Year 8
Knowledge Organiser
M2 2019 (Core)

"Knowledge is a treasure, but practice is the key to it."
— Lao Tzu

Sapere Aude

What is a Knowledge Organiser?
A Knowledge Organiser (KO) is a set of key facts or information that you need to know and be able to recall to help you master a unit or topic. Each subject has created a list of key facts which covers the basic information that you are expected to learn.

Do I need to bring my Knowledge Organiser to school every day?
Yes, your KO should be brought in every day like your community card and your planner. Your teachers may well want you to use your KOs in lessons. They are yours forever and you may want to annotate or highlight on them when your teacher talks about things in them. They will certainly be used in lessons when you have a cover teacher and you can use them whenever you find yourself with some spare time.

What do I do with my Knowledge Organiser at the end of term?
You should store it, along with previous KOs, in your folder. You are building a revision guide; the information in your KOs are things you will need to continue to know and understand.

What happens if I don't complete my KO homework each night?
Your mentor will check your KO homework each day using the Homework Timetable and stamp the page for that day to acknowledge successful completion. If you have not completed your KO homework satisfactorily (as set out below) then you will have a compulsory 30 min prep session that same day. If you fail to attend the prep session you will spend the next day in ALC.

What happens if I lose my Knowledge Organiser?
If you lose your KO you will be required to purchase a new one via finance.

Beginning of each half term:

New Knowledge Organisers (KO) are given to you by your mentors. These are to be stored in your KO folder and brought to school every day.

Every week:

You are expected to show evidence of your learning in each subject. Teachers will start lessons with a "Do Now" activity based around the KOs. Mentors will give house points each morning for outstanding KO homework.

Last week of half term:

You are tested in each subject to show how much knowledge you have learnt.

John 10:10

I came to give life – life in all its fullness
High Expectations – No Excuses

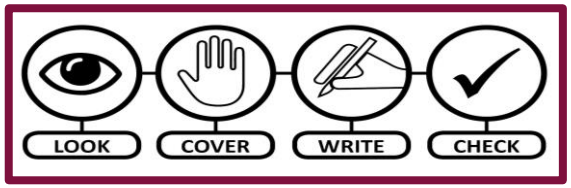
Sapere Aude

How to Self-Quiz

Your Knowledge Organiser is a vital document. It contains all the key things from your lessons that you will need to work on committing to your long-term memory.

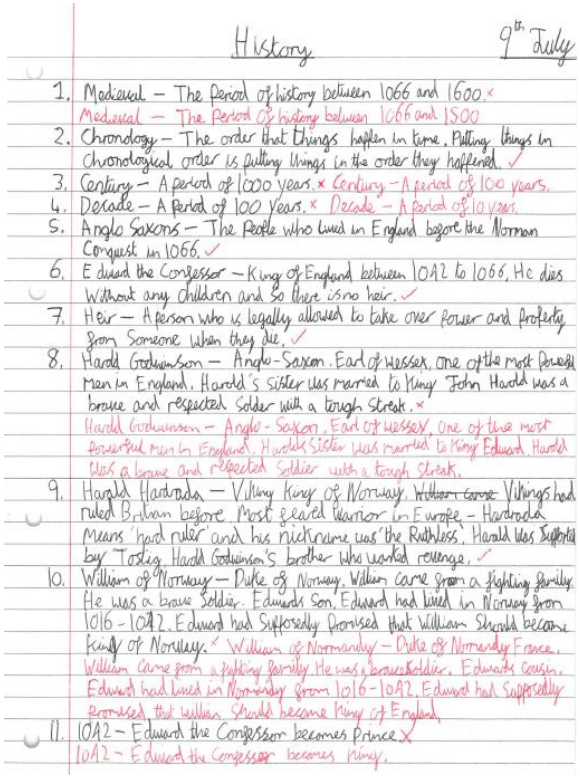
The best method when you are working on memorising things from your Knowledge Organiser is to self-quiz using the look, cover, write, check technique. Use your self-quizzing book for this.

Look	Read the piece of information carefully, two or three times.
Cover	Now cover up what you have just read.
Write	Now try and write down the piece of information you have just read.
Check	Did you write the information down correctly? If not, correct it with a red pen and then repeat!



Each night you should complete one full page (minimum) of self-quizzing in your quiz book. You should write the title (subject) and date at the top of each page. There should be no gaps on the page except for one line underneath the title. You should tick any correct answers and correct any incorrect answers in red pen.

Use the RAG column to self-assess how confident you are on each line once you have completed your self-quizzing.


History 9th July

1. Medieval – The period of history between 1066 and 1600. ×
   Medieval – The period of history between 1066 and 1500
2. Chronology – The order that things happen in time. Putting things in chronological order is putting things in the order they happened. ✓
3. Century – A period of 1000 years. × Century – A period of 100 years.
4. Decade – A period of 100 years. × Decade – A period of 10 years.
5. Anglo Saxons – The people who lived in England before the Norman Conquest in 1066. ✓
6. Edward the Confessor – King of England between 1042 to 1066. He dies without any children and so there is no heir. ✓
7. Heir – A person who is legally allowed to take over power and property from someone when they die. ✓
8. Harold Godwinson – Anglo-Saxon. Earl of Wessex, one of the most powerful men in England. Harold's sister was married to King John. Harold was a brave and respected solder with a tough streak. ×
   Harold Godwinson – Anglo-Saxon. Earl of Wessex. One of the most powerful men in England. Harold's sister was married to King Edward. Harold was a brave and respected soldier with a tough streak.
9. Harald Hardrada – Viking King of Norway. ~~William~~ Vikings had ruled Britain before. Most feared warrior in Europe. – Hardrada means 'hard ruler' and his nickname was 'the Ruthless'. Harold was supported by Tostig, Harold Godwinson's brother who wanted revenge. ✓
10. William of Normandy – Duke of Normandy. William came from a fighting family. He was a brave soldier. Edward's son. Edward had lived in Normandy from 1016 – 1042. Edward had supposedly promised that William should become King of Normandy. ✓ William of Normandy – Duke of Normandy France. William came from a fighting family. He was a brave soldier. Edward's cousin. Edward had lived in Normandy from 1016 – 1042. Edward had supposedly promised that William should become King of England.
11. 1042 – Edward the Confessor becomes Prince ×
    1042 – Edward the Confessor becomes King.

The Bishop of Winchester Academy Weekly Homework Grid 2019 – 2020

Year 8, Michaelmas 2 – Commencing Monday 4th November

Week	Activity	Monday	Tuesday	Wednesday	Thursday	Friday
1 4th Nov	Self Quizzing	PE Lines 1 - 7 Computing Lines 1 - 15	Science Lines 1 - 10	Maths (Sets G, 1 & 2) Lines 1-14 Maths (3, 4 & 5) Lines 1-10	English Lines 1 - 15 (Language) Lines 1 - 9 (Literature)	Spanish (G&1) Lines 1-91 (from M1 KO) Spanish (2&3) Lines 1-108 Literacy Lines 1 - 8 R.S. Lines 1-5
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				
2 11th Nov	Self Quizzing	Creative Arts Lines 1 - 14	Music Lines 1 - 8 Music Tech Lines 1- 9 Drama Lines 1 - 2	English Lines 16 - 25 (Language) Lines 10 - 19 (Literature)	Maths (Sets G, 1 & 2) Lines 15-21 Maths (3, 4 & 5) Lines 11-18	History Lines 1 - 13 Geography Lines 1 - 13
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				
3 18th Nov	Self Quizzing	PE Lines 8 - 13 Computing Lines 16 - 30	Science Lines 11 - 20	Maths (Sets G, 1 & 2) Lines 22-33 Maths (3, 4 & 5) Lines 19-26	English Lines 26 - 35 (Language) Lines 20 - 24 (Literature)	Spanish (G&1) Lines 1-33 & 65-77 Spanish (2&3) Lines 1-41 & 102-105 Literacy Lines 9 - 16 R.S. Lines 6-10
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				
4 25th Nov	Self Quizzing	Creative Arts Lines 15 - 27	Music Lines 9 - 13 Music Tech Lines 10 - 17 Drama Lines 3 - 8	English Lines 36 - 45 (Language) Lines 25 - 43 (Literature)	Maths (Sets G, 1 & 2) Lines 34-42 Maths (3, 4 & 5) Lines 27-32	History Lines 14 - 26 Geography Lines 14 - 26
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				

Week	Activity	Monday	Tuesday	Wednesday	Thursday	Friday
5 2nd Dec	Self Quizzing	PE Lines 14 - 21 Computing Lines 31 - 45	Science Lines 21 - 30	Maths (Sets G, 1 & 2) Lines 43-57 Maths (3, 4 & 5) Lines 33-45	English Lines 46 - 55 (Language) Lines 44 - 53 (Literature)	Spanish (G&1) Lines 34-64 & 78-87 Spanish (2&3) Lines 42-101 Literacy Lines 17 - 24 R.S. Lines 11-14
	Reading	30 minute reading task and flipped learning challenge				
	Hegarty Maths	1 – 2 tasks				

