

**2018-19**

# **Year 8 - Cycle One**

# **100% Book**



**Name:** \_\_\_\_\_

**Tutor group:** \_\_\_\_\_



**Paddington Academy**  
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## Your 100% book and knowledge organisers

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Knowledge organisers contain **critical** knowledge you must know. This will help you recap, revisit and revise what you have learnt in lessons in order to remember this knowledge for the long-term.

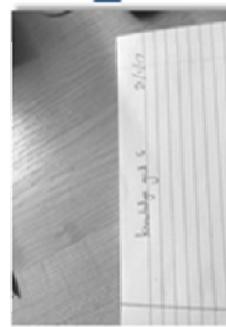
**Students remember 50% more when they test themselves after learning.**

**You must** have this 100% book for **every** lesson – it is part of your equipment.

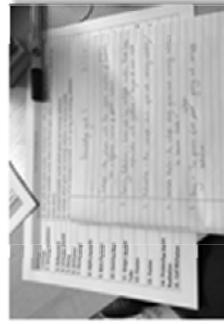
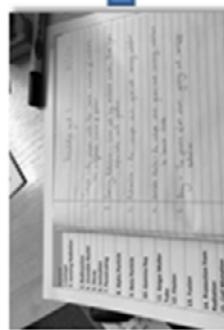
**You must** keep your 100% books (even after you have finished the cycle or the year).

## How do I use my 100% book for self-quizzing?

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- 1) Write today's date and the title from the knowledge organiser and underline with a ruler
- 2) Write out the keywords leaving two lines between each word
- 3) Cover the definitions apart from the first: read it, cover it, say it in your head, check it



- 4) If you got it right, move on and **quiz yourself** on the rest in your head, one by one
- 5) Cover up all the definitions and write them out from memory
- 6) Check your answers using green pen
  - Tick any definitions which are correct
  - Correct any definitions not completely correct

# Correcting spelling, punctuation and grammar

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Your work will be marked across all subjects to help you improve your literacy.  
This is the code that will be used.

Correcting your spelling, punctuation and grammar	
<b>Sp + underlined word</b>	The underlined word is spelt incorrectly.  Look, cover, write then check. Do this at least three times so you spell it correctly.
<b>A circle around part of a word or a space</b>	Your punctuation is incorrect, or something is missing (including capital letters).
<b>? + wobbly line</b>	You haven't explained your ideas clearly enough.
/	You need to start a new sentence here.  Remember: full stop, capital letter.
//	You need to start a new paragraph here.  Remember: new paragraphs for time, place, topic, person (TiPToP).
^	A word is missing where the arrow is pointing.





# YEAR 8 | ART AND DESIGN | KNOWLEDGE ORGANISER | ROA & WILTSHIRE

## 1. ROA

Nationality	Belgian
Born	1976
Lives and works	Ghent
Known for	Paints wild or urban animals and birds that are native to the area being painted
Medium	Spray paint or acrylic paint
Influenced by	American life, music (particularly Hip-hop)

## 2. Stephen Wiltshire

Nationality	English
Born	24 April 1974
Lives and works	Little Venice, Maida Vale
Known for	His ability to draw from memory a landscape after seeing it just once
Medium	Staedtler pens
Influenced by	Richard Estes

## 5. Key Terms

	Definition
Mural	A painting or other work of art executed directly on a wall.
Mark-making	A term used to describe the different lines, patterns, and textures we create in a piece of art
Proportion	The relationship of one part of a whole to other parts
Depth	Sense of dimension in an Artwork down into the surface of an artwork
Context	Historical, economic, social or cultural influence on a work
Urban Texture	Rough surface on walls or ground in a city
Composition	The arrangement/layout of shapes/objects on the page

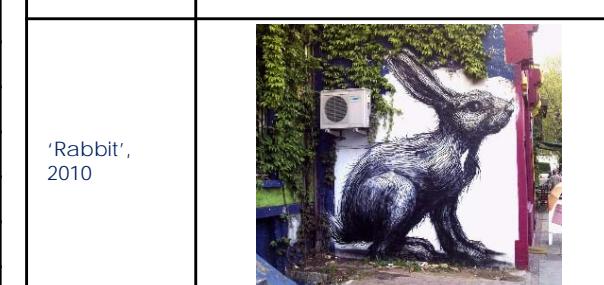
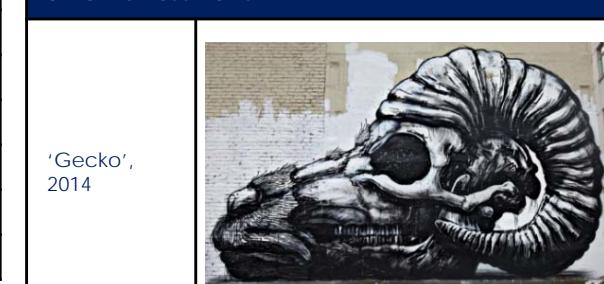
## 6a. Other artistic influences on ROA

Who	Keith Haring	El Bocho
Famous for	Street art on New York Subway	Spanish street Artist based in Berlin

## 6b. Other artistic influences on Wiltshire

Who	L. S. Lowry	Gilles Tréhin
Famous for	Urban landscapes and 'matchstick men'	Creator of the imaginary city of 'Urville'

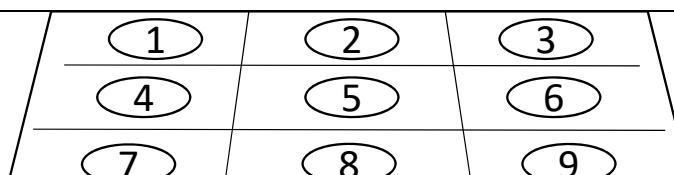
## 3. ROA famous works



## 7. Types of Mark-making

Diagonal		Scribbles		Cross-hatching		Directional	
Dots / pointillism		Dashes		Sharp		Ripples	

## Mask | Drama | Year 8 | Cycle One

<b>(A)</b> Mask rules		Performers using masks follow rules to ensure the audience see the mask as the character.	<b>(C)</b> Key Words: General							
Rule 1		No words or sound when wearing a full mask.	Staging							
Rule 2		Don't show the back of your head to the audience.	Levels							
Rule 3		Don't put on, remove or adjust the mask in front of the audience.	<b>(D)</b> Key words: Skills							
<b>(B)</b> Positions on stage		 <p style="text-align: center;">Audience</p>	Performance Skills							
1	Upstage right (USR)	<p><b>(F)</b> Masks through theatre</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Greek</td> <td style="padding: 5px;">400BC – Mask showed character.</td> </tr> <tr> <td style="padding: 5px;">Noh</td> <td style="padding: 5px;">1300s – Masks were neutral.</td> </tr> <tr> <td style="padding: 5px;">Commedia</td> <td style="padding: 5px;">1500s – Mask emphasised character.</td> </tr> </table>	Greek	400BC – Mask showed character.	Noh	1300s – Masks were neutral.	Commedia	1500s – Mask emphasised character.	The skills used by an actor to bring a character to life.	
Greek	400BC – Mask showed character.									
Noh	1300s – Masks were neutral.									
Commedia	1500s – Mask emphasised character.									
2	Upstage center (USC)	Physical Skills								
3	Upstage left (USL)	The skills that focus on the use of the body.								
4	Stage right (SR)	Posture								
5	Center stage (CS)	How you stand or sit. E.g. slouched or straight.								
6	Stage left (SL)	Gesture								
7	Downstage right (DSR)	Small movements used to communicate. E.g. waving.								
8	Downstage center (DSC)	Facial Expression								
9	Downstage left (DSL)	The use of the face to show emotions. E.g. smiling								
Vocal Skills		The skills that focus on the use of voice.								
Volume		How loud or quiet you are speaking.								
Pace		How fast or slow you are speaking.								
Tone		The overall quality of your voice. E.g. aggressive or joyful.								
<b>(E)</b> Key Words: Mask										
Major focus		When a masked character directly faces the audience.								
Minor focus		When a masked character faces another character or object.								

