



**Year 8**

**Learning Cycle 2**

**Knowledge Booklet**

Student Name: \_\_\_\_\_

# Instructions on how to use your learning cycle booklet:



At Poltair we **SORT** it!

The aim is for all students to be fully prepared and ready for all assessments in all subjects.

To help them with this we have a whole school revision/study strategy – SORT.

There are three learning cycles throughout Year 8. At the beginning of each learning cycle students will be issued with a booklet that details all the knowledge they are expected to know and recall by the end of the learning cycle.

Each day, for home learning, students are set two activities that support in memorising and recalling this key knowledge.

The assessment windows for Learning Cycle 2 will be 6th – 10th February and 20th – 24th February

<b>Summarise</b>	<b>Organise</b>	<b>Recall</b>	<b>Test</b>
Summarise and condense any class notes, revision guides and revision.	Organise your revision materials by topic/subtopic. Traffic light your PLC sheets to identify areas of weakness or gaps (Red/Amber) that need to be prioritised.	Use active recall and spaced repetition to memorise your knowledge organisers until you can recall the information eg. Look, cover, write or self-testing	Use low stakes online tests/quizzes and answer high stakes past paper/sample questions to check and apply knowledge and understanding
<b>Strategies</b>			
<ul style="list-style-type: none"> <li>• Cornell Notes</li> <li>• Flash cards</li> <li>• Mind mapping</li> <li>• Revision clocks</li> <li>• Dual coding</li> </ul>	<ul style="list-style-type: none"> <li>• How to use your PLC</li> <li>• How to schedule your home learning and stick to it!</li> </ul>	<ul style="list-style-type: none"> <li>• Look cover &amp; test</li> <li>• Leitner system</li> <li>• Blurt it</li> <li>• Transform it</li> </ul>	<ul style="list-style-type: none"> <li>• Low stakes</li> <li>• Self-quizzing</li> <li>• Quiz each other</li> <li>• Online quizzes</li> <li>• High stakes</li> <li>• Exam style questions</li> </ul>

# Instructions on how to use your learning cycle booklet:

Learning cycle 2 will focus on the SORT strategies:



<b>Summarise</b>	<b>Organise</b>	<b>Recall</b>	<b>Test</b>
<ul style="list-style-type: none"><li>• Cornell Notes</li><li>• Flash cards</li><li>• Mind mapping</li></ul>	<ul style="list-style-type: none"><li>• How to use your PLC</li><li>• How to schedule your home learning and stick to it!</li></ul>	<ul style="list-style-type: none"><li>• Look cover &amp; test</li><li>• Leitner system</li><li>• Blurt it</li></ul>	<ul style="list-style-type: none"><li>• Self-quizzing</li><li>• Quiz each other</li><li>• Online quizzes</li></ul>

## Using the Personal Learning Checklists (PLC)

- Review each key idea on the PLC
- In the **Organise** column write R, A or G depending on your understanding. **Red** = no understanding, **Amber** = Some understanding but needs work, **Green** – Secure understanding
- When you complete a **Summarise** activity for each key idea, tick the S column
- When you complete a **Recall** activity for each key idea, tick the R column
- When you **Test** by self-quizzing or complete an online-quiz for each key idea, tick the T column

Videos explaining all of the SORT strategies can be found on the Student SharePoint

## Home Learning timetable – when I am going to complete my home learning

	Mon A	Tue A	Wed A	Thu A	Fri A
Core activity	Reading	Complete Maths goal	Complete Maths goal	Reading	Reading
Subject 1	Geography	English	Maths	Science	Spanish
Subject 2	History	Art	Food	RE	Computing
	Mon B	Tue B	Wed B	Thu B	Fri B
Core activity	Complete Maths goal	Complete Maths goal	Complete Maths goal	Reading	Reading
Subject 1	Geography	English	Maths	Science	Spanish
Subject 2	History	Music	Drama	DT	