***Music and Music Tech are on a rotation so you only need to do the homework for ONE of them (whichever one you are doing that half term) if you are unsure please speak to your music teacher**

***The Literacy KO is only for students who do not take Spanish. If you have Spanish lessons you are expected to complete Spanish homework, if you do not have Spanish lessons you are expected to do Literacy homework**

ENGLISH LANGUAGE – YEAR 8 – M2 Spoken Language			RAG
1.	**Purpose**	The reason why something is done or created or why something exists.	
2.	**Audience**	The group of people at whom something is aimed.	
3.	**Tone**	The author's **attitude** toward a topic as reflected in his or her writing.	
4.	**Posture**	The position in which someone holds their body when standing or sitting.	
5.	**Intonation**	The rise and fall of the voice in speaking.	
6.	**Register**	The style of language being used; this may be formal or informal for example.	
7.	**Repetition**	Repeating a word or idea or structure more than once in a specific piece of writing, e.g. I have a dream…I have a dream…	
8.	**Emotive Language**	Language that makes the reader experience a certain emotional response to the writing, e.g. The neglected child sat shivering in the corner; he was abandoned and unloved.	
9.	**Hyperbole**	Over-the-top exaggeration for effect, e.g. I have never seen such outrageous behaviour in all of my life.	
10.	**Alliteration**	The repetition of the same sounds (mainly consonants) usually at the beginning of words to add emphasis to the feeling the sentence creates.	
11.	**Facts and Statistics**	True things in the world that can be proved. Statistics are facts involving numbers.	
12.	**Opinion**	Stating your own personal views on a topic.	
13.	**Direct Address**	Using the personal pronouns like 'us', 'we' and 'you' to directly address the reader or listener.	
14.	**Triplets (Pattern of 3)**	Writing words, phrases or even whole sentences in a pattern of 3 for effect.	
15.	**Rhetorical Question**	A question asked in order to create a dramatic effect or to make a point rather than to get an answer.	
	Martin Luther King 'I have a Dream'		
16.	**Symbolic**	Something significant purely in terms of what is being represented or implied.	
17.	**Momentous**	Of great importance or significance, especially in having a bearing on future events.	
18.	**Withering**	Intended to make someone feel humiliated; scornful.	
19.	**Injustice**	Lack of fairness or justice. An unjust act or occurrence.	
20.	**Segregation**	The enforced separation of different racial groups in a country, community or establishment.	
21.	**Discrimination**	The unjust or prejudicial treatment of different categories of people, especially on the grounds of race, age or sex.	
22.	**Prosperity**	Successful in material terms; flourishing financially. Bringing wealth and success.	
23.	**Exile**	The state of being barred from one's native country, typically for political or punitive reasons.	

ENGLISH LANGUAGE – YEAR 8 – M2 Spoken Language			RAG
24.	**Persecution**	Hostility and ill-treatment, especially because of race or political or religious beliefs; oppression.	
25.	**Creed**	A set of beliefs or aims which guide someone's actions.	
	Lupita Nyong'o		
26.	**Taunted**	Provoke or challenge (someone) with insulting remarks.	
27.	**Miracle**	An extraordinary and welcome event that is not explicable by natural or scientific laws and is therefore attributed to a divine agency.	
28.	**Negotiate**	Try to reach an agreement or compromise by discussion.	
29.	**Unimpressed**	Feeling no admiration, interest or respect.	
30.	**Bargaining**	Negotiate the terms and conditions of a transaction.	
31.	**Adolescents**	In the process of developing from a child into an adult.	
32.	**Consolation**	The comfort received by a person after a loss or disappointment.	
33.	**Complexion**	The natural colour, texture and appearance of a person's skin, especially of the face.	
34.	**Perplexing**	Completely baffling; very puzzling.	
35.	**Inadequacy**	Lacking the quality or quantity required; insufficient for a purpose.	
	Michelle Obama		
36.	**Infusion**	The introduction of a new element or quality into something.	
37.	**Generation**	All of the people born and living at about the same time, regarded collectively.	
38.	**Diversity**	Showing a great deal of variety; very different.	
39.	**Compassion**	Sympathetic pity and concern for the sufferings or misfortunes of others.	
40.	**Critically**	In a way that expresses or involves an analysis of the merits and faults.	
41.	**Encounter**	Unexpectedly be faced with or experience (something hostile or difficult).	
42.	**Obstacle**	A thing that blocks one's way or prevents or hinders progress.	
43.	**Fundamental**	A central or primary rule or principle on which something is based.	
44.	**Limitation**	A limiting rule or circumstance; a restriction.	
45.	**Empower**	Give (someone) the authority or power to do something.	
	King George VI		
46.	**Grave**	Giving cause for alarm; serious.	
47.	**Fateful**	Having far-reaching and often disastrous consequences or implications.	
48.	**Threshold**	The magnitude or intensity that must be exceeded for a certain reaction, phenomenon, result or condition to occur or be manifested.	
49.	**Vain**	Producing no result; useless.	
50.	**Ally**	A state formally cooperating with another for a military or other purpose.	

ENGLISH LANGUAGE – YEAR 8 – M2 Spoken Language			RAG
51.	**Principle**	A fundamental truth or proposition that serves as the foundation for a system of belief or behaviour or for a chain of reasoning.	
52.	**Prevail**	Prove more powerful or superior.	
53.	**Civilised**	A civilised society has a well developed system of government and way of life that treats the people who live there fairly.	
54.	**Pursuit**	The action of pursuing (following or chasing) someone or something.	
55.	**Primitive**	Not developed or derived from anything else.	

ENGLISH LITERATURE – YEAR 8 – M2 The Hound of the Baskervilles				RAG
1.	**Pathetic Fallacy**	Where the weather in the story mirrors the emotion of the scene or the people in it.	"There rose in the distance a grey, **melancholy** hill, with a strange, jagged summit." p70	
2.	**Simile**	A figure of speech involving the comparison of one thing with another thing of a different kind, used to make a description more emphatic or vivid.	"**Like** some fantastic landscape in a dream" p 70 "the house glimmered like a ghost" p74	
3.	**Juxtaposition**	The fact of two things being seen or placed close together with contrasting effect.	"Rolling pasture lands" "thick green foliage" V "The long, gloomy curve of the moor" p71	
4.	**Interesting adjectives**	An **adjective** is a word that describes a noun.	"by the **jagged** and **sinister** hills"	
5.	**Alliteration**	**Alliteration** happens when words that start with the same sound are used repeatedly in a phrase or sentence	"**B**ronzing **b**racken and mottled **b**ramble gleamed in the light of the **s**inking **s**un." p72	
6.	**Varied verbs**	A **verb** is a doing or action word.	"and **skirted** a noisy stream which **gushed** swiftly down, **foaming and roaring**" p72	
7.	**Metaphor**	A **metaphor** is a figure of speech that is used to make a comparison between two things that aren't alike but do have something in common.	"Yellow leaves **carpeted** the lanes" p72	
8.	**Personification**	Describing a **non-human** thing as having **human** characteristics.	"weather **bitten** pillars" p74 "**melancholy** moor" p79	
9.	**Figurative Language**	Using words and ideas to suggest meaning and create mental images.	Simile, metaphor, personification, hyperbole and onomatopoeia etc.	
10.	**'High Mullioned'**	'The **high mullioned** windows' P80	A slender, vertical, structural member that forms a division between units of a window. (**adjective)**	
11.	**'Impassive'**	'a large **impassive** heavy featured woman' P 81	Not feeling or showing emotion. (**adjective)**	

