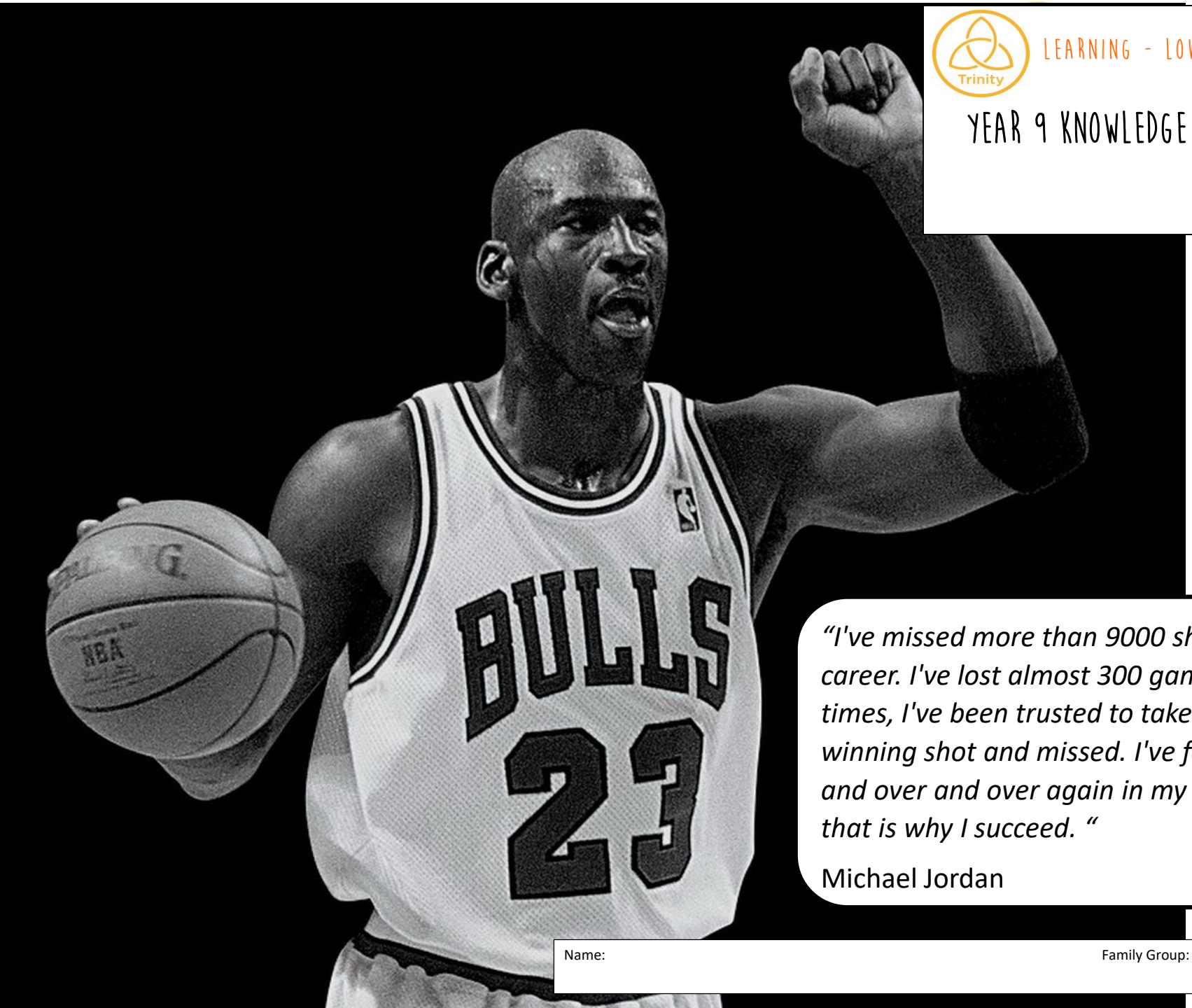


LEARNING - LOVING - LIVING

YEAR 9 KNOWLEDGE ORGANISER

TRINITY 2

"I've missed more than 9000 shots in my career. I've lost almost 300 games. 26 times, I've been trusted to take the game winning shot and missed. I've failed over and over and over again in my life. And that is why I succeed. "

Michael Jordan

Name: Family Group:

How to use my knowledge organiser

The timetable shows the **subjects** you should be studying and the days that you should be studying them. You should **complete your work in your exercise book**.

Each evening you should draw a straight line (using a ruler), under the previous day's work, and write the date, clearly at the top. You need to **bring your KO and exercise book with you to school EVERYDAY**.

The **KO** work that you have completed for the week will be checked in Family Group time **EVERY** Friday. If homework is not of an appropriate standard or amount will result in an after school detention. Knowledge tests will also be used frequently in lessons.

Subject homework

Students will also be **given** additional subject homework to be completed throughout the week and/or can use FREE online revision tools such as www.senecalearning.com

It is also recommended that students regularly **READ** a variety of fiction and non fiction books that they choose for pleasure. This extra reading will help to develop and broaden their general knowledge.

In **ENGLISH** all students will be expected to complete 1-2 reading assignments each week by accessing www.CommonLit.org . Each assignment will take 20-30 minutes and students will be required to answer multiple choice questions to check their understanding of what they have read. Each class has a code based on the set they are in:

English Set	**Class Code for Commonlit**
9.4	R8NJQ5
9.3	77VZQZ
9.2	379E93
9.1	QD96JG
9GR	Y8K6V3

In **MATHS** students are expected to watch short explanation videos and complete activities on the online platform of https://mathswatch.co.uk. Students can log in using the details and password they use to log in to the school computers.

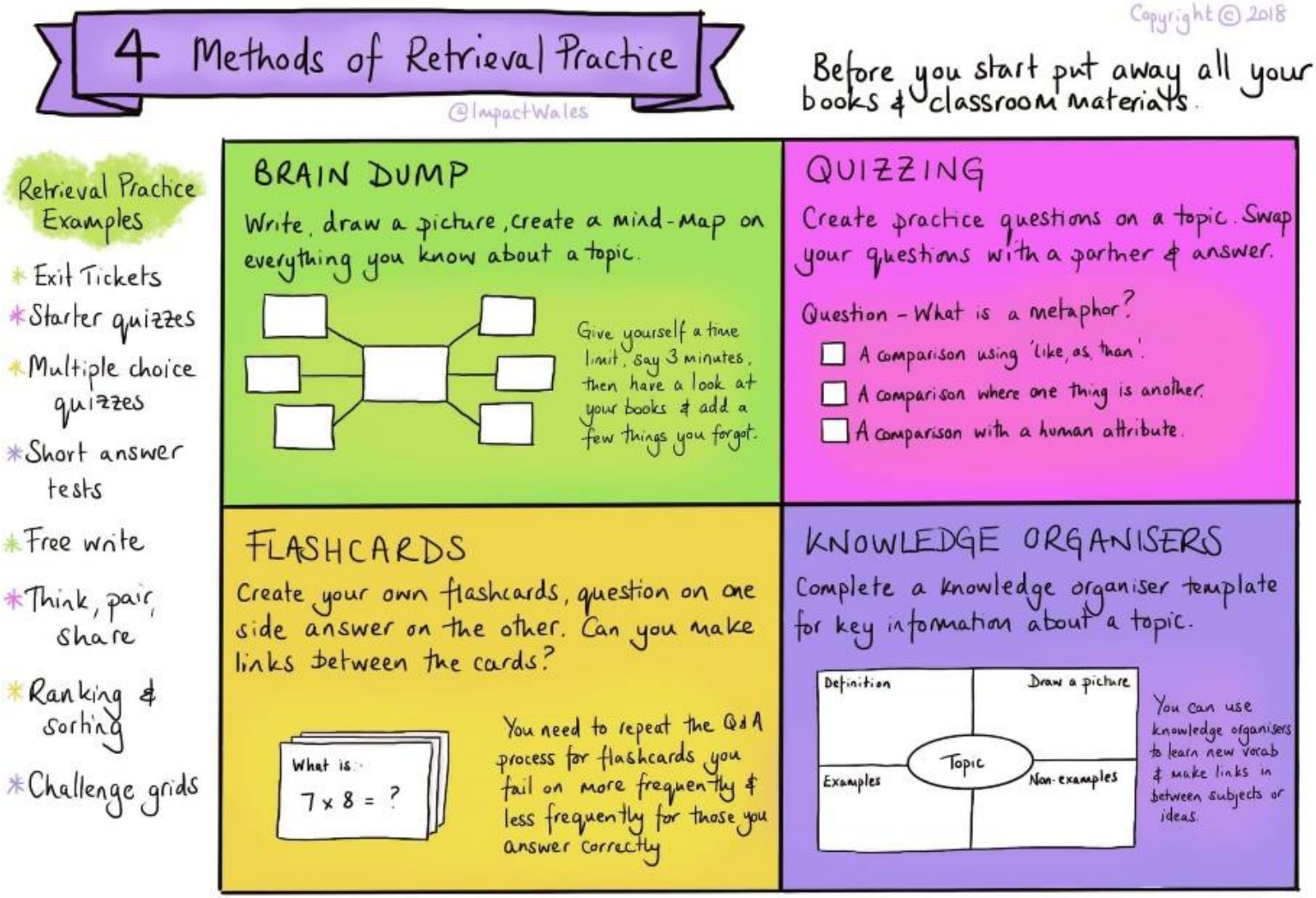
Homework timetable

You should spend *at least* **1 hour** per night on homework = 3 subjects x 20 mins per subject

Year 9	Subject 1	Subject 2	Subject 3
Monday	Maths	Option A	Option C
Tuesday	English	Option B	Option C
Wednesday	Maths	Religious Education	English
Thursday	English	Science	Option A
Friday	Maths	MFL	Option B

