
- Due to Stresemann, Germany is stable and strong so less votes for Nazi party, especially working class

Weimar and Nazi Germany 2 Page History

How did Hitler become Chancellor?

- **The Depression**
  - 6 million unemployed – Nazis offered bread and work
  - Government raised tax/low wages
- **Weaknesses in the Weimar Republic**
  - German people hated Weimar (ToV, WW1) and wanted a powerful ruler like the old Kaiser (Hitler)
  - Government coalitions failed, people had no faith in democracy
- **Nazi Organisation**
  - Hitler was a great speaker (flew to 6 cities a day) promising something to everyone (jobs, no Jews, ToV)
- **Threat of Communism**
  - Nazi aim to destroy communism, gained them support from the rich
- **Invited to Chancellor 30th Jan 1933**
  - Papen and Hindenburg invite Hitler to become Chancellor

How did Hitler become Dictator?

- **Reichstag Fire** – 27th Feb 1933
  - Fire blamed on communists, Hitler given 'Emergency powers' to ban meetings/newspapers.
  - Used to arrest4000 communists
- **Enabling Act** – 23rd March 1933
  - Hitler is given powers to pass any law himself without the Reichstag He bans Trade Unions and other political parties in June 1933 –
- **Night of the Long Knives** June 1934
  - Hitler fears the SA want to take over, SS arrest over 400 SA leaders including Ernst Rohm, half killed.
- **Death of Hindenburg** August 1934
  - Hitler becomes Fuhrer, makes the army swear oath of loyalty to him.

Methods of Control: Propaganda

- **Goebbels** – Propaganda Minister
- **Film** – 100 films a year, pro Nazi, Triumph of the Will, millions watched
- **Newspapers** – 5000 shut down, all under Nazi control, 'Der Sturmer' paper
- **Radio** – 70% had cheap radio which played Hitler's speeches on in public
- **Rallies/Events** – Nuremberg rallies and Olympics to show power.
- **Fuhrer Cult** – Hitler shown as mythical hero but also man of the people
- **Censorship** – Nazis shut down all anti-Nazi things, controlled all news (no bad news) Jazz banned and 20,000 Jewish books burnt in 1933

Methods of Control: Fear/Terror

- **The SS** – Loyal Aryan police/security. Had unlimited power, controlled the camps
- **Gestapo** - Secret Police, spied on Germans. They tapped phones, opened mail and could jail anyone.
- **Concentration Camps** –Dachau from 1933 they were used to hold political opponents. Used beatings and hard work
- **Judges** – All Judges loyal to Hitler, 44 now crimes punishable by death
- **Informers** – Snitched on Anti Nazi Jokes – kept regular Germans in control

Nazis and the Church

- **Concordat** – 1933 truce with Catholics but ended by 1937 when 400 Catholics sent to camps
- **1936 Reich Church replaced Protestant church.** Nazi religion with Mein Kampf replaced bible & cross with swastika. Led by Ludwig Muller
- Church schools closed, RE banned

Nazi Education

- Teachers – Only Nazis allowed
- Nazi brainwash in lessons – Anti-Jew, military success, Anti-ToV
- PE/History/Race Study important
- Jews bullied & excluded 1938
- Nazi Leadership schools
- Boys - Military training
- Girls – Domestic science, health biology, motherhood studies

Nazi Youth - Boys

- **Hitler Youth** 14-18
- Compulsory from 1936 and rose to 8 million members.
- Prepared for army with camps, marching, fighting & Nazi ideas

Nazi Youth – Girls

- **League of German Girls**, 14-18
- Prepared for life in the home – cooking, sewing & cleaning
- Emphasis in fitness and health in preparation for being mothers

Nazi Women

- Aims to raise Nazis & housewife
- 15% of women fired 4000 lawyers
- Lebensborn – Have an Aryan baby
- Mothers Cross–8 kids, gold medal
- Traditional clothing, focus on housework and raising Nazi children

Nazi Opposition

- **Church** – Martin Niemoller set up Confessional Church & imprisoned
- **Youth** – Swing Youth (Listened to Jazz, drank and work US clothes) Edelweiss Pirates, 2000 anti Nazis

Nazi Economy

- **New Plan – Solving Unemployment**
  - RAD – Compulsory all 18-25 men work for 6 months, built autobahns 7000km. Low pay, long hours
  - Conscription – 1m men in army
  - Fired Jews/Women
  - Unemployment 0.5m in 1939
- **DAF – banned Trade Unions**
- No strikes/changing jobs/ had to join
- Workers lost work freedom
- Wages did rise 20% but hours increased from 43 to 49 per week
- **KDF – Work leisure organisation**
  - Cheap holidays/trips/leisure
  - 15 million attended trips in 1939
  - Beauty of Labour improved working conditions and chance of Volkswagen

Nazi Persecution of Minorities

- Nazis superior **Aryan Race**
- Jews/Undesirables 'Untermensch' and must be removed
- **Gypsies** – 44,000 sent to camps
- **Homosexuals** – No civil rights, sterilised and 15,000 died in camps
- **Disabled** – 350,000 sterilised and 200,000 euthanised until stopped.

Jewish Persecution

- 1933 – Shop boycott & Jews sacked from government jobs
- 1933 – Nuremburg Laws, Jews cannot marry Germans, cant vote or citizens
- 1938 – Kristallnacht, 20,000 arrested, synagogues/shops smashed, 91 dead
- 1939 Jewish businesses taken and

What I must know (be able to describe D) and explain importance (E)	G	A	R
KT1: The early settlement of the West c1835 -c1862			
Social and tribal structures , ways of life and means of survival on the Plains			
Beliefs about land and nature and attitudes towards war and property			
The policies of the US Government, support for US westward expansion			
Migration and early settlement			
Factors encouraging migration. Include; economic conditions, the Oregon Trail from 1836, the concept of Manifest Destiny and the Gold rush of 1849.			
Process and problems of migration, including the experiences of the Donner Party and the Mormon migration 1846-7			
The development and problems of White settlement farming			
Conflict and tension			
Reasons for tensions between settlers and the Plains Indians			
The significance of the Fort Laramie Treaty of 1851			
The problems of lawlessness in early towns and settlements. Attempts by the American Government and local communities tackle lawlessness			

What I must know (be able to describe D) and explain importance (E)	G	A	R
KT2: Development of the plains c1862-c1876			
The development of settlement in the West			
The significance of the Civil War			
The significance of post war reconstruction including the impact of the Homestead act 1862			
The significance of the railways in settling the west, Include the Pacific Railroad Act of 1862 and the completion of the first Transcontinental Railroad in 1869?			
Attempts at solutions to problems faced by homesteaders and the use of new methods and technology, the impact of the Timber Culture Act of 1873, the spread of the railroad network.			
Continued problems of law and order in settlements and attempted solutions. Include the roles of law officers and increases in federal government influences.			
Ranching and the Cattle industry			
The cattle industry and factors in its growth. Include; the roles of Iliff, McCoy and Goodnight, the significance of Abilene and the increasing use of the rail network.			

What I must know (be able to describe D) and explain importance (E)	G	A	R
KT2: Development of the plains c1862-c1876			
The development of settlement in the West			
The impact of changes in ranching and the work of the cowboys			
Rivalry between ranchers and homesteaders			
Changes in the way of life of the Plains Indians			
The impact of the railroads, the cattle industry and gold prospecting have on the lives of the Plains Indians			
The impact of US Government policy towards the Plains Indians. Include the continued use of reservations and President Grant's 'Peace Policy' of 1868			
Conflict with the Plains Indians. Include Little Crow's War (1862), the Sand Creek Massacre (1864)			

What I must know and be able to explain:	G	A	R
The significance of Red Cloud's War of 1866-68 and the Fort Laramie Treaty of 1868			
KT3: Conflicts and Conquest c1876 -c1895			
Changes in farming, the cattle industry and settlement			
Changes in farming; the impact of new technology and new farming methods			
Changes in the cattle industry; Include the impact of the winter of 1886-87.			
Significance of changes in the nature of ranching and the end of the open range			
Continued growth of settlement; the Exoduster movement, Kansas (1879) and the Oklahoma Land Rush of 1893.			
Conflict and tension			
How effective were the solutions to establishing Law and Order? Include Sheriffs and Marshalls.			
Significance of Billy the Kid			
Significance of Wyatt Earp and the OK Corral (1881)			

What I must know and be able to explain:	G	A	R
The significance of Red Cloud's War of 1866-68 and the Fort Laramie Treaty of 1868			
KT3: Conflicts and Conquest c1876 -c1895			
Changes in farming, the cattle industry and settlement			
The range wars, including the Johnson County War of 1892			
What were the key features of the conflicts with the Plains Indians?			
Conflict with the Indians -The battle of Little Big Horn of 1876 and its impact			
Conflict with the Plains Indians, The Wounded Knee Massacre in 1890			
The Plains Indians: the destruction of their way of life			
The hunting and extermination of the buffalo			
The Plains Indians' life on the reservations			
The significance of changing government attitudes towards the Plains Indians. Include the Dawes Act of 1887 and the closure of the Indian Frontier.			
The hunting and extermination of the buffalo			
The Plains Indians' life on the reservations			

Knowledge Organiser - Topic 1.1: Life of the Plains Indians

1	**1834 – Permanent Indian Frontier** – The government agreed that all territory to the west of the Mississippi would be Indian territory.
2	**1841 –Guidebook to Oregon Trail** – John Freemont published this which encouraged movement of white settlers West. The oxen brought with them reduced the amount of grass for Plains Indians' horses.
3	**1849 - Discovery of Gold in California**– Increased number of people moving West. The migrants disrupted buffalo hunting by killing them and scaring them.
4	**1851 – Fort Laramie Treaty**– an agreement between whites and Plains Indians. This aimed to allow peaceful passage of whites through Indian territory and allow roads and train tracks to be built. The government identified specific areas for tribes to live in and agreed to pay the tribes a yearly payment of $50,000 (in food and products) if they kept the terms. This undermined the Permanent Indian frontier.
5	**1851 – San Francisco Crime wave**–Started because of disappointing prospectors returning to the city and gangs took control of the large areas.
6	**1852 – Chinese famine** – Led to 20,000 Chinese migrants arriving in California. Chinese workers suffered from racism.
7	**1855 – Californian population** –This had now reached 300,000 including people from all over the world. This was an example of mass migration.

Key Words

8	**Lawless**	Word to describe the American West showing it was difficult to enforce laws.
9	**Mass settlement**	When very large numbers of people come to live in an area. E.g. during the Gold Rush people this happened in California.

15	**Great Plains**	Large grasslands to the west of the Mississippi River, home of the Plains Indians. A tough environment with hot summers, cold winters and no vegetation
16	**Buffalo**	A plains animal that was central to Indian life.
17	**Scalping**	Taking the scalp of a person a warrior has beaten as a prize and to stop them coming back in the afterlife
18	**Counting Coup**	Touching an enemy in battle and getting away without being injured
19	**Sioux**	The biggest tribe on the Plains, made up of smaller tribes and bands e.g. Ogala, Hunkpapa and Dakota
20	**Tipi**	Home of the Plains Indian, made out of buffalo hide and wood. Could be packed up quickly
21	**Reservation**	An area of land to live on given to the Indians by the Federal Government
22	**Nomadic**	Continually moving in search of animals to hunt. Having no permanent home.
23	**Rawhide**	Untanned buffalo or hide
24	**Polygamy**	Having more than one wife at a time
25	**Medicine Man**	Indian holy man believed to have healing powers
26	**Frontier**	The extreme limit of any land that has been settled by people.

Knowledge Organiser - Topic 1.2: Migration and early settlement

Key Events

1	**1836 – Oregon Trail** First migrants completed their journey West in this year. 400,000 people eventually used it.
2	**1837 – Economic crisis in East-** Businesses failed and people lost their jobs. Unemployment as high as 25% and wages cut by 40%.
4	**1841 – John Fremont's guidebook**– This was published and convinced people the Oregon trail could be followed safely.
5	**1846 – Donner Party** – The start of their journey that ends in tragedy.
6	**1849 – Gold Rush** – The discovery of gold in California led to huge migration to the West, over 300,000 moved by 1855.
7	**1869 – Trans Continental Railroad** – enabled travel from the East to the West coast.

Key Words

8	**Migration**	Movement from one place to another.
9	**Prospectors**	Someone searching for gold in streams and rivers.
10	**Manifest Destiny**	Belief that it was God's will for white people to civilise all of America
11	**Wagons**	Method of transport along the trails.
12	**Cholera**	Disease found in dirty water. This killed many travelers.
13	**Mormons**	A religious group that were hated because of their religion. E.g. polygamy. They were force to move West.
14	**Brigham Young**	Leader of the Mormons who took over when Joseph Smith (the previous leader) was murdered.
15	**Salt Lake City**	Place where the Mormons wanted to build a new settlement.
16	**Irrigation systems**	Mormons built these to enable them to grow crops in the middle of the desert in Utah.
17	**Pioneer**	The first person to have done something.
18	**Rocky Mountains**	One set of mountains that had to be crossed to go West. A route was only found in 1825.

Knowledge Organiser - Topic 1.3: Conflict and Tension

Key Events

1	**1834 – Permanent Indian Frontier** – The government agreed that all territory to the west of the Mississippi would be Indian territory.
2	**1841 –Guidebook to Oregon Trail** – John Freemont published this which encouraged movement of white settlers West. The oxen brought with them reduced the amount of grass for Plains Indians' horses.
3	**1849 - Discovery of Gold in California**– Increased number of people moving West. The migrants disrupted buffalo hunting by killing them and scaring them.
4	**1851 – Fort Laramie Treaty**– an agreement between whites and Plains Indians. This aimed to allow peaceful passage of whites through Indian territory and allow roads and train tracks to be built. The government identified specific areas for tribes to live in and agreed to pay the tribes a yearly payment of $50,000 (in food and products) if they kept the terms. This undermined the Permanent Indian frontier.
5	**1851 – San Francisco Crime wave**–Started because of disappointing prospectors returning to the city and gangs took control of the large areas.
6	**1852 – Chinese famine** – Led to 20,000 Chinese migrants arriving in California. Chinese workers suffered from racism.
7	**1855 – Californian population** –This had now reached 300,000 including people from all over the world. This was an example of mass migration.

10	**Claim**	A legal intention to take over control of an area of land which would mean they would own everything, including any gold, found there.
11	**Claim Jumping**	The idea of stealing someone else's land.
12	**Road agents**	Gangs of criminals who waited along the road to rob people.
13	**Prospectors**	Someone searching for gold, usually in streams or rocks.
14	**California**	State where gold was discovered. Population increased 1.5 times by 1855.
15	**US Marshall**	A police officer in charge of a district.
16	**Posse**	A group of men called together by a sheriff or marshal to help enforce the laws.
17	**Sheriff**	An elected law officer with the responsibility of keeping the peace, making arrests and delivering prisoners to jail.
18	**Vigilantes**	A group of ordinary citizens who punish people themselves instead of relying on the system.
19	**Lynching**	When a group of people take the law into their own hands and execute a suspect, usually by hanging.
20	**Federal**	Term used to describe central government decisions, based in Washington.

Key Words

8	**Lawless**	Word to describe the American West showing it was difficult to enforce laws.
9	**Mass settlement**	When very large numbers of people come to live in an area. E.g. during the Gold Rush people this happened in California.

Knowledge Organiser - Topic 2.1: The development of settlement in the West

Key Events

1	**1854 – 'Self governing windmill'** - Invented by John Halladay and could pump water from 30 feet down. Did need regular checks
2	**1861 - 65 – US Civil War**– 600,000 men died in this conflict that the Southern states eventually lost.
3	**1862 –Homestead Act**– This aimed at settling the West with family farms owned by free men and women. People were given 160 acres and cost $10. After 5 years, if a house had been built they could own this land outright.
4	**1862 - Pacific Railroad Act**– aimed at developing connections between new land in the West and northern cities. This was passed by Abraham Lincoln. Work began in 1863 at each end of the line.
5	**1869 – Transcontinental Railroad completed** – The Central Pacific and Union Pacific companies meet in Utah. An electric telegraph system had also been built along the railroad to help communications.
6	**1870 – Thomas Smith hired as marshal of Abilene** – A ban on guns was introduced but he was killed. He was replaced by **'Wild Bill' Hickok in 1871.**
7	**1873 – Turkey Red Wheat introduced** – Brought by Russian immigrants and it was suited to growing on the Plains. This encouraged more to settle on the Plains.
8	**1873 – Timber Culture Act** – Settlers could claim 320 acres if they promised to plant trees on a quarter of the land.
9	**1874 – Barbed Wire invented** – This fenced off crops and protected them from animals. Although cheaper than fencing early types did break and rust.
10	**1875 – Sulky Plough invented**– 50, 000 sold in first 6 years as it made ploughing land easier. They could tip up and were expensive.

Key Words

11	**Homestead**	160 acres, big enough to build a family house and support a family.
12	**Filing a claim**	When a family signed up to own a homestead plot. This cost $10. Anyone who was head of a family or single and over 21 could do this.
13	**Nebraska**	Nearly half of all land settled here happened following the Homestead Act. More than half of the population were recent immigrants from Europe.
14	**Union Pacific**	Company that started in Nebraska and built tracks westwards.
15	**Central Pacific**	Company that started in California and built tracks eastwards.
16	**Bureau of Immigration**	Part of each railroad company that encouraged people from foreign countries to settle on the Plains.
17	**Daniel Halladay**	Inventor of self governing windmill that allowed water to be pumped from wells of 30 feet deep after 1854.
18	**Joseph Glidden**	Inventor of barbed wire that became a millionaire after inventing it in 1874
19	**Cow towns**	Base for cowboys after they had herded cattle and been paid. Abilene was the most famous.
20	**Deserters**	Soldiers who ran away from the army. These men arriving in the West added to the chances of trouble.

Knowledge Organiser - Topic 2.2: Ranching and the Cattle industry

Key Events

1	**1861 - 65 – US Civil War**– Longhorn cattle numbers boom in Texas whilst fighting takes place. 5 million cows were now in Texas.
2	**1861 – John Iliff** buys his first herd of cows and fattens them on the Plains instead of moving them.
3	**1862 – Homestead Act** – Increase in settlers to the Plains leads to conflict between ranchers and Homesteaders.
4	**1866 – Goodnight-Loving Trail established**– First occasion of cattle being driven to New Mexico. This took 6 months.
5	**1867 –Abilene**– Joseph McCoy establishes the first cow town around a railroad in Kansas. He spent $5,000 advertising the fact people could travel there safely. McCoy became a rich man.
6	**1870 – John Iliff's ranch** – this had now expanded to 16,000 acres and makes Illiff very rich.

Key Words

7	**Texas Fever**	Cattle disease that meant farmers did not want cattle to be transported through their land.
8	**Longhorns**	A breed of cattle that was worth $40 in Chicago, compared to $5 in Texas.
9	**Chisholm Trail**	A trade route through Indian territory that cowboys used to bring herds north to Abilene. 3 million cattle used this trail. Journey took 2-3 months.
10	**Navajo Indians**	A tribe that Goodnight and Loving sold their transported cattle to in 1866.
11	**Ranch**	A large farm for breeding and keeping cattle, rather than crops.
12	**Open Range**	A large area of unfenced land, 2000 acres, over which cattle moved freely.
17	**Rustling**	Stealing cattle.
18	**Beef Bonanza**	Term used for the dramatic increase in money made by rearing and selling cattle.
19	**Cow towns**	Base for cowboys after they had herded cattle and been paid. Abilene was the most famous.
20	**Cattle barons**	Men, backed by rich investors, that dominated the cattle industry. They controlled politics and owned lots of land.
21	**Cattle trails**	Routes used for driving cattle which needed to have easy access to grass and water
22	**Stampede**	A danger on the long drive where cattle could become scared and run wild
23	**Chuck wagon**	Wagon that transported food, water, equipment and the cook on the long drive.
24	**Bunkhouse**	Place where workers would sleep whilst working on a ranch.
25	**Johnson County War**	An example of a clash between ranchers and homesteaders over the use of land.

Knowledge Organiser - Topic 2.3: Changes in way of life of the Plains Indians

Key Events

1	**1858 – Gold discovered in Colorado** prompting prospectors crossing Indian lands and scaring the buffalo.
2	**1862 – Gold discovered in Montana** prompting thousands to use the Bozeman Trail which went through Sioux hunting grounds
3	**1862 – Little Crow's war** – prompted by lack of food being provided to the Sioux on their reservation. The Sioux were defeated and moved to another reservation and Little Crow was scalped.
4	**1864 – Sand Creek Massacre** – Black Kettle had agreed for his tribe to move to a reservation but Dog Soldiers continued attacking troops. Came to an end with Colonel Chivington giving orders for the massacre.
5	**1866 – 68 Red Cloud's War** – Attempt made to prevent use of Bozeman Trail which included Fetterman's Trap and a large number of soldiers being killed.
6	**1868 – Second Fort Laramie Treaty** – US government agreed to close Bozeman Trail in exchange for Red Cloud moving his tribe to a reservation. Sitting Bull and Crazy Horse refused to agree.
7	**1868 - President Grant's Peace Policy** – Aimed to improve reservation system to calm tensions. Actions included replacing corrupt officials, appointing Ely Parker as the Commissioner of Indian Affairs. Plains Indians were now viewed as 'wards'.
8	**1871 – Indian Appropriations Act** – Law confirmed that Indian tribes would no longer be recognised as independent and so did not need to be negotiated with. This made it easier for the government to take Indian lands.