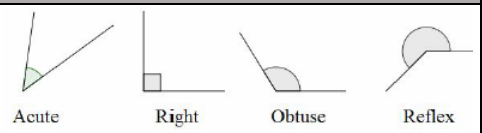
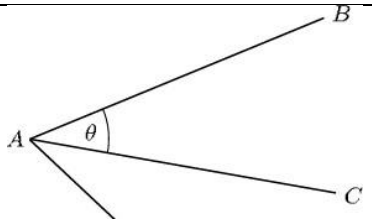
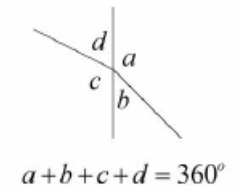
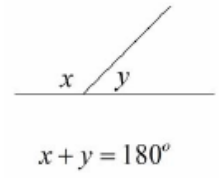
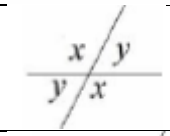
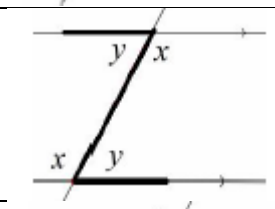
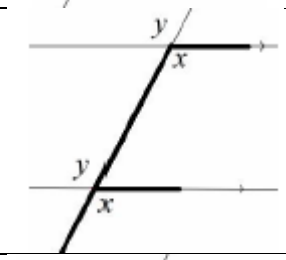
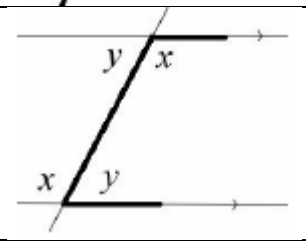
ENGLISH LITERATURE – YEAR 8 – M2 The Hound of the Baskervilles				RAG
12.	**'Erroneous'**	'but such an impression might have been **erroneous'** p82	wrong, incorrect, inaccurate (**adjective)**	
13.	**'Persecuting'**	'**persecuting** the Baskervilles family' p 83	Hostility and ill-treatment, especially because of race or political or religious beliefs. (**verb)**	
14.	**'Conceivable'**	'only **conceivable** motive' p83	Capable of being imagined or grasped mentally. (**adjective)**	
15.	**'Botanical'**	'a tin of **botanical** specimens' p84	**Botany** is the scientific study of **plants**. (**botanical**-adjective)	
16.	**'Mire'**	'Grimpen **Mire'** p 85	A stretch of swampy or boggy ground. **(noun)**	
17.	**'Credulous'**	'How **credulous** the peasants are about her.' p88	Having or showing too great a readiness to believe things. (**adjective)**	
18.	**'Melancholy'**	'The **melancholy** of the moor' p95	A feeling of sadness and gloominess. **(noun)**	
19.	**'Irresolution'**	'An expression of **irresolution** passed over her face.' P96	hesitancy; uncertainty. (**abstract noun)**	
20.	**Mr and Mrs Barrymore**	-The long-time domestic help of the Baskerville clan. Earnest and **eager to please,** the portly Mrs. Barrymore and her gaunt husband figure as a kind of red herring for the detectives, in league with their convict brother but are ultimately no more suspicious than Sir Henry. **-Strength** of Mr Barrymore: **loyal** to his family. **-Weakness**: Suspicious behaviour. Barrymore's reason for signalling the moors has more to do with his loyalty to his wife and her family than any disloyalty to Sir Henry. He's staying in touch with his	"He was a remarkable-looking man, tall, handsome, with a square black beard and pale, distinguished features." Ch 6 "She was a large, impassive, heavy featured woman, with a stern set expression of mouth." Ch7	

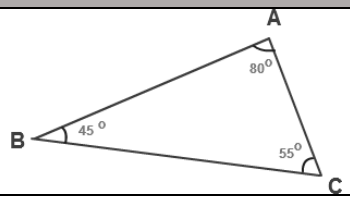
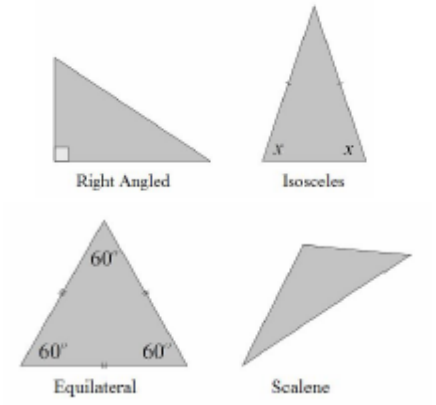
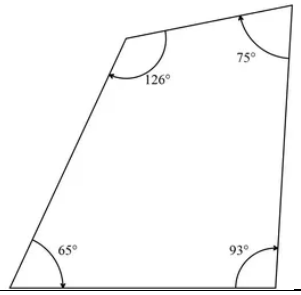
				RAG
		unfortunate brother-in-law (and escaped convicted murderer) Selden. **-Strength** of Mrs Barrymore: **'intensely respectable"** **-Weakness**: she's *deeply* emotionally upset on the inside. Watson catches her crying with **"traces of tears upon her face"**		
21.	**Mr Jack Stapleton**	-A thin and bookish-looking entomologist and one-time schoolmaster. - Stapleton chases butterflies and reveals his short temper only at key moments. - His calm façade masks the scheming, manipulative villain that Holmes and Watson come to respect and fear.	"He was a small, slim, clean - shaven, prim-faced man, flaxen-haired and lean-jawed." "a naturalist" Ch 7	
22.	**Miss Stapleton**	-Allegedly Stapleton's sister. -A dusky Latin beauty turns out to be his wife. -She wants to prevent another death. -She is terrified of her husband. -She provides confusing warnings to Sir Henry and Watson.	"There could not have been a greater contrast between brother and sister" "slim, elegant, and tall" "beautiful dark, eager eyes" Ch 7	
23.	**Laura Lyons**	-She is a local young woman. -Laura Lyons is the beautiful brunette daughter of "Frankland the crank," the local litigator who disowned her when she married against his will. -She has been abandoned by her husband. - Laura turns to Mr. Stapleton and Charles for help.	"a pleasant smile" ch11 "The first impression left by Mrs Lyons was one of extreme beauty." "some coarseness of expression, some hardness of eye"	

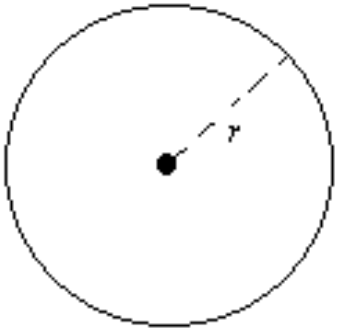
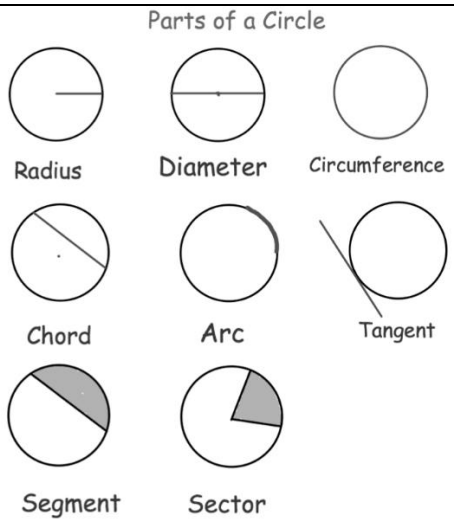
ENGLISH LITERATURE – YEAR 8 – M2 The Hound of the Baskervilles				RAG
24.	**The Convict**	-We never actually meet him. -Seldon is a brutal murderous villain. -He's an escaped convict from the famous prison of Princetown at Dartmoor. -He is also Mrs Barrymore's younger brother. -He's been convicted of such a brutal murder that he escaped the death penalty on an insanity plea. -He has a rodent-like, haggardly appearance. His only wish is to flee his persecutors in Devonshire and escape to South America.	"It is Selden, the Notting Hill Murderer."	
25.	**Tension**	Tension involves keeping the reader in suspense while the protagonist's state, fate or outcome is under threat.		
26.	**Suspense**	**Suspense** is the intense feeling that an audience goes through while waiting for the outcome of certain events. It basically leaves the reader holding their breath and wanting more information.		
27.	**Atmosphere**	A **mood** can serve as a vehicle for establishing **atmosphere**. In **literary** works, **atmosphere** refers to emotions or feelings an author conveys to his readers through description of objects and settings		
28.	**Rising Action**	**Rising action** in a plot is a series of relevant incidents that create suspense, interest and tension in a narrative.		

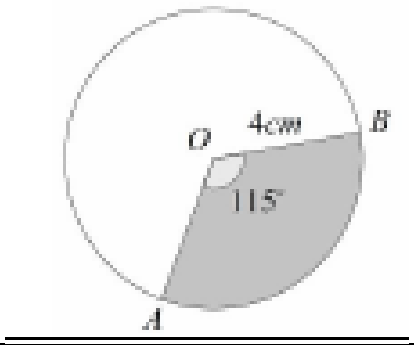
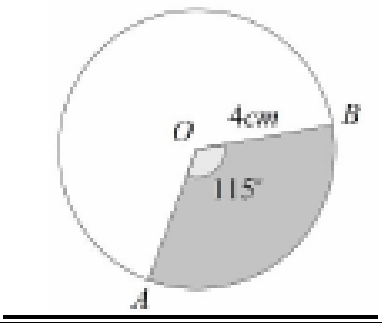
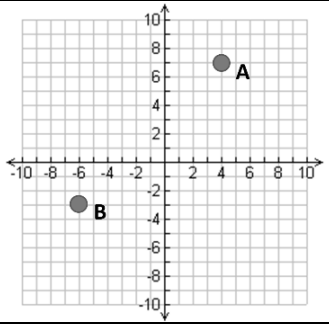
ENGLISH LITERATURE – YEAR 8 – M2 The Hound of the Baskervilles				RAG
29.	**Climax**	The **climax** is the turning point of a story when the main character's problem begins to be solved or resolved.		
30.	**Exclamation Mark!**	Used to express excitement. It is also used to express surprise, astonishment or any other such strong emotion.		
31.	**Ellipsis** **...**	It can be used to show that a word or words have been removed from a quote. It can create suspense by adding a pause before the end of the sentence. It can also be used to show the trailing off of a thought.		
32.	**Dash** **–**	Dashes are used to separate groups of words. They can indicate a break in thought, or can be used in a parenthetical remark (words, phrases or clauses that interrupt a sentence).		
33.	**Short Simple Sentence**	**Short**, **simple sentences** can create tension, haste or urgency.		
34.	**Cliff Hanger**	A dramatic and exciting ending to an episode of a serial, leaving the audience in suspense and anxious not to miss the next episode.		
	Page	**Quotation**	**Techniques**	
35.	**Ch 11 page 162** **'The Man on The Tor'**	"**Always** there was this **feeling** of an **unseen** force."	adverb **'always'** abstract noun adjective	
36.	**Page 163**	"Was he by chance our **malignan**t enemy, or was he by chance our Guardian Angel**?**"	emotive adjective rhetorical question	