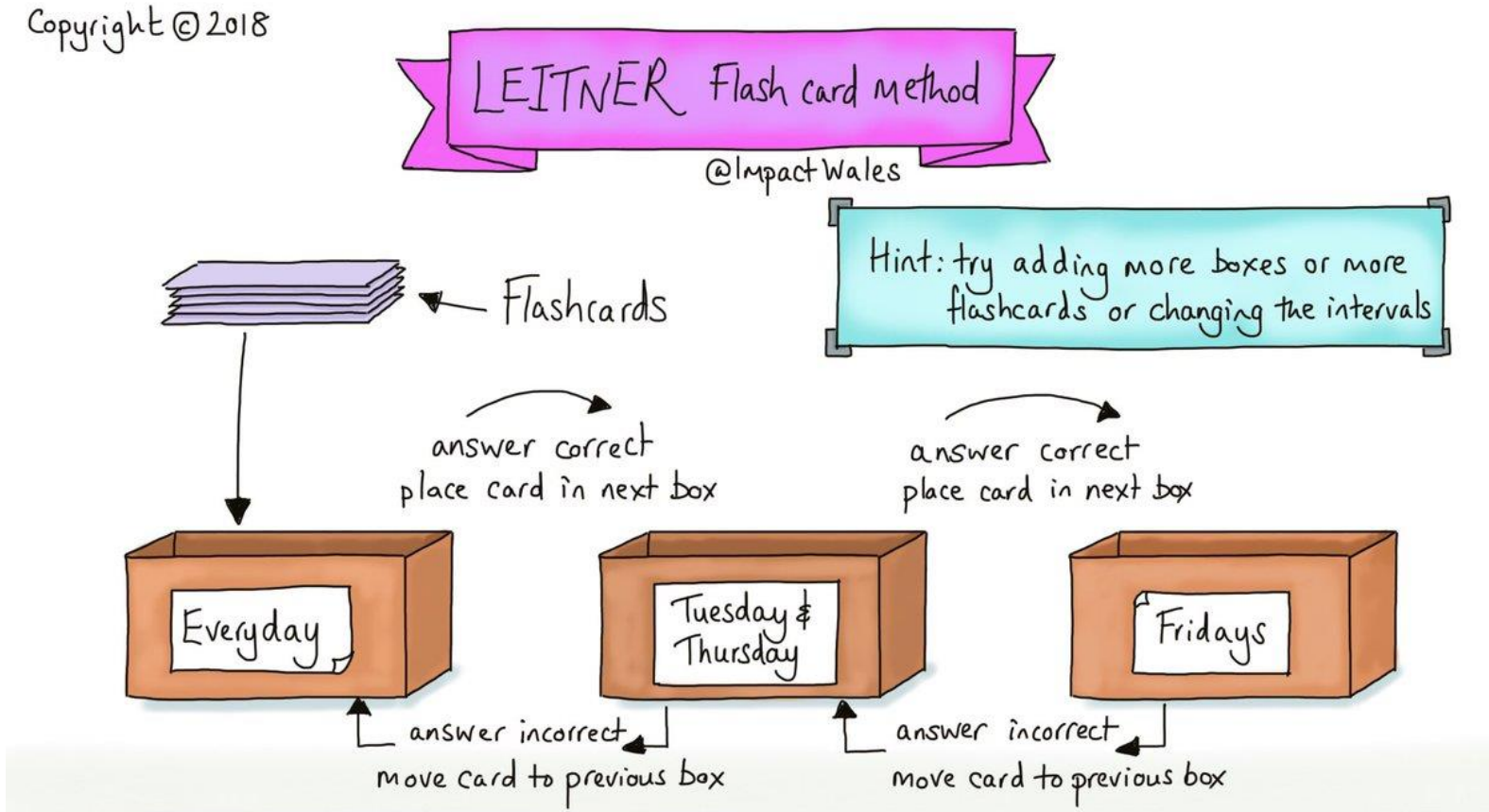
RETRIEVAL ACTIVITY IDEAS

Knowledge organisers are for **learning and mastering** the knowledge in each subject. There are many different ways you can do this, however some **PROVEN** methods to try in your work book are:



USING FLASH CARDS SUCCESSFULLY

Once flash cards are created, you will need to use them correctly to have an impact. Follow the method below for the best knowledge retention



An effective use of flashcards to prompt & recall learning using spaced practice proposed by Leitner in the 1970s. It focuses on the proficiency of recall of the learner. Information which is easily recalled has a longer time lapse before the next recall opportunity.

YEAR 9 - T2- ENGLISH- A CHRISTMAS CAROL BY CHARLES DICKENS

LEARNING - LOVING - LIVING

		Stylistic features and relevant terms	Definition
The Gothic Genre	1) London is opaque, funereal, tenebrous and ominous 2) Scrooge's house is in a lonely, industrial part of town, very dark and foggy, and very old and sparsely furnished. 3) Scrooge and London link to inequality, exploitation, greed, capitalism 4) Gothic stories deal with doubt: religion becomes less important, an interest in the supernatural replaces this. 5) Gothic stories often take place in exotic and strange locations: Dickens uses this convention by having Scrooge fly through London and beyond with the Spirits. 6) Characters in Gothic novels are often one-dimensional, or stock, characters who do not change over the course of the novel. Scrooge as a Gothic character subverts this because he changes dramatically as a result of his experiences in the novella. 7) Like many Gothic characters, Scrooge is a tyrant to begin with.	**1. Allegory**	A story, poem or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one.
		2**. Gothic**	A genre or mode of literature and film that combines fiction and horror, death, and at times romance.
		3. **Motif**	A recurring theme or idea in literature or artistic work
		4. **Parody**	An imitation of the style of a particular writer, artist, or genre with deliberate exaggeration for comic effect.
		5. **Foil**	A foil is a character who contrasts with another character —usually the protagonist— to highlight particular qualities of the other character.
Historical context	1. 1824 – Dickens' father is sent to jail for debt and Dickens has to give up his education until his father inherits some money and he goes to a private school 2. Dickens was put to work in a warehouse, pasting labels on bottles. He had experience of poverty. 3. Dickens became a writer of fiction and journalism, reporting on court cases and working for radical newspapers on his disillusionment with politics and the class system. 4. 1832 – The Great Reform Bill gave many middle class property owners the right to vote for the first time. Large sections of the middle classes, the working classes and women still didn't have the right to vote. 5. 1834 – Poor Law Amendment Act – Led to a cut in aid given to paupers to help them stay in their own homes. Workhouses were created which poor people would have to live and work in, if they were unable to pay for their own housing. 6. December 1840 and February 1843 – Children's Employment Commission reports. 7. September 1843 – Dickens visits a "Ragged School." 8. October 1843 – Dickens speaks at an event for Manchester Athenaeum, an organisation bringing education and culture to the working masses. 9. December 1843 Dickens writes A Christmas Carol focusing on how many of society's ills can be blamed on greed for money and status. 10. December 1843 Dickens writes A Christmas Carol focusing on how many of society's ills can be blamed on greed for money and status.	6. **Morality tale**	A story which comments on issues of right and wrong.
		7. **Malthusian economics**	A theory put forward by Revd Thomas Malthus, in his famous Essay on Population, that without some check - like famine or pestilence - human populations naturally grew faster than food production.
		8. **Deprivation**	The damaging lack of material benefits considered to be basic necessities in a society
		9. **Dehumanisation**	To deprive of positive human qualities.
		10. **Utilitarianism**	the doctrine that actions are right if they are useful or for the benefit of a majority
		11. **Redemption**	The action of being saved from sin, error or evil
		12. **Philanthropy**	The desire to promote the welfare of others, expressed especially by the generous donation of money to good causes.
		13. **Secular**	Not connected with religious or spiritual matters.
		14. **Austere**	Severe or strict in manner or attitude

YEAR 9 - T2- ENGLISH- A CHRISTMAS CAROL BY CHARLES DICKENS

LEARNING - LOVING - LIVING

Key Vocabulary	Definition		
1) Forlorn (adj)	Pitifully sad or lonely	**16) Ostracised (v)**	Exclude from a society or group.
2) Allegory (n) Allegorical (adj)	A story, poem or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one.	**17) Deprivation (n) Deprive(v)**	The damaging lack of material benefits considered to be basic necessities in a society
3) Apathy (n) Apathetic (adj)	Showing or feeling no interest, enthusiasm or concern	**18) Hyperbolise (v) Hyperbole (n)**	Represent something as being larger, better, or worse than it really is; exaggerate.
4) Malevolent (a) Malevolence (n)	Having or showing a wish to do evil to others, showing ill-will.	**19)Philanthropy (n) Philanthropist (n) Philanthropic (adj)**	The desire to promote the welfare of others, expressed especially by the generous donation of money to good causes.
5) Avarice (n) Avaricious (adj)	Extreme greed for wealth or material gain.	**20) Opulence (n) Opulent (adj)**	great wealth or luxuriousness
6) Abject (adj)	Extremely unpleasant or degrading, completely without pride or dignity	**21) Stalwart (adj)**	loyal, reliable, and hard-working
7) Deprivation (n) Depraved (adj) Deprive (v)	The damaging lack of material benefits and basic necessities	**22) Abject (adj)**	Experienced or present to the maximum degree.
8) Empathy (n) Empathetic (adj) Empathise (v)	The ability to understand and share the feelings of another	**23) Symbolic (adj) Symbol (n) Symbolism (n)**	A thing that represents or stands for something else
9) Rapacious (adj)	Aggressively greedy or graspin	**24) Destitute (adj) Destitution (n)**	extremely poor and lacking the means to provide for oneself
10) Destitute (adj) Destitution (n)	Extremely poor and lacking the means to provide for oneself.	**25) Antithesis**	First you mention one thing, then you mention another. Both elements are often opposites
11) Disdain (n) (v) Disdainful (adj)	The feeling that someone or something is unworthy of one's consideration or respect.	**26) Parallelism**	Giving two or more parts of the sentences a similar form and structure so as to give the passage a definite pattern
12) Contempt (n) Contemptuous (adj)	The feeling that a person or a thing is worthless or beneath consideration.	**27) Epistrophe**	When you end each sentence or clause with the same word
13)Supplication (n) Supplicate (v)	Ask or beg for something earnestly or humbly	**28) Polyptoton**	The repeated use of one word as different parts of speech or in different grammatical forms
14) Obsequious (adj) Obsequiousness (n)	Obedient or attentive to an excessive or servile degree.	**29) Imperative**	Giving a command or order to the listener or audience
15) Disconcerting (adj) Disconcert (v)	Causing one to feel unsettled.	**30) posiopesis**	A pause-when someone doesn't finish a sentence (…)

YEAR 9 - T2- MATHS- HIGHER- STATISTICS

LEARNING - LOVING - LIVING

Methods Explored

Stratified Sampling

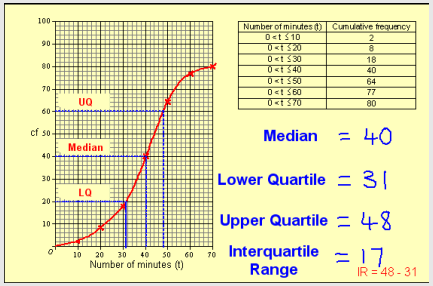
When the sample you select is based on the size of the subgroups within the population so that your sample is representative of the proportions of these sub groups within the population.

There are 20 boys and 40 girls in a year.
I need 30 people for my sample.

Boys in the sample $= \frac{20}{60} \times 30$

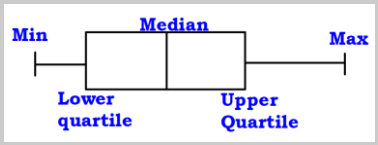
Cumulative Frequency

This is a way of representing grouped data. To find the cumulative frequency you add the frequencies up as you go. You plot the highest value of the groups against the cumulative frequency.



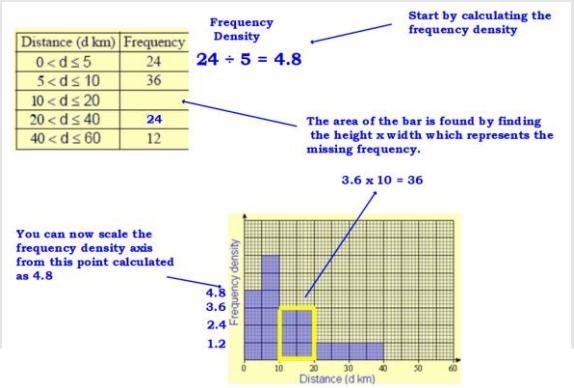
Box Plot

A way to show the spread of data in a picture form. The lowest quartile is the value 25% of the way through the data. The median is the middle value. The Upper quartile is 75% of the way through the data. The interquartile range is the difference between the LQ and UQ and is useful as it gives you a measure of spread that excludes outliers around the max and min values unlike the range. The IQR is more reliable therefore.