## My computer passwords

Platform	User Name	Password
School system		
Complete Maths		
Educake		
Memrise		





# Year 8 Learning Cycle 2 Personal Learning Check lists

## English

Key Ideas	S	O	R	T
I can explain how a range of notable poets feel about war.				
I can analyse how language is used by poets to present their views.				
I can analyse how structure is used by poets to present their views.				
When I write an analysis of a poem, I know the important elements I need to include.				
I can use a range of viewpoints in a piece of persuasive writing.				
I understand key aspects of Jacobean context.				
I understand the key parts of the plot of Macbeth.				
I can explain how Shakespeare presents the witches in Macbeth.				
I can link Shakespeare's presentation of the supernatural to the Jacobean context.				
I can analyse Shakespeare's language.				
I understand the key components of Shakespearean tragedy.				

## Maths

Key Ideas	S	O	R	T
I can calculate a percentage of an amount				
I can find the nth term of a sequence				
I can generate terms of a sequence from the nth term				
I can plot and interpret conversion graphs				
I understand reflection and line symmetry				
I understand rotational symmetry				
I know the properties of regular and irregular polygons				
I can construct a perpendicular bisector				
I can construct an angle bisector				
I can calculate the mean, mode and median				
I can plot and interpret scatter diagrams				
I know what factors, multiples and primes are				
I can express a number as the product of its prime factors				
I can find the hcf and lcm				

## Science

Key Ideas	S	O	R	T
I can identify signs in a chemical and physical reaction.				
I can identify hazard symbols and state what the pH scale shows.				
I can describe a method for making a neutral solution from an acid and alkali.				
I can use a word equation to show the reaction of an acid with a metal and an acid and metal carbonate.				
I can identify what an exothermic and endothermic reaction is.				
I can explain the factors that affect rates of reaction.				
I can describe the different pathway that current takes in series and parallel circuits.				
I can draw series and parallel circuits using symbol components.				
I can compare conduction, convection and radiation.				
I can identify how waves travel on the electromagnetic spectrum.				

# Year 8 Learning Cycle 2 Personal Learning Check lists

## Geography

Key Ideas	S	O	R	T
I can explain the reasons for the housing shortage in Cornwall				
I can explain factors that causes population to change, e.g., birth rate and death rates				
I can explain the positive and negative impacts of an ageing population in Cornwall				
I can explain the positive and negative impacts of an ageing population.				
I can give reasons for the world's rapid population growth				
I can explain the push and pull factors of migration				
I can explain the impacts of Mexico/US migration				

## History

Key Ideas	S	O	R	T
I can explain what triangular trade was				
I can explain what the transatlantic slave trade was				
I can explain what the Middle Passage was				
I can explain what life was like on the plantations				
I can explain the different examples of slave rebellions				
I can explain what the abolition movement was				
I can explain how emancipation happened				

## Spanish

Key Ideas	S	O	R	T
I can pronounce new words confidently in Spanish				
I can name at least 5 places in town				
I know at least 5 interesting adjectives that can describe my local area				
I know how to form regular verbs in the present tense				
I can form comparatives accurately				
I can form superlatives accurately				
I know how to use the conditional to describe where I would live in an ideal world				
I can recall how to form and use the preterite to talk about the past				
I can recall high-frequency vocabulary on the topic of holidays				



# Year 8 Learning Cycle 2 Personal Learning Check lists

## Computing

Key Ideas	S	O	R	T
I know that the binary number system uses only two digits 1 and 0, like a switch (on and off)				
I know that the number system which uses ten digits (0-9) is called Decimal or Denary				
I know that binary is also called Base 2 because it only uses two digits and Denary is also called Base 10.				
I can explain how place value can be used to convert between Binary and Denary				
I know the units of measurements				
I can add 4-digit Binary numbers				
I can complete Boolean logic Truth tables for AND and OR				

## Art

Key Ideas	S	O	R	T
I understand and can explain the meaning of the 7 observational drawing key words.				
I can explain the Primary colours.				
I can explain how to make secondary colours				
I can explain how to mix, blend and apply paint.				
I can explain how Picasso combined portrait and profile.				
I can paint with control creating good paint consistency.				