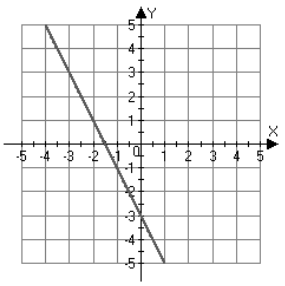
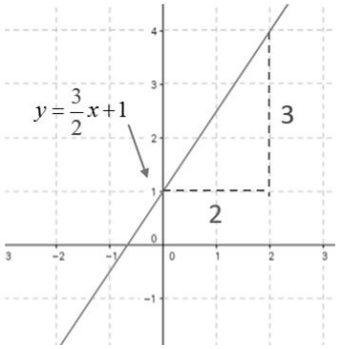
ENGLISH LITERATURE – YEAR 8 – M2 The Hound of the Baskervilles				RAG
37.	**Page 163**	"And **then** at last I heard him."	adverb '**then**'	
38.	**Ch12 page 164** **'Death on the Moor'**	"Holmes!" I cried – "Holmes!"	exclamation marks/ dash repetition	
39.	**Page 168**	"The sun had set, and **dusk** was settling over the moor."	Setting established Symbolism of '**dusk**'	
40.	**Page 171**	"It is **murder,** Watson – *refined, cold blooded, deliberate* **murder**."	repetition list of 3 adjectives	
41.	**Page 171**	"A **terrible** scream – a prolonged yell of **horror** and **anguish.**"	emotive adjective dash abstract nouns	
42.	**Page 171**	'That **frightful** cry turned the **blood to ice in my veins**	emotive adjective metaphor	
43.	**Page 171**	'one last **despairing** yell'	emotive adjective	
44.	**Ch13 Page 173**	'On its **jagged** face was **spread eagled** some dark, **irregular** object"	interesting verb (metaphor) range of adjectives	
45.	**Page 173**	"**Crushed** skull of the **victim.**"	emotive adjective and noun	
46.	**Page 174**	"**mangled** body"	emotive adjective	
47.	**Page 175**	"The **moon** shone upon him."	Motif-moon-gothic feature -links to the supernatural	
48.	**Ch 14 Page 203** **The Hound of the Baskervilles**	"an **enormous coal-black** hound'	adjectives	
49.	**Page 203**	'its eyes glowed with a smouldering glare'	emotive verb, adjective and noun	
50.	**Page 203**	'its muzzle and hackles were outlined in **fl**ickering **f**lame"	alliteration	
51.	**Page 203**	'**more** savage, **more** appalling, **more** hellish'	Repetition List of 3 emotive adjectives	
52.	**Page 203**	'the creature gave a **h**ideous **h**owl	alliteration emotive adjective	
53.	**Page 204**	'The giant hound was dead.'	Short sentence	

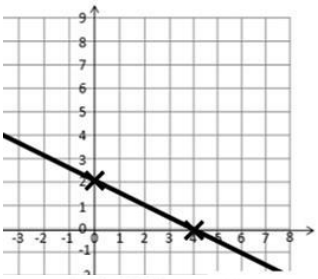
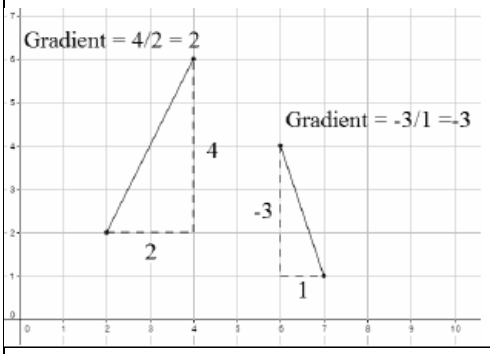
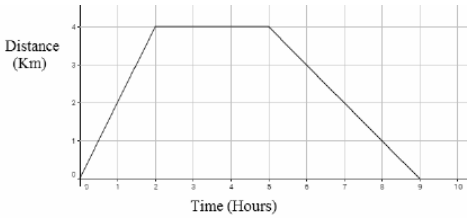
MATHS – YEAR 8 – M2 (Sets G, 1 and 2)				RAG
1.	**Types of Angles**	Acute angles are less than 90°. Right angles are exactly 90°. Obtuse angles are greater than 90° but less than 180°. Reflex angles are greater than 180° but less than 360°.		
2.	**Angle Notation**	Can use one lower-case letters, e.g. θ or x. Can use three upper-case letters, e.g. BAC.		
3.	**Angles at a Point**	Angles around a point add up to 360°.		
4.	**Angles on a Straight Line**	Angles around a point on a straight line add up to 180°.		
5.	**Opposite Angles**	Vertically opposite angles are equal.		
6.	**Alternate Angles**	Alternate angles are equal. They look like Z angles, but never say this in the exam.		
7.	**Corresponding Angles**	Corresponding angles are equal. They look like F angles, but never say this in the exam.		
8.	**Co-Interior Angles**	Co-Interior angles add up to 180°. They look like C angles, but never say this in the exam.		

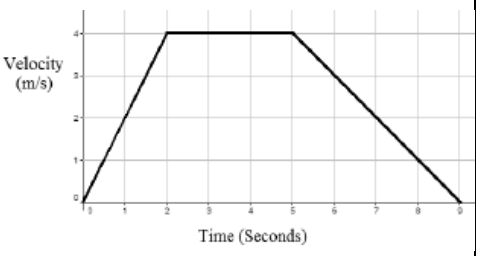
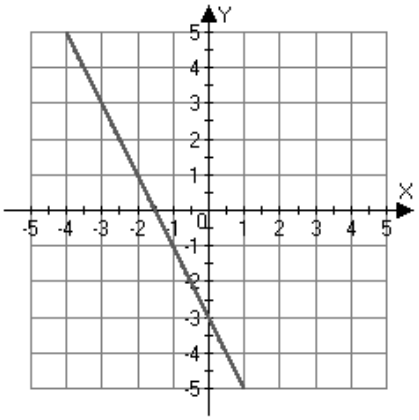
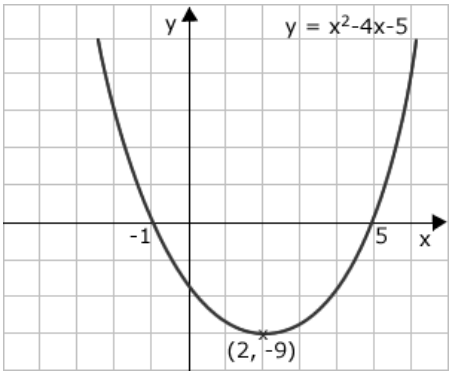
MATHS - YEAR 8 - M2 (Sets G, 1 and 2)				RAG
9.	**Angles in a Triangle**	Angles in a triangle add up to 180°.		
10.	**Types of Triangles**	Right Angle Triangles have a 90° angle in. Isosceles Triangles have 2 equal sides and 2 equal base angles. Base angles in an isosceles triangle are equal. Equilateral Triangles have 3 equal sides and 3 equal angles (60°). Scalene Triangles have different sides and different angles.		
11.	**Angles in a Quadrilateral**	Angles in a quadrilateral add up to 360°.		
12.	**Sum of Interior Angles**	$(n-2)\times 180$ where n is the number of sides.	Sum of Interior Angles in a Decagon = $(10-2)\times 180 = 1440°$	
13.	**Size of Interior Angle in a Regular Polygon**	$\frac{(n-2)\times 180}{n}$ You can also use the formula: $180 - Size\ of\ Exterior\ Angle$	Size of Interior Angle in a Regular Pentagon = $\frac{(5-2)\times 180}{5} = 108°$	
14.	**Size of Exterior Angle in a Regular Polygon**	$\frac{360}{n}$ You can also use the formula: $180 - Size\ of\ Interior\ Angle$	Size of Exterior Angle in a Regular Octagon = $\frac{360}{8} = 45°$	