Histograms

Like a bar chart but where the area of each bar represents the frequency of the bar and not the height. The frequency density is found when you divide the frequency by the class width (group width)



Vocabulary

Modal Class	The group with the highest frequency
Inter-Quartile Range	Upper quartile – Lower quartile. This is a measure of range / consistency.
Line of best fit	A line which goes through the middle of the pints to best describe the general correlation. You should place it so that the same number of points are above and below the line and that it goes in the general direction of the points. It does NOT have to join the "corner" of the graph.
Discrete data	Data which takes integer values only.
Continuous data	Data which can take any decimal value.

Vocabulary

Correlation	Where an identifiable link between two variables is shown to exist. One thing is affected by another.
Frequency	The number of times something happens or appears.
Consistency	The amount by which data points vary. The closer together data is (smaller IQR and range) the more like each other the data points are, so the more consistent the set of data is.
Outlier	A data point which does not seem to fit with the general pattern / correlation.
Data Set	The numbers/data that belongs to a specific group.
Population	All the members of a particular group.
Sample	A smaller sub-group of the larger population.
Random Selection	Where every member of a population has an equal chance of selection. This means the sample taken is fair or un-biased.
Bias	Not fair. This is seen when a sample is taken that allows a specific factor to influence the selection. This means every member of the population doe NOT have an equal chance of selection.

Maths Watch References - for further self study

57	Frequency Trees
61	Two-Way Tables
62	Averages and the Range
63	Data - Discrete and Continuous
65	Frequency Tables and Diagrams
130	Averages from a table
152	Sampling Populations
153	Time Series
176	Stratified sampling
186	Cumulative Frequency
187	Box Plots
205	Histograms

YEAR 9 - T2- STATISTICS- SCATTER DIAGRAMS AND CORRELATION

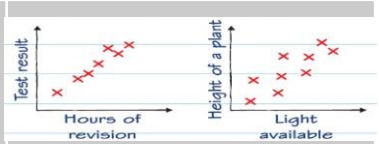
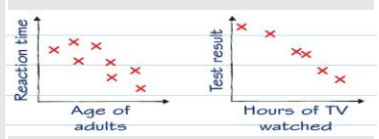
LEARNING - LOVING - LIVING

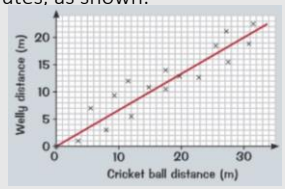
Important ideas

You can investigate whether there is a link between bivariate data using visual and numerical methods.

We can quantify the strength of any link using a numerical scale.

Key Facts & Formula

Positive correlation	
Negative correlation	
No correlation	
Coordinates of the mean point	$\bar{x} = \frac{\sum fx}{\sum f}, \bar{y} = \frac{\sum fy}{\sum f}$
Equation of LoBF	$y = ax + b,$
SRCC	$1 - \frac{6\sum d^2}{n(n^2 - 1)}$

Question	Answer
Correlation	
Describe the correlation you would expect for each of the following pairs of variables: a) Adult shoe size and waist size b) Hours of sunshine in a day and hours of rain in a day c) Power cuts and no. of candles sold	a) No / weak positive b) Weak negative c) strong positive
Regression lines	
The water in a water tank is measured every 30 minutes, as shown.  a) Find the equation of the regression line given on the scatter diagram b) The value of the gradient of the line c) The height of the water after 100 minutes	a) $y = 465 - \frac{7}{9}x$ b) For every minute that passes, the height of the water in the tank decreases by 7/9 of a centimetre. c) 387 cm to 3 s.f
Lewis and Dee tried eight flavours of ice-cream (A-h) and gave each flavor a mark from 1-20 where 20 is the best mark. Their results are shown in the table. a) Calculate the SRCC b) How do their tastes compare?	a) -0.405 to 3 d.p. b) There is moderately strong negative correlation, so their tastes are quite different.

	A	B	C	D	E	F	G	H
Lewis	13	19	1	10	14	18	15	6
Dee	20	6	15	13	2	8	16	10

Vocabulary

Explanatory variable	The variable that you change
Response variable	The variable that responds to the explanatory variable
Interpolation	Using a line of best fit to estimate values within a given data set.
Extrapolation	Predicting values beyond the given set of data
Regression line	Another name for the line of best fit.
SRCC (Spearman's Rank Correlation Coefficient)	A measure of the strength of correlation between two sets of data. The values lie between -1 and 1. The closer to 0, the weaker the correlation.
PMCC (Pearson's Product Moment Coefficient)	A measure of linear correlation used to measure the strength of the association between sets of data.
LoBF (Line of best fit)	You can use a line of best fit to summarise the relationship shown on a scatter diagram. It can be used to predict value.

YEAR 9 - T2- SCIENCE- CHEMICAL QUANTITIES

LEARNING - LOVING - LIVING

3.2 Relative formula mass (M_r)	*The sum of the relative atomic masses of the atoms in the numbers shown in the formula*	The sum of the M_r of the reactants in the quantities shown equals the sum of the M_r of the products in the quantities shown.	$2Mg + O_2 \rightarrow 2MgO$ 48g + 32g = 80g 80g = 80g

3.3 Mass changes when a reactant or product is a gas

Mass appears to increase during a reaction	*One of the reactants is a gas*	Magnesium + oxygen → magnesium oxide
Mass appears to decrease during a reaction	*One of the products is a gas and has escaped*	Calcium carbonate → carbon dioxide + calcium oxide

3.4 Chemical measurements

Whenever a measurement is taken, there is always some uncertainty about the result obtained	*Can determine whether the mean value falls within the range of uncertainty of the result*	1. Calculate the mean 2. Calculate the range of the results 3. Estimate of uncertainty in mean would be half the range

3.1 Conservation of mass	*No atoms are lost or made during a chemical reaction*	Mass of the products equals the mass of the reactants.

3.1 Conservation of mass and balanced symbol equations

Balanced symbol equations	*Represent chemical reactions and have the same number of atoms of each element on both sides of the equation*	$H_2 + Cl_2 \rightarrow 2HCl$ Subscript numbers show the number of atoms of the element to its left. Normal script numbers show the number of molecules.

3.8 Concentration of solutions

Measured in mass per given volume of solution (g/dm^3)	*Conc. = mass (g) / volume (dm^3)*	HT only Greater mass = higher concentration. Greater volume = lower concentration.

Example:
1. Mean value is 46.5s
2. Range of results is 44s to 49s = 5s
3. Time taken was 46.5s ±2.5s

3.6 Amounts of substances in equations (HT only)

3.6 Chemical equations show the number of moles reacting and the number of moles made	*$Mg + 2HCl \rightarrow MgCl_2 + H_2$* *One mole of magnesium reacts with two moles of hydrochloric acid to make one mole of magnesium chloride and one mole of hydrogen*	If you have a 60g of Mg, what mass of HCl do you need to convert it to $MgCl_2$? A_r : Mg =24 so mass of 1 mole of Mg = 24g M_r : HCl (1 + 35.5) so mass of 1 mole of HCl = 36.5g So 60g of Mg is 60/24 = 2.5 moles Balanced symbol equation tells us that for every one mole of Mg, you need two moles of HCl to react with it. So you need 2.5x2 = 5 moles of HCl You will need 5 x 36.5g of HCl= 182.5g

3.7- Using moles to balance equations (HT only)

The balancing numbers in a symbol equation can be calculated from the masses of reactants and products	*Convert the masses in grams to amounts in moles and convert the number of moles to simple whole number ratios.*

3.5 -Moles (HT only)

Chemical amounts are measured in moles (mol)	*Mass of one mole of a substance in grams = relative formula mass*	One mole of H_2O = 18g (1 + 1 + 16) One mole of Mg = 24g

Avogadro constant	*One mole of any substance will contain the same number of particles, atoms, molecules or ions.*	6.02×10^{23} per mole One mole of H_2O will contain 6.02×10^{23} molecules One mole of NaCl will contain 6.02×10^{23} Na^+ ions

Number of moles = mass (g) / A_r or mass (g) / M_r

How many moles of sulfuric acid molecules are there in 4.7g of sulfuric acid (H_2SO_4)?
Give your answer to 1 significant figure.

4.7 / 98 = 0.05 mol (M_r of H_2SO_4)

Limiting reactants (HT only)

The reactant that is completely used up	*Limits the amount of product that is made*	Less moles of product are made.

YEAR 9 - T2- SCIENCE- CHEMICAL QUANTITIES

LEARNING - LOVING - LIVING

3.9 Percentage yield

Percentage yield is comparing the amount of product obtained as a percentage of the maximum theoretical amount	*% Yield = Mass of product made x 100* *Max. theoretical mass*	A piece of sodium metal is heated in chlorine gas. A maximum theoretical mass of 10g for sodium chloride was calculated, but the actual yield was only 8g. *Calculate the percentage yield.* Percentage yield = 8/10 x 100 =80%

Yield is the amount of product obtained	*It is not always possible to obtain the calculated amount of a product*	The reaction may not go to completion because it is reversible.
		Some of the product may be lost when it is separated from the reaction mixture.
		Some of the reactants may react in ways different to the expected reaction.

HT only:

200g of calcium carbonate is heated. It decomposes to make calcium oxide and carbon dioxide. *Calculate the theoretical mass of calcium oxide made.*

$CaCO_3 \rightarrow CaO + CO_2$

M_r of $CaCO_3 = 40 + 12 + (16x3) = 100$

M_r of CaO $= 40 + 16 = 56$

100g of $CaCO_3$ would make 56 g of CaO

So 200g would make 112g

3.8 Concentration of a solution is the amount of solute per volume of solution	*Concentration = amount (mol) (mol/dm³) volume (dm³)*	What is the concentration of a solution that has 35.0g of solute in 0.5dm³ of solution? 35/0.5 = 70 g/dm³

Titration	*If the volumes of two solutions that react completely are known and the concentrations of one solution is known, the concentration of the other solution can be calculated.*	$2NaOH(aq) + H_2SO_4(aq) \rightarrow Na_2S0_4(aq) + 2H_2O(l)$ It takes 12.20cm³ of sulfuric acid to neutralise 24.00cm³ of sodium hydroxide solution, which has a concentration of 0.50mol/dm³. Calculate the concentration of the sulfuric acid in mol/dm³: 0.5 mol/dm³ x (24/1000) dm³ = 0.012 mol of NaOH The equation shows that 2 mol of NaOH reacts with 1 mol of H_2SO_4, so the number of moles in 12.20cm³ of sulfuric acid is (0.012/2) = 0.006 mol of sulfuric acid Calculate the concentration of sulfuric acid in mol/ dm³ 0.006 mol x (1000/12.2) dm³ =0.49mol/dm³

Using concentrations of solutions in mol/dm³ (HT only, chemistry only)

3.10 A measure of the amount of starting materials that end up as useful products	Atom economy = Relative formula mass of desired product from equation x 100 Sum of relative formula mass of all reactants from equation	High atom economy is important or sustainable development and economic reasons

Atom economy

Calculate the atom economy for making hydrogen by reacting zinc with hydrochloric acid:

$Zn + 2HCl \rightarrow ZnCl_2 + H_2$

M_r of H_2 $= 1 + 1 = 2$

M_r of $Zn + 2HCl = 65 + 1 + 1 + 35.5 + 35.5 = 138$

Atom economy = $^2/_{138} \times 100$

$= {}^2/_{138} \times 100 = 1.45\%$

This method is unlikely to be chosen as it has a low atom economy.