Key Words

9	**Bozeman Trail**	A route that prospectors used to travel through Sioux hunting grounds, despite being against the terms of the Fort Laramie Treaty.
10	**Reservations**	An enclosed area of land where Indian tribes agreed to be based. Here Indians were encouraged to farm, were educated and taught about Christianity.
11	**Bureau of Indian Affairs**	Government group responsible for managing the reservations. The men they appointed to the reservations were often corrupt.
12	**Peace Policy**	An attempt by President Grant to ease tensions between the government and the Plains Indians by replacing the corrupt agents on the reservations.
13	**Little Crow**	Chief of the Dakota Sioux who agreed to move his tribe to a reservation in 1851. The Civil War gave his tribe an attempt to take back their land. This failed.
14	**Black Kettle**	Chief of Cheyenne who had agreed to move to a reservation in 1861 (by signing the Treaty of Fort Wise) but his Dog Soldiers disagreed and continued attacks on forts.
15	**Colonel Chivington**	US soldier who gave the order to massacre over 130 men, women and children at Sand Creek. No compensation was ever given the to Plains Indians.
16	**Red Cloud**	Chief of Lakota Sioux who led successful attacks on whites using the Bozeman Trail. The attacks meant that the government closed the trail when Red Cloud agreed to move his tribe to a reservation.
17	**Great Sioux Reservation**	As part of the Second Fort Laramie Treaty, it was agreed that the Great Sioux Reservation would be exclusively for the Sioux. Although Red Cloud agreed to this, Sitting Bull and Crazy Horse refused to sign.

Knowledge Organiser - Topic 3.1: Changes in farming, the cattle industry and settlement

Key Events

1	**1854 – Wind pump** is invented by Daniel Halladay which would swing round automatically when the wind changed direction and could extract water from below ground.
2	**1874 – Barbed wire** invented by Joseph Glidden protecting crops and preventing cattle from roaming.
3	**1878 – Exoduster Movement** 40, 000 African Americans began to migrate to Kansas under the leadership of Benjamin Singleton. The following year a rumour spread that the government was handing over the entire state which increased migrant numbers.
4	**1879 – Dry farming** technique was developed by Hardy Webster Campbell. It trapped rainwater under the surface enabling farmers to combat drought.
5	**1881–Last big cattle drive to Dodge City**
6	**1886-87 – Great Die Up–** This harsh winter causes 15% of open range cattle to die. Many cattlemen went bankrupt.
7	**1887 – Dawes Act–** This divides the land Indians had access to on the reservations into family and individual plots.
8	**1889 – First land rush announced by the government** meaning that whites eventually took 2 million acres of Indian territory.
9	**1893 – Oklahoma Land Rush** – 7 of these eventually took place with the last happening in 1895.

Key Words

10	**Overstocked**	Too many animals relying on the same area of grass, meaning that the soil may start to erode and animals go hungry
11	**Sharecropping**	When a landowner allows a tenant to use some of their land in return for a share of the crops they grow.
12	**Land Rush**	A government idea where settlers rushed over a boundary at a set time to claim the land as theirs.
13	**Nicodemus**	Settlement founded in Kansas by the Exoduster movement who were names after the story of Exodus in the Bible.
14	**'Riding the Line'**	Term given to the cowboys working on smaller ranches. This happened after the harsh winter of 1886/87.
15	**Open Range**	A large area of unfenced land over which livestock roamed freely. This came to an end after the winter of 1886/87/

Knowledge Organiser - Topic 3.2 Conflict and Tension

Key Events

1	**1876 – Battle of Little Big Horn-** Defeat of US army by Plains Indians. Custer had led the 7th cavalry in an unsuccessful attempt to return tribes to the reservation.
2	**1878 – Lincoln County War–** Billy the Kid is involved in this conflict between two rival cattle ranchers in New Mexico.
4	**1881 – Gunfight at the Ok Corral–** Gunfight in Tombstone, Arizona between the Earp brothers and Clantons and McLaurys.
5	**1890 – Wounded Knee Massacre–** 250 Sioux were killed by the 7th cavalry with half the dead being women and children. This was the last clash between the US army and the Sioux.
6	**1892- Johnson County War–** Conflict between cattle ranchers and homesteaders in Wyoming that was prompted by the lynching of Ella Watson and James Averill.

Key Words

7	**Vigilantes**	A group of ordinary citizens who punish suspected lawbreakers themselves instead of relying on the official justice system.
8	**Corral**	A term for an enclosure that held horses or cattle.
9	**WSGA**	Wyoming Stock Growers Association; group of large ranchers
10	**Rustling**	Stealing of cattle
11	**Assimilate**	To become like something else: for the Plains Indians this meant becoming US citizens and rejecting their culture and traditional way of life.
15	**Black Hills**	Sacred land to the Lakota Sioux. Gold being discovered here prompted the US government to offer to buy the area which was rejected given beliefs of the tribe.
16	**Wovoka**	An Indian that claimed to have had a vision to tell others to dance in order to bring dead Indians back to life.
17	**Ghost Dance**	A sacred dance that would mean the Great Spirit would bring all the dead Plains Indians back to life. A flood would also carry away the white people and the land would belong to the Plains Indians once again.t
18	**Sitting Bull**	Leader of the Sioux who was killed in an attempt to arrest him before he performed the Ghost Dance.
19	**Round up**	A ranch job that happened in early spring involving finding all the cattle, including new calves that had been born. Cattle were then branded to show ownership.
20	**The 'Invaders'**	Name given to the group of gunmen hired to kill 70 men in Johnson County in 1892.
21	**President Grant**	President at the time of the Sioux leaving their reservations in 1875. He gave the tribe 60 days to return and any Indian not on the reservation then would be attacked.

Knowledge Organiser - Topic 3.3 Destruction of the Plains' Indians way of life

Key Events

1	**1871 – Buffalo hide made into leather** This leather was used for machine belts in factories and meant that people could see killing buffalo would make them money.
2	**1876 – Northern Pacific Railroad is completed** This meant the railroad had reached Sioux lands and this access made it easier for people to hunt buffalo.
3	**1883 – Northern herd of buffalo no longer existed** There had been 25 million + before any white settlement.
4	**1885 – All Plains' Indians were now settled on reservations**
5	**1887 – Dawes Act** – Each Plains Indian family was allotted 160 acre share of reservation land. Single Plains Indians allotted 80 acres and orphans under 18 were allotted 40 acres. Remaining land was sold to whites.
6	**1890 – Frontier declared closed**

Key Words

7	**Hide**	Buffalo skin. Before the 1870s this was used for clothing by white hunters. After 1871 hunters could earn $1 - $3 per hide. This encouraged hunting.
8	**Sharps' rifles**	These helped kill the buffalo efficiently and encouraged more hunting.
9	**Chiefs**	Leader of Plains' Indians tribes. Their power was taken away through the reservation system, replacing them with tribal councils.
10	**Indian Agency Police**	These Plains Indians were responsible for keeping order amongst their former tribespeople. They were fed, clothed and sheltered by the government.
11	**Indian Schools**	All Plains Indian children were sent to these. Refusal meant that food rations were withdrawn. All elements of traditional Indian culture were ignored.
12	**Nomadic existence**	This was no longer permitted meaning the Plains Indians could no longer feed, clothe or shelter themselves.
13	**Assimilate**	To become like something else@ for the Plains Indians it meant becoming US citizens and rejecting all their old culture, beliefs and ways of life.
14	**Allotments**	Piece of land allocated to Plains Indians under the Dawes Act. The soil was poor and the amount of land was too little to be able to farm effectively.

The American West Two Page History

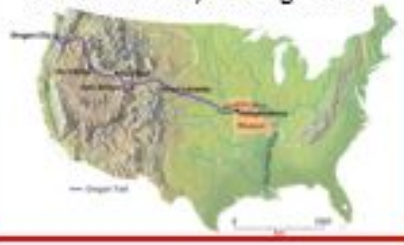
The Plains Indians

- Plains Indians include Sioux, Cheyenne and Arapaho. They lived on the Great Plains, their homeland

- Indians lived in tribes led by chiefs like Sitting Bull/Red Cloud.
- Lived Nomadic lifestyle, constantly moving and not settling down, following the migration of buffalo, living in tipis and riding on horses.
- **Horses** main method of survival, essential for travel and warfare
- **Buffalo**, the source of Indian survival, they use it for everything: food, clothing, tipis, weapons and trade

Early Migration West

- After the first pioneers, Jed Smith discovers the Oregon Trail in 1824.
- The 3,200km trail was the first that could be safely used by wagons to cross the Rockies/Blue Mountains.
- Between 1841-69, 400,000 people crossed the trail, heading west



Early Migration West

Causes of migration

- Settlers migrated due to: 1837 Economic Depression, religious persecution, Gold Rush, cheap land and manifest destiny
- **Manifest Destiny:** It was white Americans duty/right to spread and colonise all USA
- The Donner Party, 1846
- Group of 300 heading for California fail to use Oregon Trail, take an untested route
- 90 people take shortcut, stuck in mountains over winter, leads to cannibalism and half the group die.

Mormon migration, 1846/7

- Joseph Smith leads Mormons lots of persecution against due to religious beliefs e.g. polygamy & anti slavery
- Smith killed, Brigham Young leads West to promised land, Salt Lake Valley
- Plans route & supplies, builds Winter Quarters, leads 150 man advance party to plot route. 70,000 arrive by 1869
- Young ensures survival in Salt Lake by building irrigation, paying for Mormons to move, new towns Las Vegas/Salt lake City and becoming self sufficient

The Gold Rush, 1849

- Gold discovered in California 1848 and settlers come using California Trail, even Chinese immigrants
- Forty Niners arrive in new towns like San Francisco
- California's population rises to 300,000 with growth of businesses, like saloons, shops and farming
- Led to lawlessness in mining towns; gangs & claim jumping and violence.

Continuing Settlement

American Civil War 1861-65

- After Civil War, parts of East ruined, encourages migration West
- African American Slaves freed, encouraging migration (Exodusters)

Homestead Act, 1862

- Government passed act to encourage settlement on the Plains, all people but Indians/confederate can apply
- 160 acres for $10 claim, after 5 years costs $30 to own the land.
- 6 Million acres 'homesteaded' by 1867, grew to 200m by 1900
- Conditions tough, 60 of people quit
- Timber Culture Act: 160 more acres if you plant trees

Pacific Railroad Act, 1862

- Government passes Act to create first transcontinental railroad
- Rail companies loaded $61m and given 200m acres of land to encourage settlers
- Completed 1869, 2000km long
- New towns like Denver, settlement increased, over 400,000 head west
- Helped growth of Cattle Industry with opening of Abilene, 1867 the first cow town
- Helps law and order in the West
- Negative impact on Indians: affects buffalo migration and Buffalo Bill kills 4280 in a year, Pawnee tribe forced onto reservations and reduces Indian territory. Helps cause war.

Later Settlement

Exoduster Movement, 1879

- Blacks in Southern US face racism & poverty despite ending of slavery
- Benjamin Singleton encourages migration west to Kansas, a free state which has land and is welcoming to blacks: he calls this an Exodus
- By 1879, 40,000 ex slaves *(Exodusters)* had migrated to Kansas for a new life
- However, land was tough, they could not afford farming equipment and faced hostility from whites. Ended by 1880.

Dawes Act, 1883

- 1883 **Dawes Act** splits up the Indian lands in Indian Territory (e.g. Cherokee and Cheyenne land) into 160 acres per Indian family
- 2 million acres left free for white settlers which causes the Oklahoma Land Rush

Oklahoma Land Rush, 1889

- 1889, border opens for settlers to 'rush' and claim land in Oklahoma
- By 1895 there were 7 land rushes claiming nearly 10 million acres of Indian land. Last big migration West

Farming Developments

Problems of the Plains

- Lack of water, extreme weather, lack of trees, locust swarms, poor soil with weeds & isolated from people

Homesteading on the Plains

- First Homesteaders built Sod Houses to survive, used buffalo dung for fuel and hand built well.

Improvements in Farming

- Railroad 1869 : Allowed Homesteaders to trade and get the machinery needed to survive on the Plains
- **Windpump 1870**: Halladay invents, pumps up water
- **Barbed Wire, 1874**: Invented by Joseph Glidden, helped homesteaders/ranchers but helped cause Range Wars and issues with Indians.
- **Sulky Plough, 1875**: Used to pull up tough weeds
- **Dry Farming, 1880s**: Method to keep soil moist, cover wet soil from rain in dry soil to keep in moisture.
- **Red Turkey Wheat:** Could be planted on Plains
- **Machinery**: Seeds drills, steel ploughs helped farmers

The American West Two Page History

Cattle Industry

- Rise of the cattle industry

Cattle Trails, 1865

- 4 million cattle in Texas, Goodnight and Loving create trail to drive cattle up to plains to sell, 10 times the $ profit!

Abilene, 1867

- James McCoy sets up the first Cow Town on the Railroad, called Abilene. Used to transport cattle East for meat factories and leather. Over 4 million cattle Chisholm trail up to Abilene

Ranching on the Plains, 1870s

- John Illif sets up first ranch on plains in 1870, has 26,000 cows
- ***Open Range Ranching***: ranches without fences on the grasslands

Cattle Barons: rise of rich cattle ranchers, Illiff first millionaire

The Great Die Up, 1886/7

- Winter of 1886/7 causes deaths of 15% of cattle on Plains
- Combined with overstocked cattle industry to cause disaster and sales/profits drop.
- Causes move to small ranching with less cows but better quality
- Cowboys affected, life on ranches less adventurous

Range Wars

Homesteaders vs Cattle, argue over barbed wire, chequerboard land grabs by rich ranchers. Johnson and Averill murdered by Cattle ranches, caused Johnson County War, 1892. WSGA get away with attempted murder

Government/Indian Relations

White views

- Indians are savages, must be civilised or removed

Indian Removal Act, 1830

- 46,000 Cherokee Indians forced to move from the East to Indian Territory on the Plains , called the 'Trail of Tears'

- **Permanent Indian Frontier 1834**
- Government sets up a border that separates white and Indian territory. No-one is meant to cross, but whites still cross plains (Gold Rush/Oregon Trail)

Indian Appropriations Act, 1851

- Sets up the first reservations, area where Indians are forced to live under white rule Conditions poor and Indians encouraged to civilise by building schools and farming
- Start of taking away Indian land

The Fort Laramie Treaty, 1851;

- Indians and whites agreement
- **Indians agreed**: Indians would live in specific territory, would not attack white settlers, to allow roads and railroads through their territory
- **Whites agreed**: Give Indians supplies and $50,000 a year to follow rules & respect Indian territory as their own

- **Significance**: Indians dependent on US supplies/money, increased white settlement, fighting continued as treaty constantly broken by whites

Growing Tension

Impact of white settlement on Indians

- Cattle Industry: Open range ranches cause cattle to eat grass for buffalo, whilst farms cut into their grasslands
- Railroads impact buffalo and territory, helps cause Great Sioux was 1876
- Gold Rush, miners cross lands/kills Indians

Reservations

- Reservation Agents often did not provide supplies/food to Indians = starvation
- Indians banned from hunting buffalo whilst farming land was poor/ Indians couldn't farm

The Indian Wars

Little Crows War, 1862: Little Crows Sioux unhappy at their reservation (poor land, not given supplies) and go to war, killing 600 white settlers. Little Crow and men caught and executed, Moved reservation.

Black Kettles War, 1864: Black Kettle agrees Fort Wise Treaty to move to reservation, but Dog Soldier Indians refuse and go to war. Black Kettle mistakenly attacked in Sandcreek Massacre, 130 died

Red Clouds War, 1868: Angry at miners breaking the Fort Laramie Treaty by crossing Indian lands in Dakota, Red Cloud goes to war. He and Crazyhorse wipe out 150 white soldiers in Fetterman Massacre. Red Cloud wins, signs 2nd Fort Laramie Treaty

Second Fort Laramie Treaty, 1868: Agreement to close Bozeman trail through Indian lands but Red Cloud agrees to move tribe to the '*Great Sioux Reservation*'

Grants Peace Policy, 1868: President Grant agrees to spent $2 million to improve reservations, he appoints Indian Ely Parker and puts Quakers in charge to reduce problems. Any Indians who refuse to go to reservations will be hunted down/killed.

Destruction of Indian Life

Extermination of the Buffalo

- Whites hunt buffalo to extinction, only 200 left by 1885, causes starvation across Plains Indians despite farming.
- Aim to force Indians onto reservations and farm.

End of Reservations

- By 1870, almost all Indians on reservations which controlled Indians (no hunting, no dances), forced Christianity
- Force civilisation of Indian children, 2000 in schools

Battle of Little Big Horn

- Gold found in Black Hills of Dakota, whites offer to buy it from the Sioux for $6m but they refuse and begin to attack miners
- Indians leave reservation in protest, General Custer is sent to hunt them down and finds Indians at Little Big Horn.
- He splits his army up and he and his men are massacred.
- Government force all Indians on reservations, hunts down Crazy horse and takes all Indian weapons and horses.

Dawes Act, 1883

- To end reservations, the Dawes Act offers 160 acres per Indian family. Aims to end living in reservations and working together and to civilise Indians.
- More land taken away from Indians, whilst new farm land was poor and many Indians sold it or suffered/starved

Wounded Knee Massacre

- Ghost Dance movement spreads with Indians believing it will take away whites, bring back the buffalo & dead Indians again. Whites see it as a rebellious threat, Sitting Bull killed
- At Wounded Knee, Indians begin ghost dance and US army attacks, killing 250 women/men/children.

This is the END of Indian resistance to whites

Lawlessness

Crimes in the West: Ex soldiers//criminals due to Gold Rush, new crimes like stage coach robbery. Code of the West

Law and Order: Attempts to use US Marshalls/Sheriffs but too few, many corrupt, territory to large to police so they struggle

Billy the Kid: Famous gunslinger, involved in Range Wars, from a tough Wold West background, killed 9 by 17, killed 1881

Wyatt Earp/OK Corral: Earp hired as Sheriff in Tombstone to deal with Miner/Rancher however is a criminal and makes situation worse. Forced to leave after killing more ranchers

Range Wars: Conflict between Ranchers and Homesteaders over land/resources. Johnson County War 1892

Year 10

Geography

What are Natural Hazards?

Natural hazards are physical events such as earthquakes and volcanoes that have the potential to do damage humans and property. Hazards include tectonic hazards, tropical storms and forest fires.

What affects hazard risk?

Population growth
Global climate change
Deforestation
Wealth - LICs are particularly at risk as they do not have the money to protect themselves

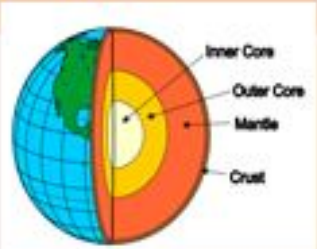
Structure of the Earth

The earth has four layers

The inner core
The outer core
The mantle
The crust

The crust is split into major fragments called tectonic plates. There are two types: Oceanic (thin and younger but dense) and Continental (old and thicker but less dense)

These plates move and where they meet you get tectonic activity (volcanoes and earthquakes).



There are 2 theories of why plates move: convection currents and ridge push, slab pull.

Plates either move against each other (destructive margin) away from each other (constructive) or next to each other (conservative)

Earthquakes and Volcanoes

Volcanoes	Earthquakes
• Constructive margins – Hot magma rises between the plates e.g.. Iceland. Forms Shield volcanoes • Destructive margins – an oceanic plate subducts under a continental plate. Friction causes oceanic plate to melt and pressure forces magma up to form composite volcanoes e.g. the Pacific Rim	• Constructive margins – usually small earthquakes as plates pull apart. • Destructive margins – violent earthquakes as pressure builds and is then released • Conservative margins – plates slide past each other. They catch and then as pressure builds it is released e.g. San Andreas fault. .

Effects of Tectonic Hazards

Primary effects happen immediately. Secondary effects happen as a result of the primary effects and are therefore often slightly later

Primary - Earthquakes	Secondary - Earthquakes
• Property and buildings destroyed • People injured or killed • Ports, roads, railways damaged • Pipes (water and gas) and electricity cables broken	• Business reduced as money spent repairing property • Blocked transport hinders emergency services • Broken gas pipes cause fire • Broken water pipes lead to a lack of fresh water

AQA

Unit 1

The challenge of Natural Hazards

Responses to Tectonic Hazards

Immediate (short term)	Long-term
• Issue warnings if possible • Rescue teams search for survivors • Treat injured • Provide food and shelter, food and drink • Recover bodies • Extinguish fires	• Repair and re-build properties and infrastructure • Improve building regulations • Restore utilities • Resettle locals elsewhere • Develop opportunities for recovery of economy • Install monitoring technology

Monitoring	Prediction
Seismometers measure earth movement. Volcanoes give off gases	By observing monitoring data, this can allow evacuation before event
Protection	**Planning**
Reinforced buildings and making building foundations that absorb movement Automatic shut offs for gas and electricity	Avoid building in at risk areas Training for emergency services and planned evacuation routes and drills.