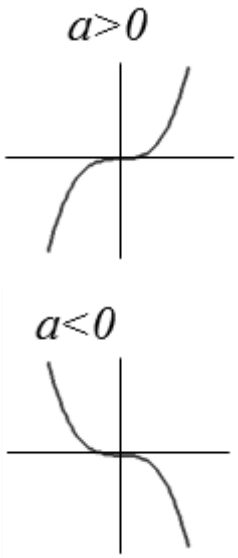
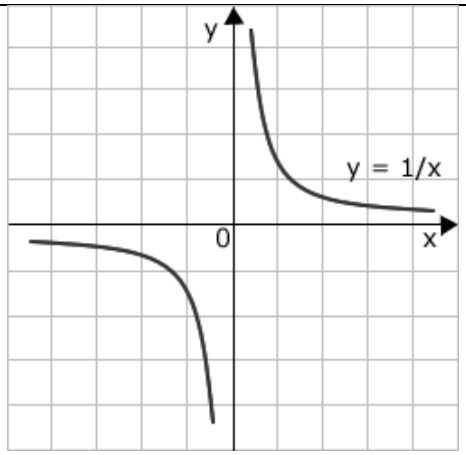
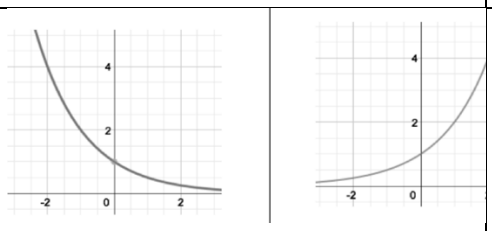
MATHS – YEAR 8 – M2 (Sets G, 1 and 2)				RAG
15.	**Circle**	A circle is the locus of all points equidistant from a central point.		
16.	**Parts of a Circle**	Radius – the distance from the centre of a circle to the edge. Diameter – the total distance across the width of a circle through the centre. Circumference – the total distance around the outside of a circle. Chord – a straight line whose end points lie on a circle. Tangent – a straight line which touches a circle at exactly one point. Arc – a part of the circumference of a circle. Sector – the region of a circle enclosed by two radii and their intercepted arc. Segment – the region bounded by a chord and the arc created by the chord.		
17.	**Area of a Circle**	$\boldsymbol{A = \pi r^2}$ which means 'pi x radius squared'.	If the radius was 5cm, then: $A = \pi \times 5^2 = 78.5cm^2$	
18.	**Circumference of a Circle**	$\boldsymbol{C = \pi d}$ which means 'pi x diameter'.	If the radius was 5cm, then: $C = \pi \times 10 = 31.4cm$	

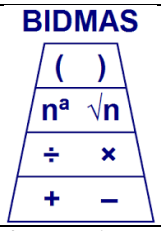
MATHS – YEAR 8 – M2 (Sets G, 1 and 2)				RAG
19.	**π ('pi')**	Pi is the circumference of a circle divided by the diameter. $\pi \approx 3.14$		
20.	**Arc Length of a Sector**	The arc length is part of the circumference. Take the angle given as a fraction over 360° and multiply by the circumference.	Arc Length = $\frac{115}{360} \times \pi \times 8 = 8.03cm$ 	
21.	**Area of a Sector**	The area of a sector is part of the total area. Take the angle given as a fraction over 360° and multiply by the area.	Area = $\frac{115}{360} \times \pi \times 4^2 = 16.1cm^2$ 	
22.	**Coordinates**	Written in pairs. The first term is the x-coordinate (movement across). The second term is the y-coordinate (movement up or down).	 A: (4,7) B: (-6,-3)	
23.	**Midpoint of a Line**	Method 1: add the x coordinates and divide by 2, add the y coordinates and divide by 2. Method 2: Sketch the line and find the values half way between the two x and two y values.	Find the midpoint between (2,1) and (6,9) $\frac{2+6}{2} = 4$ and $\frac{1+9}{2} = 5$ So, the midpoint is (4,5)	

MATHS - YEAR 8 - M2 (Sets G, 1 and 2)				RAG
24.	**Linear Graph**	Straight line graph. The general equation of a linear graph is $y = mx + c$ where m is the gradient and c is the y-intercept. The equation of a linear graph can contain an x-term, a y-term and a number.	Example:  Other examples: $x = y$ $y = 4$ $x = -2$ $y = 2x - 7$ $y + x = 10$ $2y - 4x = 12$	
25.	**Plotting Linear Graphs**	Method 1: Table of Values Construct a table of values to calculate coordinates. Method 2: Gradient-Intercept Method (use when the equation is in the form $y = mx + c$) 1. Plots the y-intercept. 2. Using the gradient, plot a second point. 3. Draw a line through the two points plotted.	  	

				RAG
		Method 3: Cover-Up Method (use when the equation is in the form $ax + by = c$). 1. Cover the x term and solve the resulting equation. Plot this on the $x - axis$. 2. Cover the y term and solve the resulting equation. Plot this on the $y - axis$. 3. Draw a line through the two points plotted.	 $2x + 4y = 8$	
26.	**Gradient**	The gradient of a line is how steep it is. Gradient = $$\frac{Change\ in\ y}{Change\ in\ x} = \frac{Rise}{Run}$$ The gradient can be positive (sloping upwards) or negative (sloping downwards).		
27.	**Distance-Time Graphs**	You can find the speed from the gradient of the line (Distance ÷ Time). The steeper the line, the quicker the speed. A horizontal line means the object is not moving (stationary).		

MATHS - YEAR 8 - M2 (Sets G, 1 and 2)				RAG
28.	**Velocity-Time Graphs**	You can find the acceleration from the gradient of the line (Change in Velocity ÷ Time). The steeper the line, the quicker the acceleration. A horizontal line represents no acceleration, meaning a constant velocity. The area under the graph is the distance.		
29.	**Linear Graph**	Straight line graph. The equation of a linear graph can contain an x-term, a y-term and a number. Other examples: $x = y$ $y = 4$ $x = -2$ $y = 2x - 7$ $y + x = 10$ $2y - 4x = 12$	Example: 	
30.	**Quadratic Graph**	A 'U-shaped' curve called a parabola. The equation is of the form $y = ax^2 + bx + c$, where a, b and c are numbers, $a \neq 0$. If $a < 0$, the parabola is upside down.		

MATHS - YEAR 8 - M2 (Sets G, 1 and 2)				RAG
31.	**Cubic Graph**	The equation is of the form $y = ax^3 + k$, where k is an number. If $a > 0$, the curve is increasing. If $a < 0$, the curve is decreasing.		
32.	**Reciprocal Graph**	The equation is of the form $y = \frac{A}{x}$, where A is a number and $x \neq 0$. The graph has asymptotes on the x-axis and y-axis.		
33.	**Exponential Graph**	The equation is of the form $y = a^x$, where a is a number called the base. The graph has an asymptote which is the x-axis.	 If $a > 1$ the graph increases. If $0 < a < 1$, the graph decreases.	
34.	**Approximation**	When using approximations to estimate the solution to a calculation, **round each number in the calculation to 1 significant figure.** $\approx$ means 'approximately equal to'	$\frac{348 + 692}{0.526} \approx \frac{300 + 700}{0.5} = 2000$ 'Note that dividing by 0.5 is the same as multiplying by 2'	

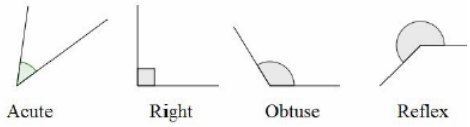
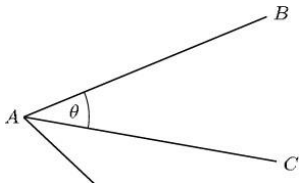
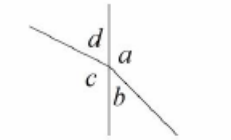
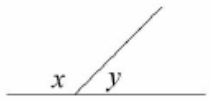
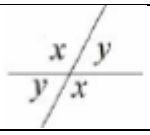
MATHS - YEAR 8 - M2 (Sets G, 1 and 2)				RAG
35.	**Sum**	The result of one or more additions.	The sum of 2, 5 and 1 = 8	
36.	**Difference**	Subtracting one number from the other finds the difference between the numbers.	The difference between 8 and 2 = 6	
37.	**Product**	Result of multiplication.	The product of 2, 4 and 3 = 24.	
38.	**Dividend**	The original amount in a division problem.	$\frac{Dividend}{Divisor} = Quotient$ e.g. 6 ÷ 3 = 2 (6 is the dividend)	
39.	**Divisor**	What a number is being divided by.		
40.	**Quotient**	The answer resulting from dividing one number by another.		
41.	**Order of Operations**	The correct order that operations must be performed in a calculation, with BIDMAS as a reminder.	$3 + 6 \times 4 = 27$ (not 36!)	
42.	**BIDMAS**	Brackets, Indices, Division and Multiplication, Addition and Subtraction. B→I→DM→AS		
43.	**Rational Number**	A number of the form $\frac{p}{q}$, where p **and** q **are integers** and $q \neq 0$. A number that cannot be written in this form is called an 'irrational' number.	$\frac{4}{9}, 6, -\frac{1}{3}, \sqrt{25}$ are examples of rational numbers. $\pi, \sqrt{2}$ are examples of an irrational numbers.	
44.	**Surd**	The **irrational number** that is a **root of a positive integer,** whose value cannot be determined exactly. Surds have **infinite non-recurring decimals.**	$\sqrt{2}$ is a surd because it is a root which cannot be determined exactly. $\sqrt{2} = 1.41421356 \ldots$ which never repeats.	
45.	**Standard Form**	$A \times 10^b$ $where\ 1 \leq A < 10,$ $b = integer$	8400 = 8.4 x 10^3 0.00036 = 3.6 x 10^{-4}	