# Year 8 Cycle 1: English Language and Literature

## Evil and Justice

A. Subject Terminology		B. Grammar and punctuation					
1. Inference	Drawing conclusions based on the evidence in a text; looking beyond the obvious	1. Pathetic fallacy	<i>using the weather to set the mood</i>				
2. Deduction	Drawing conclusions based on the evidence in a text; looking beyond the obvious	2. Perspective	<i>Whose perspective is the story being told from? Is it first /second/ third person?</i>				
3. Denotation	The actual meaning of a word; the dictionary definition	3. Tense	3 i. Past	<i>the verb form you use to talk about things that happened in the past. When you say, "I joined the circus," the verb "joined" is in the past tense.</i>			
4. Connotation	<i>An idea or feelings that a word invokes rather than its literal meaning</i>			<i>Last night I played my guitar loudly and the neighbours complained.</i>			
5. Evidence	<i>A quotation or piece of information used to support your ideas or prove something is true</i>		3 ii. Present	<i>the tense of a verb that expresses action or state in the present time and is used of what occurs or is true at the time of speaking</i>			
6. Annotation	<i>To add brief notes to a text or diagram giving explanation or comment</i>			<i>He goes to school every morning.</i>			
7. Skimming	<i>Reading quickly through the sentences to get an overall understanding of the text</i>		3 iii. Future	<i>a verb tense that is used to refer to the future. The future tense in English is formed with "will" or "shall."</i>			
8. Scanning	<i>When your eyes dart around the text, searching for a specific detail</i>			<i>She'll write the e-mail after lunch.</i>			
9. Proof-read	<i>Reread work, marking and correcting any errors.</i>						
10. Edit	<i>Improve written material by correcting, condensing or otherwise modifying it</i>	4. Repetition	<i>A word, a phrase, or a full sentence, or a poetical line repeated to emphasise its significance in the entire text or make it more memorable</i>				
11. Re-draft	<i>Draft a document in a different way</i>	5. Motif	<i>A repeated image or symbol which comes to represent something in the story</i>				
12. PLOT	<i>The main events of a novel, play, or film which make up a story</i>	<b>B. Grammar and punctuation</b>					
13. Exposition	<i>The beginning of a story where the writer gives background information about the setting and characters</i>	1. Comma*	<i>A punctuation mark (,) indicating a pause between parts of a sentence or separating items in a list.</i>		<i>Even though it was sunny, Charlotte shivered.</i>		
14. Conflict	<i>A struggle between opposing forces ( a hero and a villain?) which drives the plot forward</i>	2. Synonym	<i>Two words are synonyms if they have the same meaning, or similar meanings.</i>		<i>Big and large</i>		
15. Rising action	<i>A series of plot events which create tension/ suspense/ or interest in a narrative</i>	3. Antonym	<i>Two words are antonyms if their meanings are opposites.</i>		<i>Huge and tiny</i>		
16. Climax	<i>The highest or most intense point in the development of a plot</i>	4. Conjunction	<i>A conjunction links two words or phrases together.</i>		<i>The park was empty and Amy felt nervous.</i>		
17. Falling action	<i>The moment straight after the climax where the problem starts to be resolved</i>						

<b>18. Resolution</b>	<i>When he problem is solved at the end of a story</i>		* co-ordinating conjunctions (e.g. and) link two words or phrases together as an equal pair  * subordinating conjunctions (e.g. when) introduce a subordinate clause.	<i>Alex failed her exam because she didn't study hard enough.</i>
<b>19. Modulation of pace</b>	<i>speak slowly and clearly- try not to rush</i>	<b>5. Speech marks</b>	Use speech marks each time a character speaks. Remember to start a new line each time a new character speaks.	<i>"I don't like carrots!" shouted Andrew</i>
<b>20. Modulation of volume</b>	<i>speak loudly enough so that the whole room/ group can hear you</i>	<b>6. Question mark</b>	A punctuation mark (?) indicating a question.	<i>Do you want a cup of tea?</i>
<b>21. Foreshadowing</b>	<i>giving clues/ hints of what might happen later</i>	<b>7. Exclamation mark</b>	A punctuation mark (!) indicating an exclamation.	<i>Watch out!</i>

### C. Forms (text types)

<b>Prose</b>		<b>Non-fiction</b>		
<b>1. Epistolary novel</b>	<i>An epistolary novel is a novel written as a series of letters/ diary entries. E.g. Dracula- Mary Shelley or A series of Unfortunate Events- Lemony Snicket</i>	<b>1. Letter</b>	<i>A written or typed communication send in the post with a stamp</i>	
		<b>2. Speech</b>	<i>A formal address or discourse delivered to an audience</i>	
		<b>3. Interview</b>	<i>A meeting of people face to face where one side wants information from the other</i>	
<b>D. Alternatives for viewpoint</b>		<b>E. Alternatives for 'draws attention to'</b>		
Attitude, belief, feelings, opinion, outlook, point of view, position, stance, thought(s), view		Accentuates, highlights, maintains, reinforces, reiterates, repeats, strengthens, supports, underlines		
<b>F. Alternatives for 'shows'</b>		<b>G. Alternatives for contrasts</b>		
Communicates, conveys, creates, demonstrates, depicts, establishes, explores, illustrates, implies, indicates, introduces, represents, reveals, signifies, suggests, symbolises		Juxtaposes, shifts, conflicts with, contradicts, subverts, goes against, opposes		
<b>H. Discourse markers</b>				
<b>1. To add information</b>		<b>2. To sequence events</b>	<b>3. To show similarities</b>	
too, also, and, moreover, furthermore, as well as		firstly, secondly, next, after, before, meanwhile	likewise, also, similarly, equally, in the same way	
<b>5. To illustrate</b>		<b>6. To contrast</b>	<b>7. To show cause and effect</b>	
for example, including, such as, according to, for instance		however, whereas, on the other hand, conversely, alternatively, otherwise	because, therefore, hence, as a result, consequently	
		<b>8. To conclude</b>		
		in summary, overall, finally, to sum up, in conclusion		

1) La technologie	Technology
Un ordinateur portable	A laptop
Un téléphone portable	A mobile phone
Une tablette	A tablet
Une clé USB	A USB key
Un écran	A screen
Un appareil photo	A camera
Un MP3	An MP3 player
Un tableau interactif	An interactive board
Un clavier	A keyboard
Une souris	A mouse

4) Les verbes modaux	Modal verbs
Je dois	I must
Je veux	I want
Je peux	I can

5) Le négatif	The negative
Ne...pas	Not
Ne...que	Only
Ne...jamais	Never
6) Les opinions	Opinions
Je pense que	I think that
Je crois que	I believe that
À mon avis	In my opinion
C'est bien que	It's good that
C'est mauvais que	It's bad that

2) Les verbes de la technologie	Technology verbs
J'utilise la technologie	I use technology
Afin de / pour	In order to
Surfer l'internet	Surf the internet
Chercher des renseignements	To look for information
Faire de la recherche	To do research
Regarder des clips	To watch videos
Envoyer des messages	To send messages
Chater avec mes amis	To chat with friends
Lire des forums	To read forums
Parler au Skype	To talk on Skype
Partager des photos	To share photos
Faire mes devoirs	To do my homework
Télécharger de la musique	To download music
Sauvegarder mes documents	To save documents
Jouer aux jeux vidéo	To play computer games
Acheter en ligne	To buy online

7) Les adjectifs	Adjectives
Fantastique	fantastic
Bon marché	good value
Cher	expensive
Lent	slow
Rapide	fast
Pratique	Practical
Facile	easy
Compliqué	complicated
Utile	useful
Inutile	useless
Dangereux	dangerous

3) Quand ?	Time phrases
Une fois	One time
Deux fois par semaine	Twice a week
Une fois par mois	Once a month
Tous les jours	Every day
Toujours	Always
Tôt	Early
Tard	late

8) Le présent	Present tense
Je lis	I read
Je prends	I take
Je vois	I see
Je fais	I do
Je bois	I drink
Je télécharge	I download

9) Le passé. To form the past tense, put the word in column A with column B to form	
A	B
J'ai – I have	lu / vu – read/saw
Tu as – You have	bu - drank
Il a – He has	téléchargé - downloaded
Elle a – She has	mangé – eaten
Nous avons – We have	regardé – watched
Ils ont – They have	joué – played
	fait - done

11) les verbes réflexifs	Reflexive verbs
Je me réveille	I wake up
Je me lave	I wash
Je me douche	I shower
Je m'habille	I dress
Je me maquille	I make myself up
Je me brosse les dents/les cheveux	I brush my teeth/hair
Je me lève	I get up
Je me couche	I go to bed

10) Les films, émissions et la lecture	Films, TV and books
Un film de	A film of
Horreur	Horror
Science-fiction	Science fiction
Fantaisie/ fantastique	Fantasy
Romantique	Romance
Policier	Crime
Guerre	War
Comédie	Comedy
Une émission de	Tv programme of
Télé-réalité	Tv reality
Sport	Sport
Un documentaire	A documentary
Les infos	The news
La météo	The weather
Un feuilleton/ une série	A soap opera
Un roman	A novel
Fantastique	Fantasy
Policier	Crime
Pour les ados	For teenagers
D'épouvante	Horror
Un BD	A comic
Un magazine sur les célébrités	A celebrity magazine
Un dessin animé	A cartoon
Un jeu télévisé	A game show

12) C'était comment?	How was it?
C'était	It was
Plein d'action	Full of action
Barbant	Unbearable
Intéressant	Interesting
Rigolo	Funny
Epouvantable	scary
12) Au passé	Past tense time phrases
Hier	yesterday
La semaine dernière	last week
Le mois dernier	last month
L'année dernière	last year

13) Au présent	The present time phrases
Normalement	normally
D'habitude	usually
Aujourd'hui	today

14) Au futur	Future time phrases
Demain	tomorrow
La semaine prochaine	next week
Le mois prochain	next month
L'année prochaine	next year



