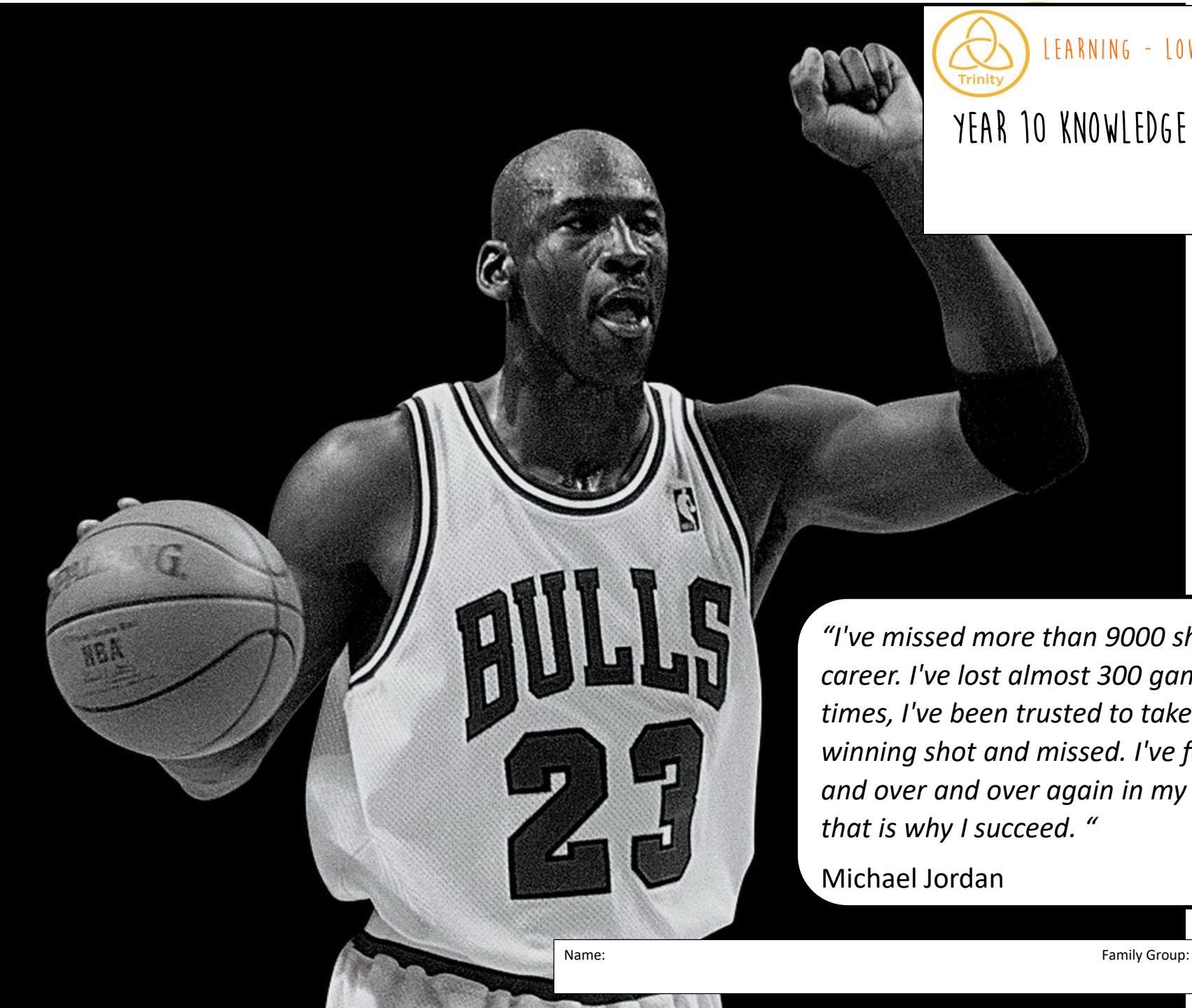


LEARNING - LOVING - LIVING

YEAR 10 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
10.3	4YQ9QL
10.2	64ZVZV
10.1	LYQJQV
10.GR	5RKQK5

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.