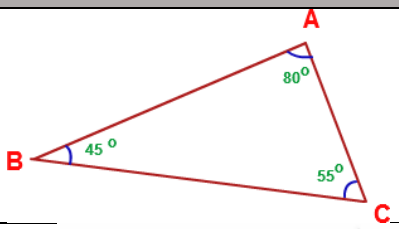
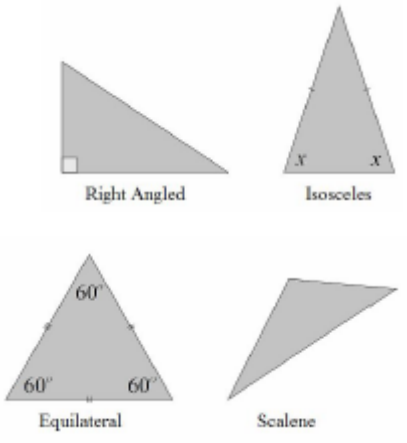
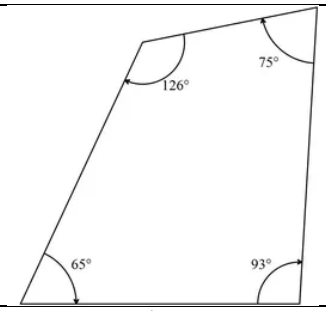
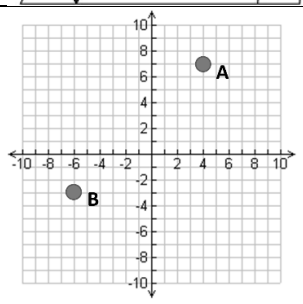
MATHS - YEAR 8 - M2 (Sets G, 1 and 2)				RAG
46.	**Multiplying or Dividing with Standard Form**	Multiply: **Multiply the numbers** and **add the powers.** Divide: **Divide the numbers** and **subtract the powers.**	$(1.2 \times 10^3) \times (4 \times 10^6)$ $= 8.8 \times 10^9$ $(4.5 \times 10^5) \div (3 \times 10^2)$ $= 1.5 \times 10^3$	
47.	**Adding or Subtracting with Standard Form**	**Convert** in to **ordinary** numbers, **calculate** and then **convert back** in to standard form.	$2.7 \times 10^4 + 4.6 \times 10^3$ $= 27000 + 4600 = 31600$ $= 3.16 \times 10^4$	
48.	**Square Number**	The number you get when you **multiply a number by itself.** *Technically these are called 'perfect square numbers' if you go on to study Maths post-16 you will learn more about this.*	**1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225…** $9^2 = 9 \times 9 = 81$	
49.	**Square Root**	The **number you multiply by itself** to get another number. The reverse process of squaring a number.	$\sqrt{36} = 6$ because $6 \times 6 = 36$	
50.	**Solutions to $x^2 =$ ….**	**Equations** involving **squares** have **two solutions**, one **positive** and one **negative.**	Solve $x^2 = 25$ $x = 5 \; or \; x = -5$ This can also be written as $x = \pm 5$	
51.	**Cube Number**	The number you get when you **multiply a number by itself and itself again.**	1, 8, 27, 64, 125… $2^3 = 2 \times 2 \times 2 = 8$	
52.	**Cube Root**	The **number you multiply by itself and itself again** to get another number. The reverse process of cubing a number.	$\sqrt[3]{125} = 5$ because $5 \times 5 \times 5 = 125$	

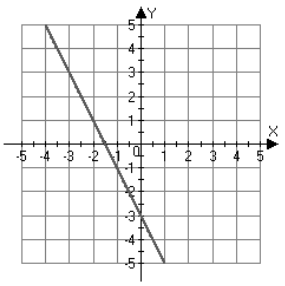
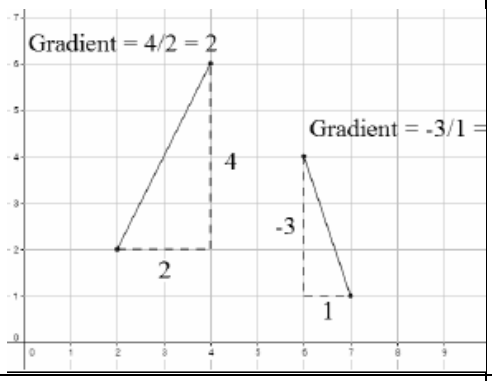
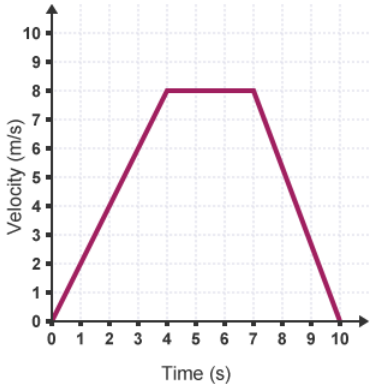
MATHS - YEAR 8 - M2 (Sets G, 1 and 2)				RAG
53.	**Powers of…**	The powers of a number are that **number raised to various powers.**	The powers of 3 are: $3^1 = 3$ $3^2 = 9$ $3^3 = 27$ $3^4 = 81$ etc.	
54.	**Multiplication Index Law**	When **multiplying** with the same base (number or letter), **add the powers.** $\boldsymbol{a^m \times a^n = a^{m+n}}$	$7^5 \times 7^3 = 7^8$ $a^{12} \times a = a^{13}$ $4x^5 \times 2x^8 = 8x^{13}$	
55.	**Division Index Law**	When **dividing** with the same base (number or letter), **subtract the powers.** $\boldsymbol{a^m \div a^n = a^{m-n}}$	$15^7 \div 15^4 = 15^3$ $x^9 \div x^2 = x^7$ $20a^{11} \div 5a^3 = 4a^8$	
56.	**Brackets Index Laws**	When raising a power to another power, multiply the powers together. $\boldsymbol{(a^m)^n = a^{mn}}$	$(y^2)^5 = y^{10}$ $(6^3)^4 = 6^{12}$ $(5x^6)^3 = 125x^{18}$	
57.	**Negative Powers**	A negative power performs the reciprocal. $\boldsymbol{a^{-m} = \frac{1}{a^m}}$	$3^{-2} = \frac{1}{3^2} = \frac{1}{9}$	

MATHS – YEAR 8 – M2 Sets 3 and 4				RAG
1.	**Fraction**	A mathematical expression representing the **division** of one integer by another. Fractions are written as **two numbers separated by a horizontal line**.	$\frac{2}{7}$ is a 'proper' fraction. $\frac{9}{4}$ is an 'improper' or 'top-heavy' fraction.	
2.	**Numerator**	The **top** number of a fraction.	In the fraction $\frac{3}{5}$, 3 is the numerator.	
3.	**Denominator**	The **bottom** number of a fraction.	In the fraction $\frac{3}{5}$, 5 is the denominator.	
4.	**Unit Fraction**	A fraction where the **numerator is one** and the denominator is a positive integer.	$\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$ $etc.$ are examples of unit fractions.	
5.	**Mixed Number**	A number formed of both an **integer part** and a **fraction part**.	$3\frac{2}{5}$ is an example of a mixed number.	
6.	**Simplifying Fractions**	**Divide the numerator and denominator by the highest common factor**.	$\frac{20}{45} = \frac{4}{9}$	
7.	**Equivalent Fractions**	Fractions which represent the **same value**.	$\frac{2}{5} = \frac{4}{10} = \frac{20}{50} = \frac{60}{150}$ $etc.$	
8.	**Comparing Fractions**	To compare fractions, they each need to be rewritten so that they have a **common denominator**. **Ascending** means **smallest to biggest**. **Descending** means **biggest to smallest**.	Put in to ascending order : $\frac{3}{4}, \frac{2}{3}, \frac{5}{6}, \frac{1}{2}$. Equivalent: $\frac{9}{12}, \frac{8}{12}, \frac{10}{12}, \frac{6}{12}$ Correct order: $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$	
9.	**Fraction of an Amount**	**Divide** by the **denominator**, **times** by the **numerator.**	Find $\frac{2}{5}$ of £60 $60 \div 5 = 12$ $12 \times 2 = 24$	