Processes		Landforms	Management	
<b>1. Processes</b>		<b>4. Headland Erosion</b>	<b>7. Hard engineering</b>	
Erosion	Wearing down of coastal material	1. Coastline is made of alternating soft (clay) and hard (granite) rock.	Define:	Building structures to manage coasts
Transportation	Movement of sediment	2. Softer rock is less resistant and erodes faster.	Example	Sea wall
Deposition	When waves drop sediment it is carrying	3. This creates bays and are sheltered so beaches form here.	Advantage	Can be long-lasting and effective
Weathering	Breaking down rocks in their place ( <i>in situ</i> ).	4. Hard rock is more resistant so erodes slower, leaving them "sticking out" of the coast	Disadvantage	Expensive to build and maintain
<b>2. Wave types</b>		<b>5. Cave, Arches, Stacks and Stumps</b>	<b>8. Soft engineering</b>	
Destructive Waves	<ul style="list-style-type: none"> <li>Erodes a coastline</li> <li>Strong backwash</li> <li>High / steep</li> <li>Short wave length</li> </ul>	1 A weakness creates a crack in the headland, which erodes to become a cave.	Define:	Using natural process to manage coasts
Destructive Waves	<ul style="list-style-type: none"> <li>Deposits sediment to build a coastline</li> <li>Strong swash</li> <li>Low waves</li> <li>longwave length</li> </ul>	2 The cave expands over time and becomes an arch.	Example	Beach replenishment
		3 The arch on the top becomes worn down and collapses as it is unsupported.	Advantage	Looks more natural -> attracts tourists
		4 This leaves a stack in the sea, separate from the headland.	Disadvantage	Can be ineffective and destroyed by severe weather
		5 The stack is eroded to become a stump	<b>8. Happisburgh (pronounced Hays-Bruh)</b>	
<b>3. Longshore Drift</b>		<b>6. Spits</b>	<b>9. Stakeholders in Happisburgh</b>	
1	Prevailing wind moves waves onto beach at 45°	1. Longshore drift moves sediment along the coast.	Local Farmer	Concerns for loss of farming land
2	Waves deposit sediment on beach	2. At the edge of a coastline, deposition leaves sediment to build up over time.	Local business owner	Concerned for lost customers
3	Sediment is picked up by waves moving back down the beach at 90° (due to gravity)	3. The sediment extends off the coastline, and "hooks" at the end due to wind changes.	Environmental Agency	Try to reduce flood risk and loss
4	Sediment is then deposited on the beach again at another 45°, further along the beach.	4. A saltmarsh is formed behind in the slower moving water.	UK government	Trying to balance other needs of the country with flood risk in small area.
5	The process is repeated with sediment moving along the beach gradually.		Resident	Worried about house prices

## Year 8 History | Cycle 1 – Reformation & Civil War

Reformation: Key people		Reformation: Key events		Stuarts & Civil War: Key people	
1. Martin Luther	<ul style="list-style-type: none"> <li>*A German professor of theology</li> <li>*Wrote his 95 theses in 1517</li> <li>*Complained about the corruption of the Catholic church</li> <li>*Disliked the sale of indulgences</li> <li>*Sparked the European Reformation</li> </ul>	9. English Reformation	<ul style="list-style-type: none"> <li>*Led by Henry VIII 1533</li> <li>*Church of England broke away from authority of Pope in Rome</li> <li>*Protestant doctrine created</li> </ul>	18. James I	<ul style="list-style-type: none"> <li>*King of Scotland and later England 1603- 1625</li> <li>*Son of Mary, Queen of Scots</li> <li>*Protestant King</li> <li>*Faced gunpowder plot in 1605</li> </ul>
2. Henry VIII	<ul style="list-style-type: none"> <li>*King of England 1509-1547</li> <li>*Led the English Reformation by breaking with Rome in 1533</li> <li>*Made himself Head of the Church of England using the <b>Act of Supremacy</b></li> </ul>	10. Dissolution of the Monasteries	<ul style="list-style-type: none"> <li>*1536</li> <li>*Monasteries of monks and nuns closed down</li> <li>*Lands and money taken by Henry VIII</li> </ul>	19. Guy Fawkes	<ul style="list-style-type: none"> <li>*Catholic involved in gunpowder plot to blow up parliament and assassinate King James I in 1605</li> <li>*Historians claim he could have been framed by Cecil</li> </ul>
3. Edward VI	<ul style="list-style-type: none"> <li>*Became king in 1547 at aged 9</li> <li>*Made further Protestant changes to the church of England</li> <li>*Introduced Book of Common Prayer which led to the <b>Prayer Book rebellion</b> in 1549</li> </ul>	11. Pilgrimage of Grace	<ul style="list-style-type: none"> <li>*Rebellion in northern England 1536 against Henry VIII</li> <li>*Reaction to the religious changes in England</li> </ul>	20. Robert Cecil	<ul style="list-style-type: none"> <li>*Advisor to King James I</li> <li>*Discovered gunpowder plot</li> <li>*Some historians argue he framed Guy Fawkes for the plot</li> </ul>
4. Mary I	<ul style="list-style-type: none"> <li>*Queen of England 1553-1558</li> <li>*Led the counter-Reformation</li> <li>*Married Philip II Spain in 1554</li> <li>*Persecuted Protestants by burning them – nicknamed “Bloody Mary”</li> </ul>	12. Prayer book rebellion	<ul style="list-style-type: none"> <li>*Rebellion in south-west England against Edward VI 1549</li> <li>*Reaction to new Protestant prayer book</li> </ul>	21. Charles I	<ul style="list-style-type: none"> <li>*King of Scotland and England 1625-1649</li> <li>*Married French Catholic Henrietta</li> <li>*Believed strongly in Divine Right of Kings</li> <li>*His policies were opposed by parliament</li> <li>*Fought against parliament in the Civil War 1642-1649</li> <li>*Executed by parliament in 1649</li> </ul>
5. Elizabeth I	<ul style="list-style-type: none"> <li>*Queen of England 1558-1603</li> <li>*Created a ‘religious settlement’ for Protestants and Catholics</li> <li>*Executed her cousin, <b>Mary Queen of Scots</b> in 1587</li> <li>*Defeated the <b>Spanish Armada</b> 1588</li> </ul>	13. Counter-Reformation	<ul style="list-style-type: none"> <li>*Led by Mary I, 1553</li> <li>*Reversed changes made by English Reformation</li> <li>*Re-established Catholicism and the authority of the Pope</li> </ul>	22. Oliver Cromwell	<ul style="list-style-type: none"> <li>*Commanded <b>New Model Army</b> during civil war</li> <li>*Served as <b>Lord Protector</b> of the Commonwealth of England, Scotland and Ireland (instead of a King)</li> <li>*Was a strict Protestant (Puritan)</li> <li>*Led successful campaigns (wars) against Ireland and Scotland</li> </ul>
6. Thomas Cromwell	<ul style="list-style-type: none"> <li>*Henry VIII’s chief advisor 1532-1540</li> <li>*Helped Henry with his ‘Great Matter’</li> <li>*Was a strict Protestant</li> <li>*Led the <b>dissolution of the monasteries</b></li> </ul>	14. Wyatt rebellion	<ul style="list-style-type: none"> <li>*Rebellion against Mary I’s marriage to King Philip II Spain, 1554</li> </ul>	<b>Key Battle: Civil War</b>	
7. Mary, Queen of Scots	<ul style="list-style-type: none"> <li>*Catholic Queen of Scotland</li> <li>*Arrived in England 1567</li> <li>*Provided inspiration for Catholics to <b>plot against Elizabeth</b></li> </ul>	15. Babington Plot	<ul style="list-style-type: none"> <li>*Plot involving Mary, Queen of Scots to overthrow Elizabeth I, 1586</li> </ul>	23. Causes	<ul style="list-style-type: none"> <li>*Religion – Charles seen to be favouring Catholics</li> <li>*Foreign Policy - failures</li> <li>*Limiting power of the parliament</li> <li>*Grand Remonstrance (parliament’s complaint)</li> </ul>
8. King Philip II Spain	<ul style="list-style-type: none"> <li>*Powerful Catholic King of Spain</li> <li>*Married Mary in 1554</li> <li>*Attacked Elizabeth in England in 1558</li> </ul>	16. Execution of Mary, Queen of Scots	<ul style="list-style-type: none"> <li>*1587</li> <li>*Reaction to Mary’s involvement with plots to overthrow Elizabeth as queen</li> </ul>	24. Armies	<ul style="list-style-type: none"> <li>*Royalists/Cavaliers – made up of nobility and supported the king</li> <li>*Parliamentarians/Roundheads – were against the King</li> </ul>
		17. Spanish Armada	<ul style="list-style-type: none"> <li>*1588</li> <li>*Launched by Philip II Spain</li> <li>*Reaction to execution of Mary Queen of Scots</li> <li>*Reaction to English privateers (sailors) stealing Spanish gold</li> <li>*Reaction to Elizabeth’s support of Protestant rebels in Spanish owned Netherlands</li> <li>*Failed due to English fireships, bad weather and poor tactics</li> </ul>	25. Battles	<ul style="list-style-type: none"> <li>*Edgehill 1642 – Royalist defeat</li> <li>*Marston Moor 1644 – Royalist defeat</li> <li>*Naseby , 1645 – New Model Army – heavy royalist defeat – turning point</li> </ul>