3.12 Use of amount of substance in relation to volumes of gases (HT only, chemistry only)

Equal amounts of moles or gases occupy the same volume under the same conditions of temperature and pressure	*The volume of one mole of any gas at room temperature and pressure (20°C and 1 atmospheric pressure) is 24 dm³*	No. of moles of gas = vol of gas (dm³) / 24dm³

What is the volume of 11.6 g of butane (C_4H_{10}) gas at RTP?

M_r: (4 x 12) + (10 x 1) = 58

11.6/58 = 0.20 mol

Volume = 0.20 x 24 = 4.8 dm³

6g of a hydrocarbon gas had a volume of 4.8 dm³. Calculate its molecular mass.

1 mole = 24 dm³, so 4.8/24 = 0.2 mol

M_r = 6 / 0.2 = 30

If 6g = 0.2 mol, 1 mol equals 30 g

YEAR 9 - T2- SCIENCE- CHEMICAL QUANTITIES

LEARNING - LOVING - LIVING

State	*Particle arrangement*	Properties
Solid	*Packed in a regular structure. Strong forces hold in place so cannot move.*	Difficult to change shape.
Liquid	*Close together, forces keep contact but can move about.*	Can change shape but difficult to compress.
Gas	*Separated by large distances. Weak forces so constantly randomly moving.*	Can expand to fill a space, easy to compress.

Particle model

Density	*Mass of a substance in a given volume*	Density = mass ÷ volume.

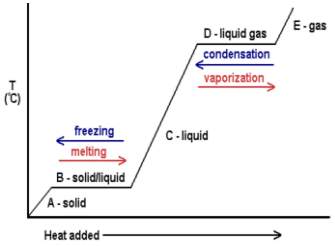
PHYSICS ONLY: when you do work the temperature increases e.g. pump air quickly into a ball, the air gets hot because as the piston in the pump moves the particles bounce off increasing kinetic energy, which causes a temperature rise.	Reducing the volume of a fixed mass of gas increases the pressure.
	Halving the volume doubles the pressure.

PV = constant.

$P_1V_1 = P_2V_2$

Change of state

Freezing	Liquid turns to a solid. Internal energy decreases.
Melting	Solid turns to a liquid. Internal energy increases.
Boiling / Evaporating	Liquid turns to a gas. Internal energy increases.
Condensation	Gas turns to a liquid. Internal energy decreases.
Sublimation	Solid turns directly into a gas. Internal energy increases.
Conservation of mass	When substances change state, mass is conserved.
Physical change	No new substance is made, process can be reversed.



Kinetic theory of gases

Pressure of a fixed volume of gas increases as temperature increases (temperature increases, speed increases, collisions occur more frequently and with more force so pressure increases).

Temperature of gas is linked to the average kinetic energy of the particles.

If kinetic energy increases so does the temperature of gas.

No kinetic energy is lost when gas particles collide with each other or the container.

Gas particles are in a constant state of random motion.

P = m ÷ V

Specific Heat Capacity	*Energy needed to raise 1kg of substance by 1°C*	Depends on: • Mass of substance • What the substance is • Energy put into the

Change in thermal energy = mass **X** specific heat capacity **X** temperature change.

ΔE= m **X** c **X** Δθ

Internal energy		
	Energy stored inside a system by particles	Internal energy is the total kinetic and potential energy of all the particles (atoms and molecules) in a system.
	Heating changes the energy stored within a system	Heating causes a change in state. As particles separate, potential energy stored increases. Heating increases the temperature of a system. Particles move faster so kinetic energy of particles increases.

Internal energy and energy transfers

Specific Latent Heat	*Energy needed to change 1kg of a substance's state*
Specific Latent Heat of Fusion	*Energy needed to change 1kg of solid into 1 kg of liquid at the same temperature*
Specific Latent Heat of Vaporisation	*Energy needed to change 1kg of liquid into 1 kg of gas at the same temperature*

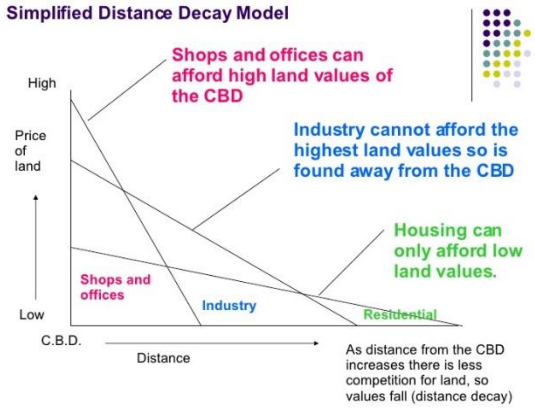
Energy needed = mass **X** specific latent heat.

Energy needed = mass **X** specific latent heat.

ΔE= m X L

YEAR 9 - T2- GEOGRAPHY - THE UK'S EVOLVING HUMAN LANDSCAPE

No.	Key Term	Definition
1	Population density	The average number of people in a given area, expressed as people per km².
2	Multipler effect	When people or businesses move to an area and invest money on housing and services, which in turn creates more jobs and attracts more people.
3	Northern Powerhouse	Liverpool, Manchester, Leeds, Bradford and Sheffield form a major core region that almost rivals London's population for size.
4	Affluent	Wealthy
5	Enterprise zones	Places where the UK government offers companies help with start up costs, reduced taxes and access to super fast broadband. In 2015 there were 24, all in England most in urban areas.
6	Net migration	More people immigrating (coming in) than emigrating (going out).
7	Multicultural	A variety of different cultures or ethnic groups within one society.
8	Ageing population	A population that has a large amount of older people.
9	The domino effect	The collapse of one industry leads to the collapse of other industries.
10	Old economy	Primary and second sector jobs
11	New Economy	Tertiary and quaternary sector jobs, service sector jobs, knowledge economy.
12	Footloose	Industries that locate anywhere (as long as there is good internet/communication links)



No.	Newham		Richmond
13	Infant mortality rate (per 1000 births)	5.5	2.75
14	People living with a long term illness (%)	12.3	7.6
15	Premature deaths (before 65, per 100 000 population	210	121
16	Percentage of students aged 16 who did not get 5 GCSE at A*-C (2012)	62	63
17	% of 19 years olds with no qualitifications	41	37
18	% of 5-16 year olds taking free schools meals	20	8.4
19	% adults educated to degree level	26	64

Field work		
No.	Key Term	Definition
20	Enquiry	Means the process of investigation to find an answer to a question
21	Fieldwork	Work carried out in the outdoors
22	Primary Data	Data you have collected yourself.
23	Secondary data	Data that has been collected by someone else
24	IMD	Index of Multiple Deprivation
25	Census	A survey of households conducted in the UK once every ten years. The last one was 2011
26	Random sampling	Where samples are chosen fairly randomly, and every person in a questionnaire has an equal chance of being selected.
27	Systematic Sampling	Working to a system to collect data, for example, every 20 meters or paces along a road to record land use.
28	Stratified Sampling	Collecting a sample made up of different parts; for example deliberately selecting samples of different people within the city so you include the whole range of people found there.
29	Qualitative	Data collection that uses numbers
30	Quantitative	Data collection that doesn't rely on numbers or counting.
31	Quartiles	Dividing a list of numbers into four equal groups.

YEAR 9 - T2- HISTORY- CRIME, PUNISHMENT AND LAW ENFORCEMENT IN EARLY MODERN ENGLAND 1500-1700

LEARNING - LOVING - LIVING

Early Modern England Crime and Punishment	
1	Between c.1500-c.1700, there were wide ranging social, religious and political changes in England. Religion became more volatile after Henry VIII's divorce. Many religious activities were now viewed as religious crimes. The Gunpowder Plot increased fears around religious conflict in England. The English Civil Wars also led to great instability. The C17th saw persecution for witchcraft and during this period, the ruling elite continued to use the law to protect their own position in society. Punishment became harsher and more varied.
Key events	
2	**1509-47** – Reign of Henry VIII.
3	**1547-53** – Reign of Edward VI.
4	**1547** – Vagrancy Act – An able bodied vagabond who was without work for more than 3 days was to be branded with the letter V and sold as a slave for 2 years.
5	**1553-58** – Reign of Mary I.
6	**1558-1603** – Reign of Elizabeth I.
7	**1597** – Act for the Relief of the Poor – included harsh punishments to act as a deterrent to vagrants.
8	**1601**- Poor Laws aimed to make all local parishes provide poor relief for anybody who was not physically fit to work.
9	**1603-25** – Reign of James I.
10	**1605** – Gunpowder Plot.
11	**1606** – Popish Recusants Act – forced Catholics to take an oath of allegiance to the English Crown.
12	**1653-1658** – Rule of Oliver Cromwell as Lord Protector.
13	**1671**- Game Act – poaching was illegal.
14	**1688** – 50 capital crimes.
Key Concepts	
15	**Religious changes** in the C16th led to new and changing definitions of criminal activity.
16	**Economic changes** led to an increase in unemployment and vagrants and a suspicion of the poor by the upper classes.
17	Poaching and smuggling were seen to be '**social crimes**'.
18	The **population grew dramatically**, from 2.5 million in 1500 to 5 or 6 million by 1700. Urban areas grew too.
19	Between 1500 and 1700**, law enforcement was similar to how it had been in the Middle Ages**. The community were still expected to take a leading role in stopping and finding suspects.
20	Growth of towns and rising crime rates meant that **a new co-ordinated approach to enforcing law was needed.**
21	**Catholic persecution increased** after the Gunpowder Plot of 1605.

Key Words		
22	**Martin Luther**	German monk who protested against the Catholic Church.
23	**Reformation**	The change from Catholicism to Protestantism.
24	**Heretics**	People who had a different religion to the monarch.
25	**Treason**	To challenge the authority of the monarch and their authority as Head of the Church of England.
26	**Burned at the stake**	Tied to a wooden post and a fire lit beneath the victim.
27	**Middle Way**	The attempt of Elizabeth I to create a Protestant Church that was not too challenging to Catholic traditions.
28	**Act of Uniformity**	Everyone had to go to church on Sundays and holy days or pay a fine.
29	**Recant**	Make a public statement that you have changed your religious beliefs.
30	**Excommunicate**	Eject from the Catholic Church.
31	**Fox's Book of Martyrs**	Published I 1563, it describes the persecution of Protestants by Catholics under the reign of Bloody Mary (Mary I).
32	**Vagabonds/Vagrants**	Unemployed and homeless people who left their village or town in search of work.
33	**Deserving Poor**	Elderly and disabled.
34	**Undeserving Poor**	Those fit to work but did not.
35	**Poor Relief**	Financial assistance for the poorest members of society.
36	**Enclosed**	Fenced off for the exclusive use of the landowner.
37	**Import Duties**	Taxes payable on goods imported into the country.
38	**Smuggling**	Sneaking good into the country to avoid import duties.
39	**Decriminalise**	Make an activity legal, or no longer a crime.
40	**Puritan**	A radical Protestant.
41	**Protectorate**	The period that Oliver Cromwell was in charge.
42	**Night watchman**	Early form of policing. Worked for the town constable who was employed by the town authorities.
43	**Thief takers**	Paid a reward for catching a criminal and delivering them to the law.
44	**Jonathan Wild**	An infamous thief taker in London who secretly led a gang of thieves who claimed rewards when they handled stolen goods.
45	**Bridewell Prison**	Built in 1556 and used to punish poor people who had broken the law.
46	**Capital Crime**	A crime that is punished by the death penalty.
47	**Pardon**	When a person is let off punishment for a crime of which they have been convicted.
48	**Bloody Code**	Harsh attitude to law making. Many crimes were punishable by death.
49	**Transportation**	Being sent away from England to serve a period of punishment in a colony abroad.
50	**Colonies**	New settlements in foreign lands – often taken by force from the original inhabitants.
51	**Plead for belly**	Pregnant women condemned to death asked to be allowed to live until the baby was born.
52	**Rehabilitation**	Help someone return to normal life and society after they have committed a crime.
53	**Conspirator**	Someone who is involved in a conspiracy – a secret plan to do something illegal.
54	**Pact**	A formal agreement.
55	**Demonologie**	Book published in 1597 by James I about the nature of Hell and witches.
56	**Superstition**	Belief based on old ideas about magic rather than reason or science.
57	**Matthew Hopkins**	A self proclaimed Witchfinder General who hunted down witches in the East of England.
58	**Familiars**	Animals who worked for the devil and witches.
59	**Swimming Test**	Involved drowning the accused. The guilty would float and the innocent would sink.
60	**Enlightenment**	Philosophical movement of the C17th and C18th that focused on the use of reason to question and analyse ideas that were previously taken for granted.
61	**Royal Society**	Established in London in 1660 and brought together thinkers and scientists from a wide range of academic fields.