## DT

Key Ideas	S	O	R	T
I can draw in 2 dimensions and 3 dimensions.				
I can use a specification to describe the most important features of a product.				
I can describe how research can be used to make designs more useful.				
I can explain why some materials are chosen for their properties				
I can describe the main categories of materials.				
I can name a range of hand tools and equipment.				

# Year 8 Learning Cycle 2 Personal Learning Check lists

## Food

Key Ideas	S	O	R	T
I can explain how to ensure a hygienic and safe kitchen environment.				
I understand the importance of a balanced diet.				
I can explain the difference between macronutrients and micronutrients.				
I know the source, function and deficiency of the five main nutrients.				
I can describe the dietary needs of a teenager.				
I can describe the process of gelatinisation				

## RE

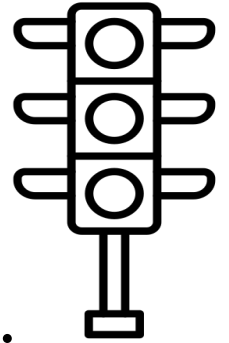
Key Ideas	S	O	R	T
I can define Islamophobia				
I can outline the key protected characteristics under the Equality Act				
I can define the Trinity				
I can explain the term Omnipotence in my own words				
I can retell the story of the Good Samaritan				
I can explain how Christians chose to act based on parables like the Good Samaritan				
I can make flash cards with key word and meanings from all the key words on my knowledge organiser				

## Music

Key Ideas	S	O	R	T
I can find a note on a piano/keyboard without help.				
I understand what a pentatonic scale is and can play one.				
I can describe some traditional Japanese instruments and how they make a sound.				
I know different note durations and can both identify and play them.				
I can use the acronym: 'Every Good Boy Deserves Food' and 'FACE' to help me understand how to read music on a stave.				
I can compare the two musical elements, 'duration' and 'pitch' and explain what they are.				
I can play my part of 'Sakura' on the keyboard accurately and with good timing.				



At Poltair we **SORT** it!



## Drama

Key Ideas	S	O	R	T
I can understand a variety of Greek Theatre conventions and apply them in rehearsal and performance				
I can understand the purpose of Medieval theatre and demonstrate it through performance				
I can identify the different archetypical characters in Commedia Delle Arte and show them in a prepared improvisation				
I can interpret a Shakespearean script				
I can understand the conventions of melodrama and apply them in devised work				
I can take part in a variety of improvisations				

At Poltair students will **SORT** a **PLC** by:

At the beginning of a learning cycle students are to RAG the key ideas they are studying by self-assessing if they are **Red** – no understanding, **Amber** – some understanding, **Green** – full understanding. They are then to put a R, A or G in the **organise** column.

- 1) Students will then prioritise the Red and Amber key ideas when they are revising.
- 2) Students are to summarise the knowledge for each key idea, then use recall strategies before self-quizzing.

## Geography

Key Ideas	S	O	R	T
I can recognise the 3 types of Geography, Physical, Human and Environmental				
I can explain the formation of the coastal erosional landform - sea stack				
I can explain the challenges of pirate fishing				
I can explain the threats facing the Anuta Tribe				
I can recognise the challenges faced by people living in unplanned settlements – Barra Di Tijuca				
I can suggest how favelas can be improved and justify my choices				
I know define sustainability				
I can explain how Dubai is sustainable				

# Year 8 English Knowledge Organiser Learning Cycle 2 – War Poetry

## 1. How to Analyse a Poem

<b>M - Meaning</b> <b>M</b>	What is the poem <b>about</b> ? Who or what does it <b>focus</b> on? What <b>idea(s)</b> are most important?
<b>C - Context</b> <b>C</b>	What was happening <b>at the time</b> the poem was written? What are the <b>poet's experiences and beliefs</b> ?
<b>L - Language</b> <b>L</b>	Which <b>words</b> are most important? What are their <b>meanings</b> and <b>connotations</b> ? Has the writer used any <b>similes, metaphors or personification</b> ?
<b>T - Tone</b> <b>T</b>	What <b>attitude</b> does the poet adopt?
<b>I - Images</b> <b>I</b>	What are the most important <b>images</b> in the poem? How do they add to the writer's idea(s)?
<b>S - Structure</b> <b>S</b>	What is interesting about <b>line length or stanza length</b> ? How does the poem <b>begin and end</b> ?