## Maths Cycle 1 Year 8

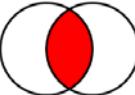
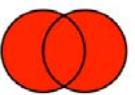
<u>1. Prime Numbers</u>	<u>Numbers</u>	HM: 28
Between 1-10	2, 3, 5, 7	
Between 11-20	11, 13, 17, 19	
Between 21-30	23, 29	
Between 31-40	31, 37	
Between 41-50	41, 43, 47	
Between 51-60	53, 59	
Between 61-70	61, 67	
Between 71-80	71, 73, 79	
Between 81-90	83, 89	
Between 91-100	97	

<u>3. Multiplying Negatives</u>	HM: 42, 43	<u>Answer</u>
Positive x positive =		Positive
Positive x negative =		Negative
Negative x positive =		Negative
Negative x negative =		Positive

<u>4. Types of Numbers</u>	HM: 99, 100	<u>Numbers</u>
Square numbers (first 10)		1, 4, 9, 16, 25, 36, 49, 64, 81, 100
Cube numbers (first 10)		1, 8, 27, 64, 125, 216, 343, 512, 729, 1000

<u>5. Word</u>	<u>Definition</u>
Integer	A whole number
Square Number	Formed by multiplying an integer by itself
Cube Number	Formed by multiplying an integer by itself three times
Square Root	A value that, when multiplied by itself, gives the number.
Multiple	A number in another numbers times table
Factor	A number that divides exactly into another number
Prime Factor	A factor that is a prime number.
LCM	Lowest common multiple
HCF	Highest common factor
Estimate	An approximate calculation
Term	A single number or letter or numbers and letters multiplied together
Unknown	The letter in an equation
Expand	Multiply out the bracket in the expression
Expression	Terms grouped together using operators
Equation	Numbers, symbols and operators (such as + and ×) with an equals sign.
Solve	Find the value of the unknown

<u>2. HCF and LCM using Venn Diagram</u> HM: 28-36	<u>Instruction</u>	<u>Venn Diagram</u>
Find the Highest Common Factor (HCF)	Multiply numbers in the overlap section of the Venn diagram	
Find Lowest Common Multiple (LCM)	Multiply all the numbers in the Venn diagram	

## Year 8 Music – Knowledge Organiser Cycle 1

### **1. Notation and theory keywords**

1	Notation	Written music
2	Treble clef	A symbol used in music to represent mid and high pitched notes
3	Time signature	A symbol that states how musical beats are grouped
4	Crotchet	A note lasting one beat
5	Crotchet rest	A rest lasting one beat
6	Quaver	A note lasting for half a beat
7	Semi-quaver	A note lasting for a quarter of a beat
8	Bar line	A vertical line that divides groups of beats
9	Double bar line	Two vertical and parallel lines, written at the end of a piece of music
10	Sharp	A black note played to the right of the naming note
11	Flat	A black note played to the left of the naming note
12	Major scale	A pattern of notes that have a bright sound
13	Major chord	A group of notes played at the same time that have a bright sound
14	Minor chord	A group of notes played together that have a dark sound

### **2. Instrument keywords**

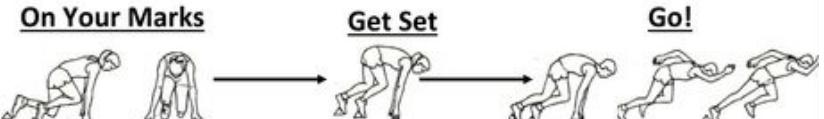
1	Technique	The way you play an instrument or sing
2	Ensemble	A musical group
3	Drum kit	A collection of drums and cymbals, played by one drummer
4	Drum beat	Any repeated musical phrase played on a drum kid
5	Bass guitar	A low-pitched, stringed instrument
6	Bass line	The lowest pitched part played in a piece of music
7	Electric guitar	A mid to high pitched stringed instrument

# Year 8 Dance 100% Knowledge Organiser

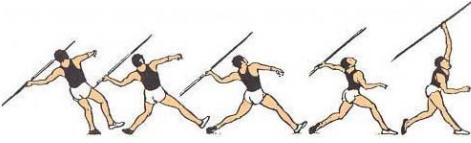
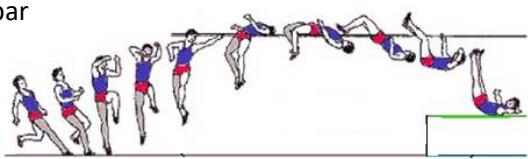
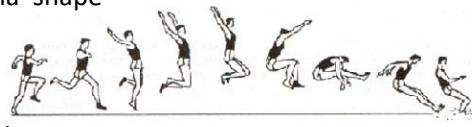
<h3>Gumboot</h3>  <p>Gumboot consists of stamping, clapping and slapping boots, this is a South African dance, performed by dancers wearing wellington boots (gum boots), and it is thought that the mine workers used the gumboots to relay messages to each other that they did not want their bosses to overhear.</p> <p><b>Key Actions:</b> Step, Stomp, Clap and Side Slap</p>		<h3>Kathak</h3>  <p>Kathak comprises of rhythmic foot and arm movements, this is one form of classical Indian dance and the origin of Kathak is traditionally attributed to the traveling storytellers of ancient northern India, known as Kathakars.</p> <p><b>Key Actions:</b> Tatkaar, Hastak, Chakaar</p>			
<h3>Salsa</h3>  <p>Salsa is a social dance that originated in Latin Culture, the dance is known for the fast flash footwork. The dance, along with the salsa music, originated in the mid-1970s in New York.</p> <p><b>Key Actions:</b> Cha-cha-cha, mambo and merengue</p>		<h3>Lindy Hop</h3>  <p>Lindy Hop is a social partner dance that uses hold with a partner, Lindy hoppers perform quick footwork and aerial lifts to Jazz Music. It was born in Harlem in New York City and is a development of the dances styles; Jazz, Tap and Charleston.</p> <p><b>Key Actions:</b> Side to side, spin and lift</p>			
<h3>RADS</h3>					
<b>Relationships</b>	Who the body is moving with and how they interact				
<b>Actions</b>	What a dancer does e.g. turning, elevation, transference of weight, balancing, gesturing and travelling				
<b>Dynamics</b>	The qualities of movement in the body, such as speed, strength and flow				
<b>Space</b>	The “where” of movements such as levels, directions, pathways and formations				
<h3>Strands of Dance</h3>					
<b>Perform</b>	The presentation of dance to an audience				
<b>Choreograph</b>	The art of creating dance				
<b>Critical Appreciation</b>	Recognising and understanding the qualities of dance such as; lighting, costume, set, accompaniment, choreography and stimulus				
<b>Rehearsal</b>	The act of refining performance and choreography, using systematic repetition, commitment, team work, planning and discipline				
<h3>Technical, Expressive and Mental Skills</h3>					
<b>Coordination</b>	The efficient use of body parts				
<b>Extension</b>	Lengthening and stretching of muscles or limbs				
<b>Accuracy</b>	Correctly and precisely performing movement				
<b>Facial Expressions</b>	The use of the face to show mood, feeling or character				
<b>Concentration</b>	The act of focusing your attention with power				
<b>Commitment</b>	The quality applied to movements				
<h3>Relationships</h3>					
<b>Unison</b>		Two or more dancers performing the same movements at the same time			
<b>Canon</b>		When the same movements overlap in time			
<b>Contact</b>		When dancers support, touch and lift one another			
<b>Call and Response</b>		Dancers have a conversation through movement, back and forth like normal dialogue			
<b>Motif</b>		A movement sequence that sums up an idea			
<b>Motif Development</b>		Changing, editing and evolving a movement sequence			
<h3>Space</h3>					
<b>Formations</b>		Shapes or patterns created in space by dancers			
<b>Levels</b>		Distance from the ground: low, medium or high			
<b>Directions</b>		The facing of a movement			
<b>Pathways</b>		Designs traced in space (on the floor or in the air)			
<b>Spatial Awareness</b>		Consciousness of the surrounding space and its effective use			
<h3>Dynamics</h3>					
<b>Energy</b>		How the movement happens			
<b>Timing</b>		The use of time or counts when matching movements to sound and/or other dancers.			
<b>Speed</b>		The rate at which movements happen			

# Year 8 Athletics Knowledge Organiser

Track events		
1	Sprinting	100m, 110 metre hurdles, 200m, 400m, 400m hurdles
2	Middle distance	800m, 1500m
3	Long distance	3,000m steeple chase, 5000m, 10,0000m
4	Relay	4 x 100 metres 4 x 400 metres

Running technique		
1	Sprinting	<ul style="list-style-type: none"> <li>- Driving your arms, with your fingers pointed</li> <li>- Driving your knees high</li> <li>- Head up, looking down the track</li> </ul>
2	Middle distance	<ul style="list-style-type: none"> <li>- Judging the pace of the race</li> <li>- Saving enough energy for a sprint finish at the end</li> </ul>
3	Sprint start	<p><b>'On your marks'</b></p> <ul style="list-style-type: none"> <li>- Rear knee should be in line with your front foot</li> <li>- Form a 'V' behind the line with your hands</li> <li>- Arms shoulder width apart, slightly ahead of hands</li> </ul> <p><b>'Get set'</b></p> <ul style="list-style-type: none"> <li>- Raise hips higher than shoulders</li> <li>- Lift legs at the knees</li> <li>- Body weight on hands and feet equally</li> </ul> 