YEAR 9 - T2- HISTORY- CRIME, PUNISHMENT AND LAW ENFORCEMENT IN INDUSTRIAL AGE ENGLAND 1700-1900

C18th and C19th Crime and Punishment	
1	This period saw rapid population growth and increased urbanisation meant more opportunities for crime. There was significant poverty in the cities and enforcing crime became more problematic. There was a change in attitudes too – prisons were for reforming criminals and not just punishing them. Important individuals in this time included John Howard, a prison reformer, and Robert Peel, the founder of the Metropolitan Police.
Key events	
2	**1690** – Excise duty extended to salt, leather and soap and mounted customs officers introduced.
3	**1716** – Last known execution for witchcraft.
4	**1723** – Black Act makes poaching game or damaging forest a capital crime.
5	**1735** – Witchcraft Act decriminalised witchcraft.
6	**1748** – Fielding brothers set up the Bow Street Runners.
7	**1778** – Transportation to Australia introduced.
8	**1789** – French Revolution.
9	**1810**- 222 crimes are capital offences.
10	**1816**- The first national prison opens at Milbank, London to hold convicts awaiting transportation.
11	**1823** – Black Act repealed.
12	**1829**- Metropolitan Police Act
13	**1832** – 60 crimes are capital offences.
14	**1835** – Gaols Act introduces inspection of prisons.
15	**1842** – Pentonville prison set up on the site of old Milbank prison.
16	**1850** – Import taxes cut and large scale smuggling reduced.
17	**1856** – Police Act makes it compulsory for all towns and counties to set up a police force.
18	**1868** – Public execution ended.
19	**1869** – National Crime Records established.
20	**1877** – All prisons are brought under government authority.
21	**1878** – Criminal Investigations Department set up.
22	**1898** – Prison Act emphasises rehabilitation and reform of prisoners.
23	**1902** – Holloway Prison for women opens/ first conviction in court using fingerprint evidence.
Key Concepts	
24	Smuggling and highway robbery became less common in the C19th.
25	There were increasingly harsh and unpopular laws against poaching but they were repealed in the 1820's.
26	The **growth of the prison system** meant that an alternative punishment to transportation was available.
27	Early C18th law enforcement continued to use similar methods to the early modern period but the establishment of the **Bow Street Runners was a very important development in policing that laid the foundations for the Metropolitan Police Act**.
28	The government was concerned with punishing wrongdoing and deterring others from crime by ensuring conditions were sufficiently harsh.

Key Words		
29	**Smugglers**	People who brought goods into the country and sold them on, without paying duties.
30	**Hawkhurst Gang**	A large smuggler gang which operated in the South East of England from 1735 to 1749.
31	**William Pitt**	Prime Minister who lowered import duties and who helped to reduce smuggling.
32	**Highway Robbery**	Threatening and attacking travellers and forcing them to hand over valuable possessions.
33	**Turnpikes**	Roads with a toll gate.
34	**Jack Shepherd/ Dick Turpin**	Famous highwaymen.
35	**Tolpuddle Martyrs**	Men from the village of Tolpuddle in Dorset who formed an early trade union.
36	**Martyr**	A person who suffers for their beliefs, and often is admired for it.
37	**George Loveless**	Leader of the Tolpuddle Martyrs.
38	**Trade Union**	An organisation that represents workers to protect their rights.
39	**Transportation**	Criminals were sent to America and later Australia as punishment for their crimes.
40	**Home Secretary**	The government minister with responsibility for law and order.
41	**Hulk**	Disused ships used as floating prisons just offshore.
42	**Inhumane**	Cruel, without compassion.
43	**The Tyburn Tree**	The most famous place for public executions. The tree could hang 24 people at once.
44	**Treadwheel**	A common form of hard labour where the prisoner walked up the wheel for 10 minutes at a time with a 5 minute break before the next stint.
45	**John Howard**	Campaigner for prison reformer.
46	**Elizabeth Fry**	Campaigner for prison reformer.
47	**Humanitarianism**	A school of thinking based on the principle that all humans are equal and inhumane treatment of other human beings should be challenged.
48	**Bow Street Runners**	A crime fighting team, established in London, in 1748, by the Chief Magistrate, Henry Fielding. By 1785, they were officially paid by the government.
49	**Metropolitan Police Act**	Gave London a uniformed police force. Set up by Home Secretary, Robert Peel.
50	**Prototype**	A new idea or design that is tried out before more versions are made.
51	**Separate system**	Prisoners were kept apart as much as possible.
52	**Pentonville Prison**	Designed as a model prison by Joshua Jebb.
53	**Psychosis**	A confused state where sufferers have hallucinations and delusions – seeing and imagining things that are not really there.
54	**Hard labour, hard fare and hard board**	Physically demanding work, boring and bland diet and wooden board beds.
55	**Robert Peel**	Home Secretary responsible for bringing in a wide range of changes to criminal law and for reforming prisons. Some historians call him the 'father of modern policing'.
56	**Penal**	Involving punishments.

YEAR 9 - T2- RELIGIOUS EDUCATION- MATTERS OF LIFE AND DEATH

LEARNING - LOVING - LIVING

BOX 1: Key words.

Afterlife – Life after death; the belief that existence continues after physical death.
Euthanasia – Greek for 'a good death'. Sometimes known as 'mercy killing'. Killing or permitting the death of a seriously ill person.
Evolution – The process by which different living creatures have developed from earlier less complex forms during the history of the earth.
Abortion – When a pregnancy is ended so that it does not result in the birth of a child.
Quality of life – The extent to which life is meaningful and pleasurable.
Sanctity of life – The belief that life is precious, or sacred. For many religious believers, only human life holds this special status.
Bioethics – the process of deciding what is good and acceptable in medicine.
Situation ethics – judging the rightness or wrongness of an act on a case-by-case basis. Basing moral decision-making on the most loving thing.
Hospice – A place where those with terminal illness go to die with dignity. Palliative care – focuses on relieving pain and suffering.
Purgatory – A Catholic place of waiting to have sins forgiven before entering heaven.

BOX 2: The scientific origins of the world

Charles Darwin in the 1800s explained how living creatures have evolved through a process of gradual change over millions of years.

Natural selection was observed on the Galapagos Islands where finches (birds) had different shaped beaks on different islands to suit the environment and eat food. These characteristics happened by chance but helped them survive and pass on these traits to their offspring. **'The survival of the fittest.'** Over time, this process led to new species of animals. It is how humans evolved.

Theory of the Expanding Universe Lemaitre argues that the universe is expanding outwards and possibly into infinity. Lemaitre also argues that time and space began 15 billion years ago from a singularity which was infinitely hot and dense and expanded causing sub-atomic particles and atoms to appear. He referred to this argument as hypothesis of the 'primeval atom' or the 'cosmic Egg'. Stars and planets were formed, including Earth.

BOX 3: The sanctity of life

Most people believe to have **life is special** but religious people believe this because it is God's gift. This belief has an impact on issues of **bioethics** such as **abortion** and **euthanasia**.

Christians believe God is involved in His creation and has made everyone unique. He made humankind in His own image which means all life is sacred. Only G-d should take life away. Quakers oppose the death penalty and war. God chooses when life begins. Catholics disagree with IVF and contraception.

Humanists argue there is no soul or afterlife as this is the only life we get. Therefore life is special and its purpose is to make us and others happy.

The quality of life

Some argue this is more important than the sanctity of life. If we are free from pain and can live in freedom and dignity then we have a good quality of life. If pain outweighs pleasure, then we are have a poor quality of life. Measuring our quality of life is difficult as we all experience different tolerance to pain and pleasure. Government look at living conditions, health, education, the economy and human rights to determine the quality of life. This belief impacts medical ethics where some argue if the quality of life has deteriorated then someone should be allowed to die (**euthanasia**).

BOX 4: Abortion

Life begins at different points for people. Some argue it is at **conception** (when the sperm meets the egg). Other when the baby can be felt in the womb. Others it's when the nervous system and organs develop. At **24 weeks** the baby has viability and can survive if born. This is the **UK legal limit** for an abortion where 2 doctors must agree. For some it is at birth. **Pro-life** people believe abortion is always wrong as the foetus has a right to life. UK law however does not recognize an unborn child as a person**. Pro-choice** people believe a women should have a right to choose what happens to her body.

Catholics do not allow abortions due to the sanctity of life. Life begins at conception. It is murder and against the 10 Commandments.

Church of England opposes abortion for social reasons but not if the mother's life is in danger, or it affects the quality of her life (e.g rape).

Humanists look for the least amount of harm to be brought to all concerned. There is not one view, but many are liberal and pro-choice.

YEAR 9 - T2- RELIGIOUS EDUCATION- MATTERS OF LIFE AND DEATH

LEARNING - LOVING - LIVING

BOX 5: Euthanasia
The four types of euthanasia:
Voluntary (asks to die)
Active (tries to end their life)
Passive (treatment is removed)
Involuntary (forced death)
Usually the poor **quality of life** and suffer from incurable degenerative diseases is the reason someone may want to end their life. Euthanasia is **illegal in the UK** but legal in countries like Switzerland where the ***Dignitas*** clinic exists.

Christians mostly disagree stating the **sanctity of life** argument or see it as murder/ going against the 10 Commandments and also believe there is purpose in suffering. Many Christians see **Hospices** as an alternative. **Liberal Christians** might agree to life support being turned off or withholding treatment as it is the most loving thing (**situation ethics**).

Humanists support legalising **voluntary euthanasia** and not just for the terminally ill. People should be able to die with dignity and when faced with a poor **quality of life**.

BOX 7: Heaven and Hell
For **Christians**, heaven is to be in God's presence. **Evangelicals** argue it is a real place. **Liberal Christians** say heaven is symbolic. Heaven is believe to be a reminder there are consequences to actions and thoughts.

For **Christians** hell is to be in constant torment cut off from all things good and loving. **Evangelicals** argue it is a real place. **Liberal Christians** say hell is symbolic. A reminder there are consequences to actions and thoughts.