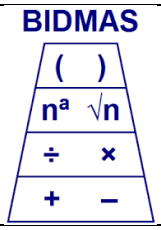
MATHS – YEAR 8 – M2 Sets 3 and 4				RAG
10.	**Adding or Subtracting Fractions**	Find the **LCM of the denominators** to find a common denominator. Use equivalent fractions to change each fraction to the **common denominator**. Then just **add or subtract the numerators** and keep the **denominator the same.**	$\frac{2}{3}+\frac{4}{5}$ Multiples of 3: 3, 6, 9, 12, **15**.. Multiples of 5: 5, 10, **15**.. LCM of 3 and 5 = 15 $\frac{2}{3}=\frac{10}{15}$ $\frac{4}{5}=\frac{12}{15}$ $\frac{10}{15}+\frac{12}{15}=\frac{22}{15}=1\frac{7}{15}$	
11.	**Percentage Change**	$\frac{\boldsymbol{Difference}}{\boldsymbol{Original}}\times \mathbf{100}$ Include % symbol at the end	A games console is bought for £200 and sold for £250. % change = $\frac{50}{200}\times 100 = 25\%$	
12.	**Fractions to Decimals**	**Divide the numerator by the denominator** using the bus stop method.	$\frac{3}{8} = 3 \div 8 = 0.375$	
13.	**Decimals to Fractions**	**Write as a fraction** over 10, 100 or 1000 and simplify.	$0.36 = \frac{36}{100} = \frac{9}{25}$	
14.	**Percentages to Decimals**	**Divide by 100**	$8\% = 8 \div 100 = 0.08$	
15.	**Decimals to Percentages**	**Multiply by 100** Include % symbol at the end	$0.4 = 0.4 \times 100\% = 40\%$	
16.	**Fractions to Percentages**	Percentage is just a fraction out of 100. **Make the denominator 100 using equivalent fractions.** When the denominator doesn't go in to 100, use a calculator and **multiply the fraction by 100.**	$\frac{3}{25}=\frac{12}{100}=12\%$ $\frac{9}{17}\times 100 = 52.9\%$	
17.	**Percentages to Fractions**	Percentage is just a fraction out of 100. **Write the percentage over 100** and simplify.	$14\% = \frac{14}{100}=\frac{7}{50}$	

MATHS - YEAR 8 - M2 Sets 3 and 4				RAG
18.	**FDP Equivalence**		<table><tr><th>Percent</th><th>Decimal</th><th>Fraction</th></tr><tr><td>1%</td><td>0.01</td><td>1/100</td></tr><tr><td>5%</td><td>0.05</td><td>1/20</td></tr><tr><td>10%</td><td>0.1</td><td>1/10</td></tr><tr><td>12 ½%</td><td>0.125</td><td>1/8</td></tr><tr><td>20%</td><td>0.2</td><td>1/5</td></tr><tr><td>25%</td><td>0.25</td><td>¼</td></tr><tr><td>33 1/3%</td><td>0.333...</td><td>1/3</td></tr><tr><td>50%</td><td>0.5</td><td>½</td></tr><tr><td>75%</td><td>0.75</td><td>¾</td></tr><tr><td>80%</td><td>0.8</td><td>4/5</td></tr><tr><td>90%</td><td>0.9</td><td>9/10</td></tr><tr><td>99%</td><td>0.99</td><td>99/100</td></tr><tr><td>100%</td><td>1</td><td></td></tr><tr><td>125%</td><td>1.25</td><td>5/4</td></tr><tr><td>150%</td><td>1.5</td><td>3/2</td></tr><tr><td>200%</td><td>2</td><td></td></tr></table>	
19.	**Types of Angles**	Acute angles are less than 90°. Right angles are exactly 90°. Obtuse angles are greater than 90° but less than 180°. Reflex angles are greater than 180° but less than 360°.		
20.	**Angle Notation**	Can use one lower-case letters, e.g. θ or x. Can use three upper-case letters, e.g. BAC.		
21.	**Angles at a Point**	Angles around a point add up to 360°.	 $a+b+c+d=360^o$	
22.	**Angles on a Straight Line**	Angles around a point on a straight line add up to 180°.	 $x+y=180^o$	
23.	**Opposite Angles**	Vertically opposite angles are equal.		

MATHS - YEAR 8 - M2 Sets 3 and 4				RAG
24.	**Angles in a Triangle**	Angles in a triangle add up to 180°.		
25.	**Types of Triangles**	Right Angle Triangles have a 90° angle in. Isosceles Triangles have 2 equal sides and 2 equal base angles. Equilateral Triangles have 3 equal sides and 3 equal angles (60°). Scalene Triangles have different sides and different angles. Base angles in an isosceles triangle are equal.		
26.	**Angles in a Quadrilateral**	Angles in a quadrilateral add up to 360°.		
27.	**Coordinates**	Written in pairs. The first term is the x-coordinate (movement across). The second term is the y-coordinate (movement up or down).	 A: (4,7) B: (-6,-3)	
28.	**Midpoint of a Line**	Method 1: add the x coordinates and divide by 2, add the y coordinates and divide by 2. Method 2: Sketch the line and find the values half way between the two x and two y values.	Find the midpoint between (2,1) and (6,9) $\frac{2+6}{2} = 4$ and $\frac{1+9}{2} = 5$ So, the midpoint is (4,5)	

MATHS - YEAR 8 - M2 Sets 3 and 4				RAG
29.	**Linear Graph**	Straight line graph.	Example: 	
30.	**Plotting Linear Graphs**	Method 1: Table of Values Construct a table of values to calculate coordinates.		
31.	**Gradient**	The gradient of a line is how steep it is. Gradient = $$\frac{Change\ in\ y}{Change\ in\ x} = \frac{Rise}{Run}$$ The gradient can be positive (sloping upwards) or negative (sloping downwards).		
32.	**Real life graph**	A graph that shows an event in a real world context. Journeys or time taken to fill a container can be shown as graphs.		

x	-3	-2	-1	0	1	2	3
y= x +3	0	1	2	3	4	5	6

MATHS - YEAR 8 - M2 Sets 3 and 4				RAG
33.	**Approximation**	When using approximations to estimate the solution to a calculation, **round each number in the calculation to 1 significant figure.** ≈ means 'approximately equal to'	$\frac{348+692}{0.526} \approx \frac{300+700}{0.5} = 2000$ 'Note that dividing by 0.5 is the same as multiplying by 2'	
34.	**Sum**	The result of one or more additions.	The sum of 2, 5 and 1 = 8	
35.	**Difference**	Subtracting one number from the other finds the difference between the numbers.	The difference between 8 and 2 = 6	
36.	**Product**	Result of multiplication.	The product of 2, 4 and 3 = 24.	
37.	**Dividend**	The original amount in a division problem.	$\frac{Dividend}{Divisor} = Quotient$	
38.	**Divisor**	What a number is being divided by.		
39.	**Quotient**	The answer resulting from dividing one number by another.		
40.	**Order of Operations**	The correct order that operations must be performed in a calculation, with BIDMAS as a reminder.	$3 + 6 \times 4 = 27$ (not 36!)	
41.	**BIDMAS**	Brackets, Indices, Division and Multiplication, Addition and Subtraction. B→I→DM→AS		
42.	**Rounding**	To make a number simpler but keep its value close to what it was. If the **digit to the right** of the rounding digit is **less than 5, round down.** If the **digit to the right** of the rounding digit is **5 or more, round up.**	74 rounded to the nearest ten is 70, because 74 is closer to 70 than 80. 152,879 rounded to the nearest thousand is 153,000.	

MATHS – YEAR 8 – M2 Sets 3 and 4				RAG
43.	**Decimal Place**	The **position** of a digit to the **right of a decimal point**.	In the number 0.372, the 7 is in the second decimal place. 0.372 rounded to two decimal places is 0.37, because the 2 tells us to round down. Careful with money - don't write £27.4, instead write £27.40.	
44.	**Significant Figure**	The significant figures of a number are the digits which **carry meaning** (i.e. are significant) to the size of the number. The **first significant figure** of a number **cannot be zero**. In a number with a decimal, trailing zeros are not significant.	In the number 0.00821, the first significant figure is the 8. In the number 2.740, the 0 is not a significant figure. 0.00821 rounded to 2 significant figures is 0.0082. 19357 rounded to 3 significant figures is 19400. We need to include the two zeros at the end to keep the digits in the same place value columns.	
45.	**Estimate**	To find something **close to the correct answer**.	An estimate for the height of a man is 1.8 metres.	