4	Relay	<ul style="list-style-type: none"> <li>- Facing forward, with your hand out ready</li> <li>- Use a command word so that the next runner starts to move</li> <li>- 'upsweep' / 'down sweep' motion to receive the baton</li> <li>- 'left to right' or 'right to left' exchanging of baton</li> </ul>
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Field events			
	Event	Teaching points	Visual Guidance
1	Shot Putt	<ul style="list-style-type: none"> <li>- Stand side on</li> <li>- Make sure you have a 'Dirty neck/fingers, clean palm'</li> <li>- Chin, Knee, Toe are all in line</li> <li>- Aiming at a 45 degree angle</li> <li>- Moving from low to high when releasing the shot</li> <li>- Keep your elbow high</li> </ul>	
2	Javelin	<ul style="list-style-type: none"> <li>- Stand side on</li> <li>- Arm is extended full behind you</li> <li>- The tip of the javelin in your line of vision</li> <li>- Back leg bent, with your weight on this leg</li> <li>- Elbow comes through first</li> <li>- Forearm is extended</li> <li>- Release just above head height</li> </ul>	
3	High jump (Fosbury Flop)	<ul style="list-style-type: none"> <li>- Drive knee upwards on leg closest to the bar</li> <li>- Rotate hips so your back is towards the bar</li> <li>- Reach arm closest to the bar upwards</li> <li>- Arch back and bring legs together</li> <li>- Bend knees and lift feet over the bar</li> <li>- Tuck chin in to chest and land on back</li> </ul>	
4	Long jump	<ul style="list-style-type: none"> <li>- One footed take-off</li> <li>- Keep looking ahead, not at the take-off board</li> <li>- Rotate your body, while in the air, to a 'banana' shape (known as the hang technique)</li> <li>- Arms should be above your head</li> <li>- Legs hanging down</li> <li>- Bend knees when landing to soften the impact</li> </ul>	

Track disqualifications		
1	False start	Moving before the starter has started the race
2	Lanes	You must not run outside of your lane at any time
3	Dropping the baton	During a relay race, you must not drop the baton
4	Pushing	During middle distance races, you must not make contact with any of the other runners on purpose

# Year 8 Health & Fitness Knowledge Organiser

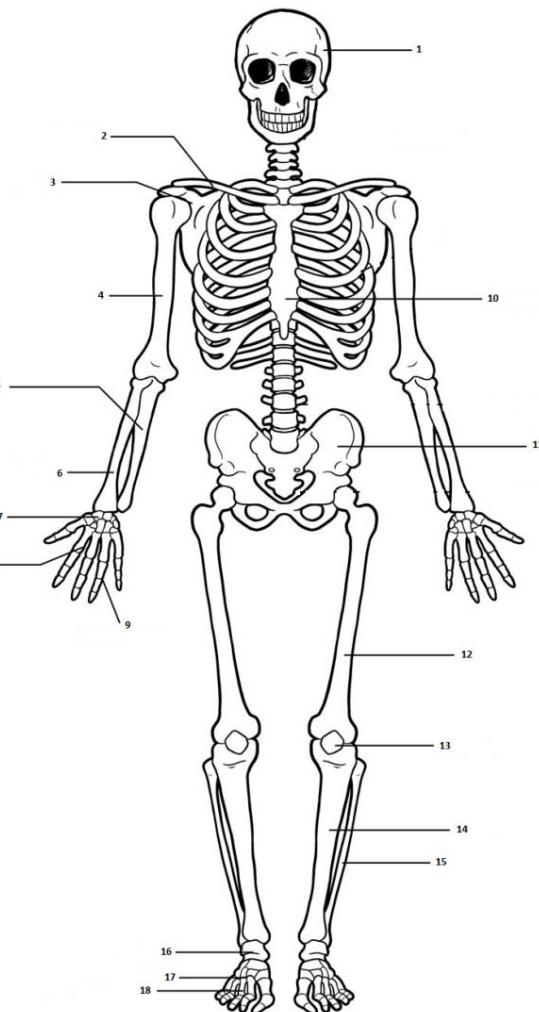
## Three Phases of a Warm Up

What		Why
1	Pulse Raiser	<ul style="list-style-type: none"> <li>Safely raise heart rate up to appropriate beats per minute (BPM)</li> <li>To deliver oxygen to working muscles</li> <li>To help prevent injury</li> </ul>
2	Dynamic & Static Stretching	<ul style="list-style-type: none"> <li>To help increase the range of movement at a joint</li> <li>Increase muscle elasticity</li> <li>Increase muscle temperature</li> </ul>
3	Sport Specific Skill	<ul style="list-style-type: none"> <li>Movement memory for the specific sport you are about to play</li> </ul>

## Components of Fitness

1	Cardiovascular Fitness	The ability to exercise the body for long periods of time, without getting tired
2	Muscular Strength	The amount of force a muscle can generate when it contracts to overcome resistance.
3	Agility	A measure of how quickly you can change the position of your body, while keeping your body under control.
4	Muscular Endurance	The ability to use voluntary muscles repeatedly, without getting tired
5	Speed	How quickly a movement can be performed or a distance can be covered
6	Flexibility	A range of movement possible at a joint
7	Balance	The ability to maintain centre of mass over a base of support
8	Coordination	The ability to use two or more body parts at the same time
9	Reaction Time	The time it takes to respond to a stimulus
10	Power	Strength X Speed
11	Body composition	The percentage of body weight that is fat, muscle and bone

## Bones in the Body



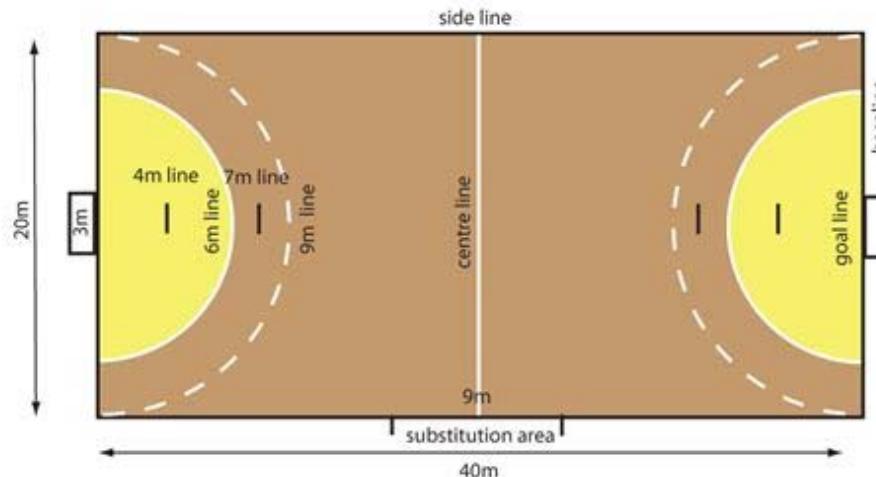
## Physical Activity & Sport

1	Health	A person's physical, social and mental well-being. Health is not simply being free of illness or injury
2	Physical well-being	<ul style="list-style-type: none"> <li>Helps the individual look and feel good</li> <li>Enhances body shape and improves muscle tone</li> <li>Improves cardiovascular fitness, weight loss and muscular strength</li> <li>Contributes to good health preventing illness</li> </ul>

## Physical Activity & Sport

3	Emotional well-being	<ul style="list-style-type: none"> <li>Relieves stress, tension and related illnesses</li> <li>Improves self-esteem and confidence</li> <li>Stimulates enjoyment, escapism, challenge and competition</li> <li>Aesthetic appreciation, enjoying the art of performance</li> </ul>
4	Social well-being	<ul style="list-style-type: none"> <li>Encourage teamwork and cooperation</li> <li>Meeting new people, encourages friendship and socialising</li> </ul>