The **Roman Catholic Church** teaches that after death there is a state of **Purgatory**. This is a place where some people who have sinned are purified in a 'cleansing fire', after which they are accepted into Heaven.

Humanists say there is no heaven or hell, the dead live on through the memories of the living.

BOX 6: Life after Death
Christians believe in resurrection and everlasting life. Jesus modelled what would happen to our mortal bodies by rising from the dead. On **Judgement Day** God will decide who enters paradise and who doesn't. **Dualists** believe the body will decay upon death and the soul, which is immortal, will be reunited with God in heaven. **Evangelicals** argue we will have a bodily resurrection like Jesus. St Paul says it will be a spiritual body.

The Parable of the Sheep and Goats reveals that Jesus will separate those who followed Him (sheep) from those who rejected Him (goats).

Humanists say we can reflect on our own lives. There is nothing after death. We should live morally for ourselves and others, not God.

BOX 8: Sources of Authority
"I am the resurrection and the life; he who believes in me will live, even if he dies". -John 11:25

"I believe in the resurrection of the body and the life everlasting."
Apostles' Creed

"Before I formed you in the womb I knew you" - Jeremiah 1: 5

"Don't you know that your body is the temple of the Holy Spirit"-
1 Corinthians 6:19

"You shall not kill" 10 Commandments - Exodus 20:13

"I revere the sanctity of life – but not at any cost" - Archbishop Desmond Tutu

"Why keep anyone alive when all the dignity, beauty and meaning of life had vanished… and when we should have been punished by the state if we had kept alive an animal in similar conditions" Dr. Leslie Weatherhead
leader of the Methodist Church

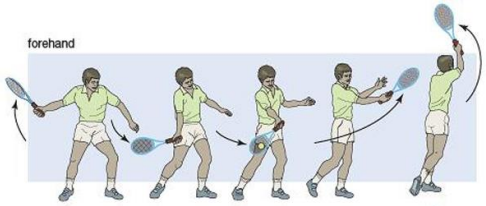
" We need to provide better care for the dying rather than kill them off 'early." Methodist Conference 1974

YEAR 9 - T2- PHYSICAL EDUCATION– STRIKING AND FIELDING

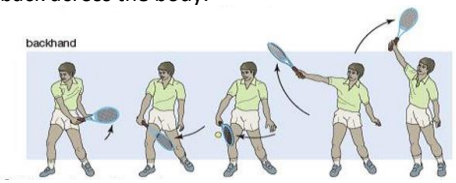
- Striking and fielding includes; **tennis, cricket, rounders, softball** (games where you are hitting (striking) the ball).
- Fielding is the role of the team out in the field trying to stop the striker / runner scoring points by getting them out.
- This varies among different sports but essentially they are 'stumped out'.

Tennis 1:
- A game played on a rectangular court either singles or doubles.
- Players stand on opposite sides of a net and use a racket to hit a ball back and forth to each other.
- Maximum of one bounce after it has been hit by their opponent to return the ball over the net and within the boundaries of the court – if a player fails to do any of these three things, the opponent wins a point.
- Game – set – match.

Tennis 2: A **forehand** in tennis is a simple way to return the ball. It is played on your **strong side,** standing side on to the ball and the racket swings back to front **transferring your weight** at the same time.



Tennis 3: A **backhand** in tennis is more technical than a forehand and is played on your weaker side. You should swing the racket to your weak side, make connection with the ball and the racket comes back across the body.

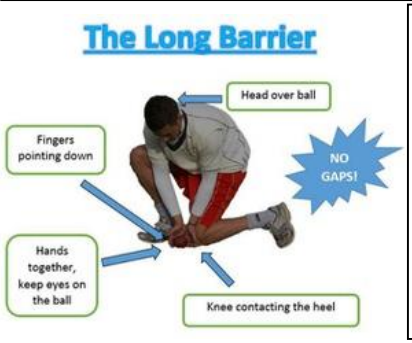


Cricket:
- The aim of cricket is simple - score more than the opposition.
- Two teams, both with 11 players, take it in turns to bat and bowl.
- When one team is batting, they try and score as many runs as they can by hitting the ball around an oval field.
- The other team must get them out by bowling the ball overarm at the stumps, which are at either end of a 22-yard area called a wicket.
- The bowling team can get the batsmen out by hitting the stumps or catching the ball.
- Once the batting team is all out, the teams swap over and they then become the bowling side.

Rounders:
- Two teams with a maximum of 15 players and a minimum of 6 with no more than 9 on the field at one time.
- The ball must be bowled below the shoulder but above the knee.
- A rounder is scored if 4th post is reached and half a rounder is scored if 2nd base is reached.
- You can get the batter out by catching them out or stumping the post they're running to.
- Softball consists of a **pitcher**, **catcher**, four **infielders**, and three **outfielders**.
- A strike is called when the batter swings at a pitch whether it is deemed to be in the strike zone or not.

Catching skills:
- Hands should be ready at chest height in a *bucket*.
- Eye on the ball.
- Step back as you receive and keep the body balanced.

Fielding is an important part of all striking and **fielding** games. Effective fielding is going to prevent the batting / striking team from scoring points by getting players *out.*
Good fielders need to be able to throw and catch well and also stop the ball not always with their hands (long and short barrier).



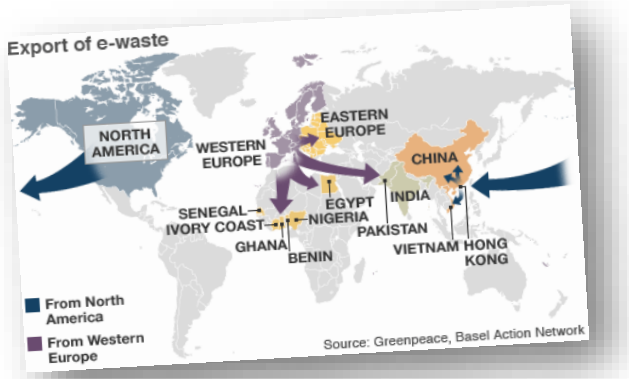
The **long barrier** is used in all fielding games if the ball is coming to you along the ground i.e rolling. You kneel down, making a barrier from your leg and foot, cup your hands together, keeping your eye on the ball.

Throwing technique:
- Stand side on, weight on back foot, pull strong arm back, above shoulder height, other arm pointing to target.
- Transfer weight from back foot, push arm forward, pivot hips to face direction of throw, rotate shoulder / arm towards target.
- Flick wrist at point of release (at ear) and follow through.

Questions:
1. Name four sports that are striking and fielding?
2. Explain the long barrier technique in your own words.
3. Explain the throwing technique above in your own words.
4. How do you *get people out* in striking and fielding games?
5. How do you score points in rounders and cricket?
6. Name 2 movements in tennis.

Environmental Issues

- Negative Impacts
  - Energy Consumption
  - E-Waste and health →
- Recycling and Sustainability
- Positive Impacts
  - Climate monitoring
  - Teleworking
  - Reduced printing



Types of Software

- Proprietary
  - e.g. Windows, iOS and MacOS
  - Microsoft Office, Adobe Photoshop
- Open Source
  - e.g. Linux and Android
  - LibreOffice, The GIMP
- Cost versus support model

Privacy and Security

- Location monitoring
- Mobile Phone providers
- Surveillance Cameras
- Encrypted messaging
- Data Protection Act
- Cybersecurity
  - Threats and Defences

Ethical Impact

- Inclusion / Accessibility
- The Digital Divide
- Professionalism
- Codes of Conduct

Challenge:

Use Quizlet study sets 06

Legislation

- Copyrights, Designs & Patents Act 1988
  - Intellectual Property
  - Hardware patents
- Computer Misuse Act
  - Hacking / viruses
- Data Protection Act 1998
  - Protects Personal data
  - 8 principles
  - Privacy, accuracy, security
- Software Licensing
  - Volume Licensing
  - Personal use licensing

Emerging Technologies

- Robotics, AI
- Internet of Things. Quantum Computing.

YEAR 9 - T2- DRAMA - ELEMENTS OF EPIC THEATRE AS USED BY BERTOLT BRECHT

1	**Multi-roling**	Performers play more than one character which can be differentiated by changes in movement, posture, gesture, body language, facial expression and voice.	8	**Placards**	Often used to give the audience additional information to deepen their understanding and offer them extra information about what they are seeing.
2	**Split roles:**	Where more than one performer plays the same character eg four different actors playing Macbeth to show different sides to his characters.	9	**Singing and dancing**	Used to make it clear to the audience that what they are watching is not real life- the style of the singing and dancing should not be polished as in the West End.
3	**Set, costume, props and lighting**	Simple in Brechtian theatre-obvious and functional.	10	**Spas**	Meaning 'FUN'- Brecht wanted audiences to think about what they were watching and he realised that comedy and satire was an effective way to do this.
4	**Narration**	To tell the audience what is going to happen or give scenes a title. Stops the audience feeling emotional about the action if they know what is going to happen.	11	**Montage**	Using images and sounds to distort or challenge conventional views of events, issues or situations.
5	**Direct Address**	This breaks the fourth wall and has the actors speaking directly to the audience so it stops the illusion of reality.	12	**Satire**	Uses humour and sarcasm to expose and mock somebody else's failings.
6	**Coming out of character**	Where a performer comes out of a character or role in the middle of a scene to explain what is happening or how they are feeling.	13	**Gestus**	Clearly defined gesture or movement performed by the character to demonstrate the essence of the character.
7	**Speaking the stage directions**	Used in rehearsals.	14	**Epic theatre**	About an event-tries to get the audience to change their mind about something and/or take action about a social injustice they see.

YEAR 9 - T2- MUSIC TECHNOLOGY- PERFORMING/PRACTICING

LEARNING - LOVING - LIVING

KEYWORDS

1- Performing: to play an instrument (including voice) to an audience.

2- Practice: To do something repeatedly in order to acquire or polish a skill.

3- Rehearsal: to prepare for a performance, typically as part of a group.

4- Maintenance: activities required or undertaken to conserve the original condition of an item.

5- Health & safety: regulations or procedures intended to prevent accident or injury.

5- technical ability: precise control; a skillful or efficient way of doing something.

5- dexterity: readiness and gracein a physical activity; skill and ease in using the hands/voice manually.

5- stamina: the ability or strength to keep doing something for a long time.

5- control: ability to manage an instrument; remaining in control of an instrument or piece.

Specific Instrumental Techniques to be learnt, developed & mastered:

DRUMS Rudiments
Rolls – single stroke, multiple bounce, double stroke
Diddles – single paradiddle, double, triple, paradiddle-diddle
Flams; Drags; Triplets
Fills

GUITAR
Scales – major, minor, pentatonic
Chords – power, major, minor
Arpeggios
Riffs

PIANO
Scales – major, minor, pentatonic, modal
Chords/Arpeggios – major, minor
Single-handed or double-handed

All instruments
Improvisation & Interpretation
Sight-reading
Performing solo
Performing as a band

PRACTICE TECHNIQUES

WARM UP
- Technical exercises: scales, arpeggios, strokes, etc.
- Understand the music – identify as much theory as possible – look for keys, scales, chords, patterns, rhythms).

SET A TARGET
- Know what you want to achieve in the session
- Be realistic

RECORD YOURSELF
Compare this with what the piece **should** sound like and identify the problem areas

IDENTIFY THE PROBLEM AREAS
Practice the parts you can't play (not the parts you can) first:
- Use a metronome
- Play it slowly, then speed it up
- Try the part in different rhythms so that you get the pitches accurate
- Aim to play it correctly **three time in a row** – if you make a mistake, start again!