Comparing Earthquakes – L'Aquila, Italy (HIC) and Gorka, Nepal (LIC)

L'Aquila, April 2009 HIC, GNI per capita $32,790 Magnitude 6.3	Gorka, Nepal, April 2015 LIC, GNI per capita $730 Magnitude: 7.8

Primary Effects

300 deaths 1500 injured 60 000 people homeless 10,000 – 15,000 buildings collapsed	8,841 deaths 1 million people homeless 7,000 schools, 26 hospitals and Dharahara Tower (UNESCO site) destroyed

Secondary Effects

Aftershocks made rescue more difficult Fires caused damage in collapsed buildings Broken waterpipes led to landslides City centre businesses closed	Landslides and avalanches killed 19 on Mount Everest Landslides blocked Kali Gandaki River so people evacuated in case of flooding Tourism employment and income declined Irrigation channels destroyed and rice seed ruined, causing food shortages

Immediate Responses

Camps set up for homeless Ambulances, fire services and army to area to help victims Government money to repair gas, electricity Free mobile phones to people who had lost homes	International aid requested: 300,000 tents provided, field hospitals set up and UN/WHO sent medical supplies Rescues from Mount Everest via helicopter Facebook launched I'm safe safety feature

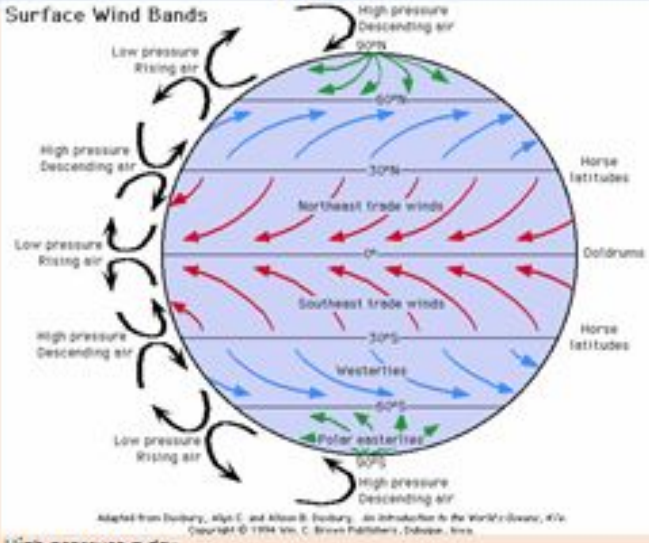
Long term responses

New settlements built to house over 20 000 residents Most of city rebuilt Investigation into building standards	$274 million aid money committed Lakes and river valleys cleared of landslide material Stricter building controls enforced New Everest trekking routes opened and permits extended Agricultural training provided

LICs suffer more than HICs from natural disasters because they are not as prepared and struggle to react effectively

Global atmospheric circulation

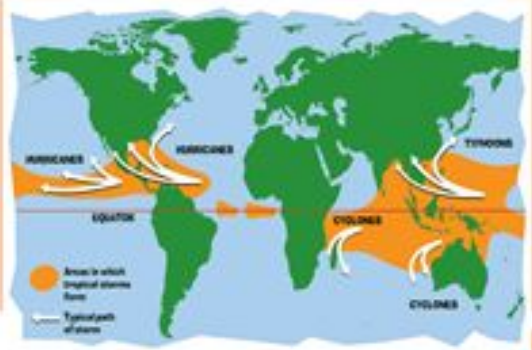
At the equator, the sun's rays are most concentrated. This means it is hotter. This one fact causes global atmospheric circulation at different latitudes.



High pressure = dry
Low pressure = wet
As the air heats it rises – causing low pressure. As it cools, it sinks, causing high pressure. Winds move from high pressure to low pressure. They curve because of the Coriolis effect (the turning of the Earth)

Tropical Storms

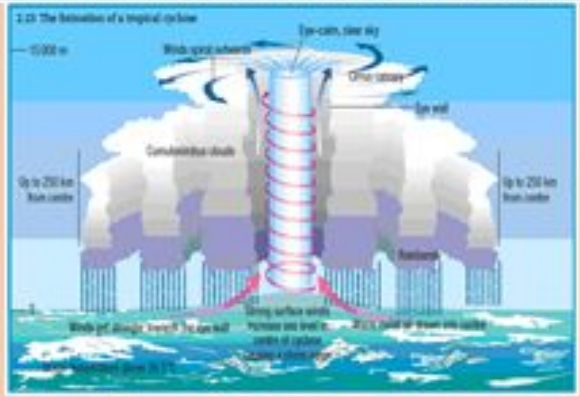
Occur in low latitudes between 5 and 30 degrees north and south of equator. Ocean temperature needs to be above 27 degrees C. Happen between summer and autumn



Reducing the risks of tropical storms

Sequence of a Tropical Storm

1. Air is heated above warm tropical oceans
2. Air rises under low pressure conditions
3. Strong winds form as rising air draws in more air and moisture causing torrential rain
4. Air spins due to Coriolis effect around a calm eye of the storm
5. Cold air sinks in the eye so it is clear and dry
6. Heat is given off as it cools powering the storm
7. On meeting land, it loses source of heat and moisture so loses power.



Hurricane Katrina

Primary Effects	Secondary Effects
1,833 people died Levees and floodwalls breached Destruction of Gulf Coast Highway 80% of New Orleans flooded Oil facilities damaged	Millions left homeless Thousands left unemployed Petrol prices rose in the UK
Immediate Responses	**Long-term Responses**
Thousands evacuated to the New Orleans Convention Centre and the Superdome. National Guard helped with evacuations $50 billion of aid given by government UK government sent food aid	Rebuilt the levee system Reorganised FEMA to help cities revise evacuation plans Improved evacuation and alert system called NolaReady created.

Prediction	Planning	Protection
Monitoring wind patterns allows path to be predicted. Use of satellites to monitor path to allow evacuation	Avoid building in high risk areas Emergency drills Evacuation routes	Reinforced buildings and stilts to make safe from floodwater Flood defences e.g. levees and sea walls

Extreme weather in the UK

Rain – can cause flooding damaging homes and business
Snow & Ice – causes injuries and disruption to schools and business. Destroys farm crops
Hail – causes damage to property and crops
Drought – limited water supply . Can damage crops
Wind – damage to property and damage to trees potentially leading to injury
Thunderstorms – lightening can cause fires or even death
Heat waves – causes breathing difficulties and can disrupt travel.

UK weather is getting more extreme due to climate change. Temperatures are more extreme and rain is more frequent and intense leading to more flooding events. Since 1980 average temperature has increased 1 degree and winter rainfall has increased.

November 2012 – Newcastle Floods

Newcastle received over one months rainfall in just two hours in this extreme event.

Social Effects

- Homes flooded
- Health risk as river water contaminated with sewage
- 23,000 properties left without electricity
- Thousands of homes left without power.

Economic Effects

- Businesses closed that didn't reopen for long afterwards
- Rail network/Metro came to a halt
- Millions cost of damage repair
- Metro centre and Central Station flooded

Environmental Effects

- Landslides blocked East Coast and West Coast mainlines
- Contaminated river water
- Trees carried away damaging local ecosystems and habitats

Responses and Management Strategies

Responses	Management Strategies
Clean up operation in days after the flooding Engineers repaired damage to East Coast Main line Replacement bus services	Review of gully cleaning Volunteer warden scheme £3 million on strengthening city flood defences

Climate change will affect tropical storms too. Warmer oceans will lead to more intense storms – but not necessarily more frequent ones

Climate Change – natural or human?

Evidence for climate change shows changes before humans were on the planet. So some of it must be natural. However, the rate of change since the 1970s is unprecedented. Humans are responsible – despite what Mr Trump says!

Causes

Natural

- **Orbital changes** – The sun's energy on the Earth's surface changes as the Earth's orbit is elliptical its axis is tilted on an angle.
- **Solar Output** – sunspots increase to a maximum every 11 years
- **Volcanic activity** – volcanic aerosols reflect sunlight away reducing global temperatures temporarily

Human

- **Fossil fuels** – release carbon dioxide with accounts for 50% of greenhouse gases
- **Agriculture** – accounts for around 20% of greenhouse gases due to methane production from cows etc. Larger populations and growing demand for met and rice increase contribution
- **Deforestation** – logging and clearing land for agriculture increases carbon dioxide in the atmosphere and reduces ability to planet to absorb carbon through photosynthesis.

Evidence for Climate Change

The Met Office has reliable climate evidence since 1914 – but we can tell what happened before that using several methods.

Ice and Sediment Cores

- Ice sheets are made up of layers of snow – one per year. If you drill down you can analyse gases trapped in layers of ice for the past. Ice cores from Antarctica show changes over the last 400 000 years.
- Remains of organisms found in cores from the ocean floor can by traced back 5 million years.

Tree Rings

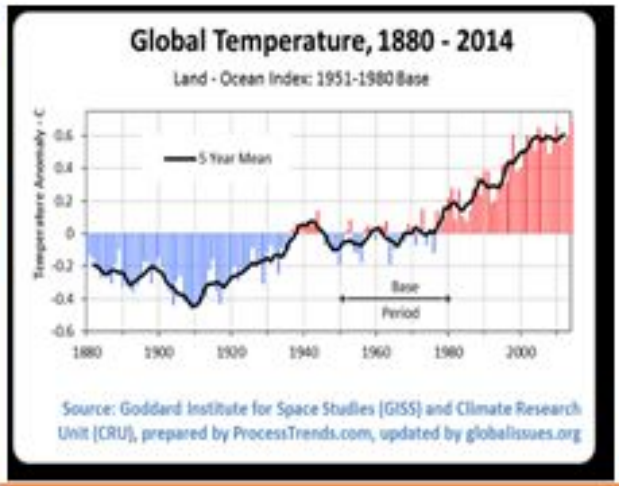
- A tree grows one new rind each year. Rings are thicker in warm, wet conditions
- This gives us reliable evidence for the last 10 000 years

Pollen Analysis

- Pollen is preserved in sediment. Different species need different climatic conditions

Temperature Records

- Historical records date back to the 1850s. Historical records also tell us about harvest and weather reports.



Effects of Climate Change

Social

- Increased disease e.g.. skin cancer and heat stroke
- Winter deaths decrease with milder winters
- Crop yields affected by up to 12% in South America but will increase in Northern Europe but will need more irrigation
- Less ice in Arctic Ocean increases shipping and extraction of oil and gas reserves
- Droughts reduce food and water supply in sub-Saharan Africa. Water scarcity in South and South East UK
- Increased flood risk. 70% of Asia is at risk of increased flooding
- Declining fish in some areas affect diet and jobs
- Increased extreme weather
- Skiing industry in Alps threatened.

Environmental

- Increased drought in Mediterranean region
- Lower rainfall causes food shortages for orangutans in Borneo and Indonesia
- Sea level rise leads to flooding and coastal erosion
- Ice melts threaten habitats of polar bears
- Warmer rivers affect marine wildlife
- Forests in n America may experience more pests, disease and forest fires
- Coral bleaching and decline in biodiversity such as the Great Barrier Reef (Australia)

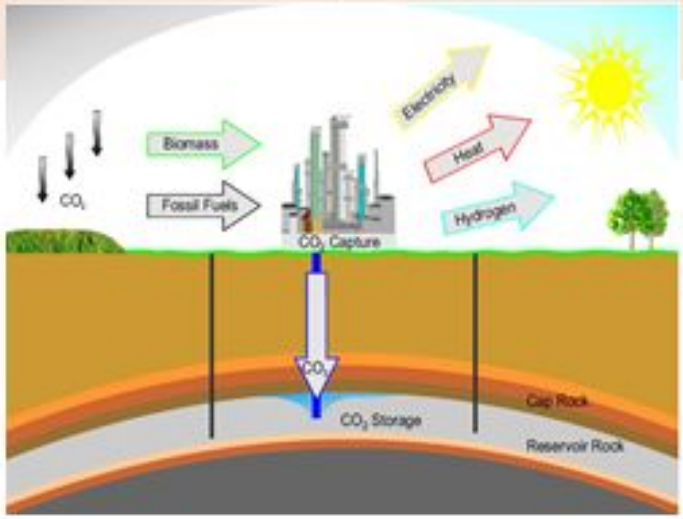
Managing Climate Change

Mitigation

- **Alternative energy production** – renewable sources will last longer but they can be expensive and are less reliable than fossil fuels
- **Planting Trees** – helps to remove carbon dioxide. Has the potential to increase carbon storage by 28%. However land may be limited and biodiversity is still threatened unless a wide range of trees are planted
- **Carbon Capture** – takes carbon dioxide from the emission sources and stores it underground under a cap rock. It can reduce capture of up to 90% of carbon dioxide. However, it is very expensive and unclear if the captured carbon would escape in the long term. Also it discourages development of renewable energy resources
- **International Agreements** – targets will only be met if they are legally binding (Paris 2015). Financial support is needed for LICs. However, poorer countries argue that they need to industrialise and getting richer countries to accept their responsibility is difficult.

Adaption

- **Changes in agricultural systems** – needed to react to changing rainfall and temperature patterns and changing threat of disease and pests. This is hard for poor farmers who tend to be most affected
- **Managing water supplies** – e.g.. by installing water efficient devices and increasing supply through things like desalination plants. There is an increasing threat of political stability
- **Reducing risk** – reducing risk from rising sea levels would involve constructing defences such as the Thames Flood Barrier or restoring mangrove forests, or raising buildings on stilts. These are expensive and possibly only short term measures.



Knowledge Organiser
GCSE Topic: Ecosystems

Vocabulary Key terms and definitions	
Abiotic	Related to non-living things
Biome	Very large ecological areas on the earth's surface, with fauna and flora (animals and plants) adapting to their environment.
Biotic	Related to living things
Consumer	A living thing in an ecosystem that gets its energy and the raw materials it needs by eating plants or other animals that have eaten plants.
Decomposer	An organism or plant, e.g. a soil bacterium, microbes, fungus, or invertebrate, which decomposes organic material in an ecosystem.
Ecosystem	An environment containing a community of interdependent plants and animals. It is made up of two parts - living (biotic) factors and non-living (abiotic) factors.
Food chain	A chain with three or four links between plants and animals in an ecosystem that rely upon one another as their source of food.
Food web	A complex web of different food chains between plants and animals in an ecosystem.
Nutrient	A substance that provides nourishment essential for the maintenance of life and for growth.
Producer	A plant in an ecosystem that converts energy from the sun in a process called photosynthesis to produce sugars (glucose).

Did you know? 99% of a giant panda's diet is comprised of the leaves, shoots, and stems of bamboo. Bamboo doesn't have a lot of nutritional value, so pandas have to eat 26 to 83 pounds of the tough, fibrous plant a day.

Challenges and Concepts

You will learn that in an ecosystem living things depend on each other an their non-living environment. The Earth has some very large ecosystems (biomes) with different climates and vegetation. You will learn how humans have spread through the Earth's ecosystems and the damagewe have done.

World biomes

The climate is the main driving force in an ecosystem – it affects the soil, vegetation and animals.

Changes affecting ecosystems

Ecosystems take hundreds of years to develop. Ecosystems need to be in balance, if there is a change to one of the components, it may well affect the rest of the ecosystem.

Causes of change:

Global scale changes, such as climate change.

Local scale change, such as changes to a habitat – e.g. when a hedge is removed.

Natural changes:

Extreme weather events such as droughts can be devastating to ponds and lakes.

Plants will dry out and die.

Fish starved of oxygen might not survive.

Human changes:

Changing one component has been changed it can have serious knock-on effects on the ecosystem:

- agricultural fertilisers can lead to eutrophication.
- ponds may be drained to use for farming.

Did you know? The most adaptable species on the planet are humans – they can be found in every ecosystem in the world.

Ecosystems

An ecosystem is a natural system made up of plants, animals and the environment. There are often complex interrelationships between the living and non-living components of an ecosystem. Ecosystems can be identified at different scales:

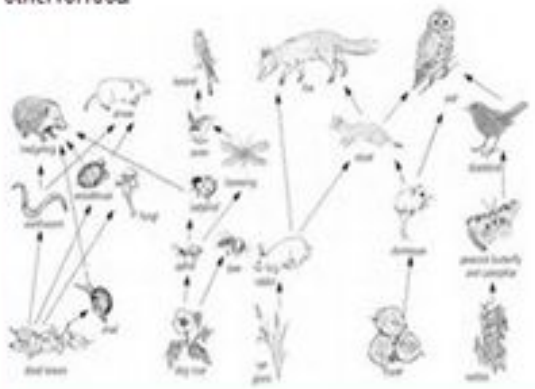
A local small-scale ecosystem – a pond, hedge or woodland.

A global scale ecosystem can be a tropical rainforest or deciduous forest. The global ecosystems are called biomes.

Food Chains and Webs.

A food chain shows the connections between different organisms (plants and animals) they rely on one another as their source of food.

A food web is a complex hierarchy of plants and animals relying on each other for food.



Further Research:

http://www.s-cool.co.uk/gcse/geography/ecosystems/revise-it/what-is-an-ecosystem

http://www.bbc.co.uk/nature/adaptations

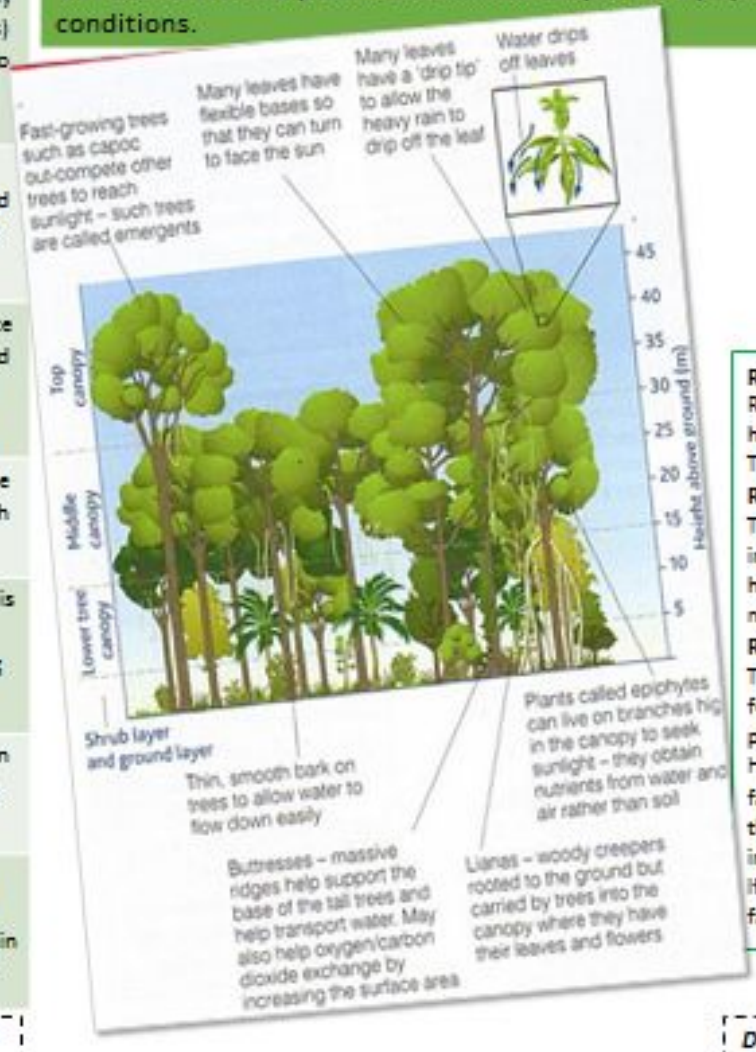
Knowledge Organiser
Topic: Tropical Rainforests

Vocabulary Key terms and definitions	
Biodiversity	The variety of life in the world or a particular habitat.
Buttress roots	Large roots that grow above the ground to support tall trees.
Canopy	Where the upper parts of most of the trees are found. The canopy is typically about 65 to 130 feet (20 to 40 metres) tall. This leafy environment is home to insects, arachnids, birds and some mammals.
Emergents	The tops of the tallest trees in the rainforest. These are much higher, and so are able to get more light than the average trees in the forest canopy.
Epiphytes	An organism that grows on the surface of a plant and derives its moisture and nutrients from the air, rain, water or from debris accumulating around it.
Lianas	Thick vines that have their roots in the ground and loop around trees to reach sunlight.
Shrub layer	The bottom layer of the rainforest. It is dark and gloomy with very little vegetation between the trees. During heavy rainfalls this area can flood.
Tropics	The part of the Earth that lies between the Tropic of Cancer (23.5°N) and the Tropic of Capricorn (23.5°S).
Under canopy	The second level up. There is limited sunlight. Saplings wait here for larger plants and trees to die, leaving a gap in the canopy which they can grow into.

Did you know? TRFs are home to more than half of the world's plant and animal species.