# Year 8 Handball Knowledge Organiser

Rules			Regulations		
1 Dribble Fault	When you bounce the ball, then catch with both hands, and then bounce again		1 Players	Teams consist of 6 court players and 1 goalkeeper, with 7 substitutes	
2 Walking	If a handball player takes more than three steps without dribbling or holds the ball for more than 3 seconds without bouncing, shooting or passing		2 Time periods	Two 30 minute halves with a 10 minute break in between	
3 Six metre line	No handball player (other than the goalkeeper) is allowed in the goal area		3 Referees	Two referees lead the match	
4 Kicking	Handball players (other than the goalkeeper) must not kick the ball		4 Time outs	Two 2 minute time-outs are allowed in the game	
5 Free throw	Awarded when a foul occurs. All defenders must stay 3 metres away		Court lines		
6 Handball fouls	No tripping, pushing, hitting, charging or holding is allowed				
7 Goal-throw	This occurs when the ball comes off a goalkeeper and crosses the goal line.				
8 Corner	Is taken by the attacking side when a defender has knocked the ball over the goal line (other than in the goal)				
9 Centre	When a team scores, the other team starts from the centre line				
Skills					
1 Dribbling	- You may take 3 consecutive steps - Then you must bounce the ball - Look up so you are able to see where everyone is		Player positions		
2 Chest Pass	- Start with the ball at your chest - Push out from your chest - Player receives the ball at their chest		Goalkeeper	Is allowed in the area and can also act as a court player	
3 Overhead Pass	- Can be performed using one or two hands - Performed above the head - The further behind your head you start, the more power generated - Used to pass the ball a long distance or over players		Centre back	Occupies the middle of the court. Spearheads the attacks and shots	
4 Bounce Pass	- Start with the ball at your chest - Push the ball down towards the floor - One bounce, where the player receives it in their chest - Performed to get under or around players		Left and right back	Stands to the right or left of the centre back to form a defensive wall	
5 Running Jump shot	- Take off with one or two feet - Hold the ball with one hand - Lean forward when releasing the ball to generate power - Try to aim for a corner or area that is not covered by the goalkeeper		Left and right wing	Stand on the far side of the court covering the wing	
			Pivot	Referred to as the 'line player' and plays most of the game along the 6 metre line	

## Year 8 Table Tennis Knowledge Organiser

Rules		
1	Hand on the table	<ul style="list-style-type: none"> <li>- You are not allowed to place your hand on the table at anytime</li> <li>- A point is awarded to the other player if this happens</li> </ul>
2	Volley	Hitting the ball before it bounces on your side of the table
3	Two serves	You receive two serves each during the game
4	Deuce	<ul style="list-style-type: none"> <li>- When the score is 10-10.</li> <li>- Each player will now get one serve each</li> <li>- You must win by two clear points</li> </ul>
5	Doubles	A doubles pair must strike the ball alternately
6	In Play	Rules state that the lines of the table are 'in play' but the flat side of the table is not

Skills		
1	Grip	<ul style="list-style-type: none"> <li>- The 'V' or crease of your hand in line with the edge of the bat</li> <li>- Little to no gap between the top of the handle and your hand</li> <li>- Index finger placed on the backhand rubber surface</li> </ul>
2	Stance/ Ready position	<ul style="list-style-type: none"> <li>- Feet should be shoulder width apart</li> <li>- Knees should always be slightly bent</li> <li>- Your body should be square to the table and crouched</li> <li>- Arms should be out in front of your body</li> <li>- You should be standing just off of the centre line, to the backhand side of the table</li> </ul>
3	Push shot (forehand and backhand)	<ul style="list-style-type: none"> <li>- Keep your wrist straight</li> <li>- Have a small gap between your elbow and hip</li> <li>- Arm moves forward, to meet the ball</li> <li>- Movement comes predominantly from the elbow and forearm</li> <li>- Follow through forwards, finishing where you have hit the ball</li> <li>- Get back into the ready position</li> </ul>
4	Drive shot	<p>If right handed, the right foot should be slightly further back than the left</p> <p>The Backswing</p> <ul style="list-style-type: none"> <li>- Rotate body from your hips</li> <li>- Weight shifts onto the back foot</li> <li>- The body is moving the arm, not the other way round</li> </ul> <p>The Strike</p> <ul style="list-style-type: none"> <li>- Hips and shoulders rotate round</li> <li>- Arm moves from a low to high position</li> <li>- Weight transfers to front foot</li> <li>- Make contact with the ball out in front of you, at peak of the bounce</li> </ul> <p>The Finish</p> <ul style="list-style-type: none"> <li>- Follow through, forward and upwards with your arm</li> </ul>

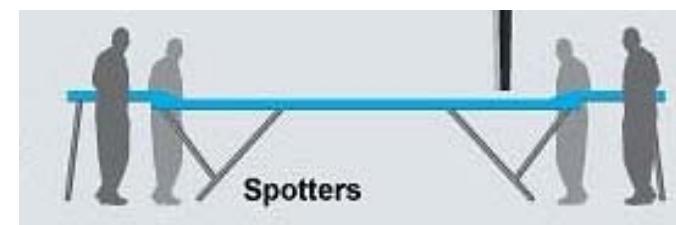
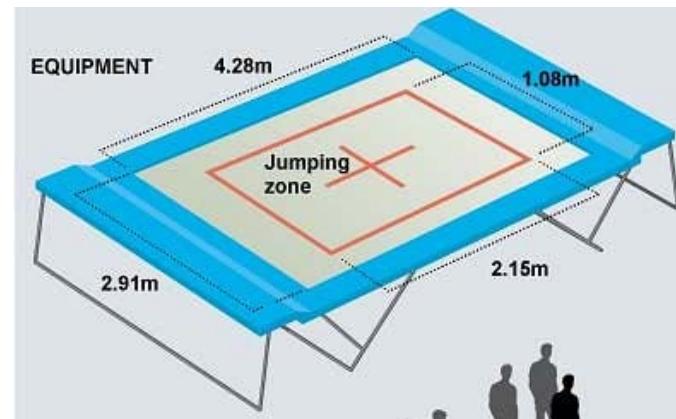
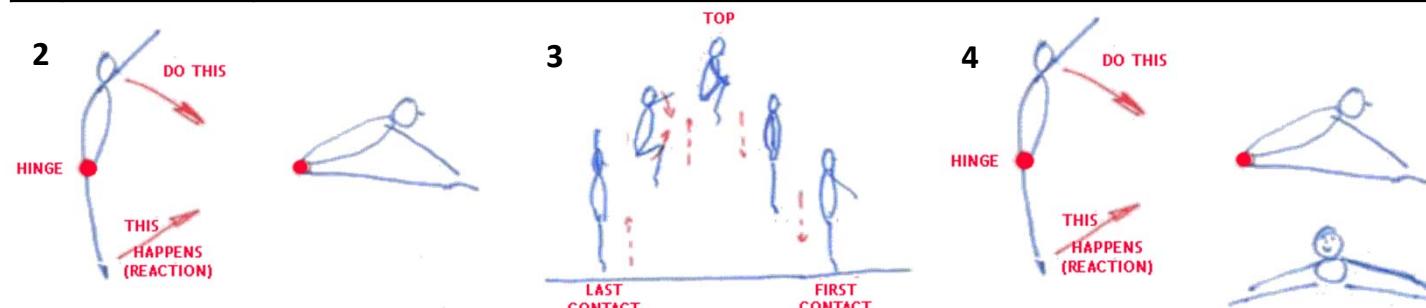
Regulations		
1	Players	Singles – two players Doubles – two players on each side of the table
2	Points	One point is awarded per play The game is first to 11 points
3	Games	Table tennis is played the best of three, four or five games in total You should swap sides after each game

# Trampolining Knowledge Organiser

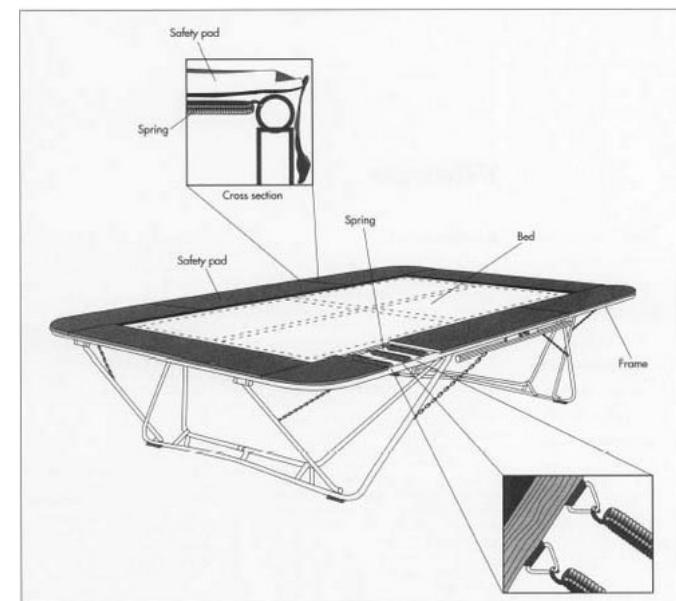
## Simple jumps

A trampoline sequence may include simple jumps in the following positions:

1	Straight	A vertical jump with arms held straight, together and above the head on take-off.
2	Pike	Begin from a straight jump start, the legs are lifted up and in front, keeping them together and straight. This is done whilst reaching for the toes.
3	Tuck	Begin from a straight jump start, the knees are tucked up to the chest and the hands must grasp the legs between the knees and ankle.
4	Straddle	It is similar to the pike jump except that the legs are spread sideways approximately 90° apart and the arms reach forward towards the toes.



Facts & rules in competition	
1	Trampolining is both a recreational and a competitive sport
2	Gymnasts bounce on the spring bed performing various acrobatic skills and routines
3	A trampoline consists of a metal frame that supports the spring bed
4	The trampoline bed is constructed of nylon or string material
5	The material and construction creates a tension that stabilises within one second of contact
6	Each trampoline competition requires the competitor to complete a set compositional routine that must contain acknowledged skills.
7	At the end of the routine the participant must remain upright for at least three seconds with both feet in contact with the surface.