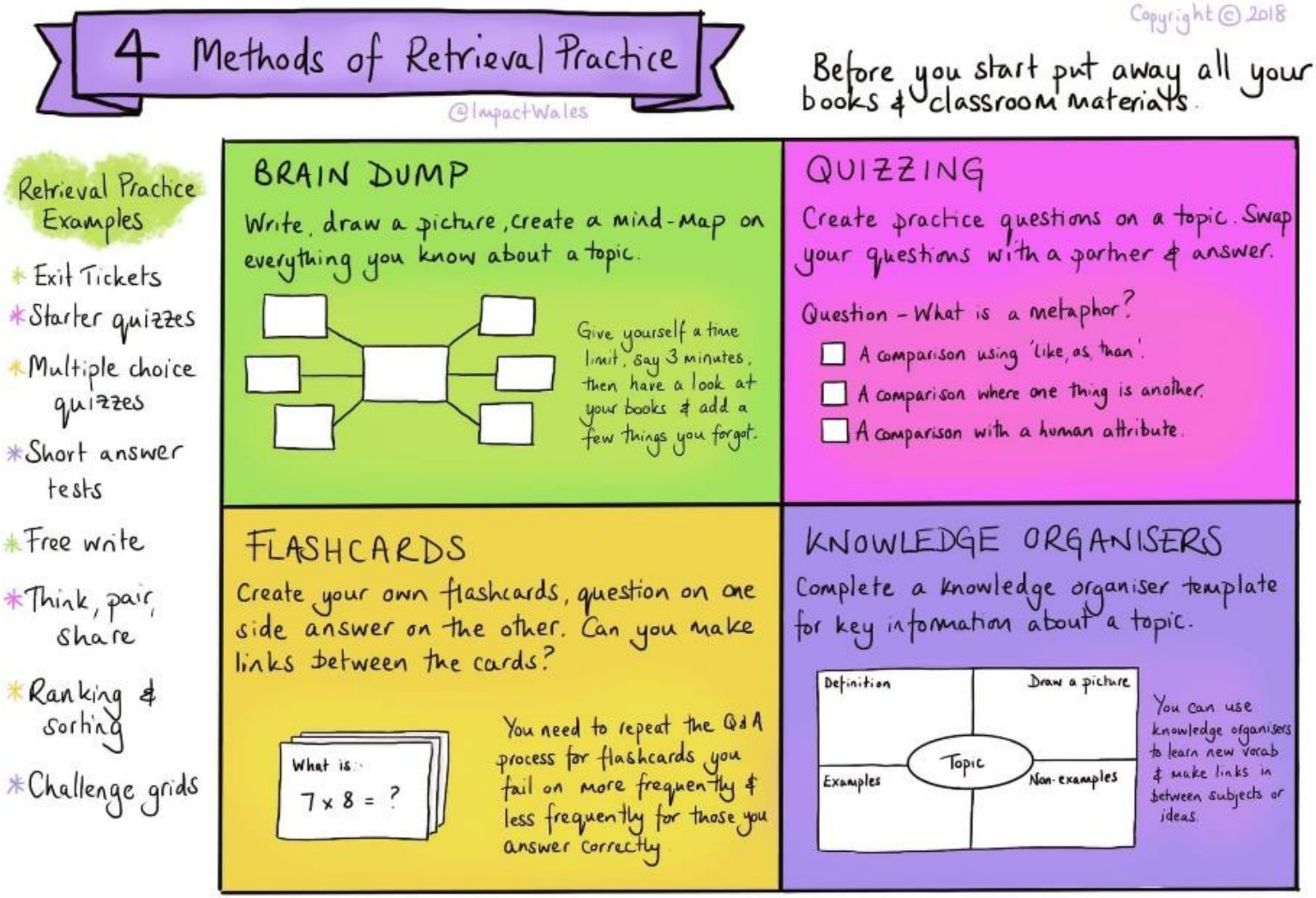
Homework timetable

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

Year 10	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

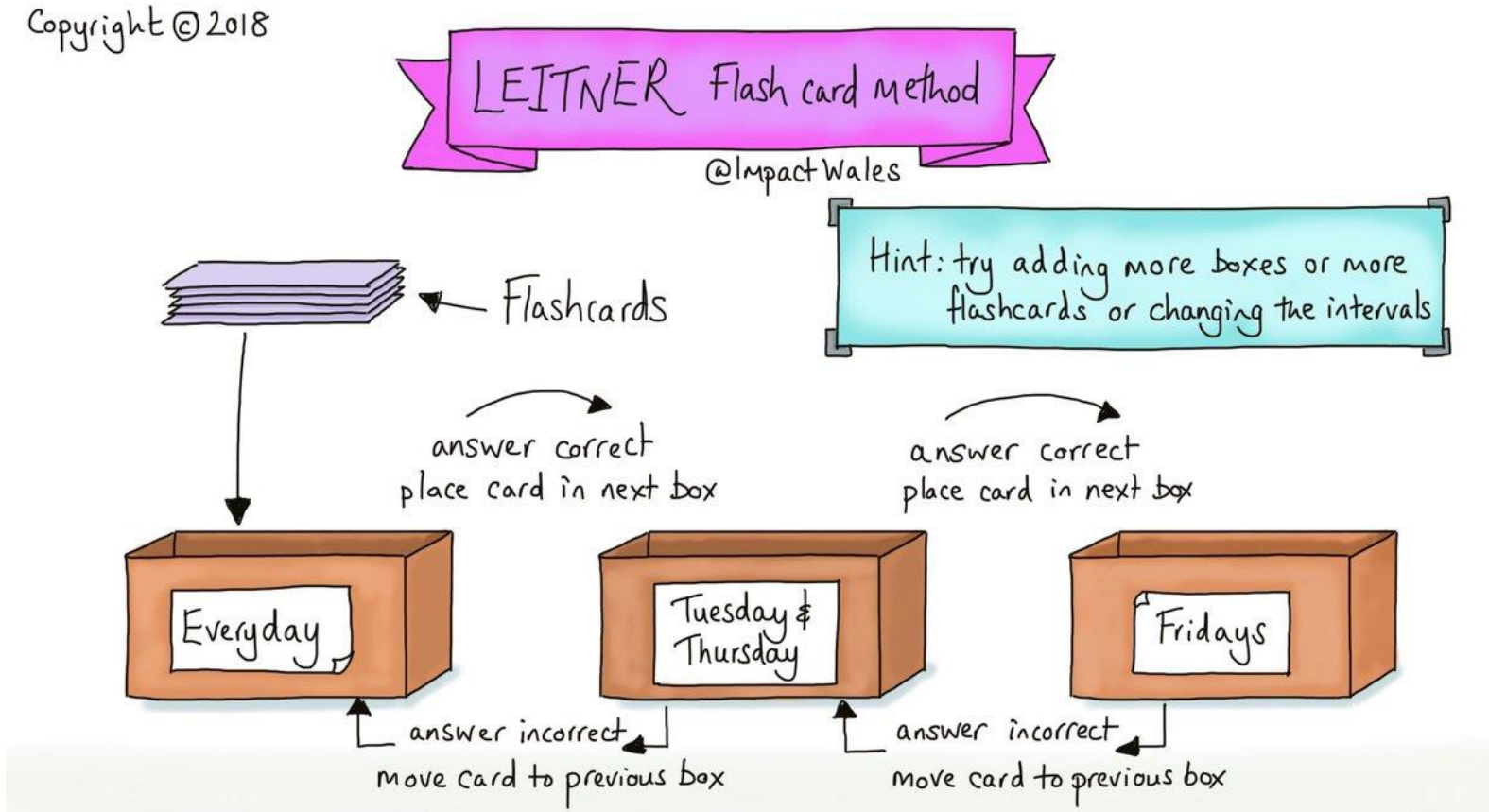
RETRIEVAL ACTIVITY IDEAS

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 10 - T2- ENGLISH – JEKYLL AND HYDE

Themes	Definition	Key Characters	
Gothic	1) London is opaque, funereal, tenebrous and ominous 2) London is shrouded, dark, mysterious, baleful 3) Hyde and London link to the Uncanny: frightening yet familiar 4) Fin de Siècle (end of 19th Century): the fear of change and transition 5) Gothic Stories are full of constraint, entrapment and coercion (Victorian Social Mores) 6) Gothic stories deal with doubt: religion becomes less important, an interest in the supernatural replaces this. 7) Gothic stories often take place in exotic and strange locations: Stevenson subverts this convention, making the familiar (London) unfamiliar and the known unknown. 8) Gothic stories often involve transgressors attacking vulnerable women: Stevenson subverts this convention-Hyde attacks the vulnerable as well as threatening society.	Utterson	1) The archetypal Victorian Gentleman: serious, solemn, paranoid 2) Occasionally loses inhibitions:'when the wine was to his taste, something eminently human beaconed' 3) Avoids frivolity: 'though he enjoyed the theatre, had not crossed the doors of one for twenty years' 4) Avoids frivolity: 'austere' 5) Never judges or gossips: "I incline to Cain's heresy," he used to say quaintly: "I let my brother go to the devil in his own way." 6) Paranoid: 'humbled to the dust by the many ill things he had done' 7) Paranoid: 'Brooded a while on his past' 8) Serious and solemn: 'never lighted by a smile'
Science and Enlightenment	9) Science, rationality and reason replaced tradition, magic and religion 10) from late 17th Century until early 19th century 11) Democracy, individuality and equality under the law were important ideas 12) Victorians feared science: Was it magic? Had it replaced God? 13) Darwin and Evolution: shocking idea for Victorians, removed primacy of humans and God. Hyde mirrors this fear: 'ape-like fury' and 'the animal within me' and 'troglodytic' 14) Science contained a duality: optimism and progress vs terror, lack of control and hubris	Jekyll	9) Creates Hyde as a 'a solution of the bonds of obligation' 10) Wanted to be 'like a schoolboy, strip off these lendings and spring headlong into the sea of liberty' 11) Interested in transcendental medicine 12) Takes potion to become Hyde: he loses control of this ability 13) Calls Lanyon 'hidebound'
Duality	15) Jekyll: are commingled out of good and evil 16) Jekyll: 'man is not truly one, but truly two' 17) Jekyll: 'If I am the chief of sinners, I am the chief of sufferers also' 18) Jekyll Contradicts himself: 'this extraneous evil." and 'like a thick cloak' 19) Jekyll: 'this brief condescension to evil finally destroyed the balance of my soul' 20) Multiple dualities in the novella: duty vs temptation/empiricism vs transcendental/evolution vs degradation/civilised vs atavistic (snarled aloud into a savage laugh')/affluence vs poverty (areas of London)/ individual vs society ('fronted about with an air of defiance')	Lanyon	14) Empirical, rational man of the enlightenment 15) Calls Jekyll's approach 'unscientific balderdash' and 'scientific heresies' 16) After seeing the transformation: 'The rosy man had grown pale; his flesh had fallen away; he was visibly balder and older' 17) After seeing transformation: "deep-seated terror of the mind and 'a doomed man'
Secrecy and Reputation	21) Victorian social mores were repressive and restrictive 22) Upper Class conformed to strict standards of propriety and decorum 23) Victorian Gentleman were inhibited, paranoid and secretive 24) Blackmailer's Charter, the law making homosexual acts illegal, passed in 1885 (same year as the novella was published. 25) Upper Class men lived in fear of blackmail and 'scandal'. Victorian readers may have suspected that Jekyll and Hyde were involved in an illicit homosexual relationship. 26) When Jekyll is Hyde, he commits 'secret pleasures' and is a 'secret sinner'	Enfield	18) Secretive, avoids gossip, obsessed with reputation 19) On gossip: 'The more it looks like Queer Street, the less I ask' 20) On gossip: 'you start a question, and it's like starting a stone' 21) His contrived walks with Utterson: 'looked singularly dull' BUT 'the chief jewel of every week'
Basic Plot and Chapter Summary	CH1: Intro to Utterson(U). Enfield (E) tells of Hyde (H) trampling on a child. U thinks H is blackmailing Jekyll (J) CH2: U sees J's will-J leaves all to H. U speaks to Lanyon (L). L disagrees with H about science CH3: U argues with J about J's will. J asks U to look after H if J disappears. CH4: H batters Sir Danvers Carew. U goes to H's house in Soho-rooms are ransacked CH5: J shows U a letter he says is from H. U compares handwriting: H and J's are same. CH6: L has had a terrible shock. L dies, leaving U a letter-only open it if J disappears. CH7: U passes J's house, sees J have a seizure CH8: U and J's butler find a small man who has poisoned himself (H). CH9: L letter explains he saw H transform into J CH10: J's letter explains why he made Hyde	Hyde	22) Feral, brutal, atavistic, savage, animalistic, diminutive, sadistic. 23) 'There is something wrong with his appearance; something displeasing, something downright detestable' 24) Violent Acts against the vulnerable: tramples on a child, murders Sir Danvers Carew 25) Symbolises Upper Class Victorian fears of the lower classes, poverty and criminality 26) 'he gives a strong feeling of deformity, although I couldn't specify the point." 27) 'his remarkable combination of great muscular activity and great apparent debility of constitution.' 28) 'so ugly that it brought out the sweat on me like running.' 29) 'detestable attributes' and' a fiend

YEAR 10 - T2- MATHS – FOUNDATION - SEQUENCES

LEARNING - LOVING - LIVING

Important Ideas

Factorising Quadratics

Factorise $x^2 + 5x + 6$

$x^2 + 5x + 6$

$(x \quad)(x \quad)$

$1 \times 6 \qquad 2 \times 3$

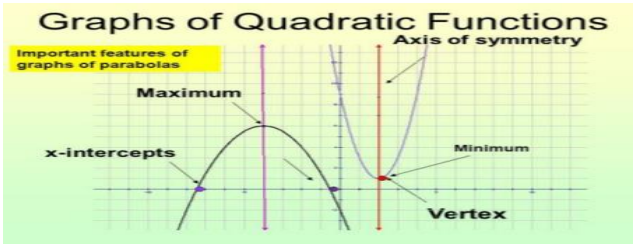
$1 + 6 = 7 \qquad 2 + 3 = 5$

$(x + 2)(x + 3)$

Check: $(x + 2)(x + 3) = x^2 + 5x + 6$

- Write a pair of brackets with x in each one. This gives the x^2 term when multiplied.
- Work out all the factor pairs of 6, the number term.
- Work out which factor pair will **add** to give 5, the number in the x term.
- Then write each number in each of the brackets with x.
- The expression is now factorised. Expand the brackets to check it is correct.

Graphs of Quadratic Functions



Vocabulary

Linear Sequences	A number pattern with a common difference.
Fibonacci Sequence	A sequence where the next number is found by adding up the previous two terms
Quadratic Sequences	A sequence of numbers where the second difference is constant.
Term-to-term rule	A rule which allows you to find the next term in a sequence if you know the previous term.
nth term	A rule which allows you to calculate the term that is in the nth position of the sequence.

Q& A

a Work out the nth term of the sequence 3, 7, 11, 15, … b Is 45 a term of the sequence?

a 4n 4, 8, 12, 16, … −1

3, 7, 11, 15, …

+4 +4

The common difference is 4. Write out the first five terms of the sequence for 4n, the multiples of 4. Work out how to get from each term in 4n to the term in the sequence.

The nth term is $4n - 1$.

b $45 = 4n - 1$

$46 = 4n$

$11.5 = n$

Write an equation using the nth term and solve it.

45 cannot be in the sequence because 11.5 is not an integer.