SCIENCE – YEAR 8 – M2 Staying Alive			RAG
1.	**Alveolus**	Small air sacs found at the end of each bronchiole where gas exchange takes place with the blood.	
2.	**Asthma**	A lung disorder in which inflammation (swelling) causes the bronchi to swell and narrow the airways, creating breathing difficulties.	
3.	**Balanced Diet**	Eating food containing the right nutrients in the correct amounts.	
4.	**Bile**	Substance that breaks fat into droplets.	
5.	**Carbohydrate**	Nutrient that supplies the body's main source of energy. There are two types: simple (sugars) and complex (starch).	
6.	**Deficiency**	A lack of minerals that causes poor growth.	
7.	**Depressant**	A drug that slows down the body's reactions by slowing down the nervous system.	
8.	**Diaphragm**	A sheet of muscle found underneath the lungs which is used in breathing.	
9.	**Enzymes**	Substances that speed up the chemical reactions of digestion, resulting in large molecules being broken into small molecules.	
10.	**Large Intestine**	Lower part of the intestine from which water is absorbed and where faeces (solid waste of undigested food) are formed.	
11.	**Lipid**	Nutrient that provides a store of energy and insulates the body. Found in butter, milk, eggs, nuts.	
12.	**Malnourishment**	Eating the wrong amount or wrong types of food.	
13.	**Protein**	Nutrient your body uses to build new tissue for growth and repair. Sources are meat, fish, eggs, dairy products, beans, nuts and seeds.	
14.	**Respiration**	The process that transfers energy in plants and animals. In respiration, glucose reacts with oxygen to make carbon dioxide and water.	
15.	**Respiratory System**	Organ system which replaces oxygen and removes carbon dioxide from the blood.	
16.	**Small Intestine**	Upper part of the intestine where digestion is completed and nutrients are absorbed by the blood.	
17.	**Stimulant**	A drug that speeds up the body's reactions by speeding up the nervous system.	
18.	**Stomach**	Organ where food is mixed with acidic juices to start the digestion of protein and kill microorganisms.	
19.	**Trachea**	Tube which carries air from the mouth and nose to the lungs.	
20.	**Villi**	Tiny projections in the small intestine wall that increase the area for absorption.	
21.	**Biodiversity**	A measure of the variety of all the different species of organisms on Earth or within a particular ecosystem.	
22.	**Chromosome(s)**	Thread-like structure containing tightly coiled DNA. It contains many genes.	
23.	**Conservation**	Protecting a natural environment, to ensure that habitats are not lost.	

SCIENCE – YEAR 8 – M2 Staying Alive			RAG
24.	**DNA**	A molecule found in the nucleus of cells that contains genetic information.	
25.	**Evolution**	Theory that the animal and plant species living today descended from species that existed in the past.	
26.	**Gene**	A section of DNA that determines an inherited characteristic.	
27.	**Genetic Modification**	A technique in which scientists insert foreign genes into organisms to change their characteristics.	
28.	**Inherited Characteristic(s)**	Features that are passed from parents to their offspring.	
29.	**Mutation**	Change to DNA that can cause disease.	
30.	**Natural Selection**	Process by which species change over time in response to environmental changes and competition for resources. The organisms with the characteristics that are most suited to the environment survive and reproduce, passing on their genes.	

RS – YEAR 8 – M2 Introduction to Ethics / Islam beliefs			RAG
	Sub-Topics		
1.	**Introduction to Ethics**	**Ethics:** *Ethics is a system of moral principles. They affect how people make decisions and lead their lives.* **Moral:** Concerned with the principle of right and wrong.	
2.	**Introduction to Ethics**	**Meta-ethics:** Deals with the nature of moral judgement. It looks at the origins and meaning of ethical **principles.** **Normative ethics:** Concerned with the content of moral judgements and the criteria for what is right or wrong**.** **Applied ethics:** Looks at controversial topics like war, animal rights and capital punishment.	
3.	**Utilitarianism**	**Utilitarianism:** The doctrine that actions are right if they are useful or for the benefit of a majority. **Jeremy Bentham**: Jeremy Bentham was an English philosopher, jurist and social reformer regarded as the founder of modern utilitarianism. **Principle of utility:** The principle of utility states that actions or behaviours are right in so far as they promote happiness or pleasure, wrong as they tend to produce unhappiness or pain. **Hedonic Calculus**: A method of working out the sum total of pleasure and pain produced by an act. **Philosophy**: The study of the fundamental nature of knowledge, reality and existence.	

RS – YEAR 8 – M2 Introduction to Ethics / Islam beliefs			RAG
4.	**Situation Ethics**	**Situation ethics**: An ethical approach that takes into account the particular context of an act when evaluating it ethically, rather than judging it according to absolute moral standards. **Relativism:** Relativism is the belief that there's no absolute truth, only the truths that a particular individual or culture happen to believe. **Joseph Fletcher**: Joseph Francis Fletcher was an American professor who founded the theory of situational ethics in the 1960s. *"Only one thing is intrinsically good, namely, love: nothing else. Love, in this context, means desiring and acting to promote the wellbeing of people" – Joseph Fletcher* *Love "wills the neighbour's good" – Joseph Fletcher* **Absolutist**: The holding of absolute principles. "Since 'circumstances alter cases', situationism holds that in practice what in some times and places we call right is in other times and places wrong." - Joseph Fletcher	
5.	**Situation Ethics**	**Agape**: A Greco-Christian term referring to love, "the highest form of love, charity".	
6.	**Sexuality and Ethics**	**Human sexuality***:* How people express themselves as sexual beings. **Heterosexual***:* To be sexually attracted to members of the opposite sex. **Homosexual:** To be sexually attracted to members of the same sex. **Homophobia:** Dislike or prejudice against homosexual people. **Prejudice:** Preconceived opinion that is not based on reason or actual experience**.** **Discrimination:** The unjust or prejudicial treatment of different categories of people, especially on the grounds of race, age, or sex.	

RS – YEAR 8 – M2 Introduction to Ethics / Islam beliefs			RAG
7.	**Ethics and Transplant Surgery.**	**Transplant surgery:** The **surgical removal of an organ**(s), tissue or blood products from a donor and surgically placing or infusing them into a recipient. **Organ donor**: A person who donates an organ or organs from their body for transplantation. **Organ donor card**: A card, usually carried on one's person, authorizing the use of one's bodily organs for transplantation in the event of one's death. **UK transplant waiting list:** A system which lets the NHS fairly match donors to people who are waiting for a transplant.	
8.	**Use of Plastic**	**Plastic:** Plastic is material consisting of any of a wide range of synthetic or semi-synthetic organic compounds that are malleable and so can be moulded into solid objects**.** **Single use plastic:** Single-use plastics, or disposable plastics, are used only once before they are thrown away or recycled. These items are things like plastic bags, straws, coffee stirrers, soda and water bottles and most food packaging. **Pollution:** The presence in or introduction into the environment of a substance which has harmful or poisonous effects. **Stewardship:** The job of supervising or taking care of something, such as an organization or property.	
9.	**Use of Plastic**	Plastic has been found in more than 60% of all seabirds and in 100% of sea turtles species, that mistake plastic for food.	
10.	**Use of Plastic**	**Sky Ocean Rescue:** Sky Ocean Rescue aims to shine a spotlight on the issues affecting ocean health, find innovative solutions to the problem of ocean plastics, and inspire people to make small everyday changes that collectively make a huge difference. 8 million tons of **plastic is dumped** into our **oceans** every year.	

RS – YEAR 8 – M2 Introduction to Ethics / Islam beliefs			RAG
11.	**The Oneness of God & the Supremacy of God's Will**	**"He is God, the One, God the eternal**. He begot no one nor was He begotten. No one is comparable to Him." **"He is with you wherever you are."** **Muslim One:** who has submitted to the will of God and has accepted Islam **Islam:** The name of the religion followed by Muslims; to surrender to the will of God; peace **Allah:** The Arabic name for God.	
12.	**Key Beliefs of Sunni Islam and Shi'a Islam**	***Qur'an:*** The holy book revealed to Mohammad by the Angel Jibril; God's final revelation to humankind. **Sunnah:** The teachings and deeds of Mohammad. **Sunni:** Muslims who believe in the successorship to Mohammad of Abu Bakr, Umar, Uthman and Ali. **Shi'a (Shi'i):** Muslims who believe in the Imamate, the successorship of Ali.	

RS – YEAR 8 – M2 Introduction to Ethics / Islam beliefs			RAG
13.	**The Nature of God**	"The most excellent names belong to God: use them to call on Him." **Tawhid:** The Oneness and unity of God. **Monotheistic religion:** A religion that believes there is only one God. **Supremacy:** Supreme power or authority; a quality of God. **Immanent:** The idea that God is present in and involved with life on earth and in the universe; a quality of God. **Transcendent:** The idea that God is beyond and outside life on earth and the universe; a quality of God. **Omnipotent:** Almighty, having unlimited power; a quality of God. **Beneficent:** Benevolent, all-loving, all-good; a quality of God. **Merciful:** The quality of God that shows compassion or forgiveness to humans, even though He has the power to punish them. **Fairness:** The idea that God treats people fairly and impartially without favour or discrimination. **Justice:** (Adalat in Shi'a Islam) The idea that God is just and fair and judges human actions, rewarding the good and punishing the bad.	

RS – YEAR 8 – M2 Introduction to Ethics / Islam beliefs			RAG
14.	**Angels**	"Praise be to God, Creator of the heavens and earth, **who made angels messengers with two, three, four (pairs of) wings."** **"Each person has angels before him** and behind, watching over him by God's command." **Angels:** They are spiritual beings created from elements of light. They gave God's messages to the prophets and watch over humans. **Day of Judgement:** The day when Allah will decide about individual deeds, good and bad, and on reward or punishment. **Jibril:** Jibril is the most important of the angels and spoke with many of the prophets of Allah. Jibril dictated the Qur'an to Muhammad. On Judgement Day he will assist with the weighing of a person's deeds. **Mika'il:** One of the most important angels. He gives spiritual and material help to humans. On Judgement Day he will assist with the weighing of a person's deeds.	