## Cycle 1 Knowledge Organiser: Origins of Abrahamic Faith

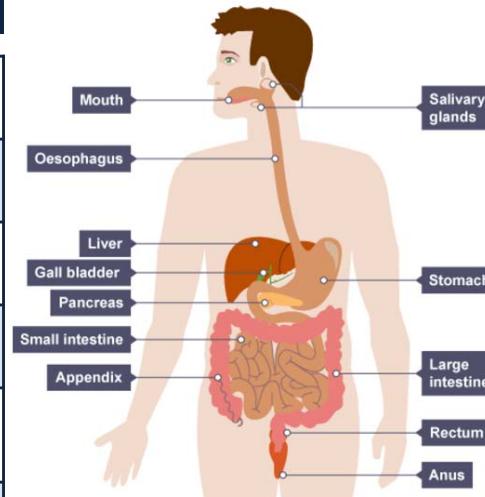
Section 1: Key words.		Section 2: Key dates. (B.C = Before Christ. A.D. = Anno Domini; In the year of our Lord.)	Section 3: The Big Picture
Deity	A God or Goddess.		
Paganism/Polytheism	The belief in more than one God.		
Sacrifice	An act of slaughtering an animal or person or giving up a possession as an offering to a deity.		
Monotheism	The belief in one God.		
Abraham	The common founder of Judaism, Christianity and Islam.		
Torah	In Judaism; the law of God revealed to Moses and recorded in the first five books of the Hebrew scripture. This also forms the first five books of the Christian Bible.		
Covenant	In religion, a covenant is a formal alliance or agreement made by God with a religious community or with humanity in general.		
Exodus	The departure of the Israelites from Egypt.		
Moses	Leader of the Israelites, the law giver and author of the Torah.		
Leviticus	The third book of the Torah: focuses on ritual, legal and moral practices.		
Jesus	First century Jewish preacher and leader. Christians believe him to be an incarnation of God.		
Rebel	A person who rises in opposition or armed resistance against an established government or leader.		
Crucifixion	An ancient form of execution where a person was nailed to a cross. This is how Jesus was killed.		
Apostles/Disciples	The first followers of Jesus; 12 in total.		
Tawhid	Arabic for the oneness of God.		
Quraysh Tribe	An Arab merchant tribe that controlled Mecca and its Ka'aba. Prophet Muhammad (PBUH) was born into the Quraysh tribe.		
Qur'an	The Islamic sacred book, believed to be the word of God as dictated to Muhammad by the archangel Gabriel and written down in Arabic.		
Revelation	The divine or supernatural disclosure to humans of something relating to human existence.		
		10,000 BC Beginning of early pagan and polytheistic religions. Worship of many different deities depending on places and cultures.	
		2,100 BC Abraham is to sacrifice Isaac but is then told to sacrifice a sheep instead.	
		1,450 BC Moses leads the Israelites out of slavery (Exodus) and into the Sinai desert where the law is revealed to him from God.	
		0 BC Jesus is born to the virgin Mary in the city Bethlehem in present day Palestine, 10km south of Jerusalem.	
		29 AD Jesus was arrested and tried by the Sanhedrin (a group of Jewish leaders) for blasphemy (speaking against the word of God). He was sentenced by Pontius Pilate (a Roman leader) and crucified by the Romans.	
		570-632 AD The Prophet Muhammad (PBUH) spread the message of Tawhid during this time during Arabia. He wanted to bring unity to the tribes of Arabia through his message.	
		609 - 632 AD The Qur'an was gradually revealed by the angel Jibril to the Prophet Muhammad (PBUH). Several of Muhammad's followers were responsible for writing down the revelations.	
<pre> graph TD     Abraham[Abraham] --&gt; Ishmael[One of Abraham's sons]     Abraham --&gt; Isaac[Isaac]     Abraham --&gt; Ishmael     Isaac --&gt; Judaism[Judaism]     Isaac --&gt; Christianity[Christianity]     Isaac --&gt; Islam[Islam]     Islam --&gt; Shi'a[Shia]     Islam --&gt; Sunni[Sunni]     Christianity --&gt; EasternOrthodox[Eastern Orthodoxy]     Christianity --&gt; RomanCatholic[Roman Catholic]     Christianity --&gt; Protestant[Protestant]     Judaism --&gt; Christianity     Judaism --&gt; Islam   </pre> <p>Abraham Time After Abraham's covenant is granted the Israelites then leave Egypt.</p> <p>Ishmael One of Abraham's sons.</p> <p>Isaac</p> <p>Shia</p> <p>Sunni</p> <p>Eastern Orthodoxy</p> <p>Roman Catholic</p> <p>Protestant</p> <p>These religions make up around one half of the world's religions.</p>			

# Science: Healthy Diet

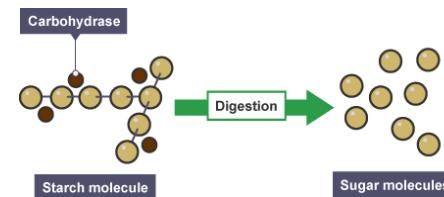
1	<b>Carbo hydrates</b>	A food group that provides energy. Includes starchy foods, which provide slow-release energy (e.g. bread, potatoes, pasta) and sugary foods (e.g. chocolate).
2	<b>Proteins</b>	An important food group used to make enzymes, muscles and pigments, as well as for the growth and repair of cells. Found in meat, eggs and fish.
3	<b>Lipids</b>	Needed for energy and to insulate organs. Found in cooking oil and butter.
4	<b>Minerals</b>	Many different uses – e.g. calcium in milk is used for healthy bones, and iron in red meat is used to make red blood cells.
6	<b>Vitamins</b>	Needed for healthy body function – e.g. vitamin C in oranges is used for a healthy immune system.
7	<b>Balanced diet</b>	A diet that contains the right amounts of the different food groups and water to maintain good health.
8	<b>Digestion</b>	When large insoluble food particles are broken down into small soluble particles so that they can be absorbed into our bloodstream
9	<b>Enzyme</b>	Special proteins that can break large molecules into small molecules.
10	<b>Mouth</b>	Food is broken up by teeth and mixed with saliva.
11	<b>Oesophagus</b>	A muscular tube that pushes food from the mouth to the stomach.
12	<b>Stomach</b>	A muscular bag that churns food. It contains acid to kill pathogens, as well as enzymes to digest food.
13	<b>Small intestine</b>	An organ in the digestive system. Enzymes break food down in the first part. Food molecules are absorbed into the blood in the second part.
14	<b>Large intestine</b>	Where water is absorbed into the bloodstream
15	<b>Rectum</b>	Where waste is stored, before being expelled through the anus.

16	<b>Lock and key model</b>	This tells us that each enzyme can only break down one type of food molecule.
17	<b>Lipase</b>	An enzyme that breaks down lipids into fatty acids and glycerol.
18	<b>Protease</b>	An enzyme that breaks down proteins into amino acids.
19	<b>Amylase</b>	An enzyme that breaks down starch into glucose.
20	<b>Iodine</b>	Orange liquid that turns blue-black when added to starch.
21	<b>Benedict's reagent</b>	Blue liquid that turns brick red when heated with reducing sugars (e.g. glucose).
22	<b>Heart disease</b>	Causes chest pains, shortness of breath, heart attacks. Can be caused by a high-fat diet.
23	<b>Diabetes</b>	Causes thirst, tiredness, blurred vision. Can be caused by a high sugar diet / obesity.
24	<b>Scurvy</b>	Causes severe joint pains, tiredness, weakness. Caused by a lack of vitamins in the diet.
25	<b>Symbiosis</b>	occurs when two organisms of different species live together in a very close relationship
26	<b>Parasitism</b>	– <b>one</b> species benefits at the expense of the other species
27	<b>Mutualism</b>	– <b>both</b> species benefit
28	<b>Bacteria in the digestive system</b>	can digest some substances that humans cannot digest, such as certain carbohydrates, reduce the chance of harmful bacteria multiplying and causing disease produce some vitamins that humans need, such as vitamins B and K. In return the bacteria

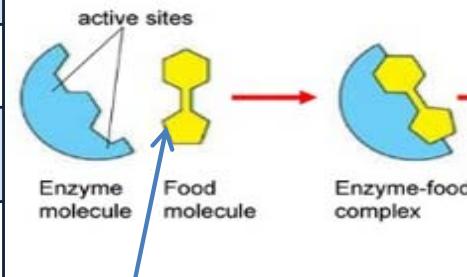
## Digestive system:



## Digestion by enzymes:



## The Lock and Key model:



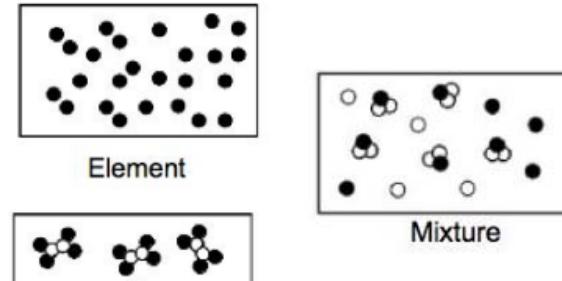
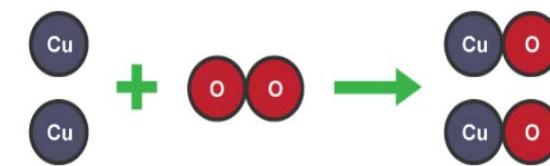
Food molecule must be the correct shape to fit into the enzyme