## 2. What, How, Why Paragraphs

<b>WHAT</b> is the writer saying about character/ theme/ setting?	In the opening lines of the poem, the poet presents the sea as intimidating. The adjective "giant" conveys the huge size of the sea and its great force. It might suggest that the sea is far bigger and more powerful than human beings. Furthermore, the use of the word "giant" might allude to the mythical, super-human creature, which might again make the reader picture the sea as a colossal and aggressive being.
<b>HOW</b> are they revealing information and creating effects for the reader? Quotation? Language methods?	
<b>WHY</b> have they chosen to do this? Purpose?	

## 3. Key Poems

<b>3a = The Iliad by Homer</b> An epic poem by the ancient Greek poet Homer in around the 8 <sup>th</sup> century BCE, which recounts some of the events of the final weeks of the Trojan War. It includes stirring scenes of bloody battle, the anger of Achilles and the involvement of the gods.
<b>3b = Who's for the Game? By Jessie Pope</b> A poem whose purpose was a 'call-to-arms', a targeted address to young men with the aim of getting them to enlist in the British Army. The poem was first published in a newspaper in 1915, before signing up to fight was made compulsory.
<b>3c = The Gift of India by Sarojini Naidu</b> In this poem Naidu is paying tribute to the service of the Indian Army, but also making a statement about how their sacrifice should be recognized.
<b>3d = Attack by Siegfried Sassoon</b> A haunting poem that discusses the reality of war and what happens when a soldier is out on the battlefield. Written by British poet and World War I soldier Siegfried Sassoon, it describes the moment when soldiers, following the order to "attack," go over the trenches and into the line of enemy fire. This often resulted in a catastrophic loss of life.
<b>3e = Dulce Et Decorum Est by Wilfred Owen</b> This poem illustrates the brutal everyday struggle of a company of WWI soldiers, focuses on the story of one soldier's agonising death, and discusses the trauma that this event left behind.
<b>3f = Last Post by Carol Ann Duffy</b> This poem imagines the poet an alternative course of events in a war, in which time runs backwards, so that British soldiers lift themselves out of the violence, drop their guns and return home.
<b>3g = Invasion by Choman Hardi</b> Hardi's poem focuses on the ongoing conflict between Saddam Hussein's government and her own people, the Iraqi Kurds.

## 4. Subject Vocabulary

<b>4a = poem (noun)</b> a piece of writing in which the words are arranged in separate lines and are chosen for their beauty and sound.
<b>4b = stanza (noun)</b> A group of lines in a poem; a verse.
<b>4c = language (noun)</b> Words or methods (techniques) used by writers to present their meanings or create effects.
<b>4d = structure (noun)</b> The way the poet has organised the poem on the page, including stanza length, line length, title and ending.
<b>4e = connotations (noun)</b> A feeling or idea that is suggested by a particular word.
<b>4f = imagery (noun)</b> The use of language to create vivid pictures in the readers' minds.
<b>4g = simile (noun)</b> Comparing one thing to another to highlight their similarities.
<b>4h = symbol (noun)</b> A character, idea, image or setting that represents a bigger idea
<b>4i = tone (noun)</b> The attitude a writer shows towards a topic using words.

## 1. Characters

**1a = Macbeth** The lead protagonist of the play. He is introduced as a Scottish general who is thought to be a brave and strong soldier. However, he is easily persuaded to commit the murder of a king that he loves. He becomes a tyrannical and destructive king, who resorts to violence and murder to attempt to maintain his power.