Find a formula for the nth term of the sequence 8, 23, 48, 83, 128, …

sequence	8	23	48	83	128
1st differences		+15	+25	+35	+45
2nd differences			+10	+10	+10

Work out the second differences.

So $a = 10 \div 2 = 5$

The formula has a $5n^2$ term in it.

Halve the second difference to find the coefficient of n^2.

$5n^2$	5	20	45	80	125
Sequence	8	23	48	83	128

Compare the given sequence with $5n^2$.

The nth term is $5n^2 + 3$

The numbers in the second row are 3 more than those in the first row.

Solve $2x^2 + 11x - 5 = 0$. Give your answer to 2 decimal places.

$$a = 2, b = 11, c = -5$$

Substitute these into the quadratic formula, use brackets for negative numbers.

$$x = \frac{-11 \pm \sqrt{11^2 - 4 \times 2 \times (-5)}}{2 \times 2}$$

Put this into the calculator, first with a + and then with a − to find your two solutions.

$$x = -5.92 \text{ or } x = 0.42$$

MathsWatch References

37	Generating sequences – term to term
102	Generating a sequence from nth term
103	Finding the nth term
104	Special sequences
141	Fibonacci Sequences

Key Facts & Formula

Finding the nth Term of a Linear Sequence

This method works for linear sequences — ones with a common difference (where the terms increase or decrease by the same amount each time). Linear sequences are also known as arithmetic sequences.

EXAMPLE: Find an expression for the nth term of the sequence that starts 5, 8, 11, 14, …

n:	1	2	3	4
term:	5	8	11	14
		+3	+3	+3
3n:	3	6	9	12
		+2	+2	+2
term:	5	8	11	14

The common difference is 3, so '3n' is in the formula.

You have to + 2 to get to the term.

So the expression for the nth term is 3n + 2

1) Find the common difference — this tells you what to multiply n by. So here, 3 gives '3n'.
2) Work out what to add or subtract. So for n = 1, '3n' is 3 so add 2 to get to the term (5).
3) Put both bits together. So you get 3n + 2.

Always check your expression by putting the first few values of n back in, e.g. putting n = 1 into 3n + 2 gives 5, n = 2 gives 8, etc. which is the original sequence you were given — hooray!

Finding the nth Term of a Quadratic Sequence

A quadratic sequence has an n^2 term — the difference between the terms changes as you go through the sequence, but the difference between the differences is the same each time.

EXAMPLE: Find an expression for the nth term of the sequence that starts 10, 14, 20, 28…

n:	1	2	3	4
term:	10	14	20	28
		+4	+6	+8
		+2	+2	
term:	10	14	20	28
n^2:	1	4	9	16
term − n^2:	9	10	11	12

So the expression will contain an n^2 term.

The expression for this linear sequence is n + 8

So the expression for the nth term is $n^2 + n + 8$

1) Find the difference between each pair of terms.
2) The difference is changing, so work out the difference between the differences.
3) Divide this value by 2 — this gives the coefficient of the n^2 term (here it's 2 ÷ 2 = 1).
4) Subtract the n^2 term from each term in the sequence. This will give you a linear sequence.
5) Find the rule for the nth term of the linear sequence (see above) and add this on to the n^2 term.

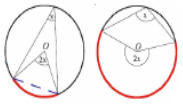
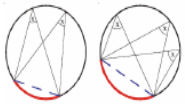
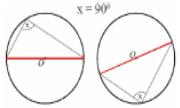
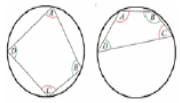
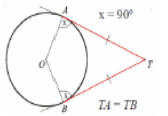
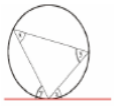
Quadratic Equation → $ax^2 + bx + c = 0$

Quadratic Formula → $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

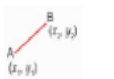
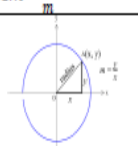
YEAR 10 - T2- MATHS – HIGHER - CIRCLE THEOREMS: EQUATION OF CIRCLES AND TANGENT

Trinity LEARNING - LOVING - LIVING

Circle theorems

Angles at the centre	The angles at the centre is twice the angle at the circumference	
Angles in the same segment	Angles at the circumference in the same segment are equal	
Angle in a semicircle	Angles in a semicircle are 90°	
Cyclic quadrilaterals	Opposite angles of a cyclic quadrilateral add to 180° $A + C = 180°$ $B + D = 180°$	
Tangents to a circle	The angle between a tangent and radius is 90° Two tangents from the same point to a circle are equal lengths	
Alternate segment	Alternate segment	

Equation of a circle, gradient of a

Equation of a circle	Circle with a centre of (0, 0) and radius r $x^2 + y^2 = r^2$	$x^2 + y^2 = 16$ ($r = \sqrt{16} = 4$) 
Gradient between 2 points	If A = (x_1, y_1) and B = (x_2, y_2) The gradient of line AB $m = \frac{y_2 - y_1}{x_2 - x_1}$	
Perpendicular lines	When lines are perpendicular the product of the gradients is – 1. If one graph has gradient m, the other has gradient $-\frac{1}{m}$	
Gradient of a radius to a circle	The gradient (m) of a radius to a point (x, y) on the circle $x^2 + y^2 = r^2$ is $\frac{y}{x}$	

Gradient and area under graphs

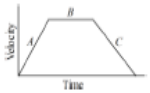
Distance-time graph

Represent a journey
The vertical axis represents the distance from a starting point
The horizontal axis represents time taken
Straight lines mean constant speed
Horizontal lines mean no movement
Gradient = speed
$Average\ speed = \frac{Total\ distance}{Total\ time}$

A = steady speed,
B = no movement,
C = steady speed back to start

Velocity-time

Represent the speed at a given time
Straight lines mean constant acceleration/deceleration
Horizontal lines mean no change in velocity (speed)
Positive Gradient = acceleration
Negative Gradient = deceleration
The area under the graph = distance travelled



A = steady acceleration,
B = constant speed,
C = steady deceleration back to a stop

Exponential graph

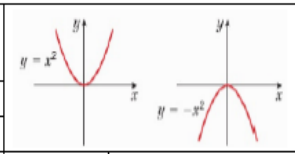
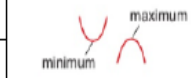
The equation is of the form $y = a^x$, where a is a number called the **base**.
If $a > 1$ the graph **increases**.
If $0 < a < 1$, the graph **decreases**.
The graph has an **asymptote** which is the **x-axis**.

MathsWatch References

116, 183, 184, 208	Circles, tangents, circle theorems
143, 216 a, b	Distance-time, Velocity-time graph
161	Cubic, reciprocal graph
195 a, b	Trigonometric graphs
140	Solving simultaneous equations graphically

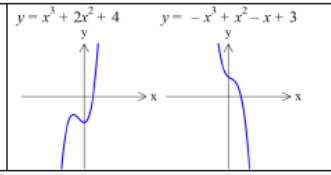
Graphs of functions

Quadratic graph

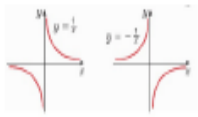
The quadratic graph a curved shape called a parabola $y = ax^2 + bx + c$		
A positive x^2 term will give a ∪ shape		
A negative ($-x^2$) term will give a ∩ shape		
Turning points	The point where a curve turns in the opposite direction	
	Either a maximum or a minimum point	
Line of symmetry	A quadratic graph will have a line of symmetry passing through its maximum or minimum point	

Cubic graph

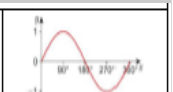
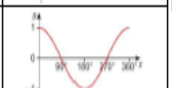
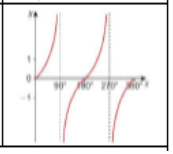
$y = ax^3 + bx^2 + cx + d$
Will have 1, 2, or 3 roots



Reciprocal graph

Reciprocal graphs have the form $y = \frac{k}{x}$ where k is a number	
It will have 2 asymptotes	

Trigonometric graphs

Sine function	The sine graph repeats every 360° in both directions.	
Cosine function	The cosine graph repeats every 360° in both directions.	
Tangent function	The tangent graph repeats every 180° in both directions. The tangent graph is not defined for angles of the form (90° ± 180n°)	

YEAR 10 - T2- SCIENCE – ENERGY CHANGES

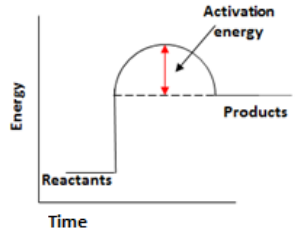
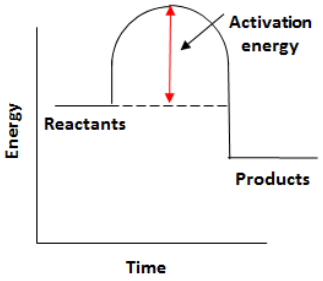
LEARNING - LOVING - LIVING

1. Endothermic and exothermic reactions

Endothermic	*Energy is taken in from the surroundings so the temperature of the surroundings decreases*	• Thermal decomposition • Sports injury packs
Exothermic	*Energy is transferred to the surroundings so the temperature of the surroundings increases*	• Combustion • Hand warmers • Neutralisation

2. Reaction profiles

Reaction profiles	*Show the overall energy change of a reaction*

Endothermic		Products are at a higher energy level than the reactants. As the reactants form products, energy is transferred from the surroundings to the reaction mixture. The temperature of the surroundings decreases because energy is taken in during the reaction.
Exothermic		Products are at a lower energy level than the reactants. When the reactants form products, energy is transferred to the surroundings. The temperature of the surroundings increases because energy is released during the reaction.

3. The energy change of reactions (HT only)

Overall energy change of a reaction	*Exothermic*	Energy released making new bonds is greater than the energy taken in breaking existing bonds.
	Endothermic	Energy needed to break existing bonds is greater than the energy released making new bonds.

