Year 8

Knowledge Organiser

Spring 2023 - 2

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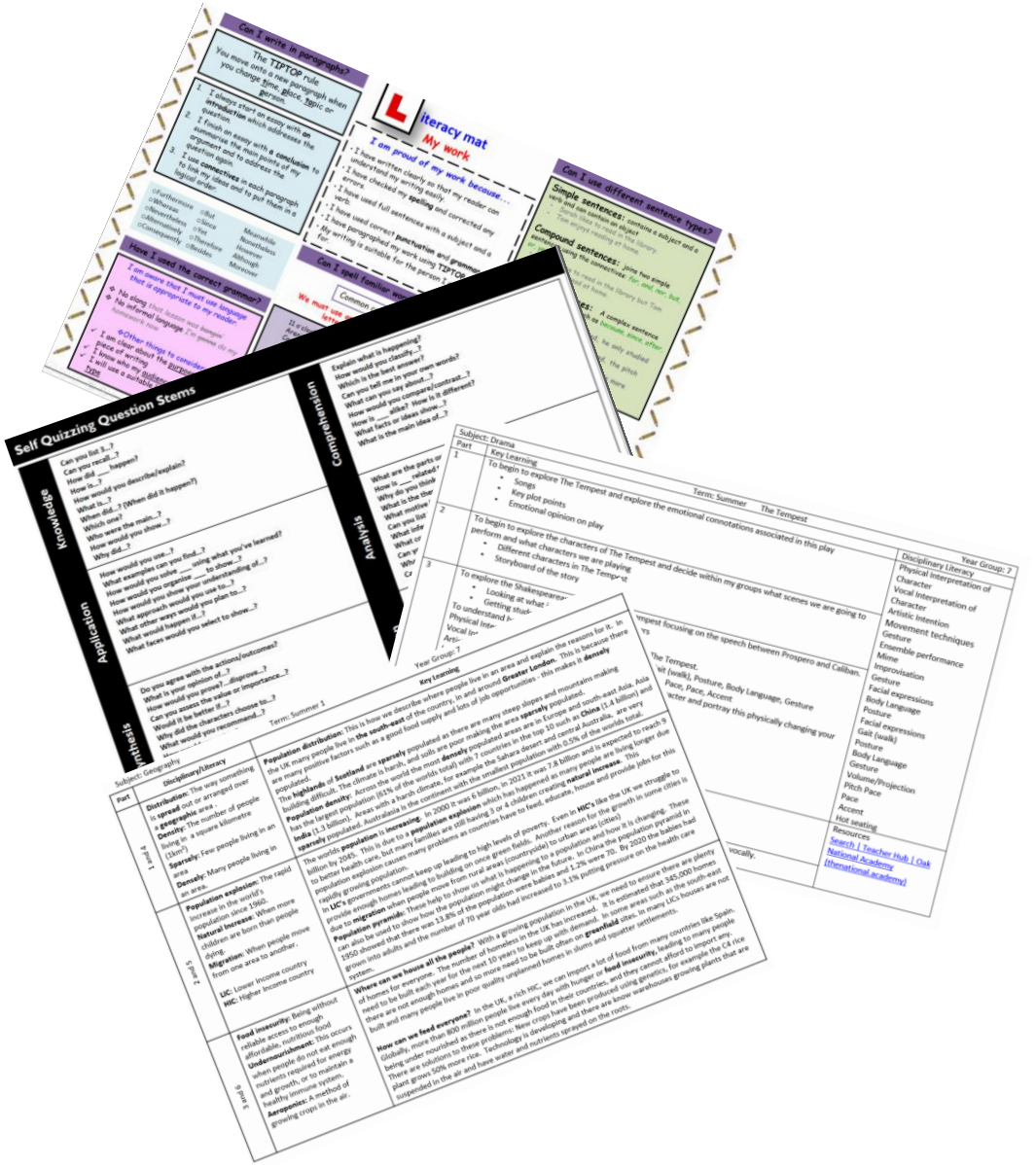


Self Quizzing Question Stems

Knowledge

Can you list 3…?
Can you recall…?
How did ___ happen?
How is…?
How would you describe/explain?
What is…?
When did…? (When did it happen?)
Which one?
Who were the main…?
How would you show…?
Why did…?

Comprehension

Explain what is happening?
How would you classify…?
Which is the best answer?
Can you tell me in your own words?
What can you say about…?
How would you compare/contrast…?
How is ___ alike? How is it different?
What facts or ideas show…?
What is the main idea of…?

Application

How would you use…?
What examples can you find…?
How would you solve ___ using what you've learned?
How would you organise ___ to show…?
How would you show your understanding of…?
What approach would you use to…?
What other ways would you plan to…?
What would happen if…?
What faces would you select to show…?

Analysis

What are the parts or features of …?
How is ___ related to …?
Why do you think…?
What is the theme…?
What motive is there…?
Can you list the parts…?
What inference can you make…?
What conclusions can you draw…?
Can you identify the different parts of…?
What evidence can you find…?
Can you distinguish between…?

Synthesis

Do you agree with the actions/outcomes?
What is your opinion of…?
How would you prove?...disprove…?
Can you assess the value or importance…?
Would it be better if…?
Why did the characters choose to…?
What would you recommend…?
How would you rate…?
How could you determine…?
What choice would you have made…?
Why was it better that…?

Evaluation

What changes would you make to solve…?
How would you improve…?
What would happen if…?
Can you elaborate on the reason…?
Can you give an alternative…?
Can you invent…?
How could you change or modify the plot?
What way would you design…?
Suppose you could ___ what would you do?
Can you predict the outcome if…?
Can you construct a model of…?

Knowledge, Notes and Quizzes

Literacy mat

My work

I am proud of my work because...

- I have written clearly so that my reader can understand my writing easily.
- I have checked my **spelling** and corrected any errors.
- I have used full sentences with a subject and a verb.
- I have used correct **punctuation** and **grammar**.
- I have paragraphed my work using **TIPTOP**.
- My writing is suitable for the person I am writing for.

Can I write in paragraphs?

The **TIPTOP** rule
You move onto a new paragraph when you change **t**ime, **p**lace, **t**opic or **p**erson.

1. I always start an essay with **an introduction** which addresses the question.
2. I finish an essay with **a conclusion** to summarise the main points of my argument and to address the question again.
3. I use **connectives** in each paragraph to link my ideas and to put them in a logical order.

○Furthermore	○But	Meanwhile
○Whereas	○Since	Nonetheless
○Nevertheless	○Yet	However
○Alternatively	○Therefore	Although
○Consequently	○Besides	Moreover

Have I used the correct grammar?

I am aware that I must use language that is appropriate to my reader.

- ❖ No slang *that lesson was ~~bangin'~~*
- ❖ No informal language *I'm ~~gonna~~ do my homework now*

❖Other things to consider:

- ✓ I am clear about the purpose of this piece of writing
- ✓ I know who my audience is
- ✓ I will use a suitable layout and text type

Can I spell familiar words accurately?

Common contractions

We must use an apostrophe to replace any letter(s) we have left out.

11 o'clock	I'd	They're	Who'll
Aren't	I'll	Wasn't	Who's
Can't	I'm	We'd	Why'd
Couldn't	Isn't	We'll	Why'll
Didn't	It'd	We're	Why's
Doesn't	It'll	Weren't	Won't
Don't	It's	What'd	Wouldn't
Hadn't	Mightn't	What'll	You'd
Hasn't	Mustn't	What's	You'll
Haven't	Shan't	When'd	You're
He'd	She'd	When'll	
He'll	She'll	When's	
He's	She's	Where'd	
How'd	Shouldn't	Where'll	
How'll	They'd	Where's	
How's	They'll	Who'd	

Homophones

I have checked that I have not mixed up my homophones.

Affect/effect	Meat/meet
Bare/bear	One/won
Brake/break	Passed/past
Buy/by	Peace/piece
For/four	Practice (n)/practise (v)
Flour/flower	Read/red
Grate/great	Sea/see
Hair/hare	Sight/site
Hole/whole	Son/sun
Hour/our	To/too/two
Knight/night	Wait/weight
Know/no	Weak/week
	Wear/where

Can I use different sentence types?

Simple sentences: contains a subject and a verb and can contain an object

- Sarah likes to read in the library.
- Tom enjoys reading at home.

Compound sentences: joins two simple sentences using the connectives: *for, and, nor, but, or, yet, so.*

- Sarah likes to read in the library but Tom prefers to read at home.

Complex sentences: A complex sentence contains a conjunction such as *because, since, after, although,* or *when* .

- **Because Robert felt tired, he only studied for an hour.**
- **Although the rain had stopped, the pitch was still water-logged.**
- **Paul enjoys Music, however, he is more proficient in Art.**

What traffic light am I?
Is my punctuation accurate?

Literacy mat

Can I use punctuation?

Basics:

- ❑ Every sentence must start with a capital letter.
- ❑ Every sentence must finish with some form of punctuation: .?!
- ❑ Proper nouns need capital letters. These are **unique** people, places or things *e.g. there are many cities so 'city' doesn't take a capital letter. However there is only one London, therefore it takes a capital letter.*
- ❑ When writing titles of works such as books, films or plays:
  - Capitalise the first word
  - Capitalise any main/important words
  - Don't capitalise minor words such as 'and', 'of' or 'the' *e.g. The Sound of Music, The Wizard of Oz, Harry Potter and the Goblet of Fire*
- ❑ When writing speech:
  - ✓Go to a new line when a different person speaks *e.g. "Good morning" said the Headteacher. "It's the afternoon!" replied the student.*
  - ✓Each person's speech is marked with speech marks *e.g. "Walk on the left" said Mr Mathews.*

The Apostrophe

I always aim to use apostrophes correctly.