**1b = Lady Macbeth** Macbeth's wife, an extremely ambitious woman who lusts for power. At the beginning of the play, she seems stronger than Macbeth, urging and helping him to kill Duncan. Later in the play, however, she becomes plagued with guilt and madness, proving unable to accept what they have done.

**1c = The Three Witches** The witches represent trickery, manipulation and the supernatural. They use charms, spells and prophecies to encourage Macbeth to murder Duncan. They take pleasure in toying with human lives and emotions.

**1d = Duncan** – Duncan is the kind and loved King of Scotland who Macbeth murders in order to fulfil his ambition and the witches' prophecy. Duncan is a virtuous King, who is both compassionate and rational – he forms a stark contrast with Macbeth as king. When Duncan dies, order in Scotland is shattered. It is only restored when his son, Malcolm eventually takes the throne.

## 2. Plot

**2a = Act 1** Three witches meet, plotting to trick Macbeth. King Duncan is told of Macbeth's bravery in battle and he tells a messenger to reward him. The witches meet with Macbeth and Banquo and deliver their prophecies. The messenger arrives to tell Macbeth that he is the Thane of Cawdor. Duncan decides that Malcolm (his eldest son) will become king when he dies. At Macbeth's castle, Lady Macbeth receives a letter from Macbeth explaining the witches' prophecies. She plans Duncan's murder. Duncan arrives at Macbeth's castle and Macbeth has doubts about the murder. He finally agrees to his wife's plan to kill Duncan.

**2b = Act 2** When Banquo and Fleance go to bed, Macbeth sees a vision of a dagger leading him towards Duncan's chamber. He kills Duncan and is immediately tormented with guilt. Macduff arrives and finds Duncan dead. Duncan's sons flee. Macbeth is named King.

**2c = Act 3** Macbeth, anxious about the witches' prophecies about Banquo's descendants becoming King, arranges to have Banquo and Fleance killed. The murderers kill Banquo, but Fleance escapes. Macbeth holds a banquet. He sees the ghost of Banquo and becomes frantic. Lady Macbeth asks the guests to leave. The witches are scolded by Hecate for their meddling. Elsewhere, Macduff gathers an army to fight Macbeth.

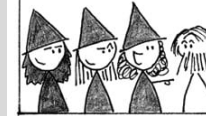
**2d = Act 4** Macbeth again visits the witches and is given several new prophecies. The witches then vanish. Macduff's wife and children are killed by Macbeth's murderers. Macduff and Malcolm unite in order to fight Macbeth.

**2e = Act 5** Lady Macbeth sleepwalks, talking of the murders of Duncan and Banquo, and imagining blood on her hands. Macbeth boasts that none of woman born can harm him, as the witches prophesied. Malcolm and Macduff's army gather at Birnam Wood. It is announced that Lady Macbeth is dead. A messenger reveals that the trees of Birnam Wood are moving towards the castle. The battle begins. Macbeth fights without fear, as he believes no man born of woman can harm him. Macbeth and Macduff finally meet. Macduff reveals that he was born by caesarean section (not 'by woman born.') He kills Macbeth. Malcolm is proclaimed King.

## 3. Plot Summary

### MACBETH: ONE PAGE SUMMARY

Three witches tell Macbeth he will become king.



Macbeth tells Lady Macbeth he will become king.



Lady Macbeth tells Macbeth to kill the king.



Macbeth kills the king.



Macbeth becomes king.



Macbeth has his friend Banquo murdered.



Macbeth gets more prophecies from the witches.



Macbeth kills the family of Macduff, Thane of Fife.



Macduff joins up with Malcolm, son of the dead king.



Lady Macbeth goes mad and dies.



Macduff and Malcolm dress up like trees and attack Macbeth.




Macduff kills Macbeth.