Bond energy calculation

Calculate the overall energy change for the forward reaction

$N_2 + 3H_2 \rightleftharpoons 2NH_3$

Bond energies (in kJ/mol): H-H 436, H-N 391, N≡N 945

Bond breaking: 945 + (3 x 436) = 945 + 1308 = 2253 kJ/mol

Bond making: 6 x 391 = 2346 kJ/mol

Overall energy change = 2253 - 2346 = -93kJ/mol

Therefore reaction is exothermic overall.

4. Cells and batteries (SEPARATE CHEMISTRY ONLY)

Non-rechargeable cells	*Stop when one of the reactants has been used up*	Alkaline batteries
Rechargeable cells	*Can be recharged because the chemical reactions are reversed when an external electrical current is supplied*	Rechargeable batteries

Simple cell	*Make a simple cell by connecting two different metals in contact with an electrolyte*	Increase the voltage by increasing the reactivity difference between the two metals.
Batteries	*Consist of two or more cells connected together in series to provide a greater voltage.*	

5. Fuels cells (SEPARATE CHEMISTRY ONLY)

Hydrogen fuel cells	*Word equation:* *hydrogen + oxygen → water*	Symbol equation: $2H_2 + O_2 \rightarrow 2H_2O$
	Advantages: • No pollutants produced • Can be a range of sizes	Disadvantages: • Hydrogen is highly flammable • Hydrogen is difficult to store

YEAR 10 - T2- STATISTICS- SCATTER DIAGRAMS AND CORRELATION

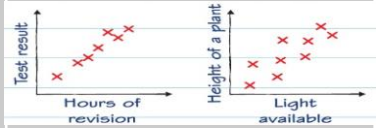
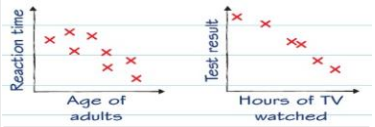
LEARNING - LOVING - LIVING

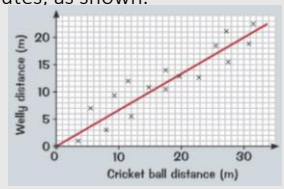
Important ideas

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	$1 - \frac{6\sum d^2}{n(n^2 - 1)}$

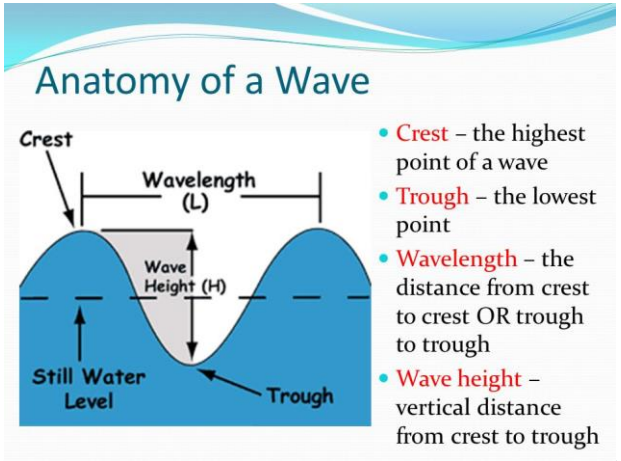
Question	Answer
Correlation	
Describe the correlation you would expect for each of the following pairs of variables: a) Adult shoe size and waist size b) Hours of sunshine in a day and hours of rain in a day c) Power cuts and no. of candles sold	a) No / weak positive b) Weak negative c) strong positive
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.

No	Key Term	Definition
1	Erosion	The breaking down of material
2	Transportation	The movement of material such as rock .
3	Hydraulic Action	The force of the water pushes air into a crack causing it to erode.
4	Abrasion	The scratching and scraping of cliffs causing them to erode.
5	Weathering	The physical, biological and chemical breaking down of rock
6	Swash	The forward movement of waves
7	Backwash	The backward movement of waves
8	Concordant coastline	When the strata (layers of rock) are parallel to the coast.
9	Discordant coastline	When the strata (layers of rock) are at right angles to the coast.
10	Longshore Drift	The zigzag movement of material down the beach.
11	Hard engineering	Expensive, long lasting and solid constructions to slow coastal erosion.
12	Soft Engineering	Cheap natural solutions to slow erosion such as beach replenishment (putting sand on the beach).
13	Terminal groyne syndrome	When groynes prevent beaches forming further down the coast.

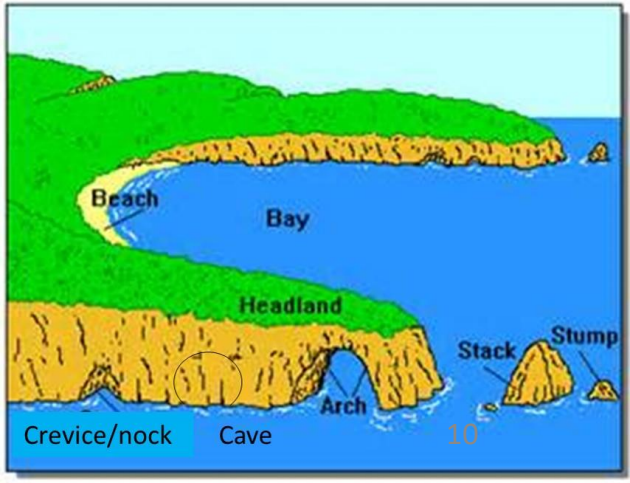


14. The strength of a wave depends on 3 factors.

1. Wind strength
2. Wind duration (how long it has been windy)
3. Fetch (distance the wave has travelled)

No.	Construction of a stump	
15	Nock/ Crevice	Hydraulic Action and abrasion will erode a weakness in the rock.
16	Cave	Marine processes will cause the nock to get wider forming a cave.
33	Arch	Marine processes will erode through the cave forming an arch.
34	Stack and stump	The heavy rock above the arch will be eroded by weathering and the base by marine processes. Eventually it will collapse leaving behind a stack. Abrasion will erode the foot of the stack and it will collapse to a stump

No.	Case Study+ Barton-On-Sea	
35	Location	Christchurch Bay, Dorset, Southern England.
36	Rate of erosion	2 meters a day without any management
37	Geology	Limestone, sands and clay
38	Hold the line	Using hard engineering techniques to prevent further erosion.
39	Strategic Realignment	Gradually let the coast erode; allows people time to relocate.
40	Do nothing	Take no action at all and let nature takes it's course
41	Advance the line	Use sea defences to move the coast further into the sea. It is extremely expensive.
42	Beach replenishment	Placing sand back onto the beach so the energy of waves is dissipated



Challenges to Elizabeth at Home and Abroad 1569-88	
1	Elizabeth faced many serious threats both within England and from aboard. Many still wanted Mary Queen of Scots on the throne. Philip II of Spain also wanted to remove Elizabeth from the throne. Spain and England were religious and political rivals. There was particular tension when Drake tried to challenge Spanish dominance in the New World.
Key events	
2	**1492** Discovery of the New World
3	**1567** Spanish travel to Netherlands to crush Protestant revolt.
4	**1568** Mary Queen of Sots arrives in England
5	**1569** Revolt of the Northern Earls
6	**1570** Elizabeth excommunicated
7	**1571** The Ridolfi Plot
8	**1572** Elizabeth hired Drake as a privateer
9	**1576** Spanish Fury and Pacification of Ghent
10	**1577-80** Drake circumnavigated the globe.
11	**1583** Throckmorton Plot
12	**1584** Treaty of Joinville
13	**1585** Act of Preservation of the Queen's Safety/Treaty of Nonsuch
14	**1586** Babington Plot
15	**1587** Mary Queen of Scots executed
16	**1587** Attack on Cadiz
17	**1588 Spanish Armada**

Key Words		
21	**New World**	North and South America.
22	**Revolt of the Northern Earls**	When northern earls encouraged Catholics to rebel.
23	**Ann Percy**	Wife of Thomas Percy.
24	**Jane Neville**	Wife of James Neville and Duke of Norfolk's sister.
25	**Mary Queen of Scots**	Supported the plan to marry the Duke of Norfolk.
26	**Thomas Howard, Duke of Norfolk**	One of England's most senior nobles and a Protestant.
27	**Charles Neville, Earl of Westmorland**	Duke of Norfolk's brother in aw and from an important Catholic family.
28	**Thomas Percy, Earl of Northumberland**	Had been important under previous monarchs, but as a Catholic he had been side-lined.
29	**James Pilkington**	Appointed Archbishop of Durham.
30	**Civil War**	A war between people in the same country.
31	**Conspiracy**	A secret plan with the aim of ding something illegal.
32	**Papal Bull**	A written order by the Pope.
33	**Council of the North**	Used to implement Elizabeth's laws and authority in the North of England.
34	**Ridolfi Plot**	Plan to murder Elizabeth, launch a Spanish attack and put Mary Queen of Scots on the throne.
35	**Priest holes**	Secret hiding places for Catholic priests.
36	**Hanged, drawn and quartered**	A type of punishment used when the accused was found guilty of high treason. The accused would be hanged until near dead, cut open, have their intestines removed and were finally chopped into four pieces.
37	**Throckmorton Plot**	Planned for the French Duke of Guise to invade England, free Mary , overthrow Elizabeth and restore Catholicism in England.
38	**Sir Francis Walsingham**	Elizabeth's Secretary of State.
39	**Babington Plot**	The Duke of Guise would invade England and put Mary on the throne.
40	**Act of Preservation of the Queen's Safety**	In the event of Elizabeth's assassination, Mary would be banned from the succession.
41	**Agent provocateurs**	Agents who become part of groups suspected of wrongdoing and encourage other members to break the law so that potential threats can be identified and arrested.
42	**Foreign Policy**	The aims of objectives that guide a nation's relations with other states.
43	**Privateer**	Individuals with their own armed ships that capture other ships for their cargo, often with the support and authorisation of the government.
44	**Francis Drake**	Elizabeth hired him as a privateer.
45	**Circumnavigate**	To travel all the way around the world.
46	**Autonomy**	The right to self government, so people of one country can manage its own affairs.
47	**Spanish Fury**	The Spanish rampaged through Dutch provinces as they left.
48	**Pacification of Ghent**	Spanish troops expelled from Netherlands, political autonomy to be returned and end of religious persecution.
49	**Mercenary**	A soldier who fights for money rather than a nation or a cause.
50	**Treaty of Joinville**	The King of France and the King of Spain became allies against Protestantism.
51	**Treaty of Nonsuch**	Effectively put England and Spain at war.
52	**Singeing of the King of Spain's beard**	Drake sailed into Cadiz harbour, Spain's most important Atlantic port, and over 3 days destroyed 30 ships.
53	**Tilbury Speech**	Elizabeth's famous speech to her troops before the Armada.