BREAK IT DOWN
- Play the piece section by section: split the piece into **small** parts; practice each one until right; combine each section as you work through the piece
- Don't just play through the whole piece repeatedly, be focused
- Try to memorise sections

IF YOU CAN PLAY IT – ADD EXPRESSION!
- Add dynamics
- Play with the tempo
- Think about articulation & phrasing

PLAY ALONG WITH A RECORDING/ANOTHER PERSON

REWARD YOURSELF

YEAR 9 - T2- MUSIC TECHNOLOGY- COMPOSING PARTS

LEARNING - LOVING - LIVING

KEYWORDS

1- Compose: an original musical creation.
2- Style: The style or genre of music (Blues, Hip-Hop, Rock are 3 different musical styles).
3- Rhythm Track: a regular repeated pattern, often heard on drums.
4- Bassline: the lowest frequency notes in the composition.
5- Harmonic Progression: the chord changes that move to form the harmonic characteristic of the composition.
6- Melody: short riffs and musical ideas combined to create a tune
7- Lyrics: written words that are sung, spoken or otherwise performed with the composition.
8- Chord: 2 or more notes played simultaneously.
9- Conjunct: moving by step.
10- Phrase: a musical sentence, usually in 2, 4 or 8 bars.
11- Structure: how a piece is organized (Verse-chorus, ABA, strophic are 3 different types of song structure).

KEY QUESTIONS

What musical style are you composing?
What are the key music features of your chosen style?
What makes a successful composition in this style?

When composing a piece, all the parts should match and fit together harmoniously.

In order to do this, all the parts should relate to set of chords arranged together in a strong progression.

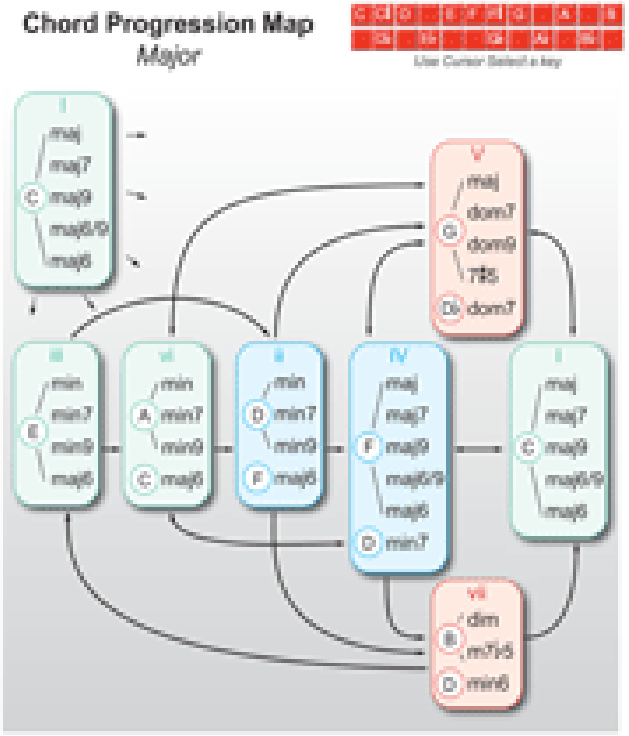
Different songs use different amounts of chords and chord progressions:

- Two-chord songs
- Three chords across 2-bars
- 4-bar patterns
- 8-bar patterns

The strongest chord progressions focus around the **tonic** (I), **subdominant** (IV) and **dominant** (V) chords.
You should avoid using the median (iii) and leading note (vii).

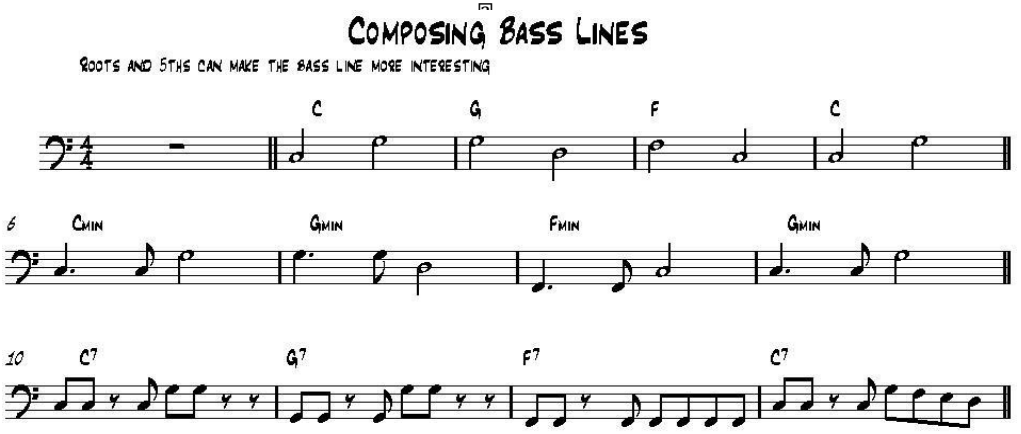
Listen to as many songs in your style and try to answer the analysis questions.

The more you listen to and identify the different features of all the parts, the better your composition will be!



CHECKLIST (3+)

1. Rhythm Track - drums or percussion?
2. Bassline - repetitive or melodic riff?
3. Harmonic Progression - how many chords? Will they change for different sections? Use the progression map for good progressions.
4. Melody - short motifs/riffs in phrases - structure.
5. Lyrics - sung or bars?

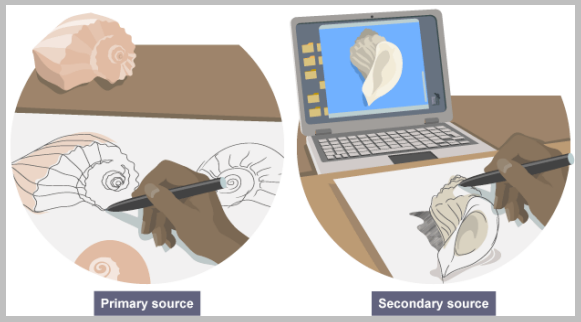


YEAR 9 - T2- ART – COLOUR AND PATTERN

LEARNING - LOVING - LIVING

Keyword	Description
1. Pattern	A design that is created by repeating lines, shapes, tones or colours. The design used to create a pattern is often referred to as a motif. Motifs can be simple shapes or complex arrangements
2. Weight	**T**he thickness of a mark or brushstroke
3. To **Block in**	**to BLOCK IN**: to fill in an empty area in an image with a certain colour before adding fine details such as shadows and highlights.
4. Composition	how objects or figures are arranged in the frame of an image
5. Contemporary	Living or occurring at the same time.
6. Negative Space	When drawing shapes, you must consider the size and position as well as the shape of the area around it. The shapes created in the spaces between shapes are referred to as **negative space**.
7. Geometric	characterized by or decorated with regular lines and shapes. "a geometric pattern"

B. Presenting work



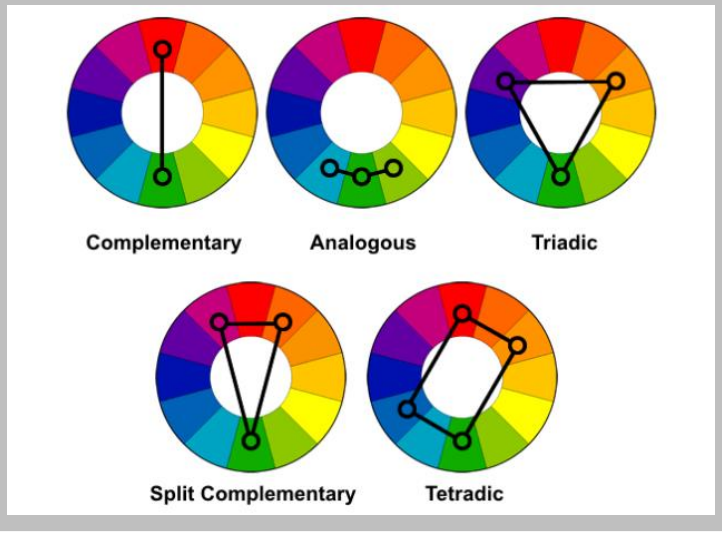
B1: Primary Source: Working from a first hand resource- something that is actually in front of you
B2: Secondary Source: Working from a second hand resource, such as a photograph.

Primary Sources allow you to:
B3: Examine your subject from different angles and change your viewpoint.
B4: Experience objects, images, people or places in different lighting conditions and compositions.
B5: Look at things close up or from further away.
B6: Take your own reference photographs from angles and in conditions that reflect your interests.
B7: Revisit your source material during your development process.

Secondary Sources cause problems such as:
B8: Not being able to draw from life will limit your decisions on viewpoint, composition and lighting.
B9: You will be relying on images generated by others based on their creative choices rather than your own.
B10: You may find it very difficult to carry out effective development like changing compositional arrangements.

C. Colour Harmony

12. Colour Harmonies are arrangements of colours which create a pleasing visual effect when pared together



C1. Complementary colours are opposite each other on the colour wheel
C2. Analogous colours are directly next to each other on the colour wheel.
C3. A triadic colour scheme uses colours that are evenly spaced around the colour wheel
C4. The split-complementary colour scheme is a variation of the complementary colour scheme.
C5. Tetradic (rectangle) colour scheme uses two pairs of complementary colours.

YEAR 9 - T2- FOOD TECHNOLOGY- FACTORS AFFECTING FOOD CHOICE

Religion	How each religion relates to food
1. Sikhism	• Many Sikhs are vegetarians • Sikhism teaches that its followers should only eat what they need to, and should avoid overindulging.
2. Christianity	• There are no strict rules about food • During lent Christians will give up certain foods or drink for 40 days and nights.
3. Hinduism	• Many are vegetarians but some try to avoid certain vegetables as they are considered harmful, such as; garlic, onions and mushrooms • The meat Hindus eat must be slaughtered using a quick, painless method called – Jhatka. • Cows are considered to be sacred, so Hindus are not allowed to eat beef.
4. Judaism	• Jewish food must be Kosher which fits in with their law – Kashrut. • Kosher means – fit for consumption • Kosher animals are animals with split hooves and chew cud – cows and deer also fish that have fins and scales – so NO shellfish is allowed. • These animals must be slaughtered using quick, painless methods which allow the blood to drain afterwards – blood is considered non-kosher • Jews are not allowed to eat pig, rabbit, hare, camel and many more. • Dairy and meats can not be cooked together or eaten together as a mixture.
5. Islam	• The Qur'an states that meat must be Halal – this is where lawful animals are slaughtered in a specific way while being blessed • Muslims cannot eat pork or any pork product – like gelatine • Ramadan is where Muslims fast between sunrise and sunset
6. Buddhism	• All living beings are sacred, so many Buddhists are vegetarian or vegan • Most avoid alcohol • Some Buddhists choose to fast from noon till sunrise the following day
7. Rastafarianism	• Many Rastafarians follow an I-tal diet (this means 'clean and natural') many diets are made up of fresh vegetables, some will eat fish (less then 30cm long) • Many will not drink alcohol

Ethical and moral factors	
1. Animal welfare	How well animals are reared and looked after.
2. Fairtrade	Making sure farmers in developing countries are paid fairly for their crops and their workers live in good conditions.
3. Intensive farming	Use of pesticides are used. Effects on the environment. and conditions in which animals, birds and fish are kept/using up lots of land to grown crops and animal feed/using up natural resources such as water.
4. GM foods (Genetically Modified)	Effects on the environment/ whether or not human should alter food in this way/it may affect people who have food allergies.
5. Local produce	Few food miles, supports local producers, foods purchased in season and can be cheaper.
6. Organic	Grown without the use of fertilisers, virtually no pesticides used. Better for the environment and soil.

