





YEAR 8 TERM 1 2023-2024 KNOWLEDGE ORGANISER

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# Introduction

### Foundational Knowledge and Retrieval Practice

If we try and build a house on sand it will fall down, as the foundations are not secure and over time will disappear. That's a bit like what happens if your teacher tries to get you to understand complex ideas, but you haven't yet grasped the basics on which to connect the new information, and therefore you cannot build on it and develop what scientists call **schema** in your mind.

To support you in having foundational knowledge in each subject, your teachers have identified some key basic knowledge that they will teach you first, but then you will be asked to consolidate this by reviewing it at home and completing a quiz about it for homework - this process is called **retrieval**.

Research tells us that the process of **keep reviewing key chunks** of material by reading it, rehearsing it, trying to recall it and checking you got it right will help you to remember it longer term, so that you feel more confident in your lessons when teachers do refer to it.



# Introduction

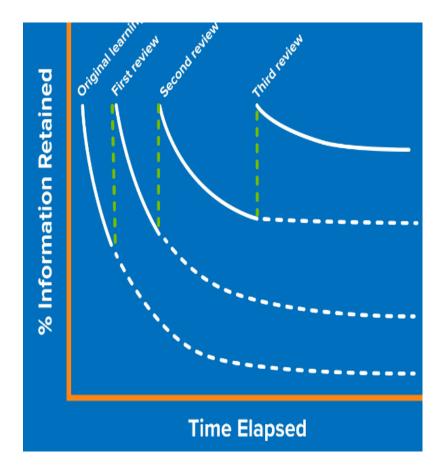
## The Forgetting Curve

A psychologist called Hermann Ebbinghaus discovered that shortly after you have learned something, you quickly forget some of it. He represented this process with this' **forgetting curve'**.

He found however that if you reviewed that information at specific time points after having first learned it – the rate at which you forget can be reduced. He called this 'spaced practice'

To help you to remember key information your teachers will do the following:

- Identify in lesson key terms or pieces of information that are important to learn.
- Tell you which bits of the subject knowledge organiser to review and recall at home.
- Set you a homework quiz to check what you can recall.
- In future quizzes include some questions already tested.
- Revisit key questions that most of the class struggled with.









CONFIDENCE

Don't be afraid to get things wrong. Believe in yourself and your abilities and step outside your comfort zone.

# English

# Using this knowledge organiser:

Every Week A you will be given ten pieces of vocabulary.

Across this week, you will need to find a coherent definition for each piece of vocabulary and practice the spelling.

This will be tested as part of your English lessons, across that week.

In **Week B**, you will use these same words to complete a short piece of **transactional writing**. You will use the information on this sheet to support you.

At the end of the term, you will complete a project that utilises all you have learnt across this half term.

#### <u>Death of a Salesman</u>

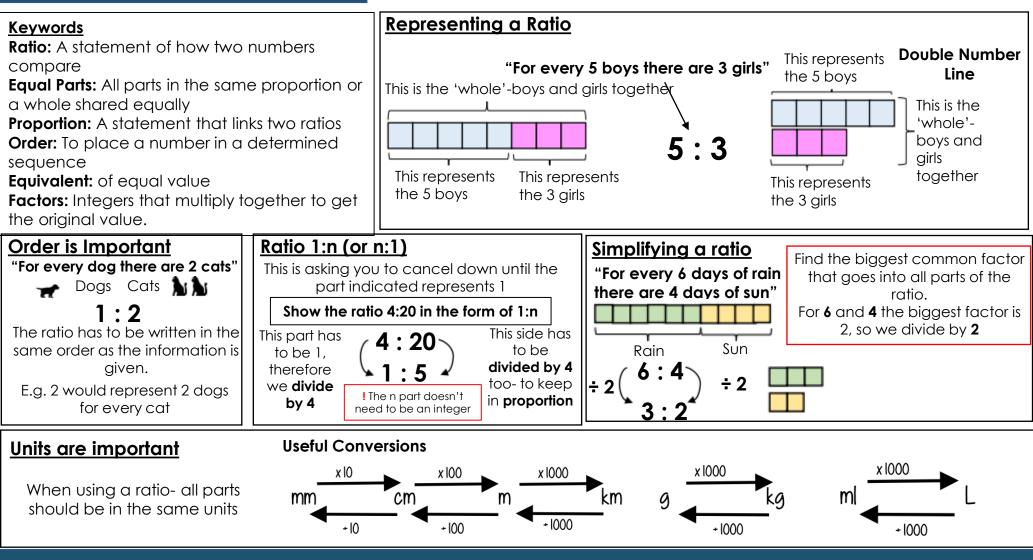
Feeling at a loss with himself and his position in Life, Willy Loman struggles to adapt and accept the changes taking place around him in an ever-evolving 20<sup>th</sup> Century America, fuelled by the American Dream.

Scenes from the play are a montage of memories, dreams, arguments, regrets and nostalgia that contribute to 24 hours in Willy Loman's life. Dealing with pivotal themes such as identity, family, masculinity and wealth, Death of a Salesman encourages us to evaluate what makes a good person and what inspires us to move past mistakes and strive for success.

Arthur Miller based Willy's character on his own uncles, who were salesmen. He saw them not just as businessmen, but as explorers who were chartering new territories across America. Miller intentionally does not disclose what type of salesman Willy is, focusing instead on that he is a salesman, a father, a husband and his search for where he belongs in society; enabling us to continue pondering our own place in the world and the differences we can make.

Week A/B 1:		<u>Week A/B 2</u> :		Week A/B 3:		
1.	Angular	1.	Strained	1.	Attentive	
2.	Vault	2.	Criticised	2.	Self-assured	
3.	Fragile	3.	Undercurrent	3.	Content	
4.	Draped	4.	Crestfallen	4.	Sentiment	
5.	Boundary	5.	Pity	5.	Affectionate	
6.	Burden	6.	Resolve	6.	Bashful	
7.	Mercurial	7.	Reminiscence	7.	Restless	
8.	Repression	8.	Contradict	8.	Mockery	
9.	Exception	9.	Infinite	9.	Measly	
10.	Cruelty	10.	Simonise	10.	Devote	

Week A/B 4: Week A		ek A/B 5:	Wee	ek A/B <u>6</u> :	
1.	Pompous	1.	Rollicking	1.	Calibre
2.	Characteristic	2.	Withdraw	2.	Representative
3.	Reluctant	3.	Audacity	3.	Monotonous
4.	Insinuate	4.	Correspond	4.	Accomplish
5.	Uproar	5.	Indignant	5.	Dictation
6.	Taunting	6.	Simultaneous	6.	Frankly
7.	Dimly	7.	Remiss	7.	Comrade
8.	Scandal	8.	Reproach	8.	Indicate
9.	Aura	9.	Resentment	9.	Confidential
10.	Dispel	10.	Civilised	10.	Mystify



#### <u>Key Words</u>

Proportion: a statement that links two ratios Variable: a part that the value can be changed Axes: horizontal and vertical lines that a graph is plotted on Approximation: an estimate for a value Scale factor: the multiple that increases / decreases a shape in size Currency: the system of money used in a particular country Conversion: the process of changing one variable to another Scale: the comparison of something drawn to its actual size

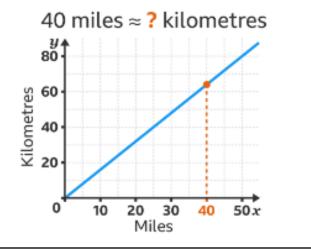
#### **Direct proportion**

As one variable changes, the other changes at the same rate

4 cans of pop = £2.40 2 cans of pop = £1.20 12 cans of pop = £7.20 Currency conversion  $\pounds 1 = 90$  Rupees  $\pounds 10 = 900$  Rupees