Challenges and Concepts

You will learn about the range of distinctive physical characteristics of Tropical rainforest ecosystems and the interdependence of climate, water, soils, plants, animals and people. You will learn where they are located in the world. You will also learn how plants and animals adapt to the physical conditions.



Distribution of Tropical Rain Forests

A thousand years ago, tropical rainforests covered as much as 14% of the earth's surface. Today they cover less than 6%. TRFs are an invaluable source of freshwater - responsible for 20% of the world's rainfall

Rainforest water and nutrient cycles
Rainforest ecosystems are characterised by heavy convectional rainfall, high humidity, lushness of vegetation and nutrient-rich but shallow soil. These factors give rise to a unique water and nutrient cycle.

Rainforest water cycle
The roots of plants take up water from the ground and the rain is intercepted as it falls - much of it at the canopy level. As the rainforest heats up, the water evaporates into the atmosphere and forms clouds to make the next day's rain. This is convectional rainfall.

Rainforest nutrient cycle
The rainforest nutrient cycling is rapid. The hot, damp conditions on the forest floor allow for the rapid decomposition of dead plant material. This provides plentiful nutrients that are easily absorbed by plant roots. However, as these nutrients are in high demand from the rainforest's many fast-growing plants, they do not remain in the soil for long and stay close to the surface of the soil. If vegetation is removed, the soils quickly become infertile and vulnerable to erosion.
If the rainforest is cleared for agriculture it will not make very good farmland, as the soil will not be rich in nutrients.

Did you know? On average, 130 species of plants and animals become extinct each day

Knowledge Organiser
Topic: Tropical Rainforests

Vocabulary Key terms and definitions	
Commercial farming	Farming to sell produce for a profit to retailers or food processing companies.
Debt reduction	Countries are relieved of some of their debt in return for protecting their rainforests.
Deforestation	The chopping down and removal of trees to clear an area of forest.
Ecotourism	Responsible travel to natural areas that conserves the environment, sustains the wellbeing of the local people, and may involve education. It is usually carried out in small groups and has minimal impact on the local ecosystem.
Logging	The business of cutting down trees and transporting the logs to sawmills.
Mineral extraction	The removal of solid mineral resources from the earth. These resources include ores, which contain commercially valuable amounts of metals, such as iron and aluminium; precious stones, such as diamonds; building stones, such as granite; and solid fuels, such as coal and oil shale.
Selective logging	The cutting out of trees which are mature or inferior, to encourage the growth of the remaining trees in a forest or wood.

Did you know? The Amazon Rainforest is twice the size of India - It is bigger than all of the other rainforests combined.

Challenges and Concepts

You will learn how TRFs are at risk through a range of factors. how they have been damaged and what communities can do to become more sustainable.

Humans intervene in tropical rainforests in order to bring real or imagined benefits to themselves or the local population.

The **short-term benefits** of clearing rainforest areas include:

- land for agriculture, houses and roads
- jobs for local workers in road building, logging, agriculture, mining and construction
- the generation of income (often in valuable foreign currency) for the LEDC when wood, minerals, and other resources are sold
- scientific investigation into rainforest plants may provide new food sources and medicines

These benefits, however, come at a cost:

- clearing rainforest threatens the survival of many plant and animal species
- can lead to serious environmental degradation
- widespread deforestation damages the whole biosphere (the balance of living and non-living things) with serious long-term consequences

Did you know? The Amazon Rainforest spreads over 9 territories, 8 of which are countries. 60% of the forest is in Brazil.

Vocabulary Key terms and definitions	
Slash and burn	Land is cleared and the vegetation burned, providing a source of nutrients from the ash.
Soil erosion	Removal of topsoil faster than it can be replaced, due to natural (water and wind action), animal, and human activity. Topsoil is the top layer of soil and is the most fertile because it contains the most organic, nutrient-rich materials.
Subsistence farming	A type of agriculture producing food and materials for the benefit only of the farmer and his family.
Sustainability	Actions and forms of progress that meet the needs of the present without reducing the ability of future generations to meet their needs.

Did you know? An area of rainforest the size of a football field is destroyed every second.

Living sustainably in the rainforest: Case study: Acre, Brazil.

Strategies include:

- Restoring the cleared areas
- Sustainable (selective) logging - trees are only felled when they reach a particular height. This allows young trees a guaranteed life span and the forest will regain full maturity after around 30-50 years.
- Education - ensuring those involved in exploitation and management of the forest understand the consequences behind their actions.
- Afforestation - the opposite of deforestation. If trees are cut down, they are replaced to maintain the canopy.
- Using in other ways such as sustainable tourism, rubber tappers, Brazil nuts.
- Monitoring - use of satellite technology and photography to check that any activities taking place are legal and follow guidelines for sustainability.

Further Research:

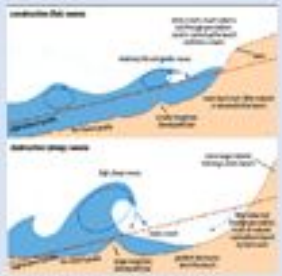
http://www.bbc.co.uk/schools/gcsebitesize/geography/ecosystems/tropical_rainforests_rev2.shtml
http://www.bbc.co.uk/schools/gcsebitesize/geography/ecosystems/human_uses_rainforest_rev1.shtml
http://www.bbc.co.uk/education/clips/z3pf6fr
http://www.s-cool.co.uk/gcse/geography/ecosystems/revise-it/tropical-rainforests

Coastal Processes

Waves are formed by wind blowing over the sea. The size of wave is determined by the strength of the wind, the duration of the wind and the distance the wind blows over (fetch).

Constructive waves are low with long wavelengths. The swash is stronger than the backwash. They build beaches

Destructive waves are higher with shorter wavelengths. The backwash is stronger than the swash eroding the coast.



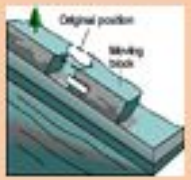
Weathering

Weathering is the decomposition or disintegration of rock in its original place (erosion involves moving rock)

Chemical	Mechanical
• Carbonation. Carbon dioxide dissolved in rainwater forms a weak acid. Reacts with limestone and chalk to form a solution • Hydrolysis – acidic rainwater reacts with minerals in granite • Oxidation – oxygen in rain reacts with iron	• Freeze thaw.  • Salt weathering – salt in sea water expands to form cracks.

Mass Movement

Mass movement is the movement of material downslope under the influence of gravity. It is the falling, sliding or flowing of rock, sediment or soil most often along a slip plane (line of weakness). Different types of mass movement can include rockfall, landslides and rotational slumping.

Rockfall	Landslide	Slumping
		
Individual fragments of rock fall off cliff usually due to freeze thaw	Rocks fall in a linear fashion along fault lines	Occurs on a curved surface lubricated by water

Coastal Erosion

Erosion is the removal of material and sculpting of

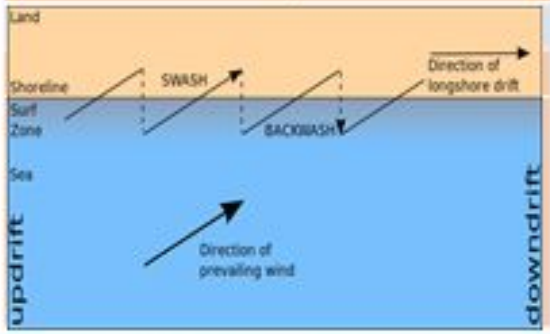
Deposition: Sediment dropped by the waves. Creates beach. The beach is made of material transported by longshore drift.

Unit 1

AQA

UK Physical Landscapes - Coasts

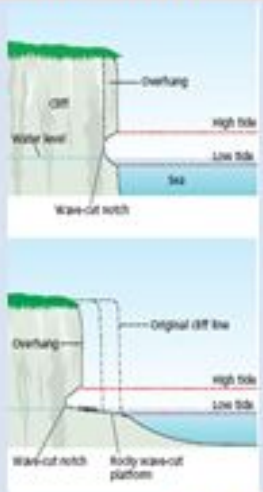
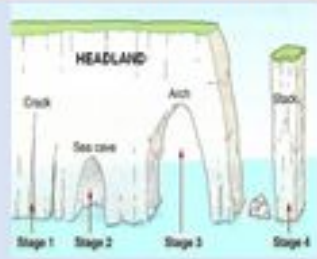
Coastal Transportation



The shape of the coast is determined by geology. Hard rocks (chalk, granite) erode slowly. Clay and sandstone are softer and erode faster

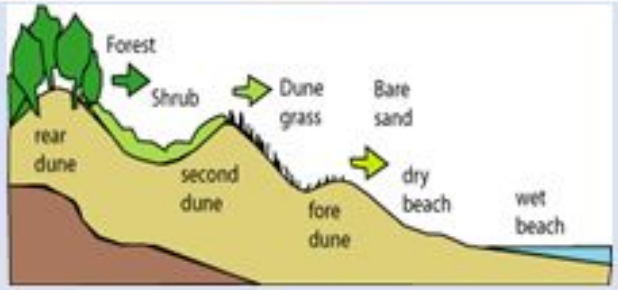
Hard rocks will form headlands and erode slowly.
Soft rocks will form bays and erode quickly

Landforms of erosion

Wave cut platforms	Caves, arches and stacks
	

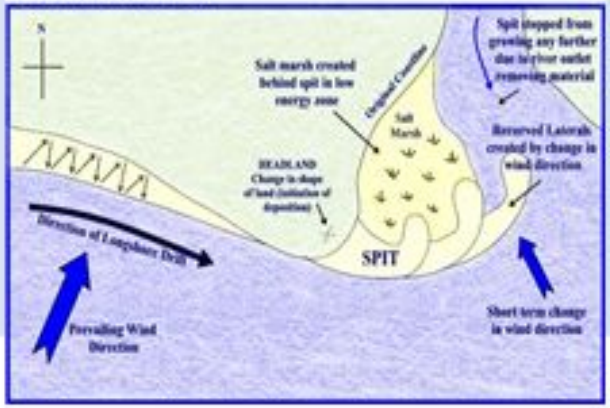
Landforms of deposition

Sand dunes



Spits

The Formation of a Spit



Coastal Management Strategies

Hard Engineering

Strategy		Benefits	Costs
Sea wall – concrete structure at top of beach acts as a barrier to sea		• V effective • Can develop top for walking, stalls etc	• £5000 - £10000 / metre • V expensive • Ugly
Rock Armour – large boulders at foot of cliff to reduce force of waves		• Relatively effective at reducing force of waves • Relatively cheap	• £2000 000 / 100 metres • Ugly • Can be dangerous to public
Gabions – wire cages filled with rocks. Permeable so improve cliff drainage		• Flexible • Cheaper £50 000 / 100 metres • Quick to construct	• Not attractive • Cages can break • Need replacing every 10 years
Groynes – wooden or stone fences built at right angles to coast to stop longshore drift		• Create wider beaches • Cheap	• Starve beaches further down the coast making them narrower and so more likely to erode • Need some maintenance

Soft Engineering

Beach nourishment / reprofiling. Adding sand to a beach or changing its shape e.g. high ridges		• Looks natural • Creates amenity for tourism • Cheap	• £50 000 / 100 metres but can vary • Needs constant maintenance • Less effective than hard engineering
Dune Regeneration		• Considered natural • Creates area for picnics etc • May increase biodiversity	• £2000 per 100 metres. Time consuming to plant and maintain • Easily damaged by storms • Not particularly effective.

Managed Retreat

Doing nothing. Allow sea to move into area		• Long term solution with low maintenance • A natural buffer • New ecosystem created • Biodiversity improves, e.g. bird watching • More attractive	• Low value land is lost to sea • Local people have to move so need to be compensated • Some ecosystems may be lost





Coastal Management example - Holderness


What is the problem?

- Erosion is causing cliffs to collapse. Cliffs are made of soft, easily eroded boulder clay
- Prevailing winds mean material is moved south through LSD
- About 1.8m of land is lost each year. Farms and businesses are threatened
- Over 11km of coast is managed suing hard engineering to protect the towns of Hornsea, Withernsea and Mappleton as well as roads and the gas terminal at Easington that supplies 25% of the UK's gas and is right on the cliff

Management strategies	Problems
• Rock armour used. 450 m of coast line protected by 61 000 tonnes of rocks at a coast of £2million. • Rocks absorb the power of the waves • 2 rock groynes trap sand and create a beach to protect the cliffs • Hornsea has a sea wall and some groynes and at Withernsea there is a sea wall, groynes and rock armour	• Mappleton is protected but groynes prevent sediment moving south leading to increased erosion south of Mappleton • Farms and a caravan park have been lost south of Mappleton • The Lifeguard station at Great Cowden is under threat as the spit does not get sediment • Spurn Head spit is being washed away • Protecting the gas terminal at Easington cost £6.6 million

Ice was a powerful force in shaping the physical landscape of the UK.

A glacier – Ice on the land that is formed by layers of snow building up and being compressed into ice over many years. Types of glacier include ice sheets, ice caps and corries.
Glacier formation: snow falls → does not melt through the year → more snow falls → layers build up → the weight over upper layers, compresses the snow in the lower layers → firn forms → eventually most of the air bubbles are squeezed out so the snow becomes ice – a glacier.

Glacier movement: The weight of ice makes glaciers move very slowly downhill as the ice's weight and gravity make the ice crystals change shape (internal deformation) so the glacier moves downward. In summer this is helped by meltwater lubricating the base of the glacier. In hollows high up valley sides, glacier movement can occur in a circular motion called **rotational slip.**

Maximum extent of ice cover across the UK during the last ice age.

Ice age – a period of time when there are ice sheets present. Within ice ages there are colder glacial periods and warmer interglacial periods.

Current ice age – began 2.6million years ago. The last glacial maximum was 20 000 years ago. We are no in an interglacial which began 10 000 years ago.

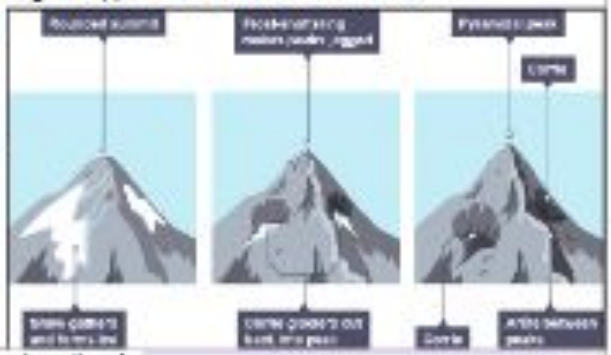
Glacial processes
Weathering – When the weather causes something to break down where it is
Erosion – When something is broken down and moved away
Transportation – material in or on the surface of the glacier (called till/moraine) is transported by the glacier as it moves. **Outwash** – Fine materials may be washed away from the base and/or front of the glacier by melt water streams. **Bulldozing** – material in front of the glacier is pushed ahead of it as the glacier moves.
Freeze-thaw weathering: ice repeatedly forming within a crack in a rock causes the crack to widen and the rock to break apart. This affects the valley sides above glaciers and leaves eroded material on the glacier surface (moraine)

Erosion – abrasion: Erosion caused by rocks and boulders in the base of the glacier acting like a giant file scratching and scraping the rocks below.
Erosion – plucking: A type of erosion where melt water in the glacier freezes onto rocks, and as the ice moves forward it plucks or pulls out large pieces along the rock joints.

Deposition of till – when a glacier melts and retreats, the jagged, unsorted pieces of rock held in or on the ice are deposited.
Deposition of outwash – streams flowing from glacier meltwater transport sediment. Over time the material is eroded by attrition to become smaller and rounded. The sediment is sorted with larger rocks deposited closest to the glacier.

Distinctive glacial landforms result from different physical processes: Characteristics and formation of landforms resulting from erosion:

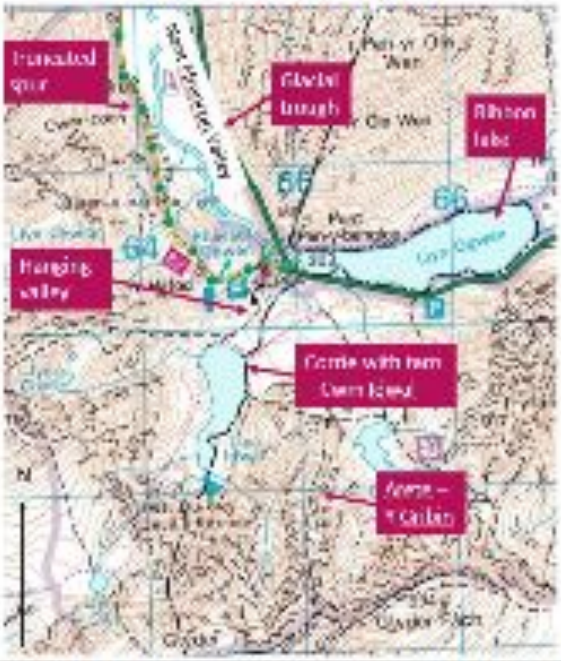
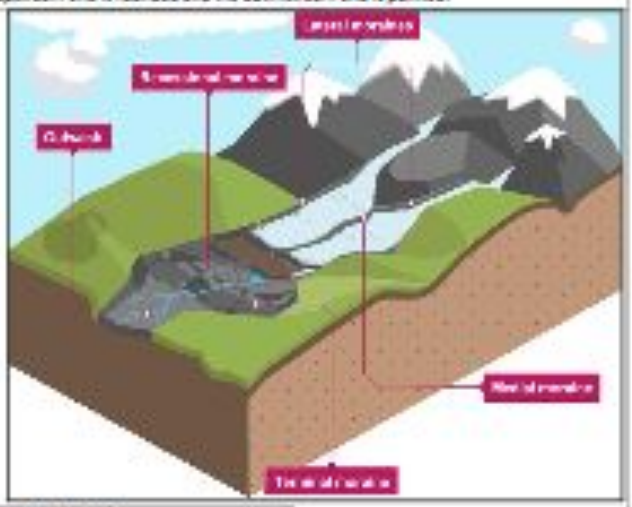
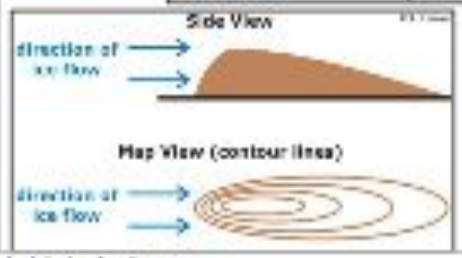
Corries: Armchair-shaped hollow in the mountainside formed by glacial erosion, rotational slip and freeze-thaw weathering. This is where the valley glacier begins. When the ice melts, it can leave a small circular lake called a tarn.
Arêtes: A sharp, knife-like ridge formed between two corries cutting back by processes of erosion and freeze thaw.
Pyramidal peaks: Where several corries cut back to meet at a central point, the mountain takes the form of a steep pyramid.



Snow gathers in North East facing hollows.
1. The snow is compacted into ice forming a glacier
2. As rotational slip causes the ice to move, abrasion deepens the hollow to form a rock basin.
3. Plucking erodes a steep back wall.
4. The rock above the glacier is weathered by freeze thaw weathering to make the back wall even steeper.
5. A rock lip is left where there has been less erosion.
6. When the glacier retreats (melts), rock eroded by the glacier forms a moraine raising the height of the rock lip.
7. This creates a basin (corrie) often filled with a lake (tarn).

Glacial troughs : A river valley widened and deepened by the erosive action of glaciers; it becomes 'U'-shaped instead of the normal 'V'-shape of a river valley.
Truncated spurs: A former river valley spur which has been sliced off by a valley glacier, forming cliff-like edges.
Ribbon lakes: A long, narrow lake found in glaciated valleys formed in locations where the glacier had more erosive power, eg in areas of softer rock, where the valley gradient temporarily steepened or a tributary glacier joined the main valley
Hanging valleys: A tributary valley to the main glacier, too cold and high up for ice to be able to easily move. It therefore was not eroded as much as the lower main valley, and today is often the site for a waterfall crashing several hundred metres to the main valley floor

1. A glacier moves downhill along an old river valley, fed by smaller glaciers moving down the valleys of tributaries.
2. Plucking and abrasion cause it to widen and deepen the valley, making it into a U shape – a glacial trough. The valley sides are made even steeper through freeze-thaw weathering.
3. Smaller tributary glaciers may form higher up the valley sides e.g. in valleys of river tributaries. The main glacial trough is eroded much more deeply by the larger glacier so when the glaciers melt, the valleys from tributary glaciers are left higher than the main valley floor – hanging valleys.
4. The front of the glacier cannot flow around interlocking spurs so them it flows through them, plucking the rock away creating truncated spurs. The eroded rock from the spurs is carried by the glacier and used in abrasion to erode the valley even more.