Elizabethan Society in the Age of Exploration 1558-88	
1	Elizabeth's I's reign was a time of expansion with growth in many different areas of society and life.
Key events	
2	1563 Statute of Artificers
3	**1570** Norwich Survey
4	**1572** Vagabonds Act
5	**1576** Poor Relief Act
6	**1580** Drake returns from circumnavigating the globe with spices, treasure and tales of Nova Albion.
7	**1584** Raleigh begins planning new colonisation attempt by sending a fact finding mission to Virginia.
8	**1585** Colonists set sail for North America and begin the English colonisation of Virginia.
9	**1586** Surviving colonists abandon Virginia and return to England
10	**1587** New group of colonists arrive in Virginia and establish colony at Roanoke
11	**1590** English sailors arrive at Roanoke only to find it abandoned
Key Concepts	
12	**Education –** Expanded during Elizabeth's reign but it was expensive and mostly for boys. The large majority of people were illiterate.
13	**Pastimes –** Theatre thrived. Elizabethan leisure was similar to modern day but sport was much more violent.
14	**Population Growth –** During the reign of Elizabeth, population grew by as much as 35%. Food prices rose, wages fell and enclosure brought problems. The urban poor grew and poverty was a real problem.
15	**Exploration** by Drake led to conflict with Spain over the New World.
16	**Attitudes** – Unemployment was recognised as a genuine issue.
17	Poverty was an issue that Elizabeth wanted to address.

Key Words		
18	**Social mobility**	Being able to change your position in society.
19	**Humanists**	Believed that learning was important in its own right and not for just practical reasons.
20	**Grammar schools**	Private schools set up for boys considered bright who largely came from well off families in towns.
21	**Corporal punishment**	Punishment which causes physical pain.
22	**Apprentice**	Someone learning a trade or a skill.
23	**Petty schools**	Set up in a teacher's home. For boys.
24	**Dame schools**	Set up in a teacher's home. For girls.
25	**Pastimes**	Activities for leisure.
26	**Mystery plays**	Plays base on the Bible and saints' stories.
27	**Globe**	Shakespeare's theatre.
28	**Alms**	Charity
29	**Poor relief**	Financial help.
30	**Itinerants**	People who had moved from their home parishes looking for work.
31	**Enclosure**	The process of replacing large, open fields that were farmed by villages with individual fields belonging to one person.
32	**Rural depopulation**	When the population of the countryside falls as people move away in search of a better life.
33	**Subsistence farming**	Growing just enough to feed the family bit not to sell.
34	**Vagabonds**	Homeless people without jobs who roamed the countryside begging for money or perhaps committing crimes in order to survive.
35	**Economic recession**	When a fall in demand leads to falling prices and businesses losing money.
36	**Deserving poor**	People unable to work because of illness or old age.
37	**Idle poor**	People who were fit to work but didn't.
38	**Triangular trade**	Route from Europe to Africa to the Americas.
39	**Quadrant/ Astrolobe**	Used by sailors to help with navigation at sea.
40	**Cartographer**	Map maker.
41	**Galleons**	Ships that were much larger than traditional trading ships.
42	**Colonies**	Land under the control or influence of another country.
43	**Monopoly**	When one person or company controls the supply of something.
44	**Nova Albion**	Region named by Drake, probably north of modern day San Francisco.
45	**Walter Raleigh**	Explorer who encouraged colonists to Virginia.
46	**Barter**	To exchange goods for other goods.
47	**Manteo and Wanchese**	Two native American Indians who came back to England.
48	**Native Americans**	People who lived in the New World before the colonists.

YEAR 10 - T2- RELIGIOUS EDUCATION – MUSLIM BELIEFS

BOX 1: Key words.

Ummah- Muslim community
Hadith -Sayings of the prophet Muhammad
Shar'iah - the holy law of Islam covering all aspects of life
Ibadah- obedience and devotion to Allah
Al'Jannah - heaven
Jahannam -hell
Barzakh - the period between death and the last day
Shirk - the sin of associating other things with God; it is the worst of all sins

BOX 2: The 6 beliefs of Islam
First 5 found in the Qur'an and full 6 in the Hadith

History: Some disagree over whether the 6th belief relates to life after death and/or predestination
Split into Tawhid, Risalah (messengers): angels, holy books, prophets, Akhirah (last things): Last Day and Day of Life
Hadith Bukhari and Hadith Sahih Muslim are seen as important

Importance for Sunnis:
Tawhid: shows God is one and only, created and controls all; same God worshipped as Jews and Christians. **Angels**: God can be contacted. **Prophets**: Islam is the first and last religion. **Holy books**: guide to living the Muslim; it is the final word to humanity. **Akhirah**: know they will be judged based on how they have lived their lives.

BOX 3: The 5 roots of Islam 'Usul ad-Din

Belief in Allah, Adalat (justice), prophets, successors of Muhammad (including the Hidden Imam, some believe the ayatollahs and mujtahids interpret his message), Day of Judgement (judged by following the Shia Shariah (based on Ali's hadith and Muhammad's).

History and purpose

Based on the Quran and teachings of the Twelve Imams and differentiate Shia from Sunni belief. Initially only Allah, the prophets and judgement were essential; all 5 are now essential.

Importance for Shi'as:

The basis of Shi'a faith; Adalat demonstrates that they should be just; they originate from the Quran and Twelve Imams so are most important ideas; all 5 guide Shi'as to worship correctly and following them will enable them to go to heaven.

BOX 4: The nature of Allah

Tawhid (oneness of Allah); immanence (can be contacted on earth now); transcendence (is outside of the earthly world); beneficence (kindness and compassion); Adalat (justice); omnipotence (all powerful)

Why they are important
Tawhid = God created everything, there is only one God, only he should be followed and his law followed ; **immanence** = Allah can be understood through science, can be contacted, present in salah and sawm; **transcendence** = greater than anything, not restricted in any way, self-subsistent; **beneficence** = Muslims should be loving too, kindness has implications for the after life; **omnipotence** = God controls everything, has a plan, the power to end life on the Last Day; **justice** = God rewards the good, just behaviour is necessary, Muslims should promote equal rights and share through zakah

All of the characteristics can be summed up through tawhid

BOX 5: The prophets Risalah

Islam began with the first human. The first humans were khalifas/vicegerents (stewards) The prophets are human not divine; they were sinless after being given messages; each message was distorted except for Muhammad's (pbuh) through the Quran

The prophets
Adam = garden of Eden, built the Kabbah at Makkah; **Ibrahim** = rejected polytheism and idol worship, near sacrifice of Isaac his son, given the Sahifah, very important in Islam; **Ishma'il** = eldest son of Ibrahim, helped restore the Kabbah after **Noah**'s flood; believed to be an ancestor of Muhammad; **Musa** (Moses) = mentioned many times in the Quran, led the Jews out of slavery, received the Tawrat (Torah); **Dawud** (David) = given the Zabur because of the rejection of the Tawrat, **Isa** (Jesus) = Isa and Mary are significant, Quran records many miracles of Jesus, the Quran says that Allah prevented Jesus' crucifixion; **Muhammad** = perfect example and final message

What the prophets teach
Islam is the first and last religion, they are ordinary humans not divine, Quran is the final prefect message, their example should be followed

PART 1 - Strengths and Weaknesses of Performance

To gain maximum marks in your coursework you have to be thorough in explaining your strengths and weaknesses.

E.g. strengths should include:

1) What is the skill/fitness component, describe what is good technique.
2) Why is this skill important in your chosen sport?
3) Can you give examples of how you KNOW you are good at this?
4) What impact did it have on your performance/team/score/competition? What would happen if you weren't strong at this skill/fitness component?

KEY TERMINOLOGY

Skill Fitness component Principles of Overload Feedback Guidance Diet/Nutrition Impact on performance F.I.T.T. Information Processing Recovery Methods of Training Training Thresholds Muscles Warm up/Cool Down Mental Preparation Stress/Arousal Planes and Axis Technique Physiology Injury Prevention Peer influence Training seasons Results Types of Practice

Useful sentence starters:

I know this is a strength of mine because…
If I was not able to do this then…
This skill is useful, however, I think that… is more important because…
This has an impact on my overall performance because…
An example of how I used this skill successfully recently is…
If I could improve this skill then this would affect my performance positively by…
I have chosen to train … amounts because…
In order to apply principles of overload then I need to…
The reason I have chosen this drill is because…
This drill is more challenging than the previous because…
This method of training is the most appropriate because…

PART 2 - Action Plan to improve weaknesses

Fitness Component:

What type of training are you choosing to improve your fitness weakness?
Why is it the best method of training – compare it with others and evaluate why it is better and SPECIFIC to your sport and weakness.
Design a training programme that includes:
a)How often you are going to train and for how many weeks
b) An example of a training session – what does it include?
c) How you will apply principles of overload (Frequency, Intensity, Time and Type) to make it more difficult every week or so?