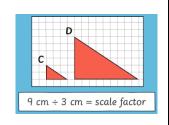
### **Conversion graphs**

- Used to compare two variables
- Always a straight line because as one variable increases, the other does at the same rate



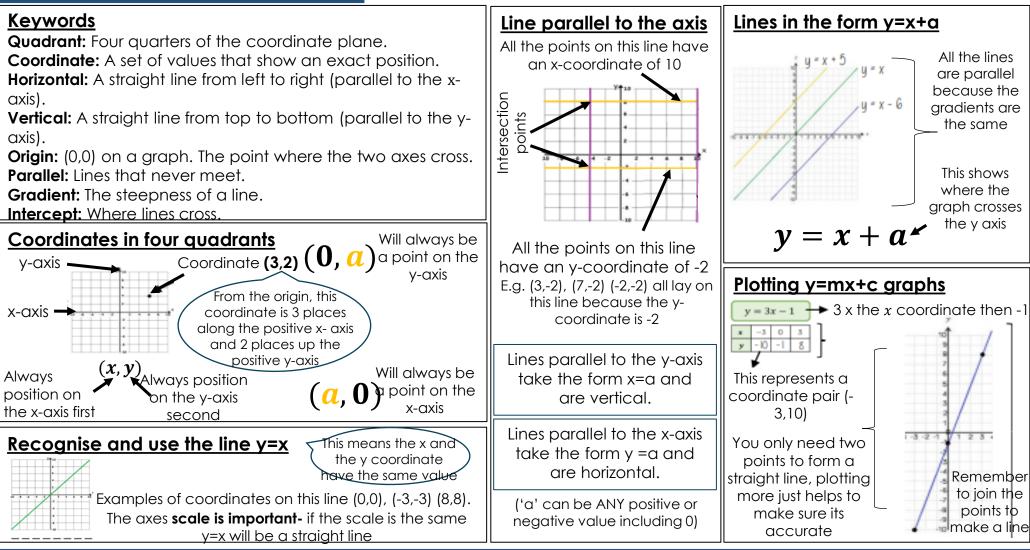
### Scale factor

The two triangles are similar Use corresponding sides to calculate the scale factor Scale factor =  $\frac{length \ of \ image \ side}{length \ of \ object \ side}$ 



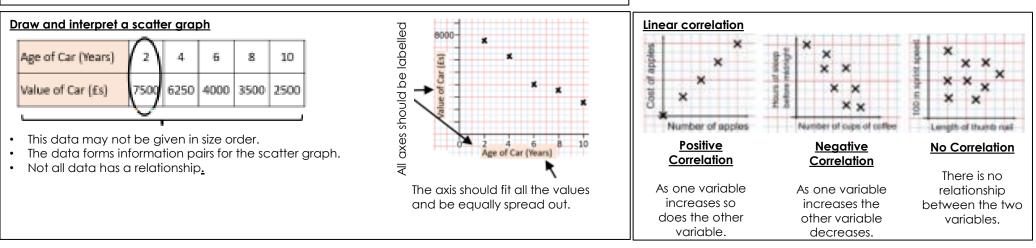
### MATHS

#### **Keywords** Multiplying non-unit fractions **Numerator:** The number above the line on a fraction. The number represents how many parts are Shade Repeat on $\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$ taken. in 3 this many **Denominator:** The number below the line on a fraction. The number represents the total number of parts rows parts. Whole: A positive number including zero without any decimal or fractional parts. 3 2 $\frac{3}{4} \times \frac{2}{3}$ **Commutative:** An operation is commutative if changing the order does not change the result. 3 Unit Fraction: A fraction where the numerator is one and the denominator is a positive integer. **Dividend:** The amount you want to divide up. This This Divisor: The number that divides another number many many Quotient: The answer after we divide one number by another. eg dividend ÷ divisor = quotient. columns rows **Reciprocal:** A pair of numbers that multiply together to give the answer of 1. Multiplying unit fractions **Dividing any fractions** The Reciprocal Remember to use reciprocals When you multiply a number by its Parts shaded $\frac{1}{4}\times\frac{1}{3}=\frac{1}{12}$ Represented reciprocal, the answer is always 1. $3 \times \frac{1}{3} = 1$ 2 5 $\frac{3}{4}$ Total number of Multiply by parts in the a reciprocal diagram gives the same Modelled: $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$ $\frac{2}{5}$ X $\frac{4}{3}$ outcome 3 The reciprocal of 3 is $\frac{1}{3}$ and vice 8 15 versa 4



#### <u>Keywords</u>

- Variable: a quantity that may change within the context of the problem.
- Relationship: the link between two variables (items). Eg. between sunny days and ice cream sales.
- Correlation: the mathematical definition for the type of relationship.
- Origin: where two axes meet on a graph.
- Line of best fit: a straight line on a graph that represents the data on a scatter graph.
- Quantitative: numerical data
- Qualitative: descriptive information, colours, genders, names, emotions etc.
- Continuous: quantitative data that has an infinite number of possible values within it's range.
- Discrete: quantitative or qualitative data that can only take certain values.
- Frequency: the number of times a particular data value occurs.

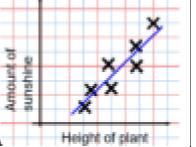


#### The line of best fit

The line of best fit is used to make estimates about the information in your scatter graph

#### Things to know!

- The line of best fit DOES NOT need to go through the origin.
- There should be approximately the same number of points above and below the line.
- The line extends across the whole graph.
- The line of best fit is always a straight line.

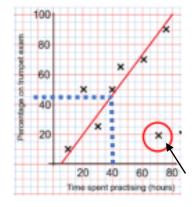


It is only an estimate because the line is designed to be an average representation of the data.

#### Using a line of best fit

Interpolation is using the line of best fit to estimate values inside our data point

Eg. 40 hours revising predicts a percentage of 45.

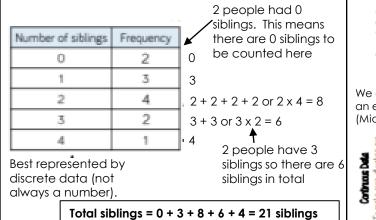


Extrapolation is where we use our line of best fit to predict information outside of our data. \*\*This is not always useful - in this example you cannot score more than 100% so revising for longer cannot be estimated.

This point is an **"outlier"** because it doesn't fit the model and stands apart from other data

#### Ungrouped Data

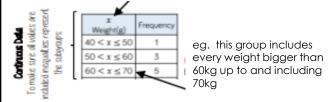
The number of times an event happened The table shows the number of siblings students have. The answers were 3, 1, 2, 2, 0, 3, 4, 1, 1, 2, 0, 2



**Grouped Data** if we have a large spread of data it is better to group it. This is so it is easier to look for a trend. Form groups of equal size to make comparison more valid and spread the groups out from the smallest to the largest value.