There are two main reasons why we use apostrophes: for possession and to replace a letter or letters

Note: Apostrophes are NEVER used to denote plurals

Full stop	.	indicates that a sentence has finished
Comma	,	indicates a slight pause in a sentence, separates clauses in a complex sentence and items in a list
Question mark	?	goes at the end of a question
Exclamation mark	!	goes at the end of a dramatic sentence to show surprise or shock
Apostrophe	'	shows that letter(s) have been left out or indicates possession
Speech marks	""	indicate direct speech, the exact words spoken or being quoted
Colon	:	introduces a list, a statement or a quote in a sentence
Semicolon	;	separates two sentences that are related and of equal importance
Dash / hyphen	-	separates extra information from the main clause by holding words apart
Brackets	( )	can be used like dashes, they separate off extra information from the main clause
Ellipsis	...	to show a passage of time, to hook the reader in and create suspense

Apostrophe for Possession

(To show that something belongs to another)

<u>If a single thing/person owns anything, add an apostrophe + 's'.</u>

- •The dog's bone
- •The boy's homework
- •Jones's bakery
- •Yesterday's lesson

<u>However, if it is plural (more than one), an apostrophe comes after the 's'.</u>

- •The dogs' bones
- •The boys' homework
- •Joneses' bakeries (lots of Jones families)
- •Many websites' content is educational

There/ their/ they're

<u>Note:</u> special care must be taken over the use of **there**, **their** and **they're** as they sound the same but are used quite differently:

- ❖**There** shows position *Your seat is over there*
- ❖**Their shows that 'they' own something** *Their blazers are navy blue*
- ❖**They're** is short for **they are** as in *They're revising every day*

ITS

<u>Note:</u> **its**, which shows that something owns something (like our, his etc), <u>does not</u> take an apostrophe: *the dog ate **its** bone and we ate **our** dinner*

Your/ you're

<u>Note:</u> special care must be taken over the use of **your** and **you're** as they sound the same but are used quite differently:

- ❖**Your** is possessive as in *this is your pen*
- ❖**You're** is short for you are as in *you're coming over to my house*

Can I spell accurately?

- ❑ Sound out the word
- ❑ Think about how it looks
- ❑ Think about a similar word
- ❑ Is there a memory sentence for this word? (e.g. <u>b</u>ig <u>e</u>lephants <u>c</u>annot <u>a</u>lways <u>u</u>se <u>s</u>mall <u>e</u>xits)
- ❑ Find the word in a list –
  - Key words list
  - Frequently used words list
  - Your own word bank
- ❑ Look it up in a dictionary/spellchecker
- ❑ Ask a friend or teacher
- ❑ To learn it: look, cover, write , check
- ❑ Once you've solved it, add the correct spelling to your own word bank.

Part	Key Learning SharePoint	Disciplinary Literacy
1	**Gothic conventions** • **Gloomy/ dark settings** (castle, forest, abandoned house etc) • An **isolated protagonist** (main character is physically or emotionally alone) • **Intense emotions** (love, hate, fear etc) • **Damsel in distress** (female character needs rescuing physically or emotionally) • **Foreboding/ominous predictions** (curses, bad omens) • **Supernatural beings** (vampire, ghost, werewolf) • **Deceptive villain** (often handsome and alluring, may pose as victim, has fatal flaws and redeeming qualities) • **Duality** (things have two sides to them, good and evil, life and death, sanity and madness etc)	**Tier 3 vocabulary:** • **Alliteration**: The repetition of identical consonant sounds, most often the sounds beginning words, in close proximity. Example: pensive poets, nasty nattering name callers • **Allusion**: A reference to something or quotation that the poet thinks the reader will recognize. • **Anaphora**: Repetition of the same word or phrase at the beginning of a line. • **Assonance:** The repetition of identical vowel sounds in different words in close proximity. Example: deep green sea. • **Caesura**: A short but definite pause used for effect within a line of poetry. Can be created with full stop, comma, dash. • **Consonance** is the repetition of consonant sounds in words where main vowels differ. Example: shadow meadow; pressed, passed; • **Couplet**: two successive rhyming lines. Couplets end the pattern of a Shakespearean sonnet. • **Enjambment:** A line having no end punctuation but running over to the next line. • **Extended Metaphor**: an extended comparison of two things that uses a number of examples to prove the similarity • **Hyperbole** (overstatement) and litotes (understatement): Hyperbole is exaggeration for effect; litotes is understatement for effect, often used for irony. • **Imagery:** Images are references that trigger the mind to fuse together memories of sight (visual), sounds (auditory), tastes (gustatory), smells (olfactory), and sensations of touch (tactile). • **Juxtaposition:** Placing of two contrasting things or ideas close together for emphasis. Example: The icy wind warmed his heart. • **Metaphor:** A comparison between two unlike things, this describes one thing as if it were something else. Does not use "like" or "as" for the comparison (see simile). • **Meter:** The number of feet within a line of traditional verse. Example: iambic pentameter. • **Onomatopoeia:** A blending of consonant and vowel sounds designed to imitate the activity being described. Example: buzz, slurp. • **Oxymoron:** Placing of two contrasting things or ideas next to each other for effect. Example: dead smile , joyous pain. • **Personification:** Giving human characteristics to non-human things. • **Repetition:** Repeating a word or idea throughout a poem to emphasise it and create a symbol/motif (a idea repeated throughout) • **Rhyme:** The repetition of identical concluding syllables in different words, most often at the ends of lines. Example: June--moon. • **Rhyme scheme:** The pattern of rhyme, usually indicated by assigning a letter of the alphabet to each rhyme at the end of a line of poetry. • **Semantic field:** A group of words connected by topic or theme, that links the main idea of the poem together. • **Simile:** A direct comparison between two dissimilar things; uses "like" or "as" to state the terms of the comparison. • **Sonnet:** A closed form consisting of fourteen lines of rhyming iambic pentameter. • **Shakespearean or English sonnet**: 3 quatrains and a couplet, often with three arguments or images in the quatrains being resolved in the couplet. Rhyme scheme: abab cdcd efef gg • **Stanza:** A group of poetic lines corresponding to paragraphs in prose; the meters and rhymes are usually repeating or systematic. • **Syntax:** Word order and sentence structure. • **Truncated line:** A line stopped short missing syllables, halting the rhythm.
2	**How do you read a poem?** 1. Look at the title, are there any clues as to what the poem could be about? What associations from the words can you make? 2. Read the poem through once and decide the mood/tone conveyed. 3. Read the poem through again and pick out words/phrases – what are their connotations? 4. Read through the poem again and look out for linguistic devices – what are their significance? 5. Read through the poem again and look for any patters in rhyme or rhythm - what could this add to the meaning of the poem? 6. Why do you think they poet wrote the poem? What is the message?	
3	**What to look for with the structure of the poem:** • Meter - The number of beats and bars in lines that helps to produce a rhythm in a poem, or the rhythmic measure of a line. How many syllables does each line have? Why? How does changing the meter affect the meaning of the poem or the way it is read? Common types of meter or elements of meter are iambic pentameter, dactyls, trochees, spondees and more. • Rhyme - Where words which sound similar to each other are used closely together to link ideas and sounds. ➢ End rhyme - When you rhyme the final words of lines of poetry. ➢ Internal rhyme - The rhyming of two words within the same line of poetry. ➢ Half rhyme - This is where only part of a word rhymes with another word. There are two different types: Assonance and Consonance… Assonance is when you rhyme vowel sounds in different words (like moon and spook). Consonance is when you rhyme consonant sounds in different words (like blank and think)	
4	**How to write about a poem:** ❖ WHAT is the poet saying/suggesting? WHAT is the big idea the poet is trying to convey? ❖ HOW do you know this? HOW does the poet use language or structural devices to convey their idea? ❖ WHY has the poet used that device? WHY has the poet tried to convey that idea? **Helpful analytical vocabulary**: suggests, symbolizes, juxtaposes, alludes to, implies, highlights, establishes a sense of, signifies, conveys, conjures up an image of, give the impression of, has connotations of, personifies, compares, embodies	

Topic/Skill	Definition/Tips	Example
Solve	To find the answer/value of something Use inverse operations on both sides of the equation (balancing method) until you find the value for the letter.	Solve $2x - 3 = 7$ Add 3 on both sides $2x = 10$ Divide by 2 on both sides $x = 5$
Inverse	Opposite	The inverse of addition is subtraction. The inverse of multiplication is division.
Rearranging Formulae	Use inverse operations on both sides of the formula (balancing method) until you find the expression for the letter.	Make x the subject of $y = \frac{2x-1}{z}$ Multiply both sides by z $yz = 2x - 1$ Add 1 to both sides $yz + 1 = 2x$ Divide by 2 on both sides $\frac{yz+1}{2} = x$ We now have x as the subject.
Substitution	Replace letters with numbers. Be careful of $5x^2$. You need to square first, then multiply by 5.	$a = 3, b = 2$ *and* $c = 5$. Find: 1. $2a = 2 \times 3 = 6$ 2. $3a - 2b = 3 \times 3 - 2 \times 2 = 5$ 3. $7b^2 - 5 = 7 \times 2^2 - 5 = 23$
Quadratic	A quadratic expression is of the form $\boldsymbol{ax^2 + bx + c}$ where a, b and c are numbers, $\boldsymbol{a \neq 0}$	Examples of quadratic expressions: x^2 $8x^2 - 3x + 7$ Examples of non-quadratic expressions: $2x^3 - 5x^2$ $9x - 1$
Factorising Quadratics	When a quadratic expression is in the form $x^2 + bx + c$ find the two numbers that **add to give b** and **multiply to give c**.	$x^2 + 7x + 10 = (x + 5)(x + 2)$ (because 5 and 2 add to give 7 and multiply to give 10) $x^2 + 2x - 8 = (x + 4)(x - 2)$ (because +4 and -2 add to give +2 and multiply to give -8)

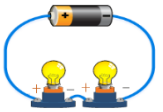
Part	Key Learning	Disciplinary/Literacy

1

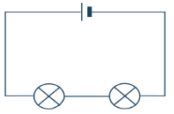
The cell/ battery provides the push to make charges move. This push is called potential difference.
The current is the amount of charge flowing per second.
A battery with a larger potential difference transfers *more* energy, making bulbs brighter.
Components have a potential difference they are designed to work at (rating).
A voltmeter is always connected in parallel and an ammeter is connected in series.