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# Year 8 English Knowledge Organiser Learning Cycle 2 – Macbeth

4. Context	5. Vocabulary	6. Subject Vocabulary
<p><b>4a = Shakespeare's Time</b> – Shakespeare wrote Macbeth during the Jacobean era - during the reign of James I. The era of James I was far more unstable than the Elizabethan era. For example, the gunpowder plot occurred in 1605.</p>	<p><b>7a = prophecy (noun)</b> a prediction of what will happen in the future</p>	<p><b>6a = play (noun)</b> A dramatic piece of literature intended to be acted out on the stage.</p>
<p><b>4b = James I</b> King James (the King when Macbeth was written and first performed) became convinced about the reality of witchcraft and its great danger to him, leading to witch trials that began in 1591. James was convinced that a coven (group) of powerful witches was conspiring to murder him through magic, and that they were in league with the Devil. He wrote a book focusing on the study of witchcraft, titled Daemonologie.</p>	<p><b>7b = ambition (noun)</b> a a strong desire to do or achieve something.</p>	<p><b>6b = act (noun)</b> A way of dividing a <b>play</b>. Each act is a group of <b>scenes</b>.</p>
<p><b>4a = Witches and the Supernatural</b> At the time that Shakespeare was writing Macbeth, the belief in witches and the supernatural was extremely strong, and many so called 'witches' were burnt at the stake. There is no doubt, therefore, that some of the ideas in the play would have been taken very seriously, such as the witches' prophecies, Macbeth being seemingly 'possessed' and his vivid hallucinations.</p>	<p><b>7c = duplicitous (adjective)</b> dishonest or hiding the truth</p>	<p><b>6c = scene (noun)</b> A dramatic part of the story of a play, at a particular time and place and a way of dividing <b>acts</b> into smaller parts.</p>
<p><b>4d = Women</b> Jacobean society (at the time of King James I) was patriarchal, which meant women had few rights and were expected to be submissive towards their husbands.</p>	<p><b>7d = equivocate (verb)</b> to speak in a way that is intentionally not clear, in order to mislead someone or hide the truth</p>	<p><b>6d = stage direction (noun)</b> An instruction in a play that tells actors how to move or speak, or gives information about the setting, sound effects or lighting.</p>
	<p><b>4e = The Divine Right of Kings</b> James I believed that God had chosen him personally to be King. He thought was ordained by God and therefore had a moral duty to carry out the witch trials to bring witches to justice.</p>	<p><b>6e = language (noun)</b> Words or methods (techniques) used by writers to present their meanings or create effects.</p>
<p><b>7e = heinous (adjective)</b> wicked and evil</p>	<p><b>6f = connotations (noun)</b> A feeling or idea that is suggested by a particular word.</p>	
<p><b>7f = hubris (noun)</b> excessive pride or self-confidence</p>	<p><b>6g= imagery (noun)</b> The use of language to create vivid pictures in the readers' minds.</p>	
<p><b>7g = regicide (noun)</b> the action of killing a king</p>	<p><b>6h = characterisation (noun)</b> The creation or construction of a fictional character.</p>	
<p><b>7h = sceptical (adjective)</b> doubting that something is true or useful</p>	<p><b>6i = foreshadowing (noun/verb)</b> An indication or hint of what is to come later in the story.</p>	
<p><b>7i = malevolent (adjective)</b> evil; wanting to cause great harm</p>	<p><b>6j = rhyming couplet (noun phrase)</b> Two lines of verse (in a poem or a play by Shakespeare) whose final sounds rhyme</p>	
<p><b>7j = treachery (noun)</b> behaviour that is not loyal; betrayal of trust</p>		
<p><b>7k = usurp (verb)</b> take (a position of power or importance) illegally or by force</p>		
<p><b>7 = Machiavellian (adjective)</b> using clever but often dishonest methods that deceive people so that you can win power; cunning and scheming</p>		