Skill/Tactic:

d)How many times will you train a week and for how long?
e)How does this fit in with your fitness training? Same day or a different day?
f) You need 4 drills that will help improve your skill/tactic. You need to describe each drill, how you do it, what equipment you need, and explain how it improves your weakness. Your drills should start off easy and get more difficult so that they are challenging.

Example of Action Plan

Fitness Weakness: Cardiovascular Endurance

I have chosen Fartlek training as the most appropriate to improve my cardiovascular endurance in Football because I believe this this is the most appropriate due to the changes in intensity. In football I am constantly having to change my pace depending on what is happening in the game. For example, as a defender once the ball moves up front I tend to stop and recover, watching the game and maybe walking into position to track a defender if needed. But as soon as there is a counter attack I need to sprint to an opposition who cause a threat to get goal side and mark them down, staying with them until they release the ball or if I am able tackle or intercept the ball. I then might need to jog back into a more central position, or recover or make another sprint if I am needed in a different area of the pitch. It is always changing. Fartlek training is good for this, as I will be able to cater it to my individual needs, making sure that the intensities vary but that I am also training for longer periods of time so that it reflects the full length of a football game. Continuous training would not be appropriate, despite it being a great way to improve cardiovascular endurance, as it does not reflect the type of endurance I need in football. I wont be working at on continuous pace and therefore is not as effective. Interval training would also help my endurance and in particular my high intensity sprints. Interval training would also take less time than perhaps fartlek would as sessions are shorter due to the high intensity workload. But despite this I have decided that I am committed to trying fartlek as I think this is the most specific to my weakness and it will mean I am able to train both my aerobic and anaerobic system.

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

Comparison operators

==	Equal to
!=	Not equal to
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to

Arithmetic operators

+	Addition e.g. x=6+5 gives 11
-	Subtraction e.g. x=6-5 gives 1
*	Multiplication e.g. x=12*2 gives 24
/	Division e.g. x=12/2 gives 6
MOD	Modulus e.g. 12MOD5 gives 2
DIV	Quotient e.g. 17DIV5 gives 3
^	Exponentiation e.g. 3^4 gives 81

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

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.

Flow charts like pseudocode are informal but the most common flow chart shapes are:

→	**Line**	An arrow represents control passing between the connected shapes.
▭	**Process**	This shape represents something being performed or done.
▭	**Sub Routine**	This shape represents a subroutine call that will relate to a separate, non-linked flow chart
▱	**Input/Output**	This shape represents the input or output of something into or out of the flow chart.
◇	**Decision**	This shape represents a decision (Yes/No or True/False) that results in two lines representing the different possible outcomes.
⬭	**Terminal**	This shape represents the "Start" and "End" of the process.

Use Quizlet study sets 06

YEAR 10 - T2- DRAMA -ELEMENTS OF EPIC AND NATURALISTIC THEATRE AS USED BY BERTOLT BRECHT AND STANISLAVSKI

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.
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.
3	Set, costume, props and lighting	Simple in Brechtian theatre-obvious and functional.
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.
5	Direct Address	This breaks the fourth wall and has the actors speaking directly to the audience so it stops the illusion of reality.
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.
7	Speaking the stage directions	Used in rehearsals.
8	Placards	Often used to give the audience additional information to deepen their understanding and offer them extra information about what they are seeing.
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.
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.
11	Montage	Using images and sounds to distort or challenge conventional views of events, issues or situations.
12	Satire	Uses humour and sarcasm to expose and mock somebody else's failings.
13	Gestus	Clearly defined gesture or movement performed by the character to demonstrate the essence of the character.
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.

Elements of Naturalistic Theatre as used by Stanislavski		
15	Imagination	An essential aid to the actor believing in what he is doing and providing the detail that builds on the material found in the script to help characterisation.
16	Truth and Belief	Is created by fleshing out the details of the text, finding a point of identification with your character and clarifying that character's objectives.
17	Given Circumstances	Any information found in a script or given in the stage directions-they are the base material from which an actor builds his character.
18	Magic 'If'	What propels the actor into action, into trying something out. Putting herself into the shoes of the character….what would I do IF I were twenty, insecure and broke? How would I feel IF I were…….
19	Emotional Memory	When an actor focusses internally on his/her own life experiences to produces the emotional response necessary for his/her character.
20	Concentration	The ability to be completely focussed on what you are doing and therefore be in character ALL of the time. Because you are believing in who you are, you are unaware of the audience or the people in the wings
21	Improvisation	Stanislavski believed in experimentation and improvisation as part of his rigorous training to find truthful responses.
22	Attention	Where you focus your concentration on (other characters, what you want) will both create tension and dynamism and propel you to action.
23	Relaxation	The state of behaving and moving as naturally as if you were at home in that character's body. The actor being comfortable in the skin of his/her character convinces the audience of the reality of what they are watching.
24	Motivation	An actor has to analyse why a character is doing something at every given point to identify whether their mind or their emotions are stimulating their actions. Helps add depth and truth.
25	Objectives	What a character WANTS or NEEDS to achieve at any given moment in a script.
26	Units	Breaking a scene down into sections which contain a separate action- when a character enters or leaves or the subject changes can signal the beginning or end of a unit.
27	Super-objective	What a character wants or needs in the play as a whole and therefore out of his/her life.
28	Method of physical actions	The physical behaviour of a character is directly generated by his/her psychological and emotional life and there should be union between the two.

YEAR 10 - T2- MUSIC – JOHN WILLIAMS- STAR WARS

	Features	KEYWORDS
elody	· **Fanfare** – b.1-3 us rapid repeated Bbs & Triplet arpeggio-like figures but based around fourths, rather than thirds. · **Minor 7th leaps** – b2&3 Trumpet idea from F to Eb features prominently in the **Main theme (A**). · **Main Star Wars Theme** is made up of two ideas: · **Main Theme (A)** - **4 bar** idea, which is repeated to form an 8-bar phrase; ○ **Stepwise** and **leaps; Rising perfect fifth**; **Interval inversion**; **Auxiliary** figure; **Repetitive rhythm**. · **Main Theme (B),** a four-bar idea, is altered & extended on 2nd playing. It has a less forceful character and provides an effective contrast. ○ **Anacrusis** start; **stepwise**; **rising sixth**; **Triplet figures; descending fourth**; **contrary motion**. · **Piccolo melody** - b.36-39, sort. · **Minor third -** rising and falling in the chordal material during b.51-60; · **Sequence**, for example in the string parts in bar 32.	**1- Fanfare** - celebratory piece for brass, often marking the opening of an important event or ceremony. **2- Triplet** - three notes that should be played in the time it normally takes to play two. **3- Arpeggio** - the chord is spread, normally from the bottom note to the top. **4- Leitmotif** - a recurring musical idea, associated with a particular theme, character of place. **5- Inversion** – turning an interval upside down.
hythm (incl. tempo & metre)	· **Fast tempo**. · The **4/4 metre** & **March style** - reflect the 'military' nature of the wars between the rebels and the Imperial forces. · **Rhythms of fanfares** - Opening 3 bars– rapid repeated notes and triplets – to create a feeling of expectation. · The **rhythmic feel** - main theme section, supports strong quadruple/duple pulse, continuing to include the triplets first heard in the intro. · **Syncopated** block chords - Main Theme (A), mixing offbeat quaver and triplet quavers with frequent rests. · **Uncertain pulse** - b.33 onwards the rhythmic feel changes entirely, much less obvious. · **3/4 metre** – b.44, metre changes to triple time. · **Homorhythmic** chords – b.44-50, create drama by mixing quavers, triplet quavers and crotchets with well-placed rests. · **Slower** tempo - further increasing the effect of these chords. · **Very fast** – b.51 the music sets off furiously with a one bar Ostinato figure driving the extract to its conclusion.	**6- Auxiliary** – a note used to travel by step between to harmonic notes. **7- Supertonic** - the second degree or note of a scale. **8- Contrary motion** – moving in opposite directions. **9- Anacrusis** - (pickup or upbeat) a note or notes, which precede the first downbeat in a bar. **10- Sequence** - the repetition of a musical phrase at a higher or lower pitch than the original.
exture	· **Homophonic** texture – variety of types: block chords, arpeggios or rhythmic articulations of chords. · **Melody-dominated homophony** - b.4 onwards, with the (often) octave-doubled tune supported by block or articulated chords. · **Pedal textures - Inverted tonic pedal** in the Introduction and during the first playing of the Main Title Theme; **Dominant pedal** b.12-15; · **Ostinato** textures – b.51-60.	**11- March** – written in 4/4 or 2/2 with strong & steady beat reminiscent of military field drums. **12- Homorhythmic** – sameness of rhythm in all parts
nstrument (sonority)	· **Full symphony orchestra**: 3 Flutes (Fl3 also playing Piccolo) 2 Oboes, 2 Clarinets, Bass Clarinet, 2 Bassoons; 4 Horns, 3 Trumpets, 3 Trombones and Tuba; Timpani, Triangle, Snare Drum, Tam-Tam, Glockenspiel, Vibraphone and Cymbals; Piano/Celeste and Harp; Strings. · **Traditional symphonic/Romantic treatment** of the orchestra with much doubling of parts. · **Thickly scored** - relatively few uses of solo timbres or lighter textures. · **No electronic effects or of synthesisers**.	**13- Homophonic** - a melody & accompaniment. **14- Pedal** - a sustained or repeated note in the bass. **15- Inverted tonic pedal** – a pedal in the melody line as opposed to the bass.
enre	· **John Williams** - (born 1932) is widely considered to be one of the greatest film composers of all time. · **Collaborations** – worked with Steven Spielberg & George Lucas on Jaws, The Star Wars, Indiana Jones, Harry Potter & Jurassic Park). · **Leitmotif** - Williams used the Romantic device, where a character or idea is represented by the same musical idea whenever they appear or are mentioned. The opening theme of the Main title, for example, is associated with Luke Skywalker, and with ideas of heroism and struggle.	**16- Ostinato** - a persistent phrase or motif repeated over several bars or more. **17- Tonal** - based around a key-note and its scale.
armony	· **Tonal -** but does not always use chords I, IV and V in conventional progressions, such as cadences. · **Major and minor chords**, mostly in root position and first inversion. · **Quartal harmony** - opening Fanfare use chords built up of fourths, rather than thirds**;** b.4-7 almost half the chords use **Quartal harmony**. · **Imperfect cadence** - end of the first phrase in the A section (bar 7)**.** · **Mixed chords** – b.33-35 mix different chords simultaneously to produce strange, unstable effects. This produces a rich, vibrant effect; · **Atonal** - b.39-41 the strings and brass are in different keys**;** · **Dissonant** - b.44, the hammered unison chords have strong clashes between the two pairs of notes used - C/Db and F/G = **cluster.** · **Tritone -** b.44 – G – Db.	**18- Inverted chords** - triads with either the 3rd (1st inversion) or the 5th (2nd inversion) in the bass. **19- Quartal harmony** – harmony made up of fourths as opposed to thirds. **20- Dissonant** – clashing intervals. the intervals that are dissonant (clashing) are the minor and major second, the minor and major seventh and the tritone (augmented fourth or diminished fifth).
onality	· **Bb major** – clearly for the first 29 bars. · **Ambiguous** – b.30 onwards the tonality becomes less clear, with more unstable harmonies and progressions. · **Modulation** – b.36 to C Major (with added Ab). B.42 onwards is more based around the note C, often heard as a bass pedal. · **Atonal** – b.41-60, more complex chords and much **dissonance.** · **Bitonality** - b.51-60**.**	**21- Imperfect cadence** - a progression landing on the **dominant chord (V)**. **22- Cluster** – notes or chords closely grouped together, commonly adjacent. **23- Atonal** - music that does not have a key of any sort.
tructure	· **Follows film** - The structure is intended to match and reinforce the opening section of the film. · **AABA** - Main theme section (b.1-29) follows conventional pattern: regular four bar phrases are used to construct a longer musical structure. · **Narrative/action** - The remainder of the extract takes its shape from what's on the screen and so has less of a purely musical structure.	**24- Tritone** – the dissonant interval of **an augmented fourth / diminished fifth.** **25- Bitonality** – music in two keys at the same time.