	3. Some parts of the valley floor are eroded more than others e.g. Due to a band of soft rock or more ice joining the glacier from a tributary glacier so erosion is faster. This erodes long depressions in the valley floor. When the glacier melts a million lets fills the depression.
Distinctive glacial landforms result from different physical processes: Characteristics and formation of landforms resulting from transportation and deposition:	**Moraine** - Frost-shattered rock debris and material eroded from the valley floor and sides, transported and deposited by glaciers. *Lateral moraine* –material eroded from the valley sides by freeze-thaw *Medial moraine* – when two glaciers meet the lateral moraines combine to form a line in the centre of the glacier. *Terminal moraine* – plucked and abraded material is transported in the glacier and deposited at its snout (end) as the glacier retreats (melts). *Ground moraine* – eroded by abrasion and plucking at the base of the glacier. Deposited over a wide area when the glacier retreats. **Erratics** - Rocks which have been transported and deposited by a glacier some distance from their source region. **Drumlins** - A hill made of glacial till deposited by a moving glacier, usually elongated or oval in shape, with the longer axis parallel to the former direction of ice. 1. A glacier picks and erodes material from the valley floor 2. The glacier transports the material slowly downhill. 3. If there is an obstacle or harder rock or ice mush moraine in the glacier some of it is deposited. 4. The deposited material builds up over time. 5. The material is shaped by the ice moving over it so the upstream end is rounded and the downstream end is pointed.
An example of an upland area in the UK affected by glaciation to identify its major landforms of erosion and deposition Nant Ffrancon Valley, Snowdonia	  
Glaciated upland areas provide opportunities for different economic activities, and management strategies can be used to reduce land use conflicts.	**An overview of economic activities in glaciated upland areas:** **Tourism:** dramatic landscapes for climbing, walking and mountain biking. Ribbon lakes and tarns for boating and fishing e.g. Ogwen Cottage youth hostel in Nant Ffrancon, climbing the Idwal slabs **Farming:** sheep farming on steep slopes as they can cope with the relief and poor soils. Cattle and hay may be farmed on valley floors. **Forestry:** Coniferous forests as they can survive the colder weather and high rainfall. **Quarrying:** due to erosion, glacial landscapes have large areas of exposed rock e.g. slate mining in Nant Ffrancon
	Conflicts between different land uses, and between development and conservation. **Farming:** conflict with tourists over footpath erosion, litter dropping, dogs disturbing sheep. Some farmers may try to block paths. Conflict with conservationists over how to manage the landscape e.g. conservationists may want fewer sheep so trees and shrubs regrow. **Forestry:** conflict with tourists and conservationists due to disruption of harvesting which can be very loud and removes habits. Conflict as coniferous forests have a relatively low biodiversity compared to natural mixed woodland. Dense forestry can be very dark and less attractive to tourists. **Quarrying:** Conflict with tourists and locals due to disruption over transport, eyesore of the quarry, and noise and dust from mining. Conflict with conservationists due to damage to habitats. **Tourism:** Conflict with conservationists and locals due to increased traffic, parking and new infrastructure e.g. visitor centre on Snowdon. Conflict with farmers – see above.
	An example of a glaciated upland area in the UK used for tourism: <u>Lake District, Cumbria</u> **The attractions for tourists:** Beautiful landscape – mountains e.g. Scafell Pike, lakes e.g. Windermere. Opportunity for a range of activities e.g. mountain biking, water sports, climbing. Cultural attractions e.g. World of Beatrix Potter, Wordsworth's house. **Social impacts:** Traffic congestion. Businesses cater for tourists not locals e.g. cafes, outdoor clothing shops. In Ambleside 50% of businesses cater for tourists. Prices for every-day goods are high. High number of second homes so villages are often empty in winter. In some places there are not enough people for services like buses, schools, banks and GP surgeries to remain open e.g. Langdale. **Economic impacts:** employment – over 16 000 people employed within the tourist industry, income to businesses. BUT – employment is seasonal and often poorly paid. House prices are very high due to demand for second homes and holiday houses. Average house costs 9.6x the average salary (national average – 6x) **Environmental impacts** ; pollution from congestion, footpath erosion e.g. on Catbells, damage to grass verges due to illegal parking. Noise and water pollution, and damage to river banks as a result of water sports e.g on Lake Windermere. **Strategies used to manage the impact of tourism** *Congestion:* pay-as-you-go bikes, Controlled parking zones where you can only park for 2hr in the centre of towns like Ambleside. Redesigning roads where congestion is a major issue e.g. Glebe Road in Windermere . *House prices:* planning permission granted for 134 affordable homes and 141 homes only local people can buy. *Footpath erosion:* putting gravel on main paths. *Pollution and erosion in lakes:* 10mph speed limit on Lake Windermere.

Year 10

Design and Technology

Year 10 DT Revision

You should have an overview of the main categories and types of natural and manufactured timbers:			
hardwoods including: **• ash** **• beech** **• mahogany** **• oak** **• balsa**			
softwoods including: **• larch** **• pine** **• spruce**			
You should have an overview of the main categories and types of polymers:			
thermoforming including: **• acrylic (PMMA)** **• high impact polystyrene (HIPS)** **• high density polythene (HDPE)** **• polypropylene (PP)** **• polyvinyl chloride (PVC)** **• polyethylene terephthalate (PET)**			
thermosetting including: **• epoxy resin (ER)** **• melamine-formaldehyde (MF)** **• phenol formaldehyde (PF)** **• polyester resin (PR)** **• urea-formaldehyde (UF).**			

Hardwoods and Softwoods

WHAT ARE HARDWOODS ?

Sometimes called broad-leaf trees. Lose their leaves seasonally, in winter. Hardwoods tend to be harder than softwoods (with the exception of Balsa Wood). They have a wider variety of colour and texture than softwoods. Hard woods tend to be more expensive than softwoods and take longer to mature.

HARDWOODS 1
EUROPEAN OAK

Light tan in colour and straight grained. High quality timber.

Moderately hard to work with handtools. Tools should be kept sharp. Produces a high quality finish with wax, furniture oil and varnish.

Uses include; quality furniture, cabinet making and boat building.

HARDWOODS 2
EUROPEAN WALNUT

Grey to brown colour with relatively straight grain. Excellent timber.

Tough and can be worked reasonably easily with hand tools. Easy to carve and can be smoothed to a highly polished finish.
Used in solid and veneer form for high-class furniture, cabinet making, bank and office fittings.

HARDWOODS 3
BALSA

Unlike most hardwoods. Fast growing.

Reaches maturity in just five to seven years.

Very soft and easy to work with tools. Pale in colour and extremely light to carry/transport.

Extremely popular as a material for model making. Also used occasionally to package delicate items.

HARDWOODS 4
EUROPEAN ASH

Colour - cream to pale tan. Tough, flexible and straight grained, very good steam bending qualities. Can be shaped and formed well with handtools. A smooth finish can be achieved and stains well.

Used for cabinet making, boats and handles of tools. Ash veneered plywood is popular.

HARDWOODS 5
BRAZILIAN MAHOGANY

Medium to dark brown in colour. Relatively easy to work with hand tools and machinery. Produces a good quality finish with glass paper. Takes varnish well.

Wide range of uses including furniture and boat building. Used widely as veneer.

HARDWOODS 6
ENGLISH ELM

Light brown / pale brown in colour. Can be difficult to work with handtools, due to awkward grain. Can be worked to a fine finish. Looks particularly good with a waxed finish.

Used in cabinet making, turns quite well and is used as veneer, to provide a quality finish on cheaper woods.

HARDWOODS 7
EUROPEAN BEECH

Pale white to pink brown in colour. Very good for steam bending. It can be worked reasonably well with handtools and machinery.

Used for quality furniture, handles, manufacturing chairs and good for wood turning. Often used as a facing for plywood.

WHAT ARE SOFTWOODS ?

Softwoods are from trees that have needles / exposed seeds, not leaves. They grow quickly, compared to most hardwoods. When sawn and planed they tend to be light/pale in colour. Softwoods also tend to be cheaper than hardwoods.

Softwoods are used by the construction industry and are use to produce paper pulp, and card products.

SOFTWOODS 1
PARANA PINE

Virtually knot free with straight grain, making it ideal for a range of uses. Light brown. Very easy to cut and shape, meaning accurate work is easier to achieve than with most softwoods and hardwoods. A smooth finish can be achieved.

Used in the manufacture of furniture. Often used for turning wood products. Used to manufacture plywood.

SOFTWOODS 2
SCOTS PINE

Sometimes called Red Deal. A popular natural wood. Can be resinous and have plenty of knots. Coloured from light yellow to dark brown. Can be shaped and formed reasonably easily by handtools and machines.

Often used for furniture and the construction industry. Used for interior work. One of the most commonly used woods.

SOFTWOODS 3
RED CEDAR

Has a pleasant aroma, when cut and machined. Its straight grain means that it works well with tools and machines. Starts as reddish brown in colour, after weathering turns to a silver grey.

Used for decking, furniture and general construction. Used for roof shingles, due to its resistance to all weathers.

SOFTWOODS 4
YEW

Straight grained which means it can be shaped and formed quite easily. However, the grain can sometimes be difficult to work. An oily wood that resists natural degradation from the weather and elements..

Used to manufacture both interior and exterior furniture e.g. chairs, gate posts and wood turning.

SOFTWOODS 5
DOUGLAS FIR

A reddish brown wood and relatively knot free. Good to work with handtools and machinery. When smoothed to a fine finish, the grain tends to standout from the surface.

Used extensively in the construction industry and in the production of plywood.
Also used in a range of joinery work.

SOFTWOODS 6
SEQUOIA

A reddish to brown wood with a texture that varies from smooth to coarse. Can be worked quite easily with handtools and machines. Glass paper produces a good, smooth finish.

Used regularly as roof shingles, due to its resistance to the weather.
Used for interior and exterior joinery.

SOFTWOODS 7
LARCH

High in resin and straight grained. Pale red to brick red. Can be worked reasonably well with handtools, if knots are avoided.

It is a tough softwood and has a range of uses including; boat planking, window frames, floors and staircases.

Polymers - Thermo and Thermoset

WHAT ARE THERMOPLASTICS ?


These plastics **can be re-heated and re-shaped** in various ways. They become mouldable after reheating as they do not undergo significant chemical change. Reheating and shaping can be repeated. The bond between the molecules is weak and becomes weaker when reheated, allowing reshaping. These types of plastics can be recycled.

THERMOPLASTICS 1

Acrylic. (Known also as PERSPEX) This is the most common plastic in a school workshop. Purchased in the form of sheets and comes in a range of colours. It can be translucent (e.g. smoked), transparent or opaque. It is resistant to most acids and weather conditions. Easy to cut shape. Polishes well.

Baths, safety glasses, signs.

THERMOPLASTICS 2

LDPE - Low Density Polythene is tough and flexible. Softer than HDPE.

Can be moulded into almost any form. Flexible, comes in range of colours.

Bottles and plastic bags are made from the low density polystyrene.

THERMOPLASTICS 3

HDPE - High Density Polythene which is rigid and hard. Less flexible than LDPE.

Machine parts, bowls and crates are generally made from high density polystyrene.

Can be moulded into almost any form. Flexible, comes in range of colours.

THERMOPLASTICS 4

Polypropylene (PP) is a thermoplastic often formed into products through injection and blow moulding.
It is robust, strong, flexible and supplied in a range of colours.
Food containers, chairs, packaging and storage units.

THERMOPLASTICS 5

Polyvinyl Chloride. Better known as **PVC**. A tough material, purchased as either a hard (inflexible) material or alternatively a flexible form. It can be extruded, welded or bonded with an adhesive. Range of uses including water pipes, raincoats, long play records, coating on electrical wires and packaging.

THERMOPLASTICS 6

Nylon. Is used in engineering to make gears and bearings. It's oily nature means that friction is reduced between moving parts made from nylon.

Gears, bearings, wheels and clothing.

THERMOPLASTICS 7

High Impact Polystyrene (HIPS).
Light material and yet strong. Available in a range of colours. Can be vacuum formed. Thinner HIPS is quite flexible.

Used for electrical casings, packaging, trays

WHAT ARE THERMOSETTING PLASTICS ?

Once heated and moulded, these plastics **cannot be reheated and remoulded**. The molecules of these plastics are cross linked in three dimensions and this is why they cannot be reshaped or recycled. The bond between the molecules is very strong.

THERMOSETTING PLASTICS 1

Many **adhesives (glues)** are thermosetting plastics. For example, Araldite. Composed of two tubes (one is resin, the other a catalyst). They are mixed to form the glue.

THERMOSETTING PLASTICS 2

Polyurethane. This forms the basis of many paints and varnishes. Tough, water resistant.

THERMOSETTING PLASTICS 3

Melamine Formaldehyde. Because of its smooth surface and hygienic qualities, used for kitchen laminates surfaces. Also used for electrical plugs and sockets, because it can be cast and it is an excellent insulator.

THERMOSETTING PLASTICS 4

Urea Formaldehyde has physical properties of high hardness and high toughness, making it suitable for strong, knock-resistant electrical fittings. It is also scratch resistant and a very good electrical insulator. Electrical fittings manufactured from this polymer are safe to use.

THERMOSETTING PLASTICS 5

Polyester resins. If resins are combined with a material such as fibre glass, the result is a very tough material that can resist impact. Known as Glass Reinforced Plastic (GRP) and is used in car body repairs, sailing boats and corrugated sheet, because of its lightness, toughness and resistance to water.

THE DIFFERENCE BETWEEN THERMOSETTING PLASTICS AND THERMOPLASTICS

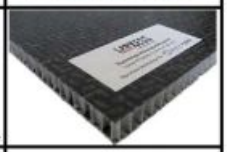
Thermosetting plastics once heated and formed to a shape, **cannot be reheated and reformed**. Consequently, they tend to be difficult to recycle.

Thermoplastics once heated and formed to a shape, **can be reheated and reshaped**. Every time they are reshaped, the quality of the thermoplastic tends to be reduced.
They are recyclable.

Year 10 DT Revision

Forces and stresses: **In relation to at least one material category or system, you should know and understand the impact of forces and stresses and the way in which materials can be reinforced and stiffened.**			
Materials and objects can be manipulated to resist and work with forces and stresses			
			
Tension, compression, bending, torsion and shear.			
Materials can be enhanced to resist and work with forces and stresses to improve functionality			
How materials can be reinforced, stiffened or made more flexible: eg lamination, bending, folding, webbing, fabric interfacing.			

1: Forces and Stresses

Force	Description	A fair test for each force/stress.	How a material / object can be adapted to resist	Examples
Tension	Forces pulling in opposite directions.	Apply the same weight to each material and suspended in the same manner.	Concrete can have steel bars inserted to reinforce.	
Compression	Forces that are trying to crush or shorten.	Insert materials into a vice/clamp and apply the same amount of twists to the handle.	Composite panels can have a honeycomb structure sandwiched in the middle to resist.	
Bending	Flexing force	Apply the same weight to the material.	Steel beams have an I profile to resist bending.	
Torsion	Twisting force.	Use clamps & stands to hold the materials and turn in opposite directions at the same angle.	The diagonals on a tower crane help the structure against torsion.	
Shear	A strain produced when an object is subjected to opposing forces.	Place the material between a tool that works in opposite directions. e.g. Shears	Bolts are hardened and have unthreaded shanks to help stop shearing.	

2. Improving functionality of materials

Process	Description	Result	Example	Visual Example
Lamination	Layering of thin materials	Depending on the direction of lamination it can make boards stiffer or actually more flexible	Plywood: Laminations at 90 degrees to each other - Rigid Flexi-ply: laminations all the same direction - Bendy	
Bending / Folding	Folding a 90 degree edge on sheet metal / plastic	Makes the panel more rigid	Body panels on cars	
Webbing	Modern polymer fabrics woven together	Extremely strong and durable fabric	Seat belts	
Fabric interfacing	A strengthening material added to the unseen face of a fabric	Adds strength / shape	Shirt collars	

Year 10 DT Revision

Students studying the following courses will be sitting an external exam in May/June of this year.

WJEC Engineering
WJEC Hospitality and Catering

Students have received a revision pack for this exam as such there is no formal knowledge organiser.

Year 10

Art

YEAR 10 ART

REVISION

What I Must Know			
The four GCSE assessment objectives and what each of them mean			
To be able to use subject specific terminology to accurately annotate and evaluate a piece of artwork			
To be able to correctly create and edition a monoprint (in class practical activity)			
To demonstrate the ability to work in the style of a chosen artist or artists			
To demonstrate knowledge of proportion by correctly identifying the features of a face on a portrait			
To demonstrate good quality tonal drawing skills showing that you can add shadows and highlights to a portrait or observational drawing			

Year 10 Art and Design

Art Vocabulary

1. **Develop** - Working in a variety of materials to find which works the best
2. **Refine** - Changing a drawing or painting in order to improve the outcome
3. **Annotate** - To add explanatory notes or critical comments to artwork
4. **Evaluate** - Assess success and identify areas for improvement
5. **Still Life** - A drawing or painting featuring inanimate objects
6. **Portrait** - A drawing or painting of a living being
7. **Blend** - Combining two or more colours to create a gradual transition
8. **Tone** - The lightness or darkness of an area
9. **Highlights** - The lightest areas of a drawing
10. **Shadows** - The darkest areas of a drawing
11. **Inanimate** - An object that is not living nor has ever been alive
12. **Abstract** - Art that does not represent an accurate depiction of reality

The Formal Elements

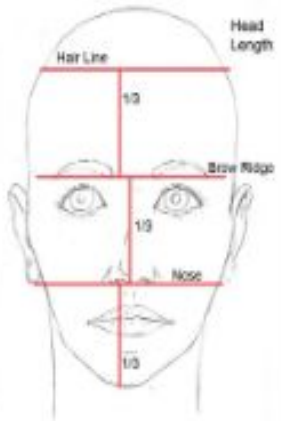
The formal elements are the parts (or the ingredients) needed to make up a piece of artwork. They consist of:

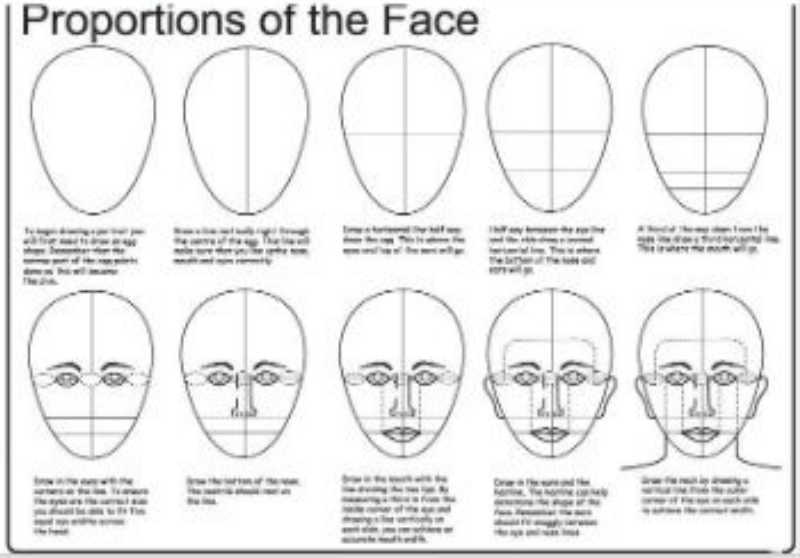
Line - The path left by a moving point. Eg. A pencil or paintbrush
Shape - An area enclosed by a line
Colour - There are different categories of colour, the main two are primary and secondary colours
Form - the 3 Dimensional quality of an object or shape
Texture - the surface quality of an object (how it looks or feels)
Pattern - A design created by repeating lines, shapes, tones or colour

GCSE Assessment Objectives - How will I be marked?

Develop	**A01**	Develop ideas through investigations informed by contextual and other sources, demonstrating analytical and cultural understanding.
Refine	**A02**	Refine ideas through experimenting and selecting appropriate resources, media, materials, techniques and processes .
Record	**A03**	Record ideas, observations and insights relevant to their intentions in visual and/or other forms.
Present	**A04**	Present a personal, informed and meaningful response demonstrating analytical and critical understanding, realising intentions and, where appropriate, making connections between visual, written, oral or other elements.

Proportions of the Face





Skills and Techniques

Drawing

Painting

Tone

Mark making

Journaling

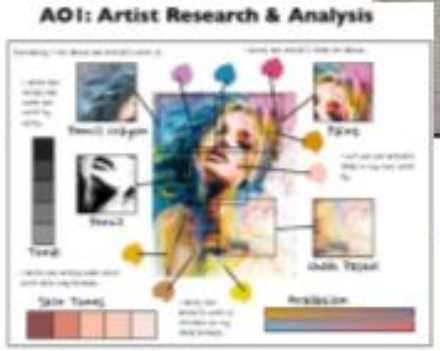
Annotation

Mind maps

Collage

Artist research (from books or the internet)

Primary and Secondary sources



AO1 EXPLORE
DEVELOP
DEVELOP IDEAS
INVESTIGATE & RESEARCH
OTHER ARTISTS WORK
ANALYSE
ANNOTATE

AO1

Develop ideas through investigations, demonstrating critical understanding of sources.

- *FIND IMAGES OF ARTIST'S WORK*
- *SHOW HOW YOU HAVE BEEN INSPIRED*

ARTISTS

Mike Bell

Amiria Gale

Vincent Van Gogh

Holly Exley

Georgia O'Keefe

Grayson Perry

David Hockney

William Morris

Sue Blackwell

Keywords and Definitions

Developing – Becoming more advanced / building on your ideas

Sources - Sources can include such references as the work of artists, craftspeople, designers and/or makers, the built environment, the natural world (eg. Primary sources)

Primary sources = something that has been created first hand

Secondary sources = images that have been created by somebody else

Effectively – A way that is successful and achieves what you want

Investigation – The act of examining something carefully

Critical understanding – Look closely at how artists and designers communicate their ideas, feeling and beliefs through their work. Your knowledge of the work of others should help you to develop your ideas, and this influence should be clear in your own work.