2

SERIES CIRCUIT

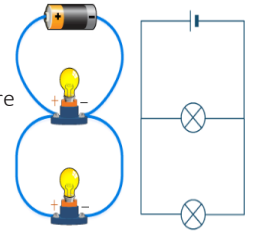


The **current is the same** in all parts of a series circuit.
If you add components, the current will get smaller because the resistance is bigger.
In a series circuit, the **potential difference** (voltage) from the battery is **shared** by the components.
If a bulb breaks, the rest will go out.



3

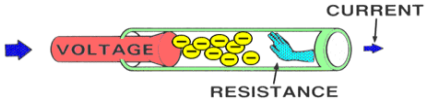
PARALLEL CIRCUIT



- The **current is shared** between the components (when it reaches the branches) and then adds again where branches meet.
- The **potential difference** across each component is the **same as the potential difference across the battery**.
- If one bulb breaks, the other lights will stay on.

4

RESISTANCE



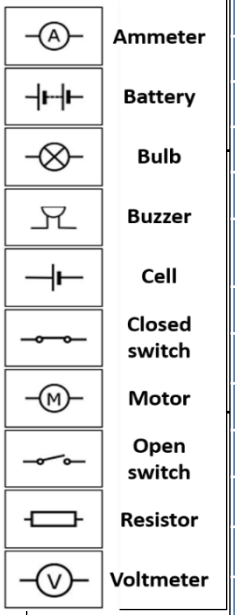
Each component has a different resistance; this tells you how easy or difficult it is for charges (electrons) to pass through wire or components.
Resistance is measured in ohms (Ω).
Adding more components, increases the resistance, so the current is less.

$$resistance\ (\Omega) = \frac{potential\ difference\ (V)}{current\ (A)}$$

Resistance in wires is caused by electrons colliding with metal atoms and transferring energy to them.

The following affects resistance;
Length → longer wire = more resistance
Thickness →thicker wire = less resistance
Material of wire → good conductor = less resistance

CIRCUIT SYMBOLS



5

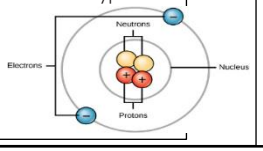
MODELLING ELECTRIC CIRCUITS – ROPE MODEL

- The rope represents the charges
- The person pulling the rope is like the battery
- A bigger potential difference across the cell is like the 'battery' person pulling harder.
- **SERIES:** the rope moves at the same speed everywhere. As more people hold the rope, the rope moves more slowly.
- **PARALLEL:** there are more loops of rope. All the loops are driven by the same 'battery' person.

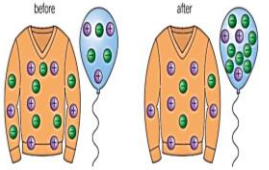
There are two types of electrical charge: **positive charge** (+) and **negative charge** (-). Charged particles (or charges) **attract or repel** each other. There is an electrostatic force between the charges.

6

Everything is made up of **atoms**. Atoms are neutral overall. They are made of three types of even smaller particles.
Protons (positive charge)
Electrons (negative charge)
Neutrons (no charge)



Electrons are transferred from the jumper to the balloon. The balloon is charges up. It has more electrons than protons, so it is negatively charged. The jumper is positively charged. They will attract.



Tier 3 KEYWORD	DEFINITION
Ammeter	A device for measuring electric current in a circuit.
Amps	Units of measurement of electric current, symbol A.
Attract	Be pulled together.
Battery	Two or more electrical cells joined together.
Cell	A chemical store of energy, which provides the push that moves charges around a circuit.
Charged up	When materials are rubbed together, electrons move from one surface to another.
Current	Flow of electric charge, usually electrons, in amperes (A).
Electric field	A region where a charged material or particle experiences a force.
Electrical conductor	A material that allows current to flow through it easily, and has a low resistance.
Electrical insulator	A material that does not allow current to flow easily, and has a high resistance.
Electron	Tiny particles that are part of atoms and carry a negative charge,
Electrostatic force	Non-contact force between two charged objects.
Negatively charged	An object that has gained electrons.
Neutral	Describes an object or particle that has no charge, or in which positive and negative charges cancel out, giving no overall charge.
Ohms	The unit of resistance, symbol Ω.
Parallel	If some components are in separate loops in an electric circuits.
Positively charged	An object that has lost electrons.
Potential difference (voltage)	The amount of energy shifted from the battery to the moving charge, or from the charge to circuit components, in volts.
Rating	The value of potential difference at which a cell or bulb operates.
Repel	Be pushed away from each other.
Resistance	A property of a component, making it difficult for charge to pass through, in ohms (Ω).
Series	If components in an electric circuit are in the same loop.
Voltmeter	A device for measuring potential difference (voltage).
Volts	Unit of measurement of potential difference (voltage), symbol V.

Part	Key Learning	Disciplinary/Literacy

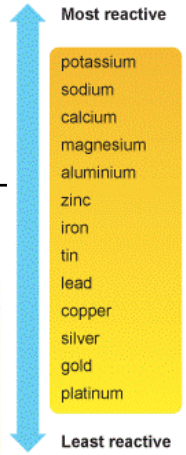
1

Metals are found on the left hand side of the periodic table; the majority of elements are metals.

Sulfuric acid → sulfate

Nitric acid → nitrate

Hydrochloric acid → chloride



2

Metals and acid

Metal + acid → salt + hydrogen

Magnesium + hydrochloric acid → magnesium chloride + hydrogen

Metals and oxygen

Metal + oxygen → metal oxide

Magnesium + oxygen → magnesium oxide

There is a pattern. Metals that react vigorously with dilute acids also react vigorously with oxygen. Metals that do not react with dilute acids do not react with oxygen.

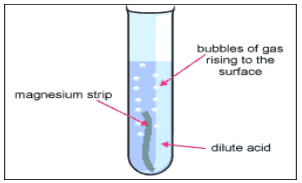
Metal	Reaction with dilute acid	Reaction with oxygen
magnesium	reacts very vigorously	burns vigorously
zinc	reacts steadily	burns less vigorously
iron	reacts steadily	burns
lead	reacts slowly	do not burn; when heated, form layer of oxide on surface
copper	no reaction	
gold		no reaction

3

Metals and water

Metal + water → metal hydroxide + hydrogen

Potassium + water → potassium hydroxide + hydrogen



Reactivity series describes the patterns of metal reactions with acids, oxygen and water. Metals get less reactive as you go down the group.

4

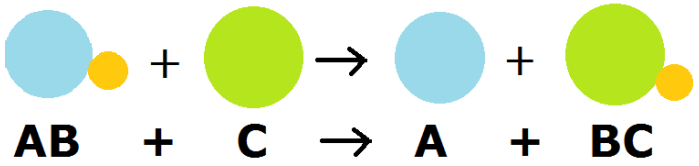
Word equations – Used to describe chemical reactions in a simple way. The reactants are on the left of the arrow, and the products are on the right. The arrow (→) means 'react to make'. It is NOT like the = sign.

State symbols (equations)	
(s)	Solid
(l)	Liquid
(g)	Gas
(aq)	Solution (aqueous)

5

Displacement reactions - Displacement reactions involve a reaction between a metal and a compound of a different metal.

A more reactive metal will displace a less reactive metal from its compounds.



6

For example, the more reactive magnesium will displace the less reactive copper from the copper sulfate solution.

Magnesium + copper sulfate → magnesium sulfate + copper

KEYWORD	DEFINITION
Chemical property	How a substance behaves in its chemical reactions.
Displaces	A more reactive metal displaces – or takes the place of – a less reactive metal from its compound.
Element	A substance that cannot be broken down into other substances.
Oxidation	A chemical reaction in which a substance combines with oxygen.
Oxides	A substance made up of metal or non-metal element joined to oxygen.
Physical property	A property of a material that you can observe and measure.
Product	A substance that is made in a chemical reaction. (After the arrow)
Reactant	A starting substance in a chemical reaction.
Reactive	A substance is reactive if its reacts vigorously with dilute acid or water.
Reactivity	The tendency of a substance to undergo a chemical reaction.
Thermite reaction	Reaction of aluminium with iron oxide to make aluminium oxide and iron.