YEAR 10 - T2- ART – URBAN LANDSCAPE

A. Key Terms

Keyword	Description
7. Silhouette	**SILHOUETTE**: the dark shape and outline of someone or something visible in restricted
2. horizon	The **horizon** line **art** theory is a horizontal line that runs across the paper or canvas to represent the viewer's eye level, or delineate where the sky meets the ground.
3. Landscape painting	A painting depicting natural scenes or a cityscape.
4. Intaglio Printing	Printing where the ink is pushed into the gaps of a plate. For example, etching.
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. Relief Printing	Printing where the ink is on the raised areas of the plate. For example, lino printing.

B. Command Words

Keyword	Description
8. Demonstrate	To show, exhibit, prove or express such things as subject specific knowledge, understanding and skills.
9. Evidence	**EVIDENCE:** To show, prove, support and make clear or verify something.
10. Organise	N **ORGANISE**: To collect, collate, arrange and combine elements of your work into a clear and logical submission.
11. Research	**RESEARCH**: To study in detail, discover and find information about.

C. Formal Elements

LINE	the path left by a moving point, e.g. a pencil or a brush dipped in paint. It can take many forms. e.g. horizontal, diagonal or curved.
TONE	means the lightness or darkness of something. This could be a shade or how dark or light a colour appears
TEXTURE	the surface quality of something, the way something feels or looks like it feels. There are two types : Actual and Visual
SHAPE	an area enclosed by a line. It could be just an outline or it could be shaded in.
PATTERN	a design that is created by repeating lines, shapes, tones or colours. can be manmade, like a design on fabric, or natural, such as the markings on animal fur.
COLOUR	There are 2 types including Primary and Secondary . By mixing any two Primary together we get a Secondary

C. Art Criticism

12. Art Criticism is when you analyse and present your own opinions of an artists work. Memorise the 4 steps to help you annotate your book.

4 steps of art criticism

13. **describe:** Tell what you see (the visual facts)

14. **Analyse:** Mentally separate the parts or elements, thinking in terms of textures, shapes/forms, light/dark or bright/dull colours, types of lines, and sensory qualities. In this step consider the most significant art principles that were used in the artwork. Describe how the artist used them to organize the elements.

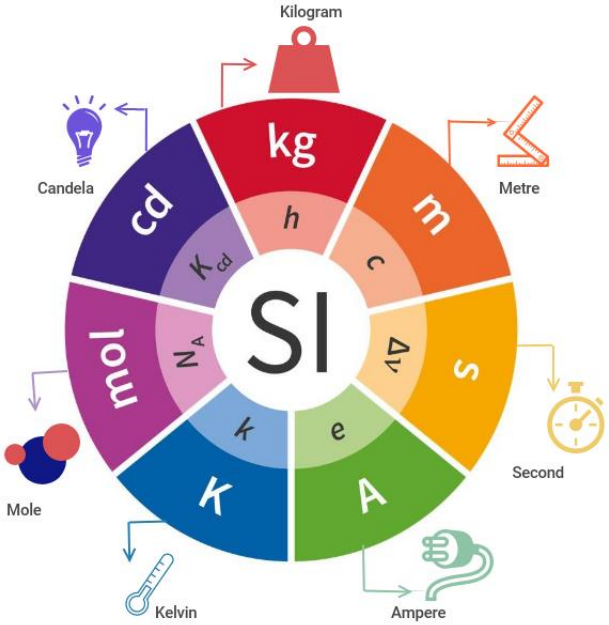
15. **interpret:** seeks to explain the meaning of the work based on what you have learned so far about the artwork, what do you think the artist was trying to say?

16. **judgment.** personal evaluation based on the understandings of the work(s)

Energy needs keywords	Definition
1. Basal metabolic rate (BMR)	How many kilocalories you need to stay alive for 24 hours when warm and resting
2. Body mass index (BMI)	An index of your weight in relation to your height. It is used to classify people into four groups: underweight, healthy, overweight and obese
3. Calorie (cal)	A unit used to measure the energy value in food. It is a very small unit
4. Kilocalorie (kcal)	1 Kcal = 100 cal and is a larger used to measure the energy value of food.
5. Energy	Energy from food is measured in unites called joules or calories Energy is used by the body to: grow and develop; move muscles; keep the body warm; produce sound when singing or talking; send messages to the brain to make nerves work; make chemical reactions take place.
6. Energy balance	The amount of energy we get from food each day is the same as the amount of energy we use each day.
7. Obesity	Being very overweight. Health and mobility are affected
8. PAL	Physical Activity level. This is the amount of energy we use for movement and for physical activity every day.

Methods of heat transfer	
1. conduction	Heat is conducted from molecule to molecule in solids or liquids. E.g metal pan to food inside the pan
2. convection	Heat travels around liquids and air by convection currents
3. Radiation	Using convection currents or radiation to cook food. Heat energy is in the form of infrared heat rays
4. Electromagnetic rays	Produced inside a microwave oven and will heat food up by causing water molecules to vibrate
5. radiation	When heat rays directly heat and cook food
Methods of cooking	
1. boiling	Cooking food in water at 100 C
2. braising	Sealing meat in hot fat, then cooking it slowly in a covered dish with a little liquid.
3. Poaching	Cooking food in a shallow pan of water or wine at jusrt below boiling point
4. Simmering	Cooking food in a liquid just below boiling point, so it bubbles gently.
5. Steaming	Cooking food in the steam rising from a pan of boiling water beneath.
6. Stewing	Cooking food by simmering gently in a covered pot either in the oven, on the hob or in a slow cooker
7. Sauteing	Fry food gently in a little oil in order to soften the food and develop the flavour
8. Shallow frying	Frying food in a shallow frying pan in a little oil
9. Stir frying	Frying food for a short timr in a wok, using very little oil
10. Roasting	Cooking food n some oil or fat in a hot oven
11. Deep frying	Frying food in a deep pan of very hot oil so that the food is fully immersed in the oil
12. Baking	Cooking food in a hot oven
13. Grilling	cooking food by intense radiant heat on
14. Toasting	Cooking starch based food with dry heat
15. Dry frying	Cooking food that naturally contains oil or fat in a frying pan without adding oil

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 10 - T2- VCERT ENGINEERING- SI UNITS

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

Present Tense

What are these and when do I use them?
Lots of verbs don't follow the rules which apply to regular verbs: they are therefore called irregular verbs. You use the present tense of these verbs to talk about what is happening now, or to talk about what usually happens.

Why are they important?
The two most frequently used verbs in French – *être* and *avoir* – are both irregular. Many irregular verbs are ones you need to use all the time when you are talking or writing, like *aller*, *faire*, *voir* and *savoir*.

Things to look out for
Even though these verbs are irregular, there are patterns to look out for, e.g. the *nous* forms practically always end in *-ons*, the *vous* forms in *-ez*. You need to know the key irregular verbs by heart. To find how to conjugate a particular irregular verb, you can use the tables below or the tables on pages 236–240.