Skills and Techniques

Drawing

Painting

Tone

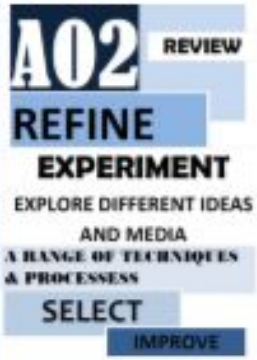
Mark making

Journaling

Blending

Collage

3D models



AO2

Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes

Annotating Your Work

Written annotation should support your ideas and visuals. You should tell the examiner your thought process, materials used and how you have experimented. Your annotation should demonstrate your use of **subject specific language.**

Annotation may be handwritten or word processed—try to be consistent if possible

- *EXPERIMENT WITH A RANGE OF DIFFERENT MATERIALS*
- *DISCUSS YOUR WORK THROUGH ANNOTATIONS*

Keywords and Definitions:

Refinement – This means that you need to make small changes to your work through experimenting with different materials and techniques appropriate to your idea and as your work progresses.

Purposeful - Showing you know what you want to do.

Exploring- To search and discover using different materials and techniques

Consistent – Always behaving or happening in a similar way

Thoughtfully – Carefully considering things

Effectively – A way that is successful and achieves what you want

Techniques – The way you use the material

Processes – The way you do something

Media—The materials or techniques that you have used

Skills and Techniques

Drawing

Painting

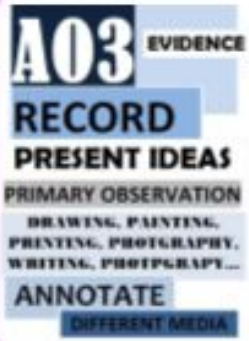
Tone

Mark making

Journaling

Annotations

Collage



AO3

Record ideas, observations and insights relevant to intentions as work progresses

- CREATE GOOD QUALITY SKETCHES AND DRAWINGS
- ANNOTATE AS YOU PROGRESS

The 7 Formal Elements

The formal elements are the building blocks or the 'ingredients' used to create a piece of artwork

They are often used together, the way that they are arranged will determine how a piece of artwork will look.

Keywords and Definitions

Recording – Capturing your ideas (drawings, photographs, sketches, collected images, objects, materials, annotation)

Ideas - suggestion or a plan for doing something

Consistent – Always behaving or happening in a similar way

Effectively – A way that is successful and achieves what you want

Observations - The act of observing something, too look at, a clear, deep understanding

Intentions – Something that you want and plan to do

Progresses – Movement to an improved or more developed state

Skills and Techniques

Drawing

Painting

Tone

Mark making

Journaling

Collage

3D outcome

- SHOW A CLEAR JOURNEY TO YOUR WORK
- BRING ALL OF YOUR PLANS TOGETHER

AO4 OUTCOME
PRESENT
FINAL IDEAS
DEVELOPED AS PLANNED
CLEARLY RESPONDS TO ARTISTS EXPLORED
CONNECTION
CONCLUSION

AO4

Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.

Final Outcome

A Final piece of work using a media of your choice that links all of your research and experimentation. It should be the end of a personal journey within the realms of the project

Keywords and Definitions

Personal response - Belonging to or affecting you rather than anyone else. How you feel about your artwork.

Competently - Able to do something well

Meaningful- To show meaning (to express or represent an idea)

Intentions – Something that you want and plan to do

Consistent – Always behaving or happening in a similar way

Intentions – Something that you want and plan to do

Visual language – A form of communication that uses visual images instead of written language

Year 10

French

Year 10 French Revision

What I Must Know			
To describe what you do during your free time (sport, music & cinema, going/eating out).			
To describe what you did recently with your friends or family, using the past tense.			
To discuss your plans for the weekend, using the future tense (e.g. your perfect weekend).			
To describe what type of music you like to listen to and why.			
To explain what kind of film you prefer and describe a film you have enjoyed watching.			
To describe how you celebrated your last birthday and your plans for the next one.			
To describe how you normally celebrate Christmas and how you celebrated it last year.			
To discuss what your favourite festival with reasons.			
To discuss whether you are for or against customs and traditions.			

UNIT 1.3 - FREE TIME - LE TEMPS LIBRE

<u>Les passe-temps:</u> Quels sont tes passe-temps?

J'aime / Je préfère + infinitive (er, ir, re) ...
nager / danser: to swim / dance
aller au centre sportif: to go to the sports centre
jouer de la guitare / du piano: to play the guitar / piano
jouer sur mon ordinateur: to play on my computer
sortir avec mes copains: to go out with my friends
faire les magasins: to go shopping

Mon passe-temps préféré est ...
le vélo: cycling
la natation: swimming
l'équitation: horse-riding
les jeux vidéo: video games

Watch out, "little words" can be tricky in French!

Je joue **au** football. (m)
Je joue **aux** jeux vidéo. (pl)
Je fais **du** vélo. (m)
Je fais **de la** natation. (f)
Je fais **des** achats. (pl)

<u>La musique:</u> Tu écoutes souvent de la musique?

la musique pop: pop music
la musique classique: classical music
la musique folklorique: folk music
le jazz: jazz
le rock: rock music
le hard-rock: heavy metal
l'opéra: opera
le rap: rap
mon chanteur / ma chanteuse / mon groupe préféré(e) s'appelle ... :my favourite singer / band is called ...
une chanson: a song
chanter : to sing
les paroles: the lyrics
écouter / télécharger de la musique sur mon portable: to listen to / to download music on my mobile phone

<u>Le cinéma et la télévision:</u>
Quel est ton genre de film préféré?

les films d'action: action movies
les films comiques: comic films
les comédies musicales: musicals
les films d'espionnage: spy movies
les films de science-fiction: sci-fi movies
les films policiers: detective films
les films d'amour: love films
les films de guerre: war films
les films d'horreur/ d'épouvante: horror films
l'acteur / l'actrice: the actor / actress
la vedette: the star
le personnage principal: the main character
l'histoire: the story
les effets spéciaux: the special effect
Quelles sont tes émissions préférées?
une émission: a TV programme
les actualités / les informations: news
les comédies: comedies
les dessins animés: cartoons
les documentaires: documentaries
les feuilletons: soaps
les jeux télévisés: games shows
les émissions de sport: sports programmes
les émissions musicales: music programmes
les émissions de télé-réalité: reality TV
la publicité: adverts
une chaîne: a channel
un écran: a screen

<u>Au restaurant:</u> Tu aimes aller au restaurant?
le menu: the menu
les plats: the dishes
l'entrée: the starter
le plat principal: the main course
les légumes: the vegetables
le dessert: the dessert
les boissons: drinks
l'addition: the bill
un pourboire: a tip

<u>Useful adverbs</u>:
jamais: never
rarement: rarely
parfois: sometimes
quelquefois: sometimes
souvent: often
régulièrement: regularly
toujours: always

Watch out, adverbs follow the verb in French.
J'écoute **<u>souvent</u>** la radio.

<u>To narrate events, use sequencing words:</u>

d'abord: first of all
le matin: in the morning
l'après-midi: in the afternoon
le soir: in the evening
puis: then
ensuite: next
après ça: afterwards
enfin: finally

<u>Justifying opinions:</u>
c'est / ce n'est pas: it is / it is not
branché: trendy
entraînant: catchy
chouette: good
intéressant:
passionnant: amazing
ennuyeux: boring
affreux: awful
désagréable: unpleasant
bruyant: noisy
lent: slow

très: very
assez: quite
trop: too
vraiment: really

UNIT 1.4 - CUSTOMS AND FESTIVALS - COUTUMES ET TRADITIONS

Les fêtes importantes:

un jour férié / un congé : a bank holiday
la fête des Rois (6 janvier)
la fête du Travail (1er mai)
la Fête Nationale (14 juillet)
le Jour de L'An (1er janvier)
la Chandeleur (2 février)
Mardi-Gras: Shrove Tuesday
Le Carême: Lent
Pâques: Easter
le premier avril (Poisson d'avril !)
l'Aïd (la fin du Ramadan)
la Nuit de la Saint-Sylvestre (31 décembre)
la Saint-Valentin (14 février)
la Toussaint (1er novembre, All Saints' Day)
la réveillon / la veille de Noël (24 décembre, Christmas eve)
Noël (25 décembre)

La fête des Rois est une fête importante. En France où on mange des galettes (king's cakes).

Il ya aussi des fêtes familiales:

un anniversaire: a birthday
des fiançailles: an engagement (party)
un mariage: a wedding
des noces: a wedding ceremony

un gâteau d'anniversaire

La pièce montée est le dessert traditionnel des mariages.

Pour ou contre les coutumes et traditions?

A mon avis: in my opinion
Selon moi / D'après moi: according to me
Selon ... : according to ...
En ce qui me concerne: As far as I am concerned
Je pense que: I think that
Je trouve que: I find that
Je crois que: I believe that
Je dois dire que: I have to say
Je dirais que: I would say that
Je suis pour / contre: I am for / against
les coutumes / traditions: customs /traditions

Pourquoi?

... **parce que c'est** ...

un moment de partage: a time to share
enrichissant: enriching
agréable: pleasant
divertissant: entertaining
important de passer du temps en famille: important to spend time as a family

démodé: old-fashioned
cher: expensive
trop commercial: too commercial
trop religieuses: too religious
une perte de temps: a waste of time
un gaspillage d'argent: a waste of money

Mots associés aux fêtes:

le lever / coucher de soleil: sunrise / sunset
le jeûne: fast (a period without food)
la messe de minuit: midnight mass
les feux d'artifice: fireworks
le sapin: the Christmas tree
le repas traditionnel: traditional meal
la bûche de Noël: Christmas log
la dinde: the turkey
les huitres: oysters
du Champagne: Champagne
les cadeaux: presents
de nouveaux vêtements: new clothes
de l'argent: money
une carte (d'anniversaire): a (birthday) card
un bal: a ball
un défilé (militaire): a (military) parade
la grasse-matinée: a lie-in

Time expressions:

récemment: recently
l'année dernière: last year
le mois dernier: last month
il y a ... an(s): ... year(s) ago
l'année prochaine: next year
le mois prochain: next month
cette année: this year
d'abord: firstly; puis: then; enfin: finally

Connectives:

car / parce que / puisque / vu que: because
d'une part ... d'autre part ... : on the one hand ... on the other hand ...
cependant: however
néanmoins: nevertheless
en revanche: on the other hand
sauf: except
heureusement: fortunately
malheureusement: unfortunately

INFINITIVE	PAST	PRESENT	FUTURE
To give: donner	J'ai donné On a donné Nous avons donné	Je donne On donne Nous donnons	Je donnerai On donnera Nous donnerons
To eat: manger	J'ai mangé On a mangé Nous avons mangé	Je mange On mange Nous mangeons	Je mangerai On mangera Nous mangerons
To invite: inviter i: ee	J'ai invité On a invité Nous avons invité	J'invite On invite Nous invitons	J'inviterai On invitera Nous inviterons
To celebrate: célébrer fêter	J'ai célébré / fêté On a célébré / fêté Nous avons célébré / fêté	Je célébre / fête On célébre / fête Nous célébrons / fêtons	Je célébrerai /fêterai On célébrera / fêtera Nous célébrerons/fêterons
To receive/ get: recevoir (v irreg)	J'ai reçu On a reçu Nous avons reçu	Je reçois On reçoit Nous recevons	Je recevrai On recevra Nous recevrons
To drink: Boire (v irreg)	J'ai bu On a bu Nous avons bu	Je bois On boit Nous buvons	Je boirai On boira Nous boirons
To open: Ouvrir (v irreg)	J'ai ouvert On a ouvert Nous avons ouvert	J'ouvre On ouvre Nous avons ouvert	J'ouvrirai On ouvrira Nous ouvrirons
To do / make: faire (v irreg)	J'ai fait On fait Nous avons fait	Je fais On fait Nous faisons	Je ferai On fera Nous ferons
To go: aller (* v irreg)	Je suis allé(e) On est allé(e) (s) nous sommes allé(e) (s)	Je vais On va Nous allons	J'irai On ira Nous irons
To stay: rester	Je suis resté(e) On est resté(e) (s) Nous sommes resté(e) (s)	Je reste On reste Nous restons	Je resterai On restera Nous resterons
To have fun / a good time: s'amuser (* v reflex)	Je me suis amusé(e) On s'est amusé(e) (s) Nous nous sommes amusé (e) (s)	Je m'amuse On s'amuse Nous nous amusons	Je m'amuserai On s'amusera Nous nous amuserons
To go to bed: se coucher (*v reflex)	Je me suis couché(e) On s'est couché(e) (s Nous nous sommes couché (e) (s)	Je me couche On se couche Nous nous couchons	Je me coucherai On se couchera Nous nous coucherons
Other useful verbs	Il y avait (there was/were) C'était (it was)	Il y a (there is/are) C'est (it is)	Il y aura (there will be) Ce sera (it will be)

Year 10

GERMAN

Year 10 German Revision

What I Must Know			
To describe what you do during your free time (sport, music & cinema, going/eating out).			
To describe what you did recently with your friends or family, using the past tense.			
To discuss your plans for the weekend, using the future tense (e.g. your perfect weekend).			
To describe what type of music you like to listen to and why.			
To explain what kind of film you prefer and describe a film you have enjoyed watching.			
To describe how you celebrated your last birthday and your plans for the next one.			
To describe how you normally celebrate Christmas and how you celebrated it last year.			
To discuss what your favourite festival with reasons.			
To discuss whether you are for or against customs and traditions.			

UNIT 1.3 - FREE TIME

<u>Freizeitaktivitäten:</u> Was machst du in deiner Freizeit?

Ich mag + infinitive (ending in -EN) ...
schwimmen/tanzen: to swim / dance
ins Sportzentrum gehe: to go to the sports centre
Gitarre/Klavier spielen: to play the guitar / piano
am Computer spielen: to play on my computer
mit Freunden ausgehen: to go out with my friends
einkaufen gehen: to go shopping

Mein Lieblingshobby ist …
Radfahren: cycling
Schwimmen: swimming
Reiten: horse-riding
Videospiele spielen: video games

Watch out! When using the ICH MAG + INFINITIVE structure, ensure that the infinitive goes to the END of the sentence.

<u>Musik:</u> Hörst du oft Musik?

Popmusik: pop music
Klassische Musik: classical music
Volksmusik: folk music
Jazz: jazz
Rockmusik: rock music
Heavy Metal: heavy metal
Opernmusik: opera
Rapmusik: rap
Mein Lieblingssänger/Meine Lieblingssängerin/Meine Lieblingsgruppe heißt … :my favourite singer/band is called ...
Ein Lied: a song
singen : to sing
Die Texte: the lyrics
Musik hören/herunterladen: to listen to/to download music.

<u>Filme und Fernsehen:</u>
Was ist dein Lieblingsfilm-genre?
Actionfilme: action movies
Zeichentrickfilme: comic films
Musikfilme: musicals
Spionagefilme: spy movies
Science-Fiction-Filme: sci-fi movies
Liebesfilme: love films
Kriegsfilme: war films
Horrorfilme: horror films
Der Schauspieler/Die Schauspielerin : the actor / actress
Der Hauptfigur: the main character
Die Geschichte: the story
Die Special Effects: the special effects
Was ist deine Lieblingssendung?
Eine Sendung: a TV programme
Die Nachrichten: news
Komödien: comedies
Zeichentrickfilme: cartoons
Dokumentarfilme: documentaries
Seifenopern: soaps
Gameshows: gameshows
Sportsendungen: sports programmes
Talentwettbewerbe: talent shows
Reality-TV: reality TV
Werbungen: adverts
Der Fernsehsender: the channel
Der Bildschirm: a screen

<u>Im Restaurant:</u> Gehst du gern ins Restaurant?
Die Speisekarte: the menu
Die Speisen: the dishes
Die Vorspeise: the starter
Die Hauptspeise: the main course
Die Gemüse: the vegetables
Der Nach: the dessert
Die Getränke: drinks
Die Rechnung: the bill
Trinkgeld: tip

<u>Useful adverbs</u>:
nie: never
selten: rarely
manchmal: sometimes
oft: often
regelmäßig: regularly
immer: always

Watch out, adverbs follow the verb in German.

Ich höre **immer** Rapmusik.

<u>To narrate events, use sequencing words:</u>

Erstens: first of all
Am Morgen: in the morning
Am Nachmittag: in the afternoon
Am Abend: in the evening
dann: then
danach: after that
schließlich: finally

<u>Justifying opinions:</u>
Es ist/Es ist nicht: it is / it is not
modisch: trendy
eingängig: catchy
toll: great
Interessant: interesting
erstaunlich: amazing
langweilig: boring
furchtbar: awful
unangenehm: unpleasant
laut: noisy
langsam: slow

sehr: very
ziemlich: quite
zu: too
echt: really

UNIT 1.4 - CUSTOMS AND FESTIVALS

Wichtige Feste und Traditionen:

Ein Feiertag : a bank holiday
Neujahr (1. Januar)
Karneval: Carnival
Die Fastenzeit: Lent
Ostern: Easter
Tag der Deutschen Einheit: German Unity Day
Silvester (31. Dezember)
Valentinstag (14. Februar)
Nikolaustag: St Nicholas Day (6. Dezember)
Heiligabend (24. Dezember, Christmas eve)
Weihnachten/Erster Weihnachtstag (25. Dezember)
Zweiter Arbeitstag (26. Dezember)
Oktoberfest (September)
Tag der Arbeit (1. Mai): Labour Day

Es gibt auch Familienfeste:

Ein Geburtstag: a birthday
Eine Verlobungsfeier: an engagement (party)
Eine Hochzeit: a wedding
Eine Hochzeitsfeier: a wedding ceremony

Pour ou contre les coutumes et traditions?