# Year 8 Mathematics Knowledge Organiser Learning Cycle 2

1 Key words	Definition
Percentage	A fraction expressed as the number of parts per hundred and recorded using the notation %. Example: One half can be expressed as 50%; the whole can be expressed as 100%
Nth term	The general term of a sequence, given as an expression involving $n$ , where $n$ is the position of the term in the sequence
Sequence	A sequence of events shows progression from one event to the next in order.
Term to Term Rule	A term-to-term rule is used to determine the next term in a sequence given the previous term
Position to Term Rule	It is a rule expressed in terms of $n$ to find any term in a given sequence, where $n$ represents the term number
Arithmetic Sequence	A sequence of numbers in which terms are generated by adding or subtracting a constant amount
Geometric Sequence	A sequence of numbers where each term after the first is found by multiplying the previous term by a fixed, non-zero number called the common ratio
Reflection symmetry	A shape or pattern is reflected in a line of symmetry (mirror line)
Rotational symmetry	The number of times a shape can "fit into itself" when it is rotated 360 degrees about its centre
Regular	A polygon that has equal length sides and equal size angles
Constructions	Accurate drawings of shapes, angles and lines in geometry
Bisector	A line that divides something into two equal parts
Perpendicular	A straight line at right angles to another line
Average	A number expressing a typical value in a set of data, for example mode, median or mean
Scatter diagram	A diagram which shows the relationship between two variables (bivariate data)
Correlation	The relationship between two variables
Line of best fit	A line that is drawn through the middle of the points on a scatter plot

## 2

### Percentages

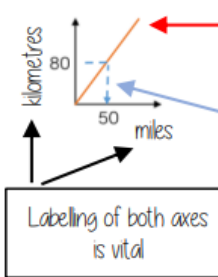
Topic/Skill	Definition/Tips	Example
1. Percentage	<b>Number of parts per 100.</b>	31% means $\frac{31}{100}$
2. Finding 10%	To find <b>10%</b> , <b>divide by 10</b>	10% of £36 = $36 \div 10 = \text{£}3.60$
3. Finding 1%	To find <b>1%</b> , <b>divide by 100</b>	1% of £8 = $8 \div 100 = \text{£}0.08$
4. Percentage Change	$\frac{\text{Difference}}{\text{Original}} \times 100\%$	A games console is bought for £200 and sold for £250.  % change = $\frac{50}{200} \times 100 = 25\%$
5. Increase or Decrease by a Percentage	Non-calculator: <b>Find the percentage</b> and <b>add</b> or <b>subtract</b> it from the <b>original</b> amount.  Calculator: Find the <b>percentage multiplier</b> and multiply.	Increase 500 by 20% (Non Calc): 10% of 500 = 50 so 20% of 500 = 100 500 + 100 = 600  Decrease 800 by 17% (Calc): 100% - 17% = 83% $83\% \div 100 = 0.83$ $0.83 \times 800 = 664$

## 3

### Sequences and relationships

Topic/Skill	Definition/Tips	Example
1. Linear Sequence	A number pattern with a <b>common difference</b> .	2, 5, 8, 11... is a linear sequence
2. Term	<b>Each value</b> in a sequence is called a term.	In the sequence 2, 5, 8, 11..., 8 is the third term of the sequence.
3. Term-to-term rule	A rule which allows you to <b>find the next term</b> in a sequence if you <b>know the previous term</b> .	First term is 2. Term-to-term rule is 'add 3'  Sequence is: 2, 5, 8, 11...
4. nth term	A rule which allows you to <b>calculate the term</b> that is in the <b>nth position</b> of the sequence.  Also known as the 'position-to-term' rule.  <b>n</b> refers to the <b>position</b> of a term in a sequence.	nth term is $3n - 1$  The 100th term is $3 \times 100 - 1 = 299$
5. Finding the nth term of a linear sequence	1. Find the <b>difference</b> . 2. <b>Multiply that by n</b> . 3. Substitute $n = 1$ to <b>find out what number you need to add or subtract to get the first number in the sequence</b> .	Find the nth term of: 3, 7, 11, 15...  1. Difference is +4 2. Start with $4n$ 3. $4 \times 1 = 4$ , so we need to subtract 1 to get 3. nth term = $4n - 1$

#### Conversion Graphs Compare two variables