# Science: Atoms & Periodic Table

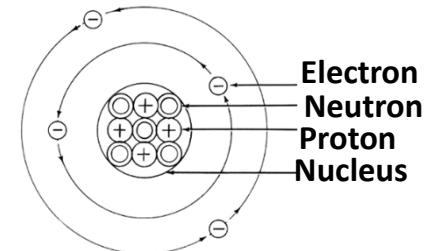
1	<b>Element</b>	A substance in which all the atoms have the same atomic number.
2	<b>Atom</b>	The smallest possible particle of an element.
3	<b>Molecule</b>	Two or more atoms bonded together
4	<b>Compound</b>	Two or more <u>different</u> atoms bonded together
5	<b>Mixture</b>	At least two different elements or compounds together. Can be separated easily.
6	<b>Nucleus</b>	The centre of an atom, it contains protons and neutrons.
7	<b>Proton</b>	Found in the nucleus, it has a charge of +1 and a mass of 1.
8	<b>Neutron</b>	Found in the nucleus of an atom, it has a charge of 0 and a mass of 1
9	<b>Electron</b>	Found in the shells of an atom, it has a charge of -1 and a tiny mass
10	<b>Periodic table</b>	A list of elements. Metals are found on the left; non-metals are found on the right.
11	<b>Period</b>	A row in the periodic table.
12	<b>Group</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> A column in the periodic table.</li> <li><input type="checkbox"/> Elements in the same group have similar properties.</li> </ul>
13	<b>Mendeleev</b>	Invented the first periodic table, which had gaps for undiscovered elements
14	<b>Chemical symbols</b>	Taken from the periodic table, e.g.: <ul style="list-style-type: none"> <li><input type="checkbox"/> Hydrogen = H</li> <li><input type="checkbox"/> Oxygen = O</li> <li><input type="checkbox"/> Carbon = C</li> </ul>
15	<b>Chemical formulae</b>	For a molecule, we use the chemical symbols of the atoms it contains to write down its formula: <ul style="list-style-type: none"> <li><input type="checkbox"/> Hydrogen gas = H<sub>2</sub></li> <li><input type="checkbox"/> Carbon dioxide = CO<sub>2</sub></li> <li><input type="checkbox"/> Water = H<sub>2</sub>O</li> <li><input type="checkbox"/> Magnesium oxide = MgO</li> </ul>

16	<b>Chemical reaction</b>	When chemicals react, the atoms are rearranged.
17	<b>Word equation</b>	Used to show the reactants and products of a chemical reaction e.g. lithium + water → lithium hydroxide + hydrogen
18	<b>Reactants</b>	On the left of an arrow in a word equation, e.g.: <b>lithium + water</b>
19	<b>Products</b>	On the right of an arrow in a word equation, e.g.: <b>lithium hydroxide + hydrogen</b>
21	<b>Conservation of mass</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> When atoms are rearranged in a chemical reaction, they are not destroyed or created.</li> <li><input type="checkbox"/> Total mass of the reactants = total mass of the products;</li> </ul>
22	<b>Metal</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> High melting and boiling points</li> <li><input type="checkbox"/> Good conductors of heat &amp; electricity</li> <li><input type="checkbox"/> Malleable (can be hammered into shape)</li> <li><input type="checkbox"/> Sonorous (make a ringing sound when hit)</li> </ul>
23	<b>Alkali metals</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Group 1: Lithium, sodium, potassium</li> <li><input type="checkbox"/> Soft, reactive metal elements</li> <li><input type="checkbox"/> React with water to produce hydrogen gas and a hydroxide</li> </ul>
24	<b>Trends in the alkali metals</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Increase in reactivity as you go down the group</li> </ul>
25	<b>Halogens</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Group 7: Fluorine, chlorine, bromine, iodine</li> <li><input type="checkbox"/> Reactive non-metal elements</li> </ul>
26	<b>Trends in the alkali metals</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Decrease in reactivity as you go down the group</li> <li><input type="checkbox"/> Increase in boiling point as you go down the group</li> </ul>

Atoms are rearranged in chemical reactions:



Compound  
Structure of an atom:

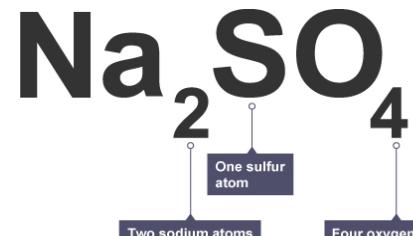


Periodic table

Periods	1	2	3	4	5	6	7	0	
	Li	Be	H	B	C	N	O	F	Ne
	Mg			Al	Si	P	S	Cl	Ar
	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni
	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd
	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt
	Fr	Ra	Ac						

█ Metals    █ Non-metals

Formulae show how many atoms there are in a molecule:



1) Describiendo personas		<i>Describing people</i>	4) ¿Cómo usas la tecnología?		<i>How do you use technology?</i>	7) ¿Qué tiempo hace?		<i>What's the weather like</i>
¿Cómo eres?		<b>What are you like?</b>	Sacar fotos		To take photos	Hace calor		It's hot
Me llevo bien con		I get on well with	Mirar fotos en Instagram		To look at photos on Instagram	Hace frío		It's cold
listo		clever	Ver videos en YouTube		To watch videos on YouTube	Hace sol		It's sunny
hablador		chatty	Hablar en Skype		To talk on Skype	Hace buen / mal tiempo		It's good / bad weather
simpático		nice	Usar las redes sociales		To use social networks	Nieva		It's snowing
antipático		unpleasant	Navegar por internet		To surf the net	Llueve		It's raining
tonto		silly	Descargar aplicaciones		To download apps	<b>8) El pasado</b>		<i>Time phrases in the past tense</i>
travieso		naughty	Subir videos		To upload videos	Ayer		Yesterday
vago		lazy	Comprar en línea		To buy online	Anoche		Last night
sensible		sensitive	Leer periódicos en línea		To read newspapers online	La semana pasada		Last week
gracioso		Funny	<b>5) Lo bueno/malo de la tecnología</b>		<i>The good/bad things about technology</i>	El fin de semana pasado		Last weekend
callado		Quiet	<b>Lo bueno es que...</b>		<b>The good thing is that...</b>	<b>Expresiones de secuencia</b>		<b>Sequencers</b>
alegre		happy	Es rápido		It's quick	Luego		Then
amable		kind	Es variado		It's varied	Después		Afterwards
<b>2) ¿Qué te gusta hacer?</b>		<b>What do you like to do?</b>	Es fácil de usar		It's easy to use	Más tarde		Later on
Ir al cine		To go to the cinema	Es entretenido		It's entertaining	9) ¿Qué hiciste ayer?		<i>What did you do yesterday?</i>
Salir con mis amigos		To go out with my friends	Es una buena distracción		It's a good distraction	Fui al cine		I went to the cinema
Ver un partido		To watch a match	Es gratis		It's free	Monté en bicicleta		I rode by bike
Escribir correos		To write e-mails	Es cómodo		It's convenient	Saqué fotos		I took photos
Mandar mensajes		To send messages	<b>Lo malo es que...</b>		<b>The bad thing is that...</b>	Bailé		I danced
Jugar a videojuegos		To play videogames	Es adictivo		It's addictive	Mandé mensajes		I sent messages
Leer libros		To read books	No hay privacidad		There is no privacy	Vi películas		I watched films
Tocar la guitarra		To play the guitar	Es peligroso		It's dangerous	Hablé con mis amigos		I spoke to my friends
Cantar		To sing	Es fácil de robar		It's easy to steal	Salí con mis amigos		I went out with my friends
Montar en bicicleta		To ride a bike	Es caro		It's expensive	<b>Opiniones en el pasado</b>		<b>Opinions in the past</b>
Bailar		To dance	<b>6) Opiniones y razones</b>		<b>Opinions and reasons</b>	Fue gracioso		It was funny
<b>3) Tiempos verbales</b>		<b>Present tense time phrases</b>	Me chifla		I love	Fue guay		It was cool
Generalmente		Generally	Me mola		I like	Fue aburrido		It was boring
Todos los días		Every day	Odio		I hate	<b>10) Conectores</b>		<b>Connectives</b>
Siempre		Always	Me divierto		I have fun	Por un lado / por otro lado		On the one hand / on the other hand
De vez en cuando		From time to time	Me aburro		I get bored	Sin embargo		However
A veces		Sometimes	Me relaja		It relaxes me	Así que		Therefore
A menudo		Often	Me lo paso bomba		I have a wicked time	Además		Also
Nunca		Never	Me hace reír		It makes me laugh	Aunque		Although
			Es una pérdida de tiempo		it's a waste of time	Afortunadamente		Fortunately
			Es tedioso		It's boring	Desafortunadamente		Unfortunately