Meiner Meinung nach + verb: in my opinion
Laut... : according to ...
Meinerseits: As far as I am concerned
Ich glaube, dass: I think that
Ich finde, dass: I find that
Ich glaube, dass: I believe that
Ich muss sagen: I have to say
Ich würde sagen, dass: I would say that
Ich bin für/gegen: I am for / against
Die Feste/Traditionen: customs /traditions

Warum
…, weil …+ verb to end
…, denn + normal word order

bereichernd: enriching
angenehm: pleasant
unterhaltsam: entertaining
wichtig, Zeit mit der Familie zu verbringen: important to spend time as a family

altmodisch: old-fashioned
teuer: expensive
Zu kommerziell: too commercial
Zu religiös: too religious
Eine Zeitverschwendung: a waste of time
Eine Geldverschwendung: a waste of money

Words associated with celebrations:
Der Sonnenaufgang/Sonnenuntergang: sunrise / sunset
Die Fastenzeit: fast (a period without food)
Die Mitternachtsmesse: midnight mass
Feuerwerke: fireworks
Der Tannenbaum: the Christmas tree
Das traditionelle Gericht: traditional meal
Das Putenfleisch: turkey
Der Champagner: Champagne
Geschenke: presents
Neue Kleidung: new clothes
Geld: money
Eine (Geburtstags)Karte: a (birthday) card
Ein Tanzball: a ball

Time expressions:
Letztens: recently
Letztes Jahr: last year
Letzten Monat: last month
Vor ___ Jahren: … year(s) ago
Nächstes Jahr: next year
Nächsten Monat: next month
Dieses Jahr: this year
erstens: firstly; dann: then; schließlich: finally

Connectives:
denn/weil/da: because
einerseits...andererseits: on the one hand... on the other hand...
jedoch: however
dennoch: nevertheless
ausser: except
glücklicherweise: fortunately
leider: unfortunately

INFINITIVE	PAST	PRESENT	FUTURE
To give: geben	Ich habe gegeben Er/Sie hat gegeben Wir haben gegeben	Ich gebe Er/Sie gibt Wir geben	Ich werde geben Er/Sie wird geben Wir wird geben
To eat: essen	Ich habe gegessen Er/sie hat gegessen Wir haben gegessen	Ich esse Er/Sie isst Wir essen	Ich werde essen Er/Sie wird essen Wir werden essen
To invite: einladen	Ich habe eingeladen Er/Sie hat eingeladen Wir haben eingeladen	Ich lade ein Er/Sie lädt ein Wir laden ein	Ich werde einladen Er/Sie wird einladen Wir werden einladen
To celebrate: feiern	Ich habe gefeiert Er/Sie hat gefeiert Wir haben gefeiert	Ich feiere Er/Sie feiert Wir feiern	Ich werde feiern Er/Sie wird feiern Wir werden feiern
To receive/ get: bekommen	Ich habe bekommen Er/Sie hat bekommen Wir haben bekommen	Ich bekomme Er/Sie bekommt Wir bekommen	Ich werde bekommen Er/Sie wird bekommen Wir werden bekommen
To drink: trinken	Ich habe getrunken Er/Sie hat getrunken Wir haben getrunken	Ich trinke Er/Sie trinkt Wir trinken	Ich werde trinken Er/Sie wird trinken Wir werden trinken
To open: öffnen	Ich habe geöffnet Er/Sie hat geöffnet Wir haben geöffnet	Ich öffne Er/Sie öffnet Wir öffnen	Ich werde öffnen Er/Sie wird öffnen Wir werden öffnen
To do / make: machen	Ich habe gemacht Er/Sie hat gemacht Wir haben gemacht	Ich mache Er/Sie macht Wir machen	Ich werden machen Er/Sie wird machen Wir werden machen
To go: gehen	Ich bin gegangen Er/Sie ist gegangen Wir sind gegangen	Ich gehe Er/Sie geht Wir gehen	Ich werde gehen Er/Sie wird gehen Wir werden gehen
To stay: bleiben	Ich bin belieben Er/Sie ist geblieben Wir sind geblieben	Ich bleibe Er/Sie bleibt Wir bleiben	Ich werde bleiben Er/Sie wird bleiben Wir werden bleiben
To have fun / a good time: Spaß haben	Ich habe Spaß gehabt Er/Sie hat Spaß gehabt Wir haben Spaß gehabt	Ich habe Spaß Er/Sie hat Spaß Wir haben Spaß	Ich werde Spaß haben Er/Sie wird Spaß haben Wir werden Spaß haben
To dance: tanzen	Ich habe getanzt Er/Sie hat getanzt Wir haben getanzt	Ich tanze Er/Sie tanzt Wir tanzen	Ich werde tanzen Er/Sie wird tanzen Wir werden tanzen
Other useful verbs	Es gab (there was/were) Es war (it was)	Es gibt (there is/are) Es ist (it is)	Es wird...geben (there will be) Es wird...sein (it will be)

Year 10

ICT

Year 10 ICT Revision

What I must know			
Define a variable			
Define a constant			
Label an algorithm			
Identify programming concepts with algorithms			
Create a basic algorithm using simple programming constructs such as IF / ELSE / For / While			
Identify data types such as String / Integer / Real (Float) / Boolean / Char			
Describe the features on Von-Neuman architecture			
Identify programming constructs (sequence / selection / Iteration)			
Identify and Explain the term casting			
Identify and Explain the term concatenation			
Explain the purpose / function of ROM			
Explain the purpose / function of RAM			
Identify the differences between ROM and RAM			
Explain the term volatile / non-volatile			
Describe the function of the CPU			
Identify the components within the CPU			
Explain the factors that affect the performance of the CPU			
Explain the factors that affect the performance of a PC			
Explain the Fetch-Decode-Execute cycle			
Explain the need for virtual memory			
Explain the steps followed when virtual memory is utilised with RAM			
Explain the need for secondary storage			
Identify the three types of secondary storage (Magnetic / Solid state / optical)			
Evaluate a scenario to identify a suitable secondary storage type			
Describe the characteristics of secondary storage			
Identify the tasks performed by the operating system			
Identify tasks performed by the utility systems			
Define different networks (PAN / LAN / WAN)			
Explain the differences between LANs and WANs			
Explain the benefits of using a network			
Identify different LAN topologies (Ring / Bus / Star / Mesh)			
Create a diagram of a topology			
Explain peer to peer networking			
Explain client-server networking			
Identify and describe the purpose of networking hardware			
Identify and describe networking protocols			
Identify and describe networking layers			
Identify possible threats to a network and prevention strategies			

Year 10 ICT Revision

Explain packet and circuit switching			
Define wired and wireless network protocols (Ethernet and WAP)			

Equations/ writing frames to learn in this topic:

Always give factual information regarding the component. E.g:

"Explain the purpose of Cache memory"

You would explain what cache is firstly, then state what it's function is and why this is beneficial. For example...

Cache memory is a very small fast memory, that holds the devices' frequently used programs instructions and data, it is closer to the CPU than RAM so therefor can fetch instructions and data faster.

When answering questions such as *"Identify a register in the CPU and state its function"*...

Remember, ALWAYS give the full answer.... E.g:

The _____ holds the address of the next instruction **that is to be fetched from RAM.**

YEAR 10 COMPUTER SCIENCE REVISION

Use this knowledge organiser to revise for your assessment. Try:practice questions (use your white book);

- using ***Craig and Dave / The computer science tutor*** on YouTube to revisit topics;
- getting someone to quiz you;
- making flashcards to use when quizzing;
- graphic organisers (e.g Mind maps)

ARCHITECTURE – CPU REGISTERS

The purpose of the CPU is to Fetch decode and execute instructions and data.

Control Unit– Executes instructions / Follows the Fetch-Decode-Execute cycle / controls the flow of data inside/outside of the CPU

ALU– Calculates mathematical calculations (e.g add / divide) or logical comparisons (e.g using and / or / not = TRUE & FALSE)

Cache – Stores the frequently used programs instructions and data (a very small, fast memory located in the CPU, if used speeds up the FDE cycle as its less distance to travel)

ARCHITECTURE – CPU COMPONENTS

PC = Program Counter – Points to the next instruction to be fetched from RAM

MAR = Memory Address Register - Holds the address of the next instruction to be fetched from RAM

MDR = Memory Data Register – Hold the instruction / data that has been fetched from RAM and is now to be executed

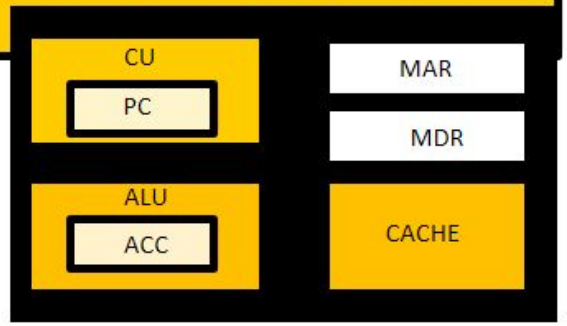
ACC = Accumulator – Holds the answer to the mathematical calculation or logical comparison calculated in the ALU

PERFORMANCE OF THE CPU

Faster Clock Speed– faster FDE cycles

More Cores – multitasking

More Cache – Can hold more frequently used programs Inst & data



COMPUTER SCIENCE COMMAND WORDS

Add: Join something to something else so as to increase the size, number, or amount.
Analyse: Break down in order to bring out the essential elements or structure. To identify parts and relationships, and to interpret information to reach conclusions.
Annotate: Add brief notes to a diagram or graph.
Calculate: Obtain a numerical answer showing the relevant stages in the working.
Compare: Give an account of the similarities and differences between two (or more) items or situations, referring to both (all) of them throughout.
Complete: Provide all the necessary or appropriate parts.
Convert: Change the form, character, or function of something.
Define: Give the precise meaning of a word, phrase, concept or physical quantity.
Describe: Give a detailed account or picture of a situation, event, pattern or process
Design: Produce a plan, simulation or model.
Discuss: Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.
Draw: Produce (a picture or diagram) by making lines and marks on paper with a pencil, pen, etc.
Evaluate: Assess the implications and limitations; to make judgments about the ideas, works, solutions or methods in relation to selected criteria.
Explain: Give a detailed account including reasons or causes.
Give: Present information which determines the importance of an event or issue. Quite often used to show causation.
How: In what way or manner; by what means.
Identify: Provide an answer from a number of possibilities. Recognise and state briefly a distinguishing factor or feature.
Justify: Give valid reasons or evidence to support an answer or conclusion.
Label: Add title, labels or brief explanation(s) to a diagram or graph.
List: Give a sequence of brief answers with no explanation.
Order: Put the responses into a logical sequence.
Outline: Give a brief account or summary.
Show: Give steps in a derivation or calculation.
Solve: Obtain the answer(s) using algebraic and/or numerical and/or graphical methods.
State: Give a specific name, value or other brief answer without explanation or calculation.
Tick: Mark (an item) with a tick or select (a box) on a form, questionnaire etc. to indicate that something has been chosen.
What: Asking for information specifying something.
Write/Rewrite: Mark (letters, words, or other symbols) on a surface, typically paper, with a pen, pencil, or similar implement/Write (something) again so as to alter or improve it.

YEAR 10 COMPUTER SCIENCE REVISION

MEMORY

RAM – holds currently running programs instructions and data - memory is volatile it is temporary

ROM – Boots up the PC and loads the OS- memory is non-volatile it is permanent

Differences: RAM is volatile / ROM non-volatile , RAM can be written to, ROM cant not be written to and their jobs are different (see above for job info)

Virtual Memory – When RAM is full, the least used program's instructions and data is moved into VM (which frees up space in RAM), new programs instructions & data can then be loaded into RAM. When the user wants to use the program in VM, it must move the program back into RAM first – this is time consuming and slows down the read / write speeds. (Excessive use will cause disk thrashing)

PERFORMANCE OF A PC (add the CPU performance improvements also to this….)

More RAM – Can open/run more programs at the same time / no or less need for VM.

Change HDD to SSD – faster read write speeds due to no moving parts (moving to find the correct sector of information).

GPU – install / improve Graphics processing card to remove graphics rendering processing time away from the CPU

SECONDARY STORAGE

A long term, permanent/non-volatile storage when the device is turned off

Magnetic, Optical and Solid State

Capacity
Cost
Durability
Portability
Access Speed
Physical Size
Reliability (MTBF)

F-D-E

Q: if you had a 3.8GHz processor, what would this mean?" (3marks)

The number of FDE cycles run per given time/second / the frequency that the clock 'ticks'
-3.8 billion cycles/instructions …
- …per second

1/0 = bit
4 bits = 1 nibble
8 bits = 1 byte
1024 bytes = 1 kilobyte
1024 kilobytes = 1 megabyte
1024 megabytes = 1 gigabyte
1024 gigabytes = 1 terabyte

LEGAL CONSIDERATIONS:

Data Protection Act – keeping data safe / secure / specified data / time

Computer Misuse Act – Unauthorised access to network / further crime

Freedom of Information Act – information freely available from organisations

Copyright Design & Patents Act – protecting intellectual and creative property

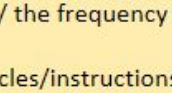
Creative commons licensing – software restrictions for copying / sharing

INPUT DEVICE	*STORAGE DEVICE*	*OUTPUT DEVICE*
Keyboard	Optical - CD / DVD	Monitor
Mouse	Magnetic	Speakers
Touch Screen	Hard Drive	Headphones
Barcode Scanner	Solid State	Printer
OMR (Lottery / Multiple choice)		
Joystick		
Microphone		
Sensors		

LOGIC GATES

Notation used:
AND (CONJUNCTION) ∧ **OR** (DISJUNCTION) ∨ **NOT** (NEGATION) ¬

Binary logic

Gate name	Gate	Truth table
AND		Input / Output: 1 → 0; 0 → 1
NOT		Input A / Input B / Output: 1 0 0; 0 1 0; 0 0 0; 1 1 1
OR		Input A / Input B / Output: 1 0 1; 0 1 1; 0 0 0; 1 1 1

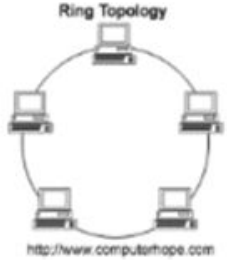
YEAR 10 COMPUTER SCIENCE REVISION

TOPOLOGIES

Star Topology

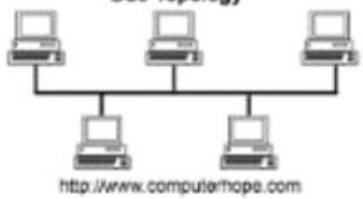
All PC's have cable connected them to central PC (Server)	
Advantages	Disadvantages
One cable breaks only 1 station breaks	Costly to install – Need powerful server
Consistent performace	Dependance on central computer
Easy to add new PCs	

Ring Topology



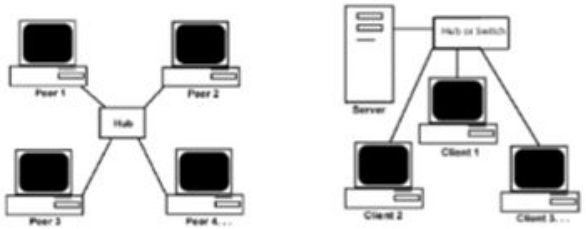
Computers connected to adjacent computers in a RING. Computers take it in turns to transmit passing a TOKEN around	
Advantages	Disadvantages
Not dependant on central computer	Single PC or cable breaks whole network breaks
Simple and Reliable	
Consistent performance even when network is busy	

Bus Topology



Computers connected to single backbone cable. This is ahred. Only one computer can transmit at a time	
Advantages	Disadvantages
Easy to install	Main cable breaks whole network breaks
Less Cabling	Low performance if network busy
East to add new PCs	

CLIENT SERVER VS PEER TO PEER



PEER TO PEER	CLIENT SERVER
All PCs have equal status	Needs network manager
Easy to set up & maintain	Backup done centrally
No centralised management	Centralised security
Backup each computer seperatly	Shared resources
Not depdendant on a server	

WHAT IS A NETWORK?

A network is one or more devices connected together to communicate

BENEFITS OF NETWORKING

Sharing FILES and FOLDERS
Sharing peripheral devices
Sharing INTERNET connection
Use email to communicate
Instant messaging (COMUNICTATION)
Security managed centrally
Software distributed via network
Centralised back-ups
Centralised software roll-out / updates

LANs and WANs

PAN- Personal Area Network – covers one building such as a house, owns the infrastructure.
LAN- Local Area Network – (1 site / many buildings) covers a small geographical area, owns the infrastructure.
WAN- Wide Area Network – covers a large geographical area, does NOT own infrastructure – uses the internet.

NETWORK SECURITY THREAT AND PROVENTATIVE MEASURES

Virus / trojan / worm / malware - Piece of software/code/a program that replicates itself // causes damage e.g. editing/deleting files
P)Running anti-virus/anti-malware software // don't download from unknown sources // don't click on unknown links
Spyware / malware / keylogger - Piece of software/code/a program that records actions/key presses and sends this data to a third party for analysis
P) Running anti-spyware/anti-malware software/firewall
Data interception / passive attack -Data is sent to another device and is intercepted by a third party
P) Encryption
Phishing - An e-mail has a link that when clicked directs the user to a fake website that collects personal data
P) Network policy // firewall
Pharming - A piece of code installed that redirects user to fake website that collects personal data
P) Anti-malware // firewall
Hacker - Person attempting to gain **unauthorised** access to the network/computers/ data/files // **unauthorised** access and then deleting/editing data/files
P) Firewall // strong password // biometrics // penetration testing
Brute force attack - Person/software using every combination of passwords to gain access
Firewall//strong passwords
Social engineering - Person being the weak point of the system // by example e.g. any example of deception
P) Strong passwords // check validity of sources

NETWORK HARDWARE

Router
Switch
Interface Card (NIC)
Access Point (WAP)
Server
Wireless booster
Hub
Network
Wireless
Bridge
Wi-Fi Card

YEAR 10 COMPUTER SCIENCE REVISION

PROTOCOLS

An agreement / set of rules / standard
...for how computers should communicate // how data is sent/received/transmitted on a network

Example of what could be agreed in the protocol (e.g. speed / error checking / etc.)

Ethernet (wired) vs Wi-Fi (wireless) Networks

Description	Ethernet	Wifi
A wired connection	✓	
More likely to be affected by interference		✓
Data can be transmitted at a faster speed	✓	
Wireless transmission		✓
Shorter transmission range before data is lost		✓

PURPOSE OF A ROUTER

Q) "Describe the purpose of a router in a network" (2)

-Directs packets/data to destination // directs packets/data in a network
-Receives packets/data from the network/Internet
-Forwards packets/data to other computers on the network/Internet
-Connects (different) networks together // e.g. joins home network to Internet
-Has (public) IP address for LAN
-Designates (private) IP addresses to network nodes

PROTOCOLS

IP- Internet protocol (unique address given whilst on the internet**)**
TCP/IP – Transmission control protocol – (creates and routes packets of data across networks**)**
SMTP – Simple mail transfer protocol (Sends/forwards/transmits e-mail)
POP – Post office protocol (receiving email**)**
IMAP – Internet mail access protocol (Retrieves/accesses/downloads (a copy of an) e-mail / Allows synchronisation/management of account **)**
FTP – File transfer protocol (transferring a file over a network from server to client or server to client**)**
HTTP – Hyper text transfer protocol (creates the connection between web browsers and web servers**)**
HTTPS – Hyper text transfer protocol secure - (Encrypts the connection/data // Uses SSL/secure socket layer)

BACKUPS

Incremental:
- Only the changes need to be backed up
- The software/OS/settings are unlikely to have changed between backups
- Small number of files likely to be used/edited between backups
- Take less time to backup
- Each backup will take less memory space to store

Full:
- Backup all the data/files and software
- It might not take a significant time to back up entire system
- He might only have a small number of files to be backed up each time
- Safer as have more past versions to revert to
- User may have changed settings on computer
- Faster to restore the backup
- Needs to do a full before he can do an incremental

LAYERS

A group of protocols that have similar functions.
e.g TCP/IP layer:

Application	*FTP / HTTP / HTTPS / POP etc*
Transport	*TCP / UDP*
Network	*IP*
Link	*Ethernet / WLAN*

TERMINOLOGIES TO UNDERSTAND

Stakeholders	**Trolling**	**Cyberbullying**	**Censorship**
Surveillance	**Health and mental wellbeing**	**E-waste**	**Redundant**
Digital Divide	**Global Divide**	**Intellectual property**	**Patent**
Public Domain	**RSI**	**WEEE**	**Virtual Network**
Bandwidth	**CheckSum**	**Cloud-Computing**	**Pen Testing**
RansomWare	**ScareWare**	**Spoof Website**	**Debugging Compiled**
	Input Sanitisation	**Input Validation**	**Logic/syntax error**

BINARY ADDITION

		1	1	0	1
+		1	0	1	1
	1	1	0	0	0
(Carried values)		1	1	1	

HEX

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

BINARY

128	64	32	16	8	4	2	1
0	0	1	0	1	1	1	0

YEAR 10 COMPUTER SCIENCE REVISION

DATA TYPES

Programming languages store data as different types. You need to learn the ones in this table...

Data type	Pseudocode	Characteristics	Examples
Integer	int	Whole numbers only.	0, 6, 10293, –999
Real (or float)	real	Numbers that have a decimal part.	0.15, –5.87, 100.0
Boolean	bool	Can only take one of two values, usually TRUE or FALSE.	True/False, 1/0, yes/no
Character	char	A single letter, number, symbol.	"A", "k", "5", "–", "$"
String	string	Used to represent text, it is a collection of characters.	"FsTmQ2", "$money$"

OPERATORS

1) The arithmetic operators take two values and perform a maths function on them.
2) Addition, subtraction, multiplication and division operators do what you'd expect.
3) The exponentiation operator is used to raise a number to a power.
4) The DIV operator returns the whole number part of a division and the MOD operator gives the remainder.

Dividing integers might behave oddly in some programming languages, e.g. 5 / 2 may give the answer 2 instead of 2.5.

...using DIV and MOD can avoid these issues.

Function	Typical Operator	Example	Result
Addition	+	5 + 5	10
Subtraction	–	3 – 10	–7
Multiplication	*	4 * 8	32
Division	/	42 / 6	7
Exponentiation	^ or **	2^3 (= 2^3)	8
Quotient	DIV	20 DIV 3	6
Remainder (modulus)	MOD or %	20 MOD 3	2

5) These operators work on integers and real data values or a combination of the two.
6) Computers follow the rule of BODMAS (Brackets, Other, Division, Multiplication, Addition & Subtraction) — so take care when using operators to make sure your code is actually doing what you want it to.

COMPARRISON OPERATORS

Comparison operators compare the expression on their left hand side to the expression on their right hand side and produce a Boolean value (either true or false).

Comparison operator	What it means	Evaluates to True	Evaluates to False
==	Is equal to	5 == 5	5 == 8
<> or !=	Is not equal to	6 != 7	6 != 6
<	Is less than	4 < 10	3 < 2
>	Is greater than	15 > 9	10 > 12
<=	Is less than or equal to	7 <= 8	11 <= 10
>=	Is greater than or equal to	3 >= 3	9 >= 12

A common mistake is to get the assignment operator = and the comparison operator == mixed up — you'll know you've used them incorrectly because your code won't behave as intended.

The first code just assigns 25 to the variable "age" — the IF statement will consider this condition as always true.

```
if age = 25 then
if age == 25 then
```

The second code checks if age is equal to 25 and will only run if the condition is true.

VARIABLES AND CONSTANTS

1) Data values can be stored as constants or variables.
2) The name of the constant or variable is linked to a memory location that stores the data value. The size of the memory location depends on the data type (see p41).
3) A constant is assigned a data value at design time that can't be changed. If you attempt to change the value of a constant in a program then the interpreter or compiler (see p61) will return an error.
4) Variables on the other hand can change value which makes them far more useful than constants.
5) Constants and variables often need to be declared (at the start of the program) before you can use them. This can be done in different ways:

'pressure' declared as a constant with integer type

'temperature' and 'weight' declared as variables with real type

```
const pressure as int = 30
var temperature as real = 20.5
var weight as real
```

Constants are assigned values when they're declared.