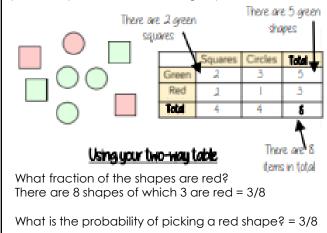
<b>-</b> 12	Cast of TV (E)	Tally	Frequency
28.	101 - 150	THL 11	1
graups do r overlap	151 - 200	7HL 7HL I	
50	201 - 250	714.	5
- e	251 - 300	117	3
	_		-

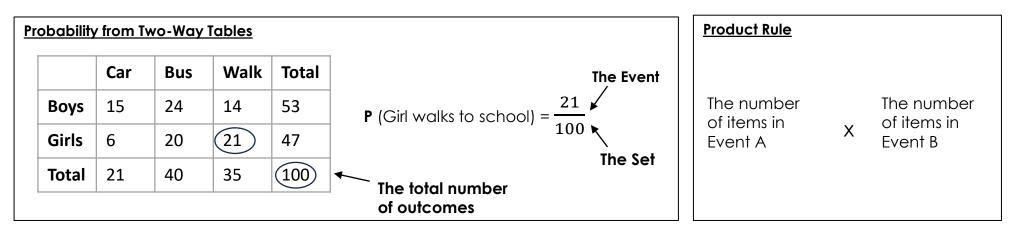
We do not know the exact value of each item in a group – so an estimate would be used to calculate the overall total (Midpoint).

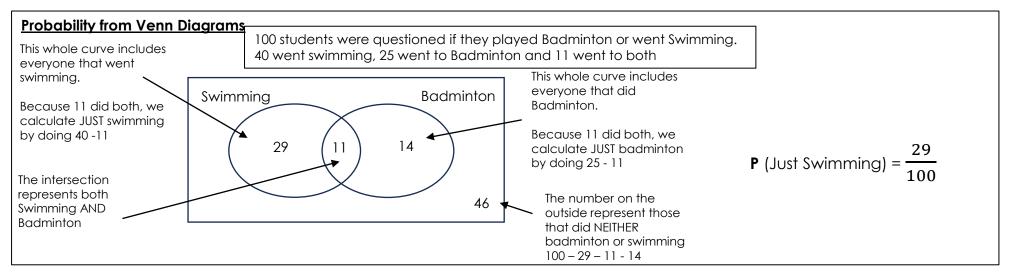


#### Representing data in two-way tables

Two way tables represent discrete information in a visual way that allows you to make conclusions, find probability or find totals of sub groups







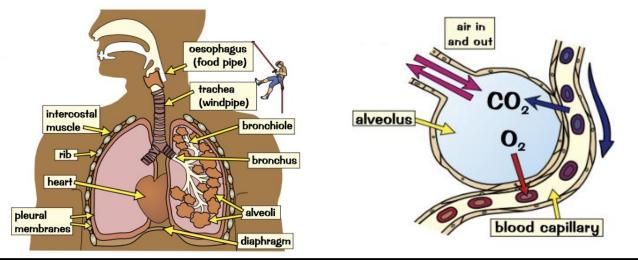
### MATHS

#### Multiply single brackets **Keywords** Different representations of 3(2x + 4) = 6x + 12**Simplify:** grouping and combining similar terms Substitute: replace a variable with a numerical value Equivalent: something of equal value 3x2x 3x4 3 **Coefficient:** a number used to multiply a variable 12 6x **Product:** multiply terms Highest common factor (HCF): the largest factor of two 6x + 12 6x + 12 numbers 2x+4 2x+4 2x+4**Inequality:** an inequality compares two values showing is one is greater than, less than or equal to another 4 X X I ¥. X 6x + 12 Form expressions For unknown variables, a letter is normally used in its place Factorise into a single bracket † + 4 4 more than t Always take out the highest common factor 8 less than k k – 8 $8x + 4 \equiv 4(2x + 1)$ 8y + 4 E.g. Find the perimeter of this shape Jx + 1 + 21 + 1 + 1 + 21 + 1 = 61 + 2Note: $8x + 4 \equiv 2(4x + 2)$ if not fully factorised as the 2t + I HCF has not been used

# Science: Organisms

**Respiratory System** 

Structure of Alveoli



Each lung contains millions of alveoli (air sacs) which are surrounded by a network of blood capillaries. This is where gas exchange happens. Oxygen diffuses into red blood cells from alveoli and carbon dioxide diffuses out of blood plasma into alveoli.

**Balanced Diet:** all the nutrients needed to stay healthy in the right proportions for that person.

**Enzyme:** biological catalyst (speed up chemical reactions) present in all cells and is a type of protein. Break down large food molecules (insoluble) into small food molecules (soluble). Starch: iodine stays orange-brown if starch is not present. Iodine turns blue-black if starch is present. Protein: Biuret solution stays blue if protein is not present. Biuret solution turns pink or purple if protein is present.

**Lipids:** Sudan III splits into two layers with the top layer being bright red if lipids are present. If not, then no lipids are present.

**Sugars:** Benedict's solution stays blue if no sugars are present/ Benedict's solution turns green (some sugar) orange (more sugar) or red (a lot of sugar). Benedict's must be heated with the food sample before.



# Science: Energy

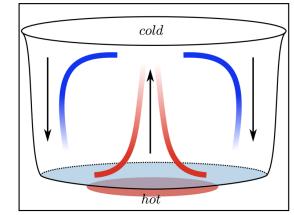
- Thermal energy is transferred from hot to cold.
- Temperature and heat are **<u>NOT</u>** the same.
- Temperature is a measure of how hot or cold an object is in degrees Celsius (°C).
- Heat is the amount of thermal energy an object has in Joules (J).
- Heating an object changes the movement of the particles.
- In a solid the particles vibrate more.
- In a liquid and a gas, the particles move faster and vibrate more.
- The particles themselves **<u>DO NOT</u>** get hotter.

**Conduction:** Particles transfer energy by colliding with other particles when they vibrate.

**Thermal conductor:** material that allows heat to move through it quickly, e.g. metal.

**Thermal insulator:** material that only allows heat to move slowly through it, e.g. plastic, polystyrene, water.

## Convection

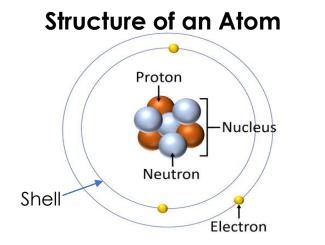


- Type of thermal energy transfer in gases and liquids.
- Convection is the flow of heat through a fluid from places of higher temperature to places of lower temperature by movement of the fluid itself.
- Liquid and gas particles are free to move.
- Particles with more kinetic energy move from hotter regions to cooler regions, taking their thermal energy with them.

Work Done: a measure of energy output. Calculated by multiplying the force in Newtons (N) by distance (m).

Lever: a simple machine made of a rigid rod resting on a pivot. A force acting on an object can cause it to turn about the pivot.

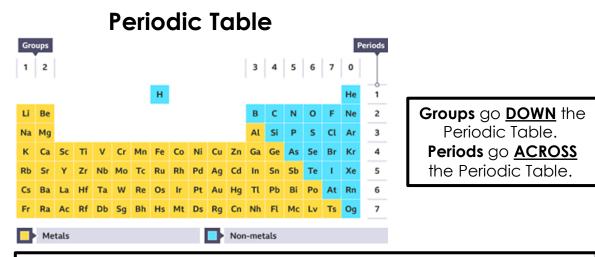
# Science: Matter



**Elements:** made of only one type of atom. Compound: made of two or more types of atoms chemically bonded together. Mixture: different elements/different compounds/elements and compounds not chemically bonded.

- If there are two elements in a compound add the ending '-ide.'
- Zinc and oxygen is zinc oxide.
- If there are two elements plus oxygen, add the ending '-ate'.
- Lithium, nitrogen and oxygen is lithium nitrate.

**Polymer:** many monomers (the same single molecule) chemically bonded together. The prefix 'poly' means many. Ceramics: a hard, durable material such as porcelain. **Composites:** made from two or more materials, they are synthetic (man-made).



Group 1: alkali metals are soft, react with water to produce hydrogen gas and an alkaline solution. They become more reactive down the group.

Group 7: halogens, fluorine and chlorine are gases, bromine is a liquid, iodine and astatine are solids. They are diatomic so are found as two atoms chemically bonded together.

Group 0: noble gases or group 8 are all gases, they are inert (unreactive). They are monoatomic so are found as single atoms.

# History: English Civil War

## Write like an Historian



Key term: parliament		Key term: treason		Key term: civil war	
Variations: Parliaments Parliamentary Parliamentarians Parliament's	Definition: The law-making assembly of a country. In England it is divided into the House of Commons and the House of Lords.	Variations: Treasons Treasonous	Definition: The crime of betraying one's country. E.g. attempting to kill or overthrow the government or monarchy.	Variations: Civil Wars	Definition: A war fought by different groups of people living in the same country.
Use it in a sentence: "The English Parliament believed that Charles I was disrespecting the rights of the people." "The new law was debated and then passed by Parliament."		Use it in a sentence: "The Gunpowder Plotters of 1605 were found guilty of treason and then executed." "When the soldier was found guilty of fighting for his country's enemies, he was arrested for the crime of treason."		Use it in a sentence: "For the past 25 years, a massive civil war has divided the country into two separate groups." "The Civil War was declared when Charles I raised his standard at Nottingham in 1642."	
Links to: Government Law-making Representation Voting Elections Roundheads Democracy	Digging deeper: Why were Parliament angry with Charles I? How is Parliament run differently today?	Links to: Crime Rebellion Betrayal Disloyalty Mutiny Uprising Traitor	Digging deeper: What punishments were used for treason? Do we still punish people for treason?	Links to: Conflict Warfare Division Opposition Disputes Internal conflict Rebellion	Digging deeper: What were the key causes of the English Civil War? Are there other examples of civil wars?

# History: English Civil War

## Write like an Historian



Key term: republic		Key te	rm: tax	Key term: monarchy		
Variations: Republics Republican	Definition: A country without a king or queen.	Variations: Taxes Taxation Taxed Taxing	Definition: Money paid to the government or monarch.	Variations: Monarchs Monarchies Monarchist Monarchical	Definition: a country that has a king or queen.	
Use it in a sentence: "England became a republic after the execution of Charles I in 1649." "France no longer has a monarchy, so is officially called the French Republic."		Use it in a sentence: "They believed in taxing the rich to give to the poor." "The government has promised to lower taxes after the election."		Use it in a sentence: "The UK is a constitutional monarchy; it has a king, but even he has to obey the law." "The longest reigning monarch was Louis XIV of France, who ruled for 72 years."		
Links to: Government Politics Sovereignty Self-government Constitution Popular rule Democracy	Digging deeper: How long was England a republic? How many modern- day republics can you name?	Links to: Economy Expense Fine Compulsory Greed Wealth Anger	Digging deeper: Why did Charles I want to raise taxes? What do taxes pay for today?	Links to: Kingdom Power Divine Right Throne Crown Reign King/Queen	Digging deeper: What is the difference between an absolute monarchy and a constitutional monarchy?	

# History: English Civil War

## Write like an Historian



Key term: cavalry		Key term: execution		Key term: commonwealth	
Variations: Cavalries	Definition: Soldiers who fight on horseback.	Variations: Execute Executions Executed Executing	Definition: The legal punishment of killing someone.	Variations: Commonwealths	Definition: A group organised for the common good.
Use it in a sentence: "Their army was made up of 18,000 cavalry, 120,000 infantry, 150 elephants, and considerable artillery." "The opposition could hear the hooves of the cavalry approaching across the battlefield."		Use it in a sentence: "Charles I was executed by beheading on the 30 <sup>th</sup> January 1649." "Many people have argued that execution has no place in the modern world."		Use it in a sentence: "Oliver Cromwell believed the English Commonwealth would be fairer than the monarchy it replaced." "The Commonwealth of Nations aims to encourage friendly relations and economic development throughout the world."	
Links to: Mounted troops Horses Army Cavaliers Charge Dragoons Roundheads	Digging deeper: Why might cavalries have been useful on the battlefield?	Links to: Death penalty Punishment Trial Guilty Corporal punishment Treason Regicide	Digging deeper: What forms of execution have been used throughout English/British history? Do we still have the death penalty?	Links to: Republic Democracy Partnership Collective Society Citizenship	Digging deeper: Was Cromwell's English Commonwealth really 'fair?'

# History: Slave Trade

# Write like an Historian



Key term: enslaved person		Key term:	plantation	Key term: trade		
Variations: Slave ( <i>outdated term</i> ) Enslaved people	Definition: A person who was forced to work for, and was considered to be the property of, another person.	Variations: Plantations	Definition: A large farm which grew a particular type of crop.	Variations: Trades Trading Traded Trader	Definition: The action of buying and selling goods and services.	
Use it in a sentence:		Use it in a sentence:		Use it in a sentence:		
"The enslaved person had been sold to an owner and had to do whatever they were told." "The British Empire enslaved millions of Africans		"The slave owner forced his enslaved people to grow and collect cotton on his plantation." "Cotton and sugar plantations grew in number in		"Europeans traded metal weapons and tools for enslaved people." "The trade of raw materials such as sugar made		
and forced them to work Americas."	c on plantations in the	the early-nineteenth cer	ntury."	huge profits for British c	ompanies."	
Links to: Slavery Freedom Labour Human rights Exploitation Property	Digging deeper: Why is it important to use the term 'enslaved person' rather than 'slave?	Links to: Farm Production Goods Forced labour Agriculture Working conditions	Digging deeper: What were conditions like on plantations?	Links to: Goods Profit Products Imports Shipping Raw materials	Digging deeper: What were the economic arguments in favour of the Slave Trade?	

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# History: Slave Trade

# Write like an Historian



Key term: voyage		Key tern	n: colony	Key term: revolution		
Variations: Voyages Voyaging Voyager Voyaged	Definition: A long journey, often by sea.	Variations: Colonies Colonise Colonisation Colonised Colonial	Definition: A country or area under the control of another country - usually as part of an empire.	Variations: Revolutions Revolutionary	Definition: An attempt to end the rule of a government and start a new one - sometimes using violence.	
Use it in a sentence:		Use it in a sentence:		Use it in a sentence:		
-	"The Middle Passage was the voyage from West Africa to the Caribbean." "The British Empire ruled over colonies such as India, Canada, and Australia."			"The Haitian Revolution of 1791 to 1804 ended French rule on the island."		
			verture was born in Saint- olony which belonged to France." "The slave owners lived in constant fe revolution."		in constant fear of a	
Links to: Middle Passage Slave ships Transatlantic Journey Expedition	Digging deeper: What problems did enslaved people face on the voyage from West Africa to the Caribbean?	Links to: Empire Control Foreign rule Settlement Exploitation Territory	Digging deeper: Why did European countries want to colonise different countries around the world?	Links to: Freedom Revolt Rebellion Uprising Riot Mutiny Violence	Digging deeper: Why was the Haitian Revolution successful against French rule? Do you know of any other revolutions in history?	

# History: Slave Trade

# Write like an Historian



Key term: auction		Key term: h	uman rights	Key term: abolition		
Variations: Auctions Auctioned Auctioneer	Definition: A public sale in which goods or property are sold to the highest bidder.	Variations:	Definition: Basic rights and freedoms that belong to every person in the world, including the right to freedom from slavery and torture.	Variations: Abolish Abolitionist	Definition: To make a practice or system (such as the Slave Trade) illegal.	
Use it in a sentence:		Use it in a sentence:		Use it in a sentence:		
		"Modern slavery is against a person's human rights."		"William Wilberforce campaigned for the abolition of the Slave Trade."		
"She bought a table and chairs at an auction."		"Human rights began to be properly recognised in the twentieth century, long after the slave trade."		"In 1807, the Slave Trade was abolished throughout the British Empire."		
Links to: Sale Purchase Transaction Trade Scramble Forced sale Buying and selling	Digging deeper: What would happen at a slave auction? How would enslaved people be sold?	Links to: Freedoms Liberty Democracy Safety Opportunities Equality	Digging deeper: How many human rights can you name?	Links to: Banning Stopping Legislation Law Freedom Compensation	Digging deeper: What reasons did abolitionists give for the end of the Slave Trade?	

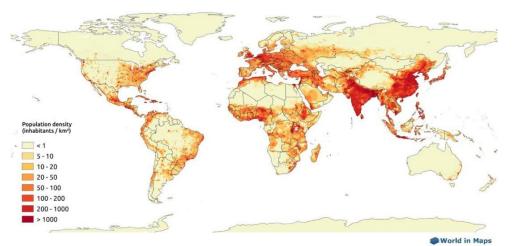
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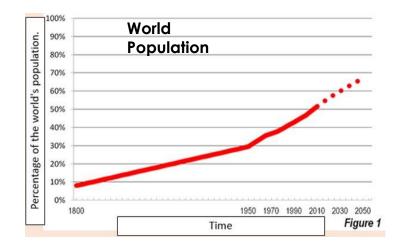
# Geography

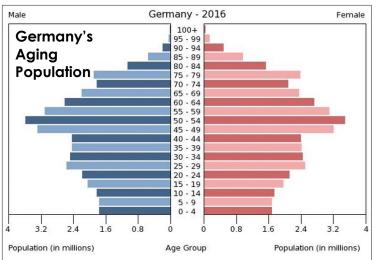
Word	Meaning
Population	The number of people living in a country
Population Density	The spread of people living in a country.
Sparce	People living spread out/far away from each other.
Dense	People living compact/close to each other.
Birth Rate	The number of babies born per year per 1000 people.
Death Rate	The number of people that die per year per 1000 people.
Infant Mortality Rate	The number of babies that die before 1 year old per year per 1000 people.
Settlement	An area where people live.
Migration	The movement of people in/out of an area

Push/Pull factors	The reasons that attract or put people off living in an area.
Urbanisation	The growth in numbers of people living in a city area.
Youthful Population	A high number of people below the age of 18.
Aging Population	A high number of people below the age of 65.
Sustainable	Meeting the needs of the current population without compromising the needs of future generations.
Development Indicator	A way to measure how rich/poor a country is eg. Healthcare.
Population Pyramid	A graph showing the number of males/females and their age.

# Geography







#### China's One Child Policy

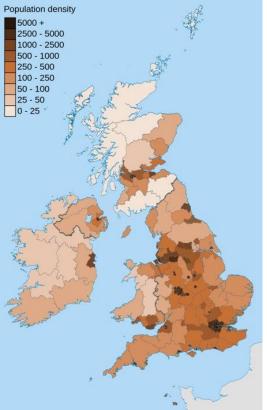
• Social and political reasons: The Chinese government encouraged its people to have large families for the benefit of the country. Also, the most common religion and culture suggests that large families is important.

• Once families start to grow the population grows significantly as it has impacts upon future generations.

- The government in China introduced the One Child Policy in 1979.
- It encouraged families to only have one child by giving them rewards for the first child but making them pay for any more children.
- Didn't allow choice for the people.
- Families who ran farms didn't have enough labour.
- Families preferred boys over girls for cultural reasons.
- Many villages have large numbers of men compared to much fewer women.
- An ageing population has led to a smaller working population and a reduction in productivity.

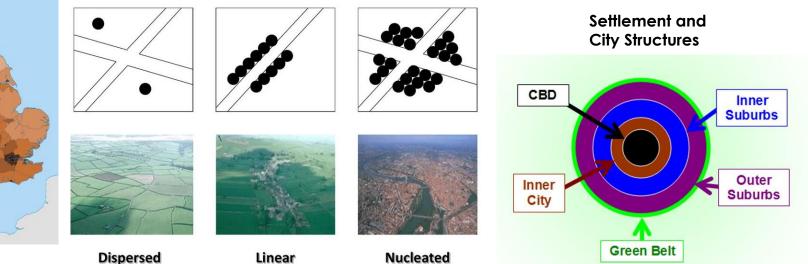
# Geography

**UK Population** 



**Gentrification** is the process when an area is redeveloped and upgraded allowing richer people to move in and displace the original residents. **Gentrification** is the process of improvement in a part of the inner city so that new shops and offices can be built.

**Greenfield Sites** - An area of land never previously built on used for development. **Brownfield Sites** - A derelict industrial site, due to be redeveloped and regenerated. **Deindustrialisation -** a decrease in the amount of manufacturing taking place in the country.



Spanish		Plans for	the week	end and neo	ar future	tense
Future Time Phrase	Near Future Tense (1 <sup>st</sup> part)	Near Future Tense (2 <sup>nd</sup> part)	Future Verb Opinion	Opinion		
Este finde	Voy a	Bailar en la discoteca	Y = and	La pera = great	Gran	natica
This weekend	(I'm going to) Va a (He/she is going to)	(dance in the disco) Cantar en el coro (sing in the choir) Descansar en casa (relax at home) Ir a un concierto	va a ser = it is going to be	Excelente = excellent Interesante = interesting Divertido = fun Emocionante =	Tense to sc and other	ear Future ay what you s <b>are going</b> <b>do</b>
El finde que viene Next weekend		(go to a concert) Ir de compras (go shopping)		exciting Relajante = relaxing	Voy a	+ infinitive
	Vamos a (We are going to)	Ir al cine (go to the cinema)			Vas a	verb
		Jugar al hockey (play hockey)			Va a	Eg. Comprar
		Nadar en el mar (swim in the sea)			Vamos a	(to buy)
	Van a (They are going to)	Practicar equitación (do horseriding) Salir con amigos (go out with friends)		Aburrido – boring Agotador = tiring	Vais a	-
		Ver una exposición del arte (to see an art exhibition)		Agolddol - llinig	Van a	
		Ver una película (to watch a film)			Voy a co cam	mprar una iseta
		Viajar a (travel to) Vivir en (live in)			I'm going to	o buy a t-shir
ARRIBA! Use	e muy, bastante, un p	I I oco, súper with your adjectives.: r	nuy relajante (very	relaxing)	L	

# Spanish

	Comparing urban and rural environments											
Starter	Key Opinion Phrase	Noun	Connective	Key Verb	Compar ative	Adjective	Co mp ara tive	Noun				
Tengo que admitir que	No me gusta I don't like	El campo The countryside	Porque Because		Más <mark>More</mark>	Tranquilo/a – quiet Ruidoso/a – noisy Aburrido/a –	qu	El campo The countryside	Gramatica			
admit that	Prefiero <mark>I prefer</mark> Me gusta	La ciudad The city	Ya que Because	Es	Menos Less	boring Animado/a – lively Conveniente –	e = tha n	La ciudad The city Mi pueblo	<b>Tan</b> means <b>'so'</b> when used on its own.			
l would say that	l like Me chifla <mark>l love</mark>	Mi pueblo My town	Dado que <u>Because</u>	It is	Tan As	convenient Cosmopolita – cosmopolitan Espacioso/a – spacious		My town Mi barrio My neighbourho	La casa es <b>tan</b> grande. The house is <b>so</b> big. But the structure <b>tancomo</b> means			
Lo bueno / lo malo es que The good	Odio I hate	Mi barrio My neighbourho od				Estresante – stressful Relajante – relaxing Lento/a – slow	co mo = as	od El pueblo de mi amigo	<b>'asas':</b> El campo es <b>tan</b> interesante <b>como</b> la ciudad. The countryside is <b>as</b>			
thing / the bad thing is						Peligroso – dangerous Bonito/a – pretty Feo/a – ugly Limpio/a – clean Sucio/a - dirty		My friend's town	interesting <b>as</b> the city.			
More Key	More Key Words: <b>y</b> – and, <b>además</b> – furthermore/in addition, <b>bastante</b> – quite, <b>muy</b> – very, <b>un poco</b> – a bit, <b>super</b> – really											

# Spanish

Comparing urban and rural environments												
Starter	Key Opinion Phrase	Noun	Connective	Key Verb	Compar ative	Nouns	Comp arative	Noun				
Tengo que admitir que I have to admit that	No me gusta I don't like Prefiero I prefer	El campo The countryside La ciudad The city	Porque Because Ya que	hay	Más More	Que hacer – to do Aire limpio – clean air Ambiente – atmosphere Diversiones – fun things Gente – people		En el campo In the countryside En la ciudad In the city				
Diría que I would say that	Me gusta I like Me chifla <i>I love</i>	Mi pueblo My town	Because Dado que	There are	Menos Less	Naturaleza – nature Espacios verdes – green spaces Tiendas – shops Bosques – woods /	que than	En mi pueblo In my town En mi barrio				
Lo bueno / lo malo es que The good thing / the bad thing is	Odio I hate	Mi barrio My neighbourhood	Because	Tiene It has		forests Lagos – lakes Campos – fields Agricultura – agriculture Oportunidades – opportunities Ruido – noise Industria – industry Fábricas – factories Contaminación – pollution Tráfico – traffic Autobuses - buses		In my neighbourhoo d En el pueblo de mi amigo In my friend's town				

# Computing

#### **Encryption**

Encryption is the process of encoding **data** or a message so that it cannot be understood by anyone other than its intended recipient.

The data or message is encrypted using an encryption **algorithm**.

The opposite of encryption is decryption.

Unencrypted messages are referred to

as **plaintext** messages.

Encrypted messages are known as **ciphertext**.

### <u>Colossus</u>

Designed and built by engineer Tommy Flowers at Bletchley Park - was made to process large amounts of data, and it enabled British cryptographers to break coded German communication messages.

#### Caesar Cipher

A simple method of **encryption** requires the use of a technique known as the Caesar cipher. The technique was invented by Julius Caesar who lived from 100BC to 44BC. The cipher works by giving a **number value** to a **key**. Each **plaintext** letter is replaced by a new letter - the one found at the original letter's position in the alphabet plus or minus the value of the key.

For example, a key value of **+three** would change the plaintext message "**hello**" to the ciphertext message "**khoor**".

Plaintext	a	b	с	d	e	f	g	h	i	j	k	ι	m	n	0	р	q	r	s	t	u	v	w	х	у	z
Ciphertext	d	e	f	g	h	i	j	k	ι	m	n	0	р	q	r	s	t	u	v	w	х	у	z	a	b	С

### <u>Bletchley Park</u>

Bletchley Park was the centre of British code-breaking during **WW2**. Women were increasingly **recruited** for their **linguistics**, **physics and mathematical ability**.

Before the invention of electronic computers, "computer" was a **job description**, not a machine. Both men and women were **employed** as **computers**, but women were more prominent in the field.

### <u>Alan Turing</u>

A British **mathematician**., who, made major contributions to the fields of maths, computer science, and **artificial intelligence**. He worked for the British government during **World War II**, when he succeeded in breaking the secret code Germany used to communicate. Moore's Law This is not really a law but more of an observation that has held true for decades. Moore's Law states that the number of transistors o n integrated circuits double s every **two** years or so. Computers have followed the trend of Moore's law which means **CPUs** and memory are improving at exponential rates.

# **Religious Education**



#### Key Words:

Founder- A person who is responsible for starting or creating something

**Leader-** A person who is in charge and influences others

**Prophet**- A person who is believed to have the ability of communicating with God and passes messages from God to people.

**Teachings-** Sets of rules that are to be followed, usually within a religion

Miracles- An event that appears to break the laws of science

Jesus was born into a Jewish family around 2000 years ago in Jerusalem. Jesus taught that love and compassion are more important than following religious rules, especially when they are not in people's best interests. Christians believe that Jesus was God incarnate, this means that Jesus fully human but at the same time fully God too, this is an idea that is difficult for many people, even Christians to understand.

Christians believe that Jesus performed many miracles, these are documented in the Bible. Some Christians believe that Jesus performed miracles to show that he was indeed God and to perform acts of kindness and grace. Two of Jesus' most well-known miracles are The Feeding of the Five Thousand and Walking on Water.



Nanak was born into a Hindu family but was unhappy with the way that Hindus and Muslims were constantly fighting.

Sikhism was founded by a wise man called **Guru Nanak**. Guru Nanak is considered the first Sikh Guru.

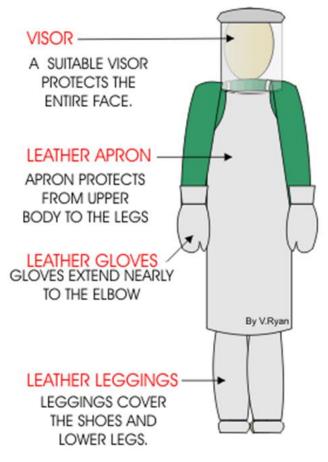
Sikhism is still based on his teachings and those of the nine Sikh Gurus who followed him.



Prophet Muhammad was born around 1,600 years ago in a place called Mecca in Saudi Arabia. When he was in his early twenties, he began to receive revelations (messages) from God. Most people at that time worshipped idols and believed in many gods, Muhammad however believed that there was only one true God. Muhammad became a strong religious, social and political leader and went onto to found the religion of Islam.

## Design Technology - Health & Safety

#### PERSONAL SAFETY EQUIPMENT



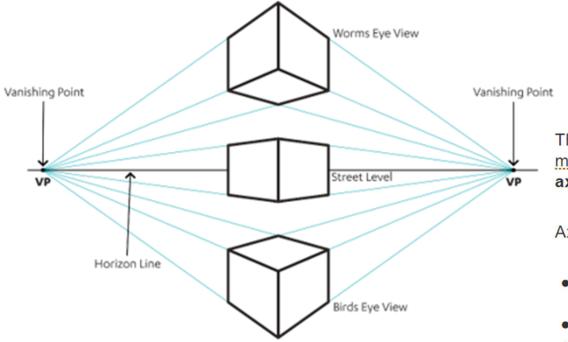
Pewter casting is potentially very dangerous because of the high temperatures involved. Safety clothing similar to the type shown below must be worn and it is essential that all possible safety measures/precautions are taken. Pupils / students must be supervised directly during any casting

Appropriate safety must be worn when casting metals. Aprons, gloves and leggings should be leather as this offers the most protection if a spillage of molten pewter occurs. Normal textile material burns through very quickly and should not be used for the casting process.

In addition, strong, leather shoes should be worn at all times in the workshop as they offer the best protection for feet. In industry shoes with steel toe caps are a basic requirement.

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## **Design Technology - Graphics**



There are a variety of way to produce 3D drawings. The most commonly used in Engineering drawing is **axonometric** and **2 point perspective** 

Axonometric is split into three types:

- Isometric in engineering drawing this is the most commonly used type.
- Dimetric
- Tri metric



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## **Design Technology - Tools/Processes**

The Junior hacksaw is a small scale version of a full size hacksaw. Two hands are required to use the full size hacksaw, whilst one hand is needed for the junior hacksaw. They are available in a range of designs and two are seen here.

The junior hacksaw is used to cut and shape metals, tube and some plastics. Where thicker and more robust materials are to be cut, a full size hacksaw is used.

The blades tend to be 'fine', potentially giving a precise cut and fit the junior hacksaw frame, with the cuts on the forward stroke. It is then lifted away aid of 'pins', at each end. The pins lodge firmly into 'slots', in the frame of the saw.

Hand files are used in the workshop to smooth rough edges. They can be used to smooth a range of materials including metals such as brass and steel to wood based materials such as MDF. They are made from high carbon steel and they are heat treated so that they are tougher than the steel or other materials that they are to be applied to.

Hand files are normally held in both hands. The file is held flat against the surface it is to cut / smooth. The file is then pushed forward and it from the metal and returned to the starting point for the next push forward. This is called 'through filing'

The **Pewter Design** is finally clean / smoothed by the use of emery cloth. A small amount of oil is added and the letter is moved forwards and backwards. Smoothing the surfaces can take a considerable amount of time however, the finish is very good.

If a polished surface is required a polishing machine can be used.

When finishing metal by hand whilst it is held in a vice, pieces of Emery Cloth can be wrapped around a file. To get a good finish, work through grades from coarse to fine and regularly alternate the direction of the file to remove scratches by polishing across them.







# Design Technology - Materials/Processes

#### **Types of Metals**

**Ferrous** metals contain Iron. This means that they rust when exposed to water and oxygen (any metal with 'iron' or 'steel' in its name).

**Non-ferrous** metals do not contain Iron. They will not rust when exposed to water and oxygen.

**Alloys** are mixtures of metal and another element(s) which improves on the properties of the metal. Pewter is and alloy of tin and antimony.

**Environmental impact of metals**. Metals are made from ore. Ore is mined. Ores use a huge amount of energy to be converted to metal. All metal can be recycled using as little as 5% of the energy need to convert metal from ore

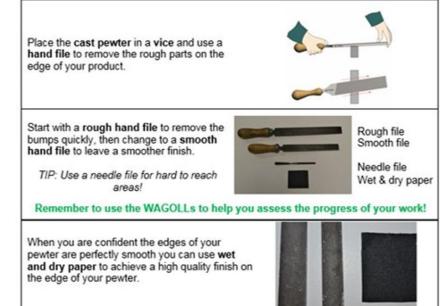
What is the difference between a **PROPERTY** and a **CHARACTERISTIC?** 

**Properties** are basic elements or attributes of a material. They are usually, inherent to the material and are not decided by the judgement of a person's feelings or opinions.

**Characteristics** are prominent aspects, qualities or features of a material. Normally these are superficial and subjective, based on or influenced by personal feelings, tastes, or opinions.

### D&T How to Guide - Fettling

When the cast pewter is removed from the mould the edges will be rough and uneven.



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# Art

AO1 Develop ideas through investigations, demonstrating critical understanding of sources.	AO2 Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.	AO3 Record ideas, observations and insights relevant to intentions as work progresses.	AO4 Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.
25% of your project mark	25% of your project mark	25% of your project mark	25% of your project mark
Theme exploration. Mindmaps / Collected images. Facts & statistics. Interviews. Artist research & analysis. Art movements & time periods. Trips, museums & galleries.	Experimenting with different materials. Improvements. Testing ideas. Contact sheets with selections. Repeating ideas in materials. Developed ideas.	Observational drawings. Photography. Annotations. Ideas. Planning for tests or photoshoots. Thumbnailsketches.	Final outcomes. Final design plan explaining links to prior learning. Meaningful connections within the work.

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# Art



#### The primary colours are **red**, **yellow** and **blue**.

They cannot be made by mixing other colours together. The primary colours sit equal distances apart on the colour wheel.

All other colours can be mixed from red, yellow and blue.

Purple, orange and green are secondary colours. On the colour wheel, each secondary colour sits halfway between the two primary colours it is mixed from.

- Blue and red mixed together make purple.
- Yellow and red mixed together make orange.
- Blue and yellow mixed together make green.

A **tertiary** colour is made by mixing equal amounts of a primary colour and a secondary colour together. There are six tertiary colours. On the colour wheel, they sit between the primary and secondary colour they are mixed from.

- Orange and yellow mix to make amber.
- Red and orange mix to make vermillion.
- Purple and red mix to make magenta.
- Blue and purple mix to violet.
- Green and blue mix to turquoise.
- Yellow and green mix to make Chartreuse.

Reminders

#### What are harmonious colours?

Harmonious colours sit beside each other on the colour wheel. These colours work well together and create an image which is pleasing to the eye.

# Colours can be used to create and represent feelings, both physical and emotional.

Warm colours remind us of things associated with the concept of heat such as summer, beaches, the sun, fire etc.



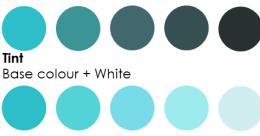
Cool colours remind us of things associated with the absence of heat – such as winter, ice, water, etc.

#### Shade

Colour

Theory

Base colour + Black



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# Art

#### Acrylic paint -

- Acrylic paint does not come out of clothing.
- Once dry you cannot add water to rework it.
- Once dry you can paint over it with other colours.
- It can be used to create thick textures.
- Acrylic paint is made out of plastic.
- It can be watered down to become translucent.
- You must wash your brushes & palettes whilst the paint is still wet.
- School has warm and cool versions of each primary colour, plus black and white to mix colours with.
- Acrylic paint is applied to dry paper or card.

#### Watercolour paint -



- Watercolour paint is solid until you
- add water to release the pigment.
- Once it is dry, you can add water to
- rework it.
- If you add wet paint next to wet paint they may bleed into each other.
- If you apply layers on top it builds up the density of colour.
- White is created by leaving blank (negative) space.
- Lighter colours are created by adding more water.
- Darker colours are created using less water and releasing more pigment.

#### Key facts about landscape paintings

Landscape painting is a well-known type of art that often shows a scene from nature, such as the countryside.

Landscape painting can focus on natural scenery such as mountains, forests, sea or sky, or a built environment such as a city street or building

Landscape paintings that include buildings or scenes from a city are known as cityscapes.

The term landscape painting was developed in the 17th Century.

En plein air is a French term that means out of doors. It is used to describe painting outside in the open air.



Many landscape paintings can be divided into the foreground, middleground and the background



#### WHAT IS THE FOREGROUND OF A LANDSCAPE...

The foreground of a landscape is generally closer to the bottom of the composition, although that isn't always the case. Because this part of the scene is closest to the viewer the objects appear to be larger.

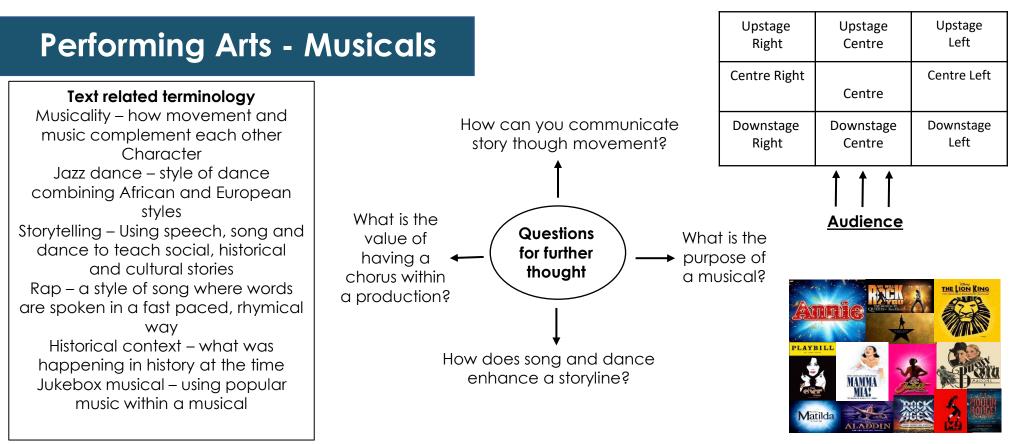
#### INTRODUCING THE BACKGROUND....

The background of a scene is the furthest away. It gives some context to the scene, where it might be taking place. Because items in the background are meant to appear farther away they are much smaller in size, duller in color, and contain less detail than objects that are close to the viewer.

#### FINDING THE MIDDLEGROUND...

The middleground is the space naturally occurring between the foreground and the background.

#### **Stage Positions**



#### **Skills and techniques**

Canon –the same action repeated one after the other Unison –all performing at the same Tempo –the speed words are spoken at Repertoire –professional plays, dances, or items that a company or a performer knows or is prepared to perform Formation –the positioning on stage Props – Used on stage to enhance a scene Repetition- Repeating the movement over and over Retrograde - Performing a sequence backwards

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# **Music** – Music for Film & TV



### Famous Film Composers:

- John Williams
- Hans Zimmer
- James Horner
- Danny Elfman
- John Barry
- Alan Silvestri
- Ennio Morricone

### Iconic Film & TV Scores

- Jaws (1975)
- Jurassic Park (1993)
- Indiana Jones (1984, 1989, 2008, 2023)
- Superman (1978)
- Star Wars
- Home Alone (1990)
- Pirates of the Caribbean (2003)
- The Lion King (1994)
- Titanic (1997)
- Avatar (2009)
- Batman (1989)
- Edward Scissorhands (1990)
- James Bond (Goldfinger 1964)
- Forest Gump (1994)
- Back to the Future Trilogy (1985)
- The Polar Express (2004)
- The Good, the Bad & the Ugly (1966)
- A Fistful of Dollars (1964)
- The Untouchables (1987)

#### Silent Movies

- Foley Artists
- Cliché
- Mickey Mousing
- Imitation
- Jingle
- Leitmotif
- Theme
- Advert/Trailer
- Cue Sheet
- Atmosphere
- Tension/Suspense

#### Film Genres:

- Horror
- Romantic Comedy
- Action & Adventure
- Thriller
- Western
- Fantasy
- Science Fiction (Sci-Fi)
- Animation
- Comedy
- Drama



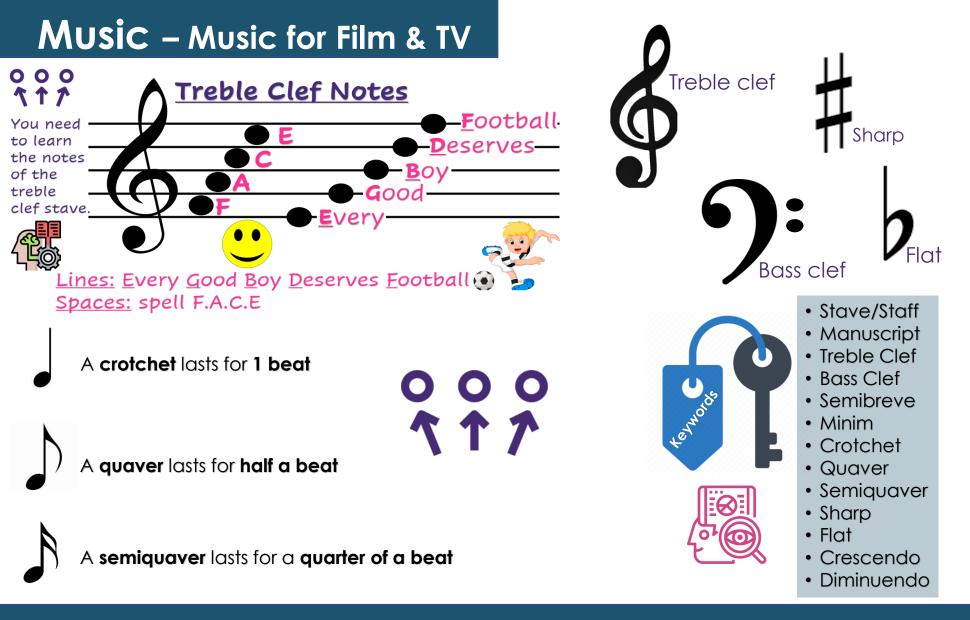
# **Music** – Music for Film & TV

### Keyword Definitions:

- Foley Artist A person who recreates sounds for film, video and other media in post-production to enhance the audio quality.
- Musical Cliché Musical phrases and techniques that are used to show certain emotions.
- Mickey Mousing A film technique that syncs the accompanying music with the actions on screen.
- Imitation repetition or copying of a melody by different instruments.
- Jingle A short song or tune used in advertising and for other commercial exploits.
- Motif A small collection of notes that features in a piece of music.
- Leitmotif a short recurring musical phrase associated with a particular person, place or thing.
- Theme Often plays during the credits of a piece of media.
- Trailer Background music used for film previews not always the soundtrack.
- Cue Sheet List of timings for the music which is given to a film/TV composer
- Soundtrack selection of songs and original music used throughout a film



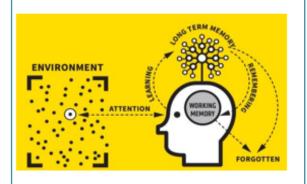




# Peer-Supported Retrieval



Peer supported retrieval simply means 'quizzing each other in pairs' using your **knowledge organizer**. If done well and regularly, it is a powerful strategy to boost your confidence and it has been shown to support the transfer of key knowledge to your long-term memory!!



#### In pairs:

- Decide which subject and page of the knowledge organiser you are going to work on today.
- 2. Make sure that this is content that you have **already been taught** by your teacher.
- Before you start designing your quiz, both partners need to silently read through that page of the knowledge organiser.
- 4. In your tutor time exercise book, now write 8 quiz questions using that page of your knowledge organiser. e.g. what name is given to the elements in group 0 of the periodic table?
- 5. Once the quizzes are written, close your knowledge organiser and swap exercise books.
- 6. In silence, now answer your partners' questions in that exercise book.
- 7. Once both partners have complete the quiz, swap the exercise books back and use your knowledge organisers to mark the answers in red pen.
- 8. Correct any errors by writing the correct answer next to the question.
- 9. Once complete return the exercise books and both silently review the answers.
- Next week, when you come to do this again include any questions that your partner got wrong in the new quiz.









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