Metals	Non-metals
Shiny	Dull
High melting points	Low melting points
Good conductors of electricity	Poor conductors of electricity
Good conductors of heat	Poor conductors of heat
High density (heavy for its size)	Low density (light for its size)
Malleable (hammer into shape) and ductile (make into wires)	Brittle (breaks easily)

Part	Key Learning	Disciplinary/Literacy	Linked Assessment
1	Living as a Believer – Being a Christian in the UK Why do people become Christians? What challenges does this present?	*Atheism* the denial of a belief in God or spiritual beings. *Agnosticism* generally meant to indicate that we cannot know of the existence of something beyond our experience.	N/A
2	Living as a Believer – Islam: The Basics How did it begin? What are the Five Pillars of Islam? Why do they matter?	*Islam* second largest world religion…means 'surrender to the will of Allah' and implies 'peace'. *The 5 Pillars of Islam* the five duties that all Sunni Muslims are required to complete.	N/A
3	Living as a Believer – Islam: Living as a Muslim in the UK today Understanding some of the challenges faced by Muslims in the UK	*Niqab* face veil *Mosque* 'place of prostration'…place of prayer and worship. *Halal* permissible *Haram* forbidden	N/A
4	Worship: What is worship? What do we worship?	*Sacrifice* a rite (ritual) in which an object (possibly an animal but in some cases a human) is offered to a god or God in order to maintain or restore a 'right' relationship. *Worship* to have or show a strong feeling of respect and admiration for God or a god.	N/A
5	Inspiring People – Martin Luther King Understanding the nature of racism Understanding the nature of non-violent protest	*Prejudice* a hostile attitude towards someone or a group, usually based upon an irrational stereotype. *Discrimination* treating people differently because of prejudice	N/A
6	Student Voice and Assessment		Teams Assignment

Part	Disciplinary/Literacy	Key Learning
1 and 4	**Resources**: Items that you need to live, food, fuel, water. **Fossil fuels:** Fuel created from the remains of dead plants and animals such as coal and oil. **Renewable energy:** Energy from sources that will not run out such as solar and wind power.	Humans need **resources** to live, many of these are natural resources like fresh water from rivers used for drinking and growing crops. Soil is also important for growing crops. Coal, oil and gas are all used for energy. The problem is that these **resources** are not evenly spread out and some areas have more than others. People living in north Africa for example have little water which leads to water insecurity. Countries in the Middle East, such as Kuwait have a large reserves of oil. Many LIC countries have few natural resources or cannot extract them making them poor. **Energy** is an important resource; everyone needs a source of fuel for heating and cooking. As the population grows the demand for energy increases. In HIC's this is in the form of electricity and gas from **fossil fuels**. In LIC countries this can often be in the form of firewood. These energy resources produce carbon dioxide, a green house gas causing climate change. Also, these sources are running out and alternatives are needed. **Renewable energy** sources will not run out, produce less waste and so cause less damage to the environment, although residents living close to windfarms do complain that they spoil the view and can be noisy.
2 and 5	**Raw materials:** Resources that are natural such as metals, crops and trees. **Manufactured**: Products that are made from raw materials like mobile phones. **E –waste:** This is the waste created when we throw away electronic products from flat screen TV's to mobile phones.	Our mobile phones, as well as tablets and even electric cars need **Coltan**. Coltan can store a large amount of electrical charge making it idea for rechargeable batteries. 80% of the global supply of this mineral comes from the Democratic Republic of Congo (DRC). Due to conflict in the area, the trade in coltan is controlled by rebels who use the profits to buy weapons. Many children work in the mines in very poor and dangerous conditions. **Mobile phones** are manufactured in countries such as China. Many of the factories do not pay their workers well and conditions in factories are very poor, just like sweatshops in the fashion industry. Employees have to work for long hours in poor conditions, there are many stories of people falling asleep whilst at work. Often they will sleep at the factory in small rooms with many bunk beds crammed into the room. They get few breaks during their day and get low pay. We all want the latest tech, this means we often throw away our old phones. Sometimes they are recycled but eventually this **e-waste** will find it's way to LICs and NEEs such as Nigeria where all the components will be stripped out and valuable metals like gold, silver and copper taken for recycling. However this often creates health risks for the workers. Often the plastic and waste is burnt creating toxic fumes.
3 and 6	**Natural resources:** Materials or substances that are produced by the environment. **Exports:** These are goods produced in one country and sold to another. **Deforestation**: The clearance of large areas of forest.	Russia is the largest country in the world and is probably richer in **natural resources** than any other country in the world. It has abundant supplies of **Oil** (6% of the worlds deposits), and one-third of the world's **Natural Gas** deposits. Russia's raw materials provide significant inputs for an industrial economy. The abundance of oil and natural gas has made Russia virtually self-sufficient in energy and a large-scale exporter of fuels. The UK, for example, imports gas from Russia. Russia possesses rich reserves of **metals** like iron ore, platinum and gold, and even has diamond mines. The forests of Siberia contain an estimated one-fifth of the world's **timber**, mainly conifers. This mean that it **exports** a lot of timber. However this affects the environment as Russia has suffered from **deforestation** losing the equivalent of 25 million football pitches of forest in 20 years. There is a lot of **wealth inequality** in Russia with owners of companies linked to raw materials being very wealthy. The Chelsea football club owner Roman Abramovich main source of income is the Sibneft oil company, he is thought to be worth $14.1 billion (£10 billion). However the average wage in Russian is $11,260 (£8,000). The average UK wage is £30,378.

Part	Disciplinary/Literacy	Key Learning: Did People power Win the War?
1 and 4	Appeasement – To give in or reduce tension. Treaty of Versailles – The Peace treaty that ended WW I. Phoney - Fake	**Appeasement and the outbreak of WW II** In the 1930s the prospect of a new war with Germany seemed increasingly likely after Hitler came to power in Germany in 1933. Britain however was reluctant to go to war again after the huge damage caused in WW I. Instead the Prime Ministers of the 1930 Stanley Baldwin and Neville Chamberlain followed a policy called **appeasement**. This was an attempt to make Germany more peaceful by negotiating and talking through Germany's issues. As a result of this policy Germany was allowed to break important parts of the Treaty of Versailles. Appeasement was a failure. Hitler increased his territorial demands and was able to link with Austria, rebuild its army and takeover Czechoslovakia largely unopposed by Britain. Finally, following the invasion of Poland in September 1939 Britain reluctantly declared war on Germany. However it was difficult for Britain to assist Poland that was quickly overwhelmed. Instead the British, French and Germans played out a quiet start to he conflict in what became known as the "phoney" war.
2 and 5	Miracle – Highly unlikely without the intervention of God. Heralded – Widely reported. Imminent – At any moment.	**Dunkirk and the Battle of Britain** The early stages of WW II are remembered as a series of setbacks for Britain as Germany unleashed a new style of warfare known as **Blitzkrieg** or lightning war in the west. The fall of France in May and June 1940 is widely regarded as one of the worst military defeats in history but Britain was able to avoid an even bigger disaster by rescuing much of the **British Expeditionary Force** from the French town of Dunkirk in action that widely regarded as a "miracle" at the time. The media were desperate for a good news story and the success of **Operation Dynamo** was heralded as a great achievement despite the clear military failures. With the Battle of France over the battle of Britain would begin and last much of the summer of 1940. It was fought in the skies above southern England as the German Airforce (the **Luftwaffe**) attempted to destroy the RAF as a prelude to invasion. Dog fights (desperate battles between air-craft) became a common sight in the skies as the "**few**" pilots fought to defend Britain from what seemed like imminent invasion. In the end bravery, technological know-how and excellent leadership allowed the RAF to inflict a defeat on Nazi forces for the first time and allowed Britain to stay in the war.
Part 3 and 6	**Rationing – A way of dividing food so everyone had a similar amount depending on their need.** **Firestorm – A deadly inferno, created by concentrated bombing.** **Evacuated – Removed safely.**	**Plymouth in WW II and the Home Front** The Second World War was also defined by the way civilians became targets in what became known as the home front. The "**Blitz**" was the regular nightly bombing of British cities such as London, Manchester, Birmingham and Glasgow. For a while Plymouth was the main target for the Luftwaffe and the city still bears the scars as much of the city centre was destroyed. Air raid shelters were built and **rationing** was introduced throughout Britain but there was little defence from the night time raids that attempted to lay waste to whole cities using a tactic of **coventration**. So called after the city of Coventry was destroyed using a firestorm created by the dropping of bombs. Many children and vulnerable people were evacuated out of major cities and were found new homes in the safer countryside. This had a dramatic and lasting effect on many of the people who experienced it even if for many it didn't last long. Many people became determined to rebuild Britain better once the war was over. Plymouth was an important city during the war and was targeted by German attacks regularly including the often forgotten Battle of Cawsand Bay when German fighter bombers targeted shipping in Plymouth Sound. Plymouth was also an important staging ground for the **D-day** landings and the invasion of Normandy was rehearsed all around the Devon coastline, infamously the disaster Exercise Tiger was covered up as 749 mostly American servicemen lost their lives.

Part	Key Learning: **A Paris on peut…** In Paris you can (present tense)							Resources
1	Prepositional start	Verb		Noun		Preposition + noun	With	**Past:** **hier** **le weekend dernier** **la semaine dernière** **l'année dernière** **avant-hier** **l'hiver dernier** **Present:** **aujourd'hui** **tous les jours** **souvent** **rarement** **quelquefois** **Normalement** **de temps en temps** **en ce moment** **en été** **Future:** **demain** **Le weekend prochain** **la semaine prochaine** **l'année prochaine** **ce week-end**	
2	**A Paris** – In Paris **A Londres** -In London **Pendant les grands vacances** – During the summer holidays **En juillet** – In July	**on peut** – you can **j'aime** I like **elle déteste** **she hates** **Il adore** he loves	**visiter** to visit	**Le Louvre** **La Tour Eiffel** **Le Sacré-Cœur** **L'Arc de Triomphe** **Les Champs Elysées** **Notre-Dame**	**les églises** churches **les galeries d'art** art galleries **les monuments** monuments **les musées** museums **la vieille ville** the old town	**en ville** in a town **à la plage** at the beach **dans la mer** in the sea **dans le lac** in the lake **à la montagne** in the mountains **en forêt** in a forest	**avec mon frère** with my brother **avec mon père** with my dad **avec ma sœur** with my sister **avec ma mère** with my mum **avec ma famille** with my family **avec mes parents** with my parents **avec mes grands-parents** with my grandparents **avec mes amis** with my friends **seule** on my own	
3			**faire** to do, to make	**un tour en segway** a tour on a segway **les magasins** shopping **du vélo** cycling **du VTT** mount' biking	**un safari** a safari **une balade en bateau** a boat trip **du tourisme** sightseeing **de la natation** swimming **des châteaux de sable** sandcastles **de nouveaux amis** new friends			
4			**jouer** to play	**au foot** football **au volley** volleyball	**à la pétanque** French bowls **aux cartes** cards			
5			**manger** to eat	**des glaces** ice cream **des crêpes** pancakes **des gaufres** waffles	**la cuisine de la région** the local food **au restaurant** in a restaurant **au café** in a cafe			
6			**acheter** to buy	**des cartes postales** postcards	**des cadeaux** some presents **des souvenirs** souvenirs			
			voir to see	**La Joconde** -The Mona Lisa	**les Pyramides du Louvre** The Pyramids at the Louvre			
			prendre to take	**des photos** - photos	**le métro pour aller au Louvre** The underground to go to the Louvre			
			aller to go	**au théâtre** -to the theatre **au cinéma** - to the cinema	**à un concert** to a concert **au marché (de puces)** market			

Year 8 : Sentence builder: SPRING 2-Las Vacaciones

Q1: ¿Qué tiempo hace normalmente en Inglaterra/España? (What is the weather normally like in England/Spain?)

Normalmente *(Normally)* en Inglaterra *(In England)* En España *(In Spain)*	en primavera *(in spring)* en verano *(in summer)* en invierno *(in winter)* en otoño *(in autumn)*	hace buen/mal tiempo *(it's Good/bad weather)* hace calor *(it's hot)* hace frío *(it's cold)* hace sol *(it's sunny)* hace viento *(it's windy)* hay niebla *(it's foggy)* hay tormenta *(it's stormy)* llueve *(it rains)*

Q2. ¿Adónde fuiste de vacaciones?¿Con quién fuiste? (Where did you go on holidays? With whom did you go ?) ←

El verano pasado *(last summer)* El invierno pasado *(last Winter)* El año pasado *(last year)* Hace un mes *(A month ago)* Hace quince días *(2 weeks ago)* En junio *(In June)*	Fui a *(I went to)* *Fuiste a (you went to)* *Fue a (he/she went to)* *Fuimos a (We went to)* *Fueron a (they went to)*	Inglaterra *(England)* Escocia *(Scotland)* Gales *(Wales)* Francia *(France)* Alemania *(Germany)* España *(Spain)* Portugal *(Portugal)* Italia *(Italy)* Grecia *(Greece)*	con *(with)*	mi familia *(my family)* mis amigos *(my friends)* mi mejor amigo/a *(my best friend)* mis hermanos *(my siblings)* mis abuelos *(my grandparents)*

Q3. ¿Cuánto tiempo fuiste? ¿Cómo fue? (How long for? / How was it?) ←

Fui *(I went)*	un fin de semana *(a weekend)* diez días *(10 days)* una semana *(a week)* dos semanas./una quincena *(a fortnight)* un mes *(a month)*	Era *(It was)*	estupendo *(great)* genial *(great)* aburrido *(boring)* horrible *(horrible)* un desastre *(a disaster)* fatal *(awful)*

Q4. ¿Cómo fuiste? (How did you get there?) ←

Fui en *(I went by)* Viajé en *(I travelled by)*	autocar *(coach)* coche *(car)* avión *(plane)* tren *(train)* barco *(boat)* bicicleta *(bike)* monopatín *(skateboard)*	Era *(it was)*	rapido *(fast)* lento *(slow)* barato *(cheap)* caro *(expensive)*

Q5. ¿Qué hiciste durante las vacaciones? (What did you do during your holidays?) ←

Fui a la playa *(I went to the beach)* Jugué al golf *(I played golf)* Visité monumentos *(I visited monuments)* Bailé *(I danced)* Monté en bicicleta *(I rode a bike)* Descansé *(I relaxed)*	También*(also)* Además *(also)* el lunes *(On Monday)* el sábado *(On Saturday)*	tomé el sol *(I sunbathed)* saqué fotos *(I took photos)* jugué al voleibol *(I played volleyball)* fui de excursión *(I went on a trip)* Mandé mensajes *(I sent texts)* Escuché música *(I listened to music)*

Q6: ¿Adónde vas a ir las próximas vacaciones? (Where are you going to go next holidays?) →

El año próximo *(next year)* El año que viene *(next year)* El verano que viene *(next summer)* El invierno que viene *(next Winter)*	voy a ir a *(I'm going to go to)*	Inglaterra *(England)* Escocia *(Scotland)* Gales *(Wales)* Francia *(France)*	con *(with)*	mi familia *(my family)* mis amigos *(my friends)* mi mejor amigo/a *(my best friend)*

Q7. ¿Qué vas a hacer en las vacaciones? (What are you going to do in the holidays?) →

Voy a *(I'm going to)* Vamos a *(We are going to)*	Ir a la playa *(go to the beach)* jugar al golf *(play golf)* visitar monumentos *(visit monuments)*	En mi opinión será *(In my opinión)*	estupendo *(great)* guay *(cool)* relajante *(relaxing)* aburrido *(boring)*

Q8.EXTENSION: ¿Cómo sería tu hotel ideal? (What would your ideal hotel be like?)

Mi hotel ideal *(My ideal hotel)*	sería *(would be)*	grande *(big)* moderno *(modern)* bonito *(pretty)* cómodo *(comfortable)*	Tendría *(It would have)*	una piscina *(a pool)* un gimnasio *(a gym)* una playa *(a beach)* un parque *(a park)*

Describiendo una foto

En la foto, se puede ver … = In the photo, one/you can see….

En la foto, hay… = In the photo, there is/there are…
No hay…… there isn't….

OPINIONS

A mi parecer es = In my opinión, it is
A mi modo de ver es = In my opinión, it is
Desde mi punto de vista = In my opinión, it is
Pienso que es = I think that it is
Creo que es = I believe that it is
Diría que es = I would say that it is
Parece = he/she/it looks

Está = he/she/it is…
Están = they are …

a la izquierda = on the left
a la derecha = a on the right
al fondo = in the background
en primer plano = in the foreground
en el centro = in the centre
en la distancia = in the distance
al lado de = next to
cerca de = near to
lejos de -= far from
arriba = above
abajo = below
en el campo = in the countryside
en la costa = on the coast

un edificio = a building
un árbol/unos árboles = a tree, some trees
un concierto = a concert
un parque = a park
un hotel = a hotel

una fiesta = a party
una playa = a beach
una iglesia = a church
una carretera – a road
mucho tráfico = lots of traffic

PEOPLE

un hombre/una mujer = a man/a woman
un chico/una chica = a boy/a girl
una familia = a family
una pareja = a couple
unos estudiantes = some students
unas personas = some persons (– can be counted)
mucha gente = lots of people
un profesor/una profesora = a teacher
un grupo de amigos = a group of friends
unos compañeros de trabajo = some workmates
un camarero/una camarera = a waiter/waitress

HAIR and EYES

Tiene …. = He/she has…

el pelo rubio/negro/castaño = blonde/Black/chestnut hair
el pelo liso/rizado = straight/curly hair
el pelo largo/corto = long/short hair

los ojos verdes/azules/grises = green/blue/grey eyes

Lleva… = He/she wears…

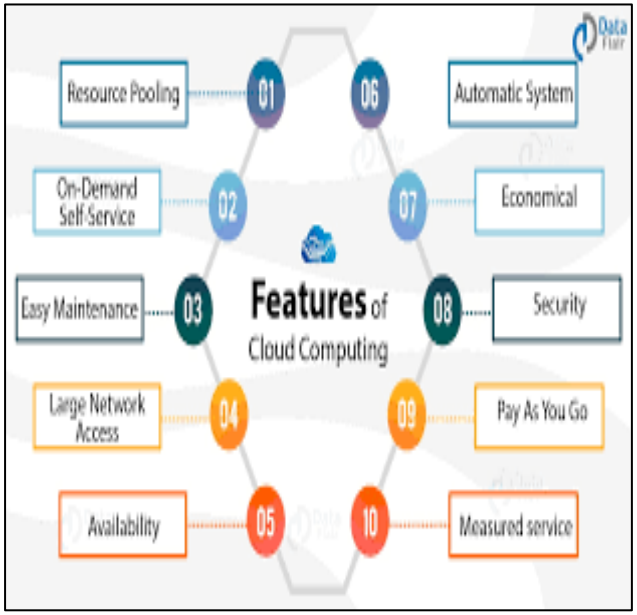
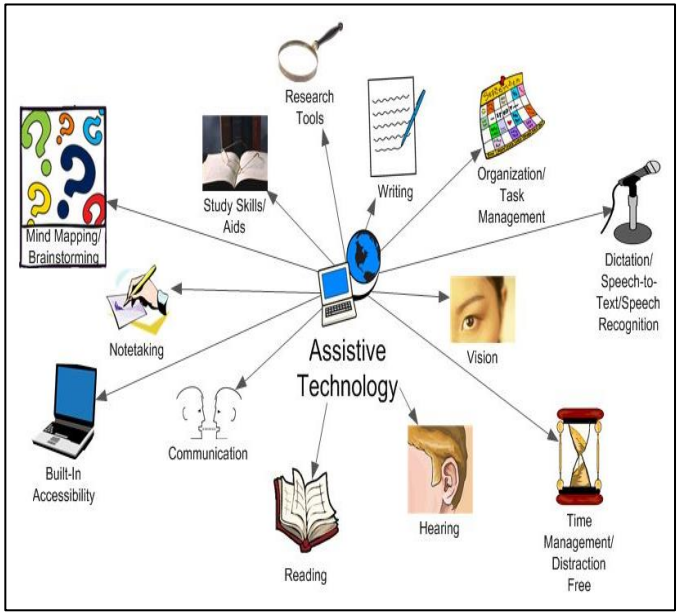
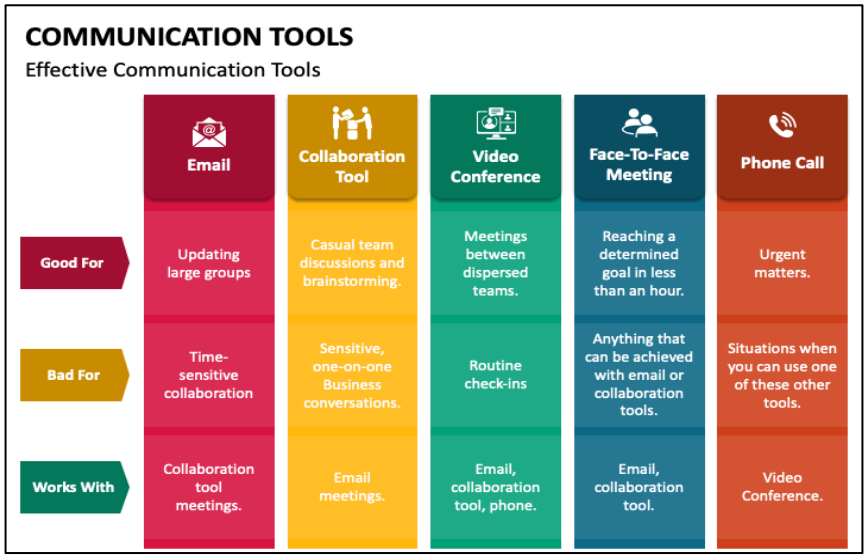
un bigote = a moustache
una barba = a beard
gafas = glasses

Add the weather:

Hace … sol/calor/frío/fresco/viento/buen tiempo
Hay tormenta/niebla/chubascos/neblina
Está nublado/despejado/lloviendo/nevando/soleado

Week	AO	Key Learning – Cityscape Ceramics (Karen Stamper)	Disciplinary literacy in Art and Design	Definition	Resources
1	1 and 3	Mixed Media concertina Cityscape outcome. Re-introduction to ceramics and planning for ceramic piece using templates. Continue with concertina in lesson time	**Cityscape**	a view of a city, especially a large urban centre.	
			Clay	clay has a plasticity when wet and has an ability to harden when dried or fired.	
2 & 3	2	**Slab-building** - Place guide sticks the thickness of the desired slab on each side of the clay ball. Make sure the guide sticks are positioned so that a rolling pin can ride on both of them. Start from the centre of the ball of clay and roll away from you with enough pressure to begin flattening the clay. Roll only to the edge of the clay. Return to the center and roll towards you using the same pressure. Repeat these steps, gradually increasing the pressure until the rolling pin rides directly on the guide sticks. Turn the slab over several times as you work to avoid having it stick to the board.	**Ceramic**	Are made from clay which are permanently changed when heated in a kiln at approx. 1000°	SCAN ME
			Slab building	Flat pieces of rolled clay used to create structures	
			Texture	The feel, appearance, or consistency of a surface or substance.	
			maquette	a small model or study in three dimensions for either a sculptural or an architectural project.	
			"Score and slip"	Marks are scored onto the surface of the clay. Slip is watery clay (like cream) used to stick clay together.	
4	2	Apply oxide with a brush and rub off with a clean damp sponge. Staff will then apply a transparent glaze. Continue with concertina.	**Greenware**	Finished clay pieces that are not yet fired	A short film - Karen StamperKaren Stamper (karenstampercollage.com) Ceramics - Ceramics - GCSE Art and Design Revision - BBC Bitesize
			Bisque	A firing that gives the clay durability while leaving it porous enough to absorb glaze	
5	2, 4	Complete template, concertina and photograph outcome	**Oxide**	Raw or plain oxides are metal elements that are combined with oxygen. They are ground to a powder and one of their uses in pottery is as a colorant.	
			Kiln	An oven used to bake or "fire" clay.	
6	1-4	DIRT – Dedicated Improvement and Reflection Time.	**Glaze**	Provide hard and protective surfaces to the clay. Can be decorative and or see through	

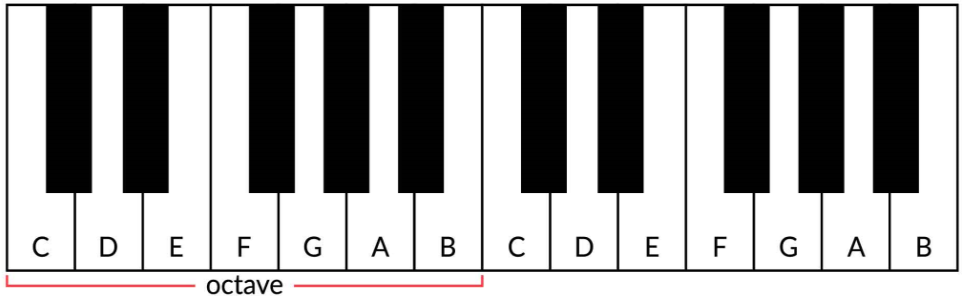
FORMAL ELEMENTS; COLOUR, SPACE, LINE, PATTERN, TEXTURE, SHAPE, FORM, TONE

Part	Key Learning	Disciplinary Literacy	Resources
1	***IT and the World of Work- Part 1***  	**Inclusivity:** the practice or policy of providing equal access to opportunities and resources for people who might otherwise be excluded. **Accessibility:** the concept of whether a product or service can be used by everyone. **Collaborative working:** covers a variety of ways that two or more organisations/individuals can work together. **Communication:** means of sending or receiving information, such as phone lines or computers.	SharePoint platform: https://eggbuckland.sharepoint.com/:f:/g/ict/EoYFKngQjKZHlVnNxiGjIJ0BwCrMbGkvVVPmlZpIHeH8BQ?e=LmKmtC
2	***IT and the World of Work- part 2***  	**Interpretation:** an explanation or way of explaining. **Ad hoc network**: a temporary type of Local Area Network **(LAN)** **Cloud computing:** cloud computing is the delivery of computing services—including servers, storage, databases, networking, software, analytics, and intelligence—over the Internet (“the cloud”) to offer faster innovation, flexible resources, and economies of scale.	SharePoint platform: https://eggbuckland.sharepoint.com/:f:/g/ict/EoYFKngQjKZHlVnNxiGjIJ0BwCrMbGkvVVPmlZpIHeH8BQ?e=LmKmtC

KEYBOARD SKILLS

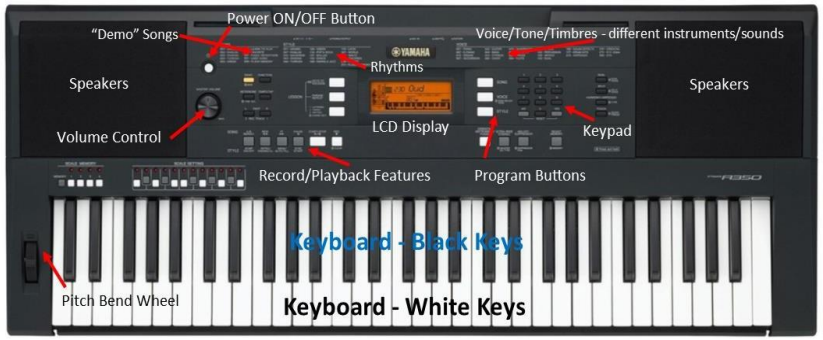
Exploring Treble Clef Reading and Notation

A. Layout of a Keyboard/Piano



A piano or keyboard is laid out with **WHITE KEYS** and Black Keys (see section G). C is to the left of the two Black Keys and the notes continue to G then they go back to A again. Notes with the same letter name/pitch are said to be an **OCTAVE** apart. **MIDDLE C** is normally in the centre of a piano keyboard.

D. Keyboard Functions

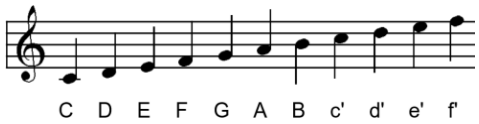


B. Treble Clef & Treble Clef Notation

A **STAVE** or **STAFF** is the name given to the five lines where musical notes are written. The position of notes on the stave or staff shows their **PITCH** (how high or low a note is). The **TREBLE CLEF** is a symbol used to show high-pitched notes on the stave and is *usually* used for the right hand on a piano or keyboard to play the **MELODY** and also used by high pitched instruments such as the flute and violin. The stave or staff is made up of 5 **LINES** and 4 **SPACES**.

Every Green Bus Drives Fast. Notes in the **SPACES** spell **"FACE"**

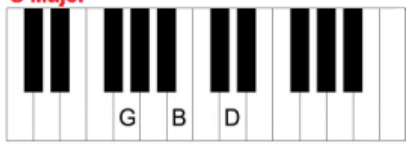
Notes from **MIDDLE C** going up in pitch (all of the white notes) are called a **SCALE**.



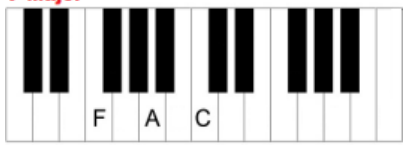
C. Keyboard Chords

C Major

G Major



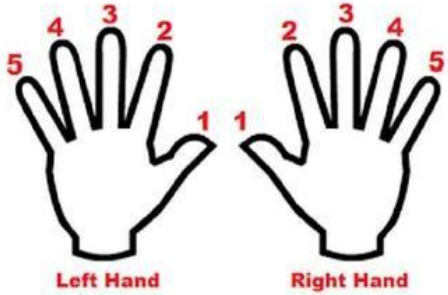
F Major



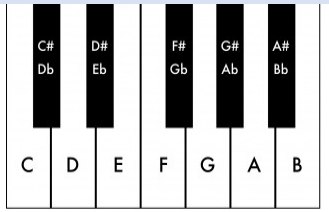
A Minor

Play one – Miss one – play one – miss one – play one

E. Left Hand/Right Hand (1-5)



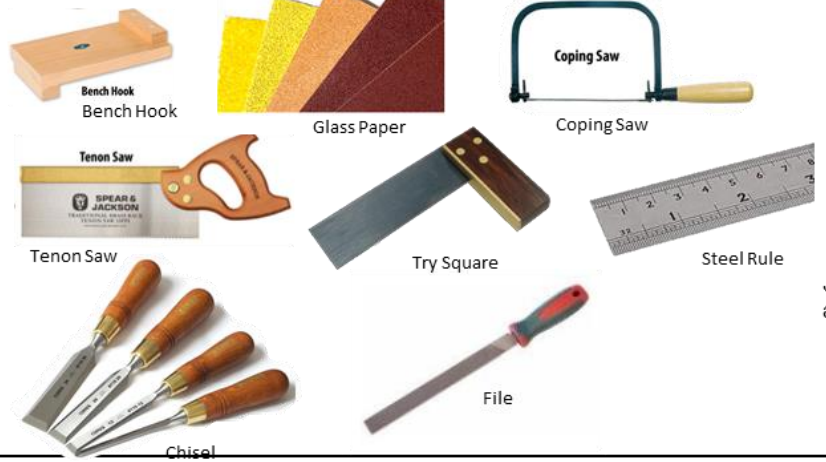
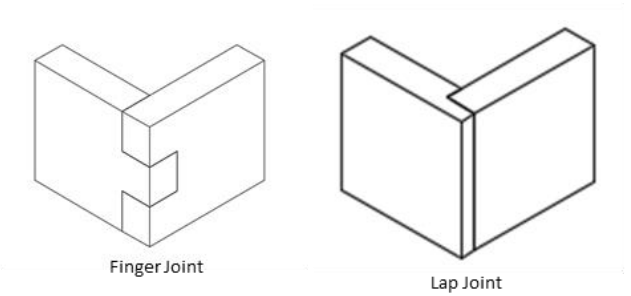
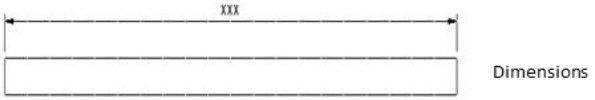
F. Black Keys and Sharps and Flats



There are five different black notes or keys on a piano or keyboard. They occur in groups of two and three right up the keyboard in different pitches. Each one can be a **SHARP** or a **FLAT**. The # symbol means a **SHARP** which raises the pitch by a semitone *(e.g. C# is higher in pitch (to the right) than C)*. The *b* symbol means a **FLAT** which lowers the pitch by a semitone *(e.g. Bb is lower in pitch (to the left) than B)*. Each black key has 2 names – C# is the same as D*b* – there's just two different ways of looking at it! Remember, black notes or keys that are to the **R**IGHT of a white note are called SHA**R**PS and black notes to the **L**EFT of a white note are called F**L**ATS.

Part	Key Learning	Disciplinary Literacy
1	To begin to explore animal farm and explore the emotional connotations associated in this play • Songs in film • Key plot points • Emotional opinion on play	Physical Interpretation of Character Vocal Interpretation of Character Artistic Intention Movement techniques Gesture
2	To begin to explore the characters of animal farm and decide within my groups what scenes we are going to perform and what characters we are playing • Different characters in animal farm • Storyboard of the story	Ensemble performance Mime Improvisation Gesture Facial expressions
3	To explore the rules set down in animal farm with the character I selected last week and make relations to me as a student • Looking at the commandments imposed on the characters • Getting students to connect with play To understand how language can create a character in Animal Farm. Physical Interpretation of Character: Facial expressions, Gait (walk), Posture, Body Language, Gesture Vocal Interpretation of Character: Volume/Projection, Pitch, Pace, Pace, Accent Artistic Intention of your ability to physical interpret your character and portray this physically changing your body language, facial expression and voice.	Body Language Posture Facial expressions Gait (walk) Posture Body Language Gesture Volume/Projection Pitch Pace Pace Accent Hot seating
4	To create a script from the selected scenes. • Script creation from scenes • Rehearsal of scenes	Resources Animal Farm (1999) - All songs - YouTube
5	To rehearse and polish my scenes ready to perform next week, looking at physically and vocally. Rehearsal of chosen scenes **Tips for learning lines** Read the lines aloud, Little and often, Record yourself saying the lines then listen back, Walk around a while you are practicing your lines (this will also help you to develop character), Learn the line which is said before yours so you can use it as a prompt, Listen to what the other characters are saying so the lines make more sense.	Animal Farm: Plot | Lit P.D. | BBC Teach - YouTube George Orwell's Animal Farm Animation (Full Movie) - YouTube
6	To take part in a group perform to my class from the play animal farm. • Performance Gesture – the actions used by an actor to show what the character is feeling or what they are doing. Facial expressions – changes made to the face to show how the Character is feeling. Body Language – the emotion shown by an actors movement or position of their body. Posture – the position that a character is sitting or standing in. It helps to show their emotions.	

Part	Key Learning	Disciplinary/Literacy	Resources
1	**Introduction - Bread tasting** Sensory evaluation – when you eat food you are judging its following characteristics: appearance, taste, smell and texture. All foods products need to be acceptable to eat by a wide variety of people. Sensory evaluation helps us to make sure that a food product meets expectation, allows us to compare it to another food product and check on the quality and shelf life of a food product over time. Bread is a staple food in much of the world. Bagels, pitta bread, soda bread, Naan bread and croissants are all examples of bread products from around the world.	**Aroma** – smell **Mouthfeel** – How a food product feels in the mouth. **Sensory descriptors** – words to describe the appearance, texture, taste and aroma of food **Staple food –** Foods which make up the main part of the traditional diet.	SCAN ME
2 & 3	**Bread** is made from strong flour, yeast, salt and water. Fat is often added to extend the shelf life while sugar is added for sweetness, colour and to feed the yeast. The type of flour used to make bread is strong flour, which is high in a protein called gluten. Gluten forms when water is added to flour and mixed. Bread dough needs gluten to support the gas bubbles of carbon dioxide that are created during the making process to give bread a light texture. Yeast is used in leavened bread. Yeast produced carbon dioxide gas and rises the bread. Yeast is killed by too much sugar, salt and heat.	**Prove –** leaving dough to rise **Gluten –** Stretchy protein found in flour. **Fermentation –** The process when yeast converts sugars to give off carbon dioxide gas.	SCAN ME
4	**Pizza** – **Factors influencing different cuisines** The climate or weather is a controlling factor for what farmers can grow. The landscape of a region governs which crops and animals are raised for food. In the north of Italy a hard wheat called Durum wheat can be grown due to the cooler climate. Durum wheat has a high gluten content perfect for making bread. Southern Italy has a warmer climate and is perfect for growing crops such as tomatoes and Olives.	**Durum wheat –** a hard wheat **Climate -** the weather conditions prevailing in an area in general or over a long period.	
5	**Pasta** is a food that contains starch, a carbohydrate which provides energy for our bodies. Starch is a complex carbohydrate, providing slower release of energy than simple carbohydrates such as sugars. Pasta especially wholemeal pasta is a source of fibre. Durum wheat flour is also used to make pasta as it is high in protein, holds its shape during cooking, making a stretchy dough. Basic pasta dough is made from flour, salt, eggs, oil and water. Pasta is available in different shapes and varieties – for example Farfalle – bow ties, Penne – tubes, Fusilli – twists. Different shaped pasta is designed to hold different styles of sauce.	**Carbohydrate** – one of the five nutrients – a macro nutrient. **Whole grain –** All the edible parts of the grain – the germ, endosperm and bran **Al dente –** firm to the bite, a description of the texture of correctly cooked pasta.	

Part	Key Learning	Disciplinary/ Literacy	Resources
1	**Timber** is the term given to natural and manufactured wood used in products because timber comes from the natural source of trees. It's **recyclable, renewable and reusable**. There are two categories of natural wood; **hardwoods** and **Softwoods**. These names reflect the cell structure of the tree the wood comes from and not the strength or hardness of the wood. **Hardwoods** come from deciduous trees which can take hundreds of years to mature. For this reason, the timber from these trees is generally more expensive. **Softwoods** come from coniferous trees. These trees grow quickly, making softwood a highly **sustainable** readily available and less expensive than hardwoods. Softwoods absorb moisture more easily than hardwoods, so they're more likely to rot, this means they are most suitable for use in products designed to be used indoors. Softwoods aren't available in as many colours as hardwoods, but can easily be stained or painted to make them look like a more expensive hardwoods. Softwoods are commonly used in the construction industry as they are cheap and readily available. **Pine** is one of the most common softwoods. It has a straight grain and is a light yellow colour. Pine is easy to work and is used in interior construction, such as joinery and window frames, and for making low-cost furniture. If its surface is treated, pine can be used outside too, however it can be knotty and prone to splitting.	Hardwoods Softwoods Manufactured Timber Recyclable Renewable Reusable Sustainable Pine Plywood Veneer Laminated	
2	**Manufactured boards** use natural timber waste that is processed to form sheets. Manufactured boards are used to produce cheaper and lower quality products than those made with natural timber. Waste wood or low grade or recycled timber is used to give the product a natural pale brown finish. A **veneer** can be added to cover the rough finish of the manufactured timber and give the appearance of a better quality wood. A veneer is a thin slice of high quality wood that is bonded to the surface of a cheaper material to enhance its appearance. Plywood is a **laminated** board. Layers of wood veneers are glued at 90 degree angles to each other so the grain direction alternates. This makes plywood strong even when thin and means that it's stable in all directions. A layer of higher quality outer material is applied on the top and bottom to improve the appearance. Because of its stiffness and stability, plywood is often used for furniture, shelving and flooring. Manufactured boards have many advantages over natural timber. They can be produced using lower grade timber, making them more environmentally friendly. Manufactured boards have consistent properties throughout the board, making them more stable, less likely to warp or deform, and suited to high volume production. They are also manufactured in larger sheets than natural timber.		
3-6	Be able to use and name the following tools:  Be able to identify, describe and make a finger joint and a lap joint  Joints in wood provide a variety of levels of strength and structure. Joints are often glued with PVA to make them secure and permanent. 	Dimension Working Drawing Try Square Rule Tenon Saw Bench Hook Bench Vice Chisel Coping Saw Lap Joint Finger Joint Evaluate Criteria Specification	

Part	Key Learning	Disciplinary/Literacy	Resources
1	Ferrous metals contain iron and may rust. Iron and steel can corrode – this is known as rust Rust is a compound called iron oxide and is formed when iron and oxygen react in the presence of moisture or water. Most ferrous metals are magnetic. Non-ferrous metals such as Aluminium don't contain iron. They are often more expensive than ferrous metals owing to their desirable properties which include: Lightweight, good conductivity, ductile and malleable and resistant to corrosion. Designers and engineers need to communicate sizes of components on an orthographic drawing. To avoid any confusion when reading these, it is important that sizes of parts are clearly labelled. To make sure of this, a standard, common method is used to show the sizes of an object. These standard 'rules' must be followed when recording sizes. In the UK, we follow the rules outlined in British Standards 'BS 8888'.	**Ferrous** **Non Ferrous** **Corrosion** **Hardness** **Toughness** **Malleability** **Oxide** **Orthographic** **Dimension**	
2	Marking out consists of transferring the dimensions from an orthographic drawing to a workpiece in preparation for the next step, machining or manufacture. The use of marking out is to provide guide lines to work to, to control the size and shape of a component, and to position and size any features, such as holes, required in the component. An orthographic drawing represents a three-dimensional object using several two-dimensional views of the object. It is also known as an orthographic projection. Orthographic projections are working drawings in either a first or third angle (we use third angle in the UK) projection and show each side of a design without perspective. They are essentially a 2D drawing of a 3D object. They are used to show an object from every angle to help manufacturers plan and carry out production.	**Scriber** **Centre punch** **Steel rule** **Radius** **Diameter** **Circumference**	
3	Steel can be joined by using a technique called brazing. A high temperature is needed for this and a brazing hearth is normally used. Brazing gives a permanent joint that is ideal for most metalworking projects in schools and colleges. In industry this technique is used on products such as bicycle frames where there is a need for a certain amount of flexibility in the joint. In simply terms, two steel parts are joined by heating them to a 'red' heat/colour and followed by applying a brazing rod to the joint. The brazing rod melts at a lower temperature than the steel and so it melts to form a molten liquid. This liquid brazing rod then flows along the joint between the two steel parts, aided by capillary action, filling any gaps and creating a strong and permanent joint.	**Capillary action** **Annealing** **Ferrous** **Brazing** **Flux** **Oxidation**	
4	Plastic dip coating provides a cost effective finish to metals. This type of coating offers surface protection combined with a decorative appeal, due to the vast range of colours that are available. Further to this, in many cases a powder coating improves the functionality of the product. Bike frames and car wheels are often powder coated as they spend the majority of their time outdoors and in conditions that will cause them to corrode/rust..	**Dip coating** **Corrosion** **Polymer** **Plastic**	
5	Structures All forms of civil engineering, mechanics or architecture requires the designers and engineers to have an understanding of materials, forces and structures. The complex world of making structures relies on understanding the mathematics of forces. Tensile strength, compression, torsion, load are all things that need to be considered when creating the built environment around us. As well as forces, understanding what properties a material possesses is vital to the functionality of a structure.	**Tension** **Tensile strength** **Compression** **Torsion** **Load**	
6	Engineers research An engineer uses science, technology and maths to solve problems. We can see engineering everywhere in the world around us, improving the ways we work, travel, communicate, stay healthy, and entertain. Today, the field of engineering offers more career choices than any other discipline! In the past, there were four major engineering branches: mechanical, chemical, civil and electrical. Today, the number of available engineering careers/degrees is vast.	**Mechanical** **Chemical** **Civil** **Electrical**	

My Diary :

Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1		21/02/2023	22/02/2023	23/02/2023	24/02/2023	25/02/2023	26/02/2023
2	27/02/2023	28/02/2023	01/03/2023	02/03/2023	03/03/2023	04/03/2023	05/03/2023
3	06/03/2023	07/03/2023	08/03/2023	09/03/2023	10/03/2023	11/03/2023	12/03/2023
4	13/03/2023	14/03/2023	15/03/2023	16/03/2023	17/03/2023	18/03/2023	19/03/2023
5	20/03/2023	21/03/2023	22/03/2023	23/03/2023	24/03/2023	25/03/2023	26/03/2023
6	27/03/2023	28/03/2023	29/03/2023	30/03/2023	31/03/2023	01/04/2023	02/04/2023

My Homework

Week						
21/02/2023						
27/02/2023						
06/03/2023						
13/03/2023						
20/03/2023						
27/03/2023						

My Reading Record - To be completed at the end of each DEAR session

Date	Book Title	Pages	Main Events
21/02/2023			
22/02/2023			
23/02/2023			
24/02/2023			
27/02/2023			
28/02/2023			
01/03/2023			
02/03/2023			
03/03/2023			
06/03/2023			
07/03/2023			
08/03/2023			
09/03/2023			

My Reading Record - To be completed at the end of each DEAR session

Date	Book Title	Pages	Main Events
10/03/2023			
13/03/2023			
14/03/2023			
15/03/2023			
16/03/2023			
17/03/2023			
20/03/2023			
21/03/2023			
22/03/2023			
23/03/2023			
24/03/2023			
27/03/2023			

My Reading Record - To be completed at the end of each DEAR session

Date	Book Title	Pages	Main Events
28/03/2023			
29/03/2023			
30/03/2023			
31/03/2023			

	Friday 24th	Friday 3rd	Friday 10th	Friday 17th	Friday 24th	Friday 31st
February / March	THIS WEEK: % OVERALL: %	THIS WEEK: % OVERALL: %	THIS WEEK: % OVERALL: %	THIS WEEK: % OVERALL: %	THIS WEEK: % OVERALL: %	THIS WEEK: % OVERALL: %

How often have you been in the 100% Club this half term?

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7

Are you a Rising Star?

Attendance Matters: record your attendance at the end of each week and track your progress!

Home Contact