Initial values can be assigned to variables (but they don't have to be).

These lines of code do exactly the same as the lines above — temperature and weight are still variables.

```
const pressure = 30
real temperature = 20.5
real weight
```

To make code easier to follow, programmers usually follow standard naming conventions for constants and variables. E.g. 'lower case for the first letter, followed by a mixture of letters, numbers and underscores.'

IF STATEMENTS AND NESTED IF STATEMENTS

1) More complex IF statements can be made by putting one IF statement inside another one — this type of selection statement is called a nested IF statement.
2) Nested IF statements allow you to check more conditions once you've established that the previous condition is true.

```
string x
x = input("Enter the passcode.")
if x == "GO" then
    if usertype == "Teacher" then
        Allow unrestricted access.
    else
        Allow restricted access.
    endif
else
    Deny all access.
endif
```

If the first condition is true, it will check the second condition.

If the second condition is true then unrestricted access is allowed.

If the first condition is false, it will run this else statement — all access is denied.

If the second condition is false then restricted access is allowed.

Indentation lets the reader see where each IF statement begins and ends.

3) IF-ELSEIF statements can also be used to check multiple conditions. They are different from nested IF statements as they only check more conditions if the previous condition is false.

```
if usertype == "Teacher" then
    Allow unrestricted access.
elseif usertype == "Parent" then
    Allow level 1 restricted access.
elseif usertype == "Pupil" then
    Allow level 2 restricted access.
else
    Deny all access.
endif
```

The conditions are all indented to the same level.

The first condition is always checked — if it's true then it will allow unrestricted access.

The second condition is checked if the first condition is false — if it's true then it will allow level 1 restricted access.

The third condition is checked if the first and second conditions are false — if it's true then it will allow level 2 restricted access.

If all conditions are false then the program will deny all access.

YEAR 10 COMPUTER SCIENCE REVISION

LOOPS – DO-UNTIL / WHILE / DO -WHILE

EXAMPLE: Write an algorithm that a supermarket self-scan machine could use to check if enough money has been fed into it and output the right amount of change.

You could write an algorithm using any of the loops shown above — the code before and after the loop is exactly the same.

DO UNTIL Loop:

```
int total = 0
int cost, coin, change
cost = total cost in pence
do
 coin = input("Value of coin")
 total = total + coin
until total ≥ cost
change = total - cost
output change
```

The loop starts at 'do' and ends when the 'until' condition is true — when the total is greater than or equal to the cost.

WHILE Loop:

```
int total = 0
int cost, coin, change
cost = total cost in pence
while total < cost
 coin = input("Value of coin")
 total = total + coin
endwhile
change = total - cost
output change
```

The loop starts by checking the 'while' condition is true and keeps repeating until it is false — when the total is greater than or equal to the cost.

DO WHILE Loop:

```
int total = 0
int cost, coin, change
cost = total cost in pence
do
 coin = input("Value of coin")
 total = total + coin
while total < cost
change = total - cost
output change
```

The loop starts at 'do' and repeats until the 'while' condition is false — when the total is greater than or equal to the cost.

All of these loops work exactly the same when cost > 0. If the cost is 0, the WHILE loop won't expect an input, whereas the DO UNTIL and DO WHILE loops will.

LOOPS – DO-UNTIL / WHILE / DO -WHILE

All these Loops are controlled by Conditions

DO UNTIL, WHILE and DO WHILE loops are easy to get mixed up — they're very similar but with subtle differences that you need to know:

DO UNTIL LOOPS

- Controlled by a condition at the end of the loop.
- Keep going until the condition is true (i.e. while it is false).
- Always run the code inside them at least once.
- You get an infinite loop if the condition is never true.

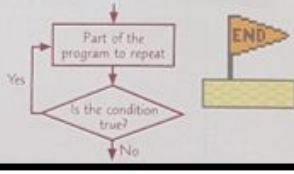
You might also see a REPEAT UNTIL loop — this does the same thing as a DO UNTIL loop.

WHILE LOOPS

- Controlled by a condition at the start of the loop.
- Keep going while the condition is true (i.e. until it is false).
- Never run the code inside them if the condition is initially false.
- You get an infinite loop if the condition is always true.

DO WHILE LOOPS

- Controlled by a condition at the end of the loop.
- Keep going while the condition is true (i.e. until it is false).
- Always run the code inside them at least once.
- You get an infinite loop if the condition is always true.



COMPARRISON OPERATORS

1) All variables have a scope (either local or global) — the scope of a variable tells you which parts of the program the variable can be used in.

All parameters have local scope to the sub program.

Local variables can only be used within the structure they're declared in — they have a local scope.
Global variables can be used any time after their declaration — they have a global scope.

2) Variables declared inside a sub program are local variables. They are invisible to the rest of the program — this means that they can't be used outside the function.

3) The advantage of local variables is that their scope only extends to the sub program they're declared in. They can't affect and are not affected by anything outside of the sub program. It also doesn't matter if you use the same variable name as a local variable defined elsewhere in the program.

4) Variables in the main body of a program can be made into global variables using the 'global' keyword — these variables can then be used anywhere in the program. It can be difficult to keep track of the value of global variables in larger programs.

5) The example below shows how global variables are used to store data outside of the sub program.

x and y are defined globally — if they were declared inside the sub program then they'd reset to 0 each time the sub program was called.

The sub program is a procedure as it doesn't return a value.

The parameters a and b are added to the global variables x and y.

The program keeps track of the position after the first move and then applies the second move from that position.

```
// A sub program to keep track of a character's x and y position
global x = 0
global y = 0
procedure move(a, b)
    x = x + a
    y = y + b
    print("You're in square (" + str(x) + ", " + str(y) + ").")
endprocedure
move(3, 5)
move(4, 7)
```

a and b are parameters so they have local scope to this procedure — they're invisible elsewhere in the program.

```
You're in square (3, 5).
You're in square (7, 12).
```

BINARY ADDITION

As binary only uses 1s and 0s we can comfortably do 0 + 0 = 0, 1 + 0 = 1 and 0 + 1 = 1.
Using binary we can't write 1 + 1 = 2. Instead, we have to write 1 + 1 = 10.

EXAMPLES: 1. Add the following 8-bit binary numbers together: 10001101 and 01001000

1) First, put the binary numbers into columns.
2) Starting from the right, add the numbers in columns.
3) When doing 1 + 1 = 10, carry the 1 into the next column.

So 10011101 + 01001001 = 11010101

```
  1 0 0 0 1 1 0 1
+ 0 1 0 0 1 0 0 0
  1 1 0 1 0 1 0 1
    1
```

2. Add the two 8-bit binary numbers below:

```
  0 0 1 1 0 0 1 1
+ 0 1 1 1 1 0 0 1
  1 0 1 0 1 1 0 0
  1 1 1     1 1
```

1) Start at the right-hand side and add each column.
2) Sometimes you'll get something like 1 + 1 + 1 = 11, so you need to write 1, then carry 1 to the next column.

So 00110011 + 01111001 = 10101100

BINARY SHIFTING

As binary only uses 1s and 0s we can comfortably do 0 + 0 = 0, 1 + 0 = 1 and 0 + 1 = 1.
Using binary we can't write 1 + 1 = 2. Instead, we have to write 1 + 1 = 10.

EXAMPLES: 1. Add the following 8-bit binary numbers together: 10001101 and 01001000

1) First, put the binary numbers into columns.
2) Starting from the right, add the numbers in columns.
3) When doing 1 + 1 = 10, carry the 1 into the next column.

So 10011101 + 01001001 = 11010101

2. Add the two 8-bit binary numbers below:

1) Start at the right-hand side and add each column.
2) Sometimes you'll get something like 1 + 1 + 1 = 11, so you need to write 1, then carry 1 to the next column.

So 00110011 + 01111001 = 10101100

Year 10

Music

Service companies & agencies

Royalty Collection Agencies:

PRS (Performing Rights Society)
Licenses the composer's copyright (royal3es) for public performances of your songs (broadcast, live, recorded).

MCPS (Mechanical Copyright Protection Society)
Licenses the composer's copyright (royalties) for sound recordings (i.e. CD, ringtone). It will be in physical format (i.e. digital).

PPL Licensing (Phonographic Performance Limited)
Licenses the right to perform sound recordings & collects royalties for record companies & performers on recordings.

Unions:

MU (Musicians' Union): Musicians, Music Teachers, Instrumental teachers
Equity: Actors, dancers, stage managers, choreographers, directors, backstage crew

BECTU (Broadcast Entertainment Cinematograph Theatre Union):
Media & entertainment trade union, representing broadcasting, film,

Trade Bodies:

MPG (Music Producers Guild) : Represents the interests of all involved in the production of recorded music (producers, engineers, mixers, programmers...)

APRS (Association of Professional Recording Services): Represents those who work in the audio industry in UK (recording studios, record producers, audio engineers...)

PLASA (Professional Lighting and Sound Association):
Represents those who supply technologies and services to events in entertainment (professional technicians in lighting & sound)

Year 10

P. E.

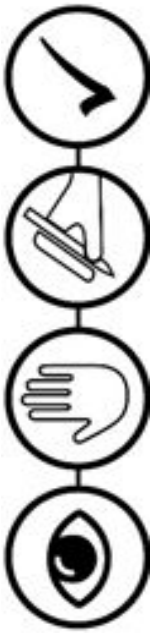
Year 10

R. E.

Year 10
Philosophy of Religion
Revision

What I must know & do			
Know the history of the Cosmological Argument			
Know the premises of the Cosmological Argument			
Know the science that supports the Cosmological Argument			
Know the arguments against the Cosmological Argument			
Know the history of the Ontological Argument			
Know the premises of the Ontological Argument			
Know the arguments against the Ontological Argument			
Know the key terms and definitions			
Practice the questions on sheet 2			

Y10 Philosophy of Religion Cycle 3
KNOWLEDGE ORGANISER

TOPIC	The Argument	Criticisms of the Argument	KEY TERMS
The Cosmological Argument for the Existence of God 	The Kalam cosmological argument, dates back to the medieval Muslim philosophers al-Kindi and al-Ghazali. It has recently been restored to popularity by William Lane Craig. It is an argument from the existence of the world to the existence of God. It rests on the premise that the universe has a beginning in time. This argument has the following logical structure: (1) Everything that has a beginning of its existence has a cause of its existence. (2) The universe has a beginning of its existence. Therefore: (3) The universe has a cause of its existence. (4) If the universe has a cause of its existence then that cause is beyond the Universe (6) Something beyond the universe is timeless, spaceless and immaterial. Therefore: (5) This thing can be called God The kalam cosmological argument must prove that the past is finite, that the universe began to exist at a certain point in time. Advocates of the kalam cosmological argument claim that it is impossible that the universe has an infinite past. In support of this claim, modern advocates of the argument often appeal to modern science, specifically to the Big Bang theory. Modern science, they say, has established that the universe began with the Big Bang.	The 18th century Scottish philosopher David Hume explains that the Cosmological argument is a fallacy of composition. This means that just because we observe effect in the universe doesn't mean this applies to the universe itself. To illustrate this Bertrand Russell said just because a human has a mother doesn't mean humanity has a mother. Therefore if the world itself does not need a cause, then there is no need for a God to exist. So the Cosmological argument from cause is unnecessary. Hume stated that even if 'God' is accepted as the cause of the world there is no evidence that this is the God of classical theism. For Hume even if the Cosmological argument is proven true the 'God' behind it could be anything e.g. artificial intelligence or aliens.	**Ontological:** relating to the nature of being. **Logical:** rational reasoning based on good judgment. **Universe:** all existing matter and space (the known world/space) **Existence:** the fact or state of living or being real. **Advocate:** a person who publicly supports or recommends something **Philosophy:** Study of knowledge **Fallacy of Composition:** the error of assuming that what is true of one thing is also true of another thing. **God of Classical Theism:** The God of the Bible **Cosmological Argument:** The argument that God exists because there must be a cause to the universe **Premise:** a statement which infers a conclusion
The Ontological Argument for the existence of God.	Anselm defines God as 'that than which nothing greater can be conceived.' This means that God exists in the mind and reality as well. Such a being must exist in reality because existence in reality is greater than that which exists only in the mind. Premise 1: God is the greatest possible being (nothing greater can be conceived) Premise 2: If God exists in the mind alone (only as an idea), then a greater being can be imagined to exist both in the mind and in reality Premise 3: This being would then be greater than God Premise 4: Thus God cannot exist only as an idea in the mind Conclusion: Therefore, God exists both in the mind (as an idea) and in reality.	**Gaunilo's criticism:** Replacing the word 'God' with 'the greatest conceivable lost island' led to an argument which had the same form as Anselm's, with true premises, and yet which leads to a false conclusion. **Reply to Gaunilo:** Anselm is speaking about God as 'that than which nothing greater can be conceived', whereas Gaunilo is talking about a lost island and Plantinga pointed out that we can always think of a greater island (eg. one which is bigger, has more trees etc.).	

Y10 Philosophy of Religion C3
Practice Questions, Model Answers & Structures

Questions & Answer Structures	Model Answers	Practice Questions
Section 1 Complete the 10 different sentences using your knowledge of the Key Terms **Section 2** **(a) Outline 3 ways_____** **[3 marks]** *Firstly…* *Secondly…* *Finally...* **(b) Describe 2_____** **[4 marks]** *Firstly..., for example/this means/this means...* *Firstly..., for example/this means/this means...* **(c) Explain 2 ways_____** **[5 marks]** **You must support your reasons with evidence from the Bible.** *Firstly…, because…* *Therefore/For example…* *Secondly…, because…* *Therefore/For example…* *This is supported by…, because/therefore/this means…* 	**(a) Outline 3 ways that participate in the Genesis creation story [3 marks]** *Firstly, God gives humanity dominion over all creatures and the earth.* *Secondly, humanity has a duty to be stewards over the earth by taking care of it for the next generations.* *Finally, woman is created using the rib of the man Adam.* **(b) Describe 2 ways that the Genesis creation story is different to scientific theories** **[4 marks]** *Firstly, the Genesis creation story describes the world being created in 6 days, whereas the theory of evolution shows us that the universe was formed over 13.8 billion years.* *Secondly, the genesis creation story describes God making all living creatures, whereas the theory of evolution suggests that all living creatures evolved from more simple life forms.* **(c) Explain 2 reasons why Christians believe Jesus saves them from their sins [5 marks] You must support your reasons with evidence from the Bible.** *Firstly, Christians believe Jesus saves them from their sins, because in life people can separate themselves from God. Therefore, they need God's forgiveness which is given to them through Jesus' death on the cross.* *Secondly, Christians believe Jesus saves them from their sins, because they believe all people are born with original sin. This means that they share in the first sin of Adam and Eve. This is supported by the book of Genesis which states that "God banished them from the Garden of Eden", because of their original sin. Therefore all their descendants are born outside of Eden.*	a) Outline the 3 premises of the kalam cosmological argument [3 marks] (a) State 3 advocates of the kalam cosmological argument [3 marks] (b) Describe 2 arguments against the cosmological argument [4 marks] (b) Describe 2 of the premises of the cosmological argument [4 marks] (c) Explain Gaunilo's response to Anselm's Ontological argument and Platinga's response. [5 marks] 

Year 10

Film Studies

Film Studies Knowledge Organiser
Narrative Theory and Structure

Three Act Structure

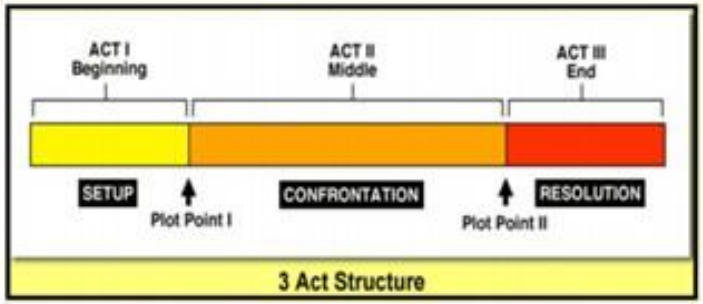
Act 1 - The beginning of the screenplay. In Act 1 the screenwriter setups the themes and settings whilst introducing the protagonist (good guy). Act 1 should create a problem for the protagonist and establish the antagonist (bad guy).

Plot Point 1: The Inciting Incident - this turns the story in a new direction. It is the cause of drama and changes the protagonist's world, leaving him/ her with a journey to take. The inciting incident sets up raises the stakes for the protagonist and propels the film into Act 2.

Act 2 - This is at least ½ the entire story. This is where the protagonist struggle to achieve the solution to the problem created by the inciting incident. There are further complications shown through cycles of struggles and complications called reversals.

Plot Point 2 - The "climactic turning point". The protagonist's quest reaches critical mass and a possible solution is presented. This should feature the biggest cliff-hanger: will the protagonist win or lose?

Act 3 - Where the protagonist achieves his mission. The conflict or problem is resolved. The final crisis (or "rising action") plays out to climax; then to resolution resulting in narrative closure.



3 Act Structure

What is narrative?

A narrative is a retelling of something that happened (a story). The narrative is not the story itself, but rather the telling of the story. While a story just is a sequence of events, a narrative recounts those events, perhaps leaving some occurrences out because they are from some perspective insignificant, and perhaps emphasizing others. In a series of events, a car crash takes a split second. A narrative account, however, might be almost entirely about the crash itself and the few seconds leading up to it.

How to describe the narrative of a film

You should be able to identify the narrative structure(s) used in a film, narrative devices and how far it follows the three act structure. You should then analyse why these choices have been made / the effect they have on the audience and the representation of themes / issues.

How to turn your observations into a sentence

"District 9 conforms to a three act structure. During Act 1 the audience are introduced to Wikus' problem: he has been exposed to something harmful that is clearly affecting him. The inciting incident that breaks into Act 2 is the beginning of his transformation…'

Narrative, Story or Plot?

Story - a story is a series of events

Plot - when plotting a story, a screenwriter decides how to arrange the story in the most effective way in order to get his/her desired reaction from the audience. This could mean leaving things out (ellipsis), changing the order of events, expanding events, shortening events etc.

Narrative - this is the word we use to describe the combination of story and plot as delivered by the screenwriter.

Narrative Devices

Cause and Effect - used to create realism in films. The belief that all actions have consequences and these consequences should be shown in order for a film to be believable / the narrative to make sense.

Ellipsis - purposefully missing out information / skipping over information in a film.

Withholding and Releasing - a balancing act of keeping an audience intrigued enough to carry on watching and not giving too much away.

Enigma Codes - questions the audience have due to the correct us of withholding information.

Binary Oppositions - contrasts—physical or emotional—that create drama in a film.

Narrative Structures

Chronological / Linear - this is where the film's action happens in the order that it took place.

Dual Narrative - this is where the film's action is split between two different narrative perspectives.

Multi Narrative - this is where the film's action is split between more than two different narrative perspectives.

Meta-Fictive Narrative - this is where the film's action is framed by a narrator or other framing devices - 'a story within a story'.

Fragmented Narrative - this is where the film's action is purposefully non-linear.

The audience here have to work out the correct order of events as the Narrative, film play outs.

Thinking Point:

A film can combine more than one of the narrative structures above. For example, a film can be both chronological and dual or fragmented and multi. Out of the films you're studying, which uses more than one narrative structure?

Propp's Narrative Structure

1st Sphere: Introduction

Steps 1 to 7 introduces the situation and most of the main characters, setting the scene for subsequent adventure.

1. Absentation: Someone goes missing

2. Interdiction: Hero is warned

3. Violation of interdiction

4. Reconnaissance: Villain seeks something

5. Delivery: The villain gains information

6. Trickery: Villain attempts to deceive victim

7. Complicity: Unwitting helping of the enemy

2nd Sphere: The Body of the story

The main story starts here and extends to the departure of the hero on the main quest.

8. Villainy and lack: The need is identified

9. Mediation: Hero discovers the lack

10. Counteraction: Hero chooses positive action

11. Departure: Hero leave on mission

3rd Sphere: The Donor Sequence

In the third sphere, the hero goes in search of a method by which the solution may be reached, gaining the magical agent from the Donor. Note that this in itself may be a complete story.

12. Testing: Hero is challenged to prove heroic qualities

13. Reaction: Hero responds to test

14. Acquisition: Hero gains magical item

15. Guidance: Hero reaches destination

16. Struggle: Hero and villain do battle

17. Branding: Hero is branded

18. Victory: Villain is defeated

19. Resolution: Initial misfortune or lack is resolved

4th Sphere: The Hero's return

In the final (and often optional) phase of the storyline, the hero returns home, hopefully uneventfully and to a hero's welcome, although this may not always be the case.

20. Return: Hero sets out for home

21. Pursuit: Hero is chased

22. Rescue: pursuit ends

23. Arrival: Hero arrives unrecognized

24. Claim: False hero makes unfounded claims

25. Task: Difficult task proposed to the hero

26. Solution: Task is resolved

27. Recognition: Hero is recognised

28. Exposure: False hero is exposed

29. Transfiguration: Hero is given a new appearance

30. Punishment: Villain is punished

31. Wedding: Hero marries and ascends the throne