The most frequently used irregular verbs are:

être (to be)	***avoir*** (to have)	***aller*** (to go)	***faire*** (to do/make)
je suis (I am)	*j'ai* (I have)	*je vais* (I go)	*je fais* (I do/make)
tu es	*tu as*	*tu vas*	*tu fais*
il/elle/on est	*il/elle/on a*	*il/elle/on va*	*il/elle/on fait*
nous sommes	*nous avons*	*nous allons*	*nous faisons*
vous êtes	*vous avez*	*vous allez*	*vous faites*
ils/elles sont	*ils/elles ont*	*ils/elles vont*	*ils/elles font*

- Here are some more irregular verbs:

boire (to drink)	*je bois*	*tu bois*	*il boit*	*nous buvons*	*vous buvez*	*ils boivent*
voir (to see)	*je vois*	*tu vois*	*il voit*	*nous voyons*	*vous voyez*	*ils voient*
savoir (to know)	*je sais*	*tu sais*	*il sait*	*nous savons*	*vous savez*	*ils savent*
venir (to come)	*je viens*	*tu viens*	*il vient*	*nous venons*	*vous venez*	*ils viennent*
partir (to leave)	*je pars*	*tu pars*	*il part*	*nous partons*	*vous partez*	*ils partent*
dire (to say)	*je dis*	*tu dis*	*il dit*	*nous disons*	*vous dites*	*ils disent*
lire (to read)	*je lis*	*tu lis*	*il lit*	*nous lisons*	*vous lisez*	*ils lisent*
prendre (to take)	*je prends*	*tu prends*	*il prend*	*nous prenons*	*vous prenez*	*ils prennent*
devoir (to have to)	*je dois*	*tu dois*	*il doit*	*nous devons*	*vous devez*	*ils doivent*
pouvoir (to be able to)	*je peux*	*tu peux*	*il peut*	*nous pouvons*	*vous pouvez*	*ils peuvent*
vouloir (to want to)	*je veux*	*tu veux*	*il veut*	*nous voulons*	*vous voulez*	*ils veulent*

Past Tense with 'être

What is this and when do I use it?
When you are talking about events in the past, you need to use the perfect tense. Some vital verbs don't use *avoir* as the auxiliary verb; instead, they use the verb *être*.

Why is it important?
The auxiliary verb *être* is used with some vital verbs; you need to use the perfect tense with *être* to say things like 'I went', 'we stayed' or 'he has died'.

Things to look out for
- All reflexive verbs use *être* as the auxiliary verb in the perfect tense.
- There are only a further 13 verbs that form their perfect tense with *être*. If you learn these, then you know that all other verbs go with *avoir*. You might find that a mnemonic like MRS VAN DER TRAMP helps you remember the 13 verbs plus reflexives.
- Compounds of these verbs also take *être*, so look out for one of these 13 verbs with an added prefix. For example, *venir* (to come) uses *être* as its auxiliary verb, and so do ***re***venir (to come back) and ***de***venir (to become).
- For *être* verbs in the perfect tense, the past participle agrees with the subject of the verb.

How does it work?
- Take the part of the auxiliary (*être*) and add the past participle. Here are the 13 verbs which take *être* as the auxiliary, with their past participles:

infinitive	past participle	infinitive	past participle
aller (to go)	*allé*	*entrer* (to come in)	*entré*
venir (to come)	*venu*	*sortir* (to go out)	*sorti*
arriver (to arrive)	*arrivé*	*naître* (to be born)	*né*
partir (to leave)	*parti*	*mourir* (to die)	*mort*
monter (to go up, get in)	*monté*	*rester* (to stay)	*resté*
descendre (to go down, get out)	*descendu*	*tomber* (to fall)	*tombé*
		retourner (to return)	*retourné*

- For *être* verbs in the perfect tense, add an ending to the past participle if the subject of the verb is feminine or plural. Using *partir* (to leave) as an example:

je suis parti(e)	I left	add an ***e*** if you are a girl
tu es parti(e)	you (*sg. familiar*) left	add an ***e*** if *tu* refers to a girl/woman
il est parti	he left	
*elle est parti**e***	she left	
*on est parti(e)**s***	we left	add an ***e*** if everyone covered by 'we' is a girl/woman
*nous sommes parti(e)**s***	we left	add an ***e*** if everyone covered by 'we' is a girl/woman
*vous êtes parti(e)(**s**)*	you left	add an ***e*** if *vous* refers to one woman; add an ***s*** if it refers to more than one person; add ***es*** if it refers to two or more women.
*ils sont parti**s***	they left	either all boys/men or a mixed group of male and female
*elles sont parti**es***	they left	all girls/women

- For reflexive verbs in the perfect tense, put the auxiliary verb *être* after the reflexive pronoun: *Je me suis couché(e).* I went to bed.

Past Tense with 'avoir'

What is this and when do I use it?
The perfect tense (called the *passé composé* in French) is used to talk about single events or actions that happened in the past.

Why is it important?
Talking about what has already happened is something we do all the time in everyday speech. Mastery of tenses is vital, and the perfect tense is the key past tense you need to know.

Things to look out for
- The perfect tense of French verbs has two parts: the auxiliary verb + the past participle. What is one verb in English (e.g. 'we walked') has two parts in French (e.g. *nous* ***avons marché***). Make sure you never miss out the auxiliary verb!
- The perfect tense has two meanings in English: *il* ***a joué*** *pour Arsenal* can mean 'he played for Arsenal' or 'he has played for Arsenal'.
- When used with a negative, it can also be translated in two ways: *il* ***n'a pas joué*** *pour Spurs* means 'he didn't play for Spurs' or 'he hasn't played for Spurs'.

How does it work?
- The perfect tense is formed using an auxiliary verb and a past participle. Most verbs use *avoir* as the auxiliary.
- To form the past participle of a regular verb:

-er verbs e.g. *changer*	remove *-er* and add ***é***	*chang**é***	*il a chang**é*** he changed/has changed
-ir verbs e.g. *finir*	remove *-ir* and add ***i***	*fin**i***	*on a fin**i*** we finished/have finished
-re verbs e.g. *entendre*	remove *-re* and add ***u***	*entend**u***	*j'ai entend**u*** I heard/have heard

- Irregular verbs usually have irregular past participles: you can find them in the verb tables on pages 236–240. Here are some common examples:

infinitive	past participle	infinitive	past participle
boire	***bu***	*avoir*	***eu***
voir	***vu***	*dire*	***dit***
lire	***lu***	*écrire*	***écrit***
croire	***cru***	*mettre*	***mis***
pouvoir	***pu***	*prendre*	***pris***
devoir	***dû***	*être*	***été***
vouloir	***voulu***	*faire*	***fait***

j'ai dit I said ***elle a vu*** she saw

- With negatives, the negative expression (e.g. *ne … pas*) goes around the auxiliary verb.
  Elle ***n'a pas vu*** *ce film.* She hasn't seen this film.
  Je ***n'ai pas fini!*** I haven't finished!

The Imperfect Tense

What is this?
The imperfect tense (*l'imparfait* in French) is another tense used to talk about the past.

When do I use it?
You use the imperfect tense to talk about what happened in the past over a period of time, rather than just one single event. You also use it to describe what was happening at a given time (e.g. just before a particular event happened) or what used to happen.

Why is it important?
The imperfect tense is used in key phrases like 'it was' or 'there were'. You need it to describe what things were like or what people were doing, as well as to say what you used to be like or do.

Things to look out for
- A verb in the imperfect tense can be translated in different ways, e.g. *elle* ***regardait*** *la télé* can mean 'she used to watch TV', 'she was watching TV' or 'she watched TV'.
- When you are talking about the past, you will probably need a combination of perfect tense verbs, for 'one-off' actions or events that happened and are now complete, and imperfect tense verbs, for things that were happening at that time or for describing what something was like.

  Elle ***faisait*** *du yoga quand le téléphone a sonné.*
  She was doing yoga when the phone rang.

  *Je suis allé à Berlin l'année dernière. C'****était*** *génial.*
  I went to Berlin last year. It was great.

How does it work?
- To form the imperfect tense, take the *nous* form of the present tense verb and remove the *-ons* (e.g. *nous dansons* → *dans-*). This is the imperfect 'stem'. Then add the imperfect endings.

The imperfect endings are:

*je dans**ais***	*nous dans**ions***
*tu dans**ais***	*vous dans**iez***
*il/elle/on dans**ait***	*ils/elles dans**aient***

The only exception is the most common verb of all: *être*.
The imperfect stem for *être* is ***ét-***:
*j'****étais*** (I was).

- Look out for these common uses of the imperfect:
  c'était (it was): *C'était top!* It was brilliant!
  il y avait (there was/were): *Il y avait un grand défilé.* There was a big parade.
  il faisait (it was, to describe the weather): *Il faisait beau.* The weather was good.

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 imperfect What used to happen in the past / was….ing / continuous action	The immediate future What you are GOING TO DO	The Future What you WILL do	The conditional What you WOULD do
RULE →	Take AR/ER/IR off the infinitive to leave the stem and add the following endings:	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:	Take AR/ER/IR off the infinitive to leave the stem and add the following endings:	Conjugate IR (to go) + a + infinitive	INFINITIVE + the following endings **Do NOT take off the AR/ER/IR*	INFINITIVE + the following endings **Do NOT take off the AR/ER/IR*
→	**AR ER IR**		**AR ER/IR**	**AR ER/IR**			
1. Yo (I)	**O O O**	**Estoy +** ando/iendo (Estoy hablando / comiendo_	**é í**	**aba ía**	**Voy a ……..** (Voy a ir-I'm going to go)	**é**	**ía**
1. Tú (you s inf)	**as es es**	**Estás +** ando/iendo	**aste iste**	**abas ías**	**Vas a……..**	**ás**	**ías**
1. Él / Ella / Es / Usted (he/she/it/ you s f)	**a e e**	**Está +** ando/iendo	**ó ió**	**aba ía**	**Va a……..**	**á**	**ía**
1. Nosotros (we)	**amos emos imos**	**Estamos +** ando/iendo	**amos imos**	**ábamos íamos**	**Vamos a……..**	**emos**	**íamos**
1. Vosotros (you pl inf)	**áis éis ís**	**Estáis +** ando/iendo	**asteis isteis**	**abais íais**	**Vais a ……..**	**éis**	**íais**
1. Ellos/Ellas/Ustedes (they / you pl f)	**an en en**	**Están +** ando/iendo	**aron ieron**	**aban ían**	**Van a…….**	**án**	**ían**