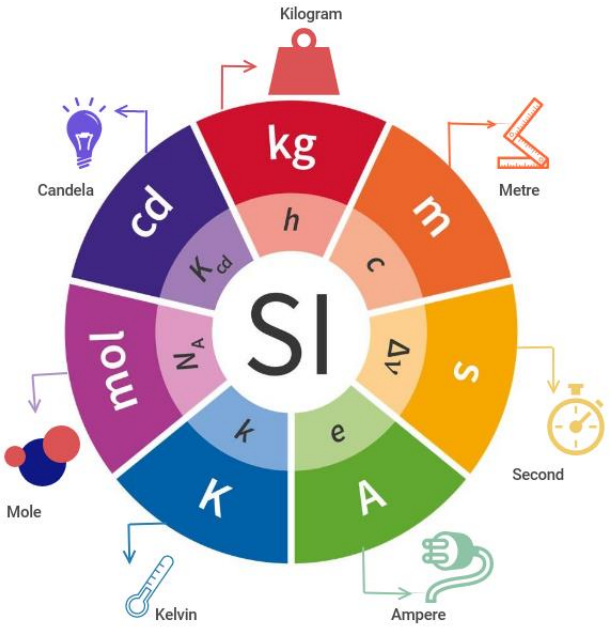
Vegetarians

There are different types of vegetarians but all vegetarians avoid eating meat and fish for many different reasons;

1. Religious beliefs such as Hindus, Muslims and Jews
2. Ethical beliefs – some people objects to the cruelty of killing animals or animal welfare
3. Medical reasons – cases of food poisoning, health scares such as BSE and Foot and Mouth disease are linked to meat consumption
4. Dislike of taste or texture
5. Family influences, peer pressure or media pressure
6. Environmental concerns – they can consider using land rearing animals wasteful

Type	Description
1. Lacto vegetarian	Don't eat meat, poultry, fish or eggs but will eat dairy products
2. Lacto-ovo vegetarian	Don't eat meat, poultry, fish but will eat eggs and dairy products
3. Vegan	Do not eat any food from animals including meat, fish, eggs, dairy products and honey from bees.

The International System of Units (SI)



The International System of Units (SI) is based on the metric system.

The General Conference on Weights and Measures, the highest organ of the Metre Convention, determines the SI and defines its units.

The SI is based on seven base units: the second, metre, kilogram, ampere, degree kelvin, candela and mole. With their help, all other units can be derived.

Chemical Engineering	
Pharmaceuticals	**Mole** - production of medicines **Kilo** - body mass to substance ratios **Time** - reaction times of substances
Fossil Fuels	**Kilo** - weights in refining **Kelvin** - temperatures in mining and refining **Mole** - chemical processing, testing and sampling
Food & Drinks	**Mole** - use of chemicals in production **Kilo** - nutritional information and breakdown, weights and ratios for food combinations **Time** - life span, reaction time to degradation

Electrical & Electronic Engineering	
Power Stations	**Ampere** - output of power **Candela** - output of light pollution **Kelvin** - temperatures in production to avoid explosions **Metre** - sizes of, building, cooling towers, chimneys
Household Appliances	**Second** - run time of appliances **Metre** - standard sizing for homes **Ampere** - for standard home electricals **Kelvin** - for appliances involving heat; microwaves, ovens, tumble dryers.etc **Candela** - for appliances which emit light; oven, TV, extractor hoods etc
Integrated Circuits	**Ampere** - current around the circuit **Metre** - dimensions of circuit

Mechanical Engineering	
Hydraulics	**Kilo** - weight ratios for lift **Metre** - maneuverability and lifting distances, part sizes to fit in machinery
Gears	**Metre** - sizes for fit in machine
Pulleys	**Kilo** - weight ratios for lift **Metre** - length of pulleys

Communications Engineering	
Telephone	**Time** - speed of information transfer, calculating frequency **Metre** - distance informations travels
Radio	**Time** - speed of information transfer, calculating frequency **Metre** - distance informations travels
Fibre Optic	**Candela** - light emissions **Metre** - cable length, distances of cabling **Time** - speed of information transfer

YEAR 9 - T2- VCERT ENGINEERING- SI UNITS

LEARNING - LOVING - LIVING

Civil Engineering	
Bridges	**Kilo** - weight restrictions, force, setting the speed limit on the road in relation to stopping distances, total weight in relation to statistical risk of collapse or damage **Metre** - distance to span, height of supports, length bridge, setting the speed limit in relation to stopping distances. **Candela** - Light emissions and light pollution
Roads	**Kilo** - weight restrictions, force, setting the speed limit on the road in relation to stopping distances **Metre** - distance to span, height of supports, length bridge, setting the speed limit in relation to stopping distances. **Candela** - Light emissions and light pollution
Railways	**Kilo** - weight restrictions, force, setting the speed limit on the road in relation to stopping distances **Metre** - distance to span, height of supports, length bridge, setting the speed limit in relation to stopping distances. **Candela** - Light emissions and light pollution

Automotive Engineering	
Cars	**Ampere** - electrical and electronic computer equipment **Kelvin** - calculate temperatures of the engine for cooling. **Metre** - acceleration, for the dimension of cars and stopping distances **Mass** - for the weight for stopping distances, maximum loads, power required to pull / tow **Time** - acceleration, stopping distances, journey times
Motorcycles	**Ampere** - electrical and electronic computer equipment **Kelvin** - calculate temperatures of the engine for cooling. **Metre** - acceleration, for the dimension of motorcycle and stopping distances **Mass** - for the weight for stopping distances, maximum loads **Time** - acceleration, stopping distances, journey times
Trains	**Kelvin** - calculate temperatures of the steam train functions. **Metre** - for the dimension of the train and stopping distances **Mass** - for the weight for stopping distances, maximum loads, power required to pull **Time** - stopping distances, journey times

Biomedical Engineering	
Prosthetics	**Metre** - measuring for individualised fit **Kilo** - body mass ratios
Medical Devices	**Kilo** - body mass ratios **Ampere** - current of machinery
Radiotherapy	**Ampere** - current of machinery **Candela** - light emissions **Kilo** - body mass ratios **Seconds** - calculating exposure

Software Engineering	
Applications	**Metre** - in development of CAD programs, formatting for office programs **Candela** - graphics output
Systems	**Second** - run times **Ampere** - calculating power required against usage, **Kelvin** - calculating risk of overheating when high power to usage ratios **Candela** - screen brightness
Computer Programming	**Seconds** - programming and response times

"Base" quantities	Unit	Symbol
length (l)	meter	m
mass (m)	kilogram	kg
time (t)	second	s
electric current (I)	ampere	A
temperature ("thermodynamic") (T)	kelvin	K
amount of substance (n)	mole	mol
luminous intensity (Iv)	candela	cd

REGULAR **PRESENT TENSE**

	-ER	-IR	-RE
Je	e	is	s
Tu	es	is	s
Il/Elle/On	e	it	
Nous	ons	issons	ons
Vous	ez	issez	ez
Ils/Elles	ent	issent	ent

TABLE 1 Forming the Imperfect (Examples: *jouer, finir, rendre*)

	je	tu	il, elle	nous	vous	ils, elles
Nous ending of the present tense				*jou ~~ons~~ finiss ~~ons~~ rend ~~ons~~*		
Infinitive ending	*-ais*	*-ais*	*-ait*	*-ions*	*-iez*	*-aient*
	jouais	*jouais*	*jouait*	*jouions*	*jouiez*	*jouaient*
	finissais	*finissais*	*finissait*	*finissions*	*finissiez*	*finissaient*
	rendais	*rendais*	*rendait*	*rendions*	*rendiez*	*rendaient*

TABLE 1 The Future of Regular Verbs

Subject	*Ending*	*-er Verbs*	*-ir Verbs*	*-re Verbs*
je	*-ai*	*jouerai*	*finirai*	*rendrai*
tu	*-as*	*joueras*	*finiras*	*rendras*
il/elle/on	*-a*	*jouera*	*finira*	*rendra*
nous	*-ons*	*jouerons*	*finirons*	*rendrons*
vous	*-ez*	*jouerez*	*finirez*	*rendrez*
ils/elles/on	*-ont*	*joueront*	*finiront*	*rendront*

How to form the perfect tense with avoir

Once you have formed your past participle, you need to select the correct part of **avoir** you want to use.

1. You must choose a part of **avoir** in the **present** tense, eg:

English	Subject pronoun	Avoir – to have
I	j'	**ai**
you (informal)	tu	**as**
he/she/it (we)	il/elle/on	**a**
we	nous	**avons**
you (formal, plural)	vous	**avez**
they	ils/elles	**ont**

2. Now **add** your chosen **past participle**:

-er verb: parler	-ir verb: choisir	-re verb: vendre
parl**é**	choi**si**	ven**du**

- **j'ai** + **parlé** = I spoke/I have spoken
- **nous avons** + **choisi** = we chose/we have chosen
- **il a** + **vendu** = he sold/he has sold

YEAR 9 - T2- SPANISH - GRAMMAR

TENSE	The present tense (what is happening now/what you usually do/facts)	The present continuous (ing - I am….ing / he is…..ing)	The preterite What happened in the past / did / ….ed / completed	The immediate future What you are GOING TO DO
RULE	Take AR/ER/IR off the infinitive to leave the stem and add the following endings: AR ER IR	Conjugate ESTAR (to be) + ando (AR) / iendo (ER-IR) to the stem	Take AR/ER/IR off the infinitive to leave the stem and add the following endings: AR ER/IR	Conjugate IR (to go) + a + infinitive
Yo (I)	O O O	Estoy + ando/iendo (Estoy hablando / comiendo_	é í	Voy a …… (Voy a ir-I'm going to go)
Tú (you s inf)	as es es	Estás + ando/iendo	aste iste	Vas a……
Él / Ella / Es / Usted (he/she/it/ you s f)	a e e	Está + ando/iendo	ó ió	Va a……
Nosotros (we)	amos emos imos	Estamos + ando/iendo	amos imos	Vamos a……
Vosotros (you pl inf)	áis éis ís	Estáis + ando/iendo	asteis isteis	Vais a ……
Ellos/Ellas/Ustedes (they / you pl f)	an en en	Están + ando/iendo	aron ieron	Van a……

Referring to belonging(s)

my	mi
your	tu
his/her	su
your	su
our	nuestro
your	vuestro
their	su
your	su

Expressing negatives

no….nada	not…at all, nothing, not anything
no sé nada de eso	I don't know anything about that
no…nunca	never (not..ever)
no voy nunca al cine	I never to go the cinema
no…nadie	No-one (not anyone)
no conozco a nadie	I don't know anyone

Time words

ahora – now
antes – before
después – after
hoy – today
hoy en día – nowadays
hace …años - …years ago

Ayer-yesterday
mañana – tomorrow
el año pasado – last year
el año que viene – next year

aquí – here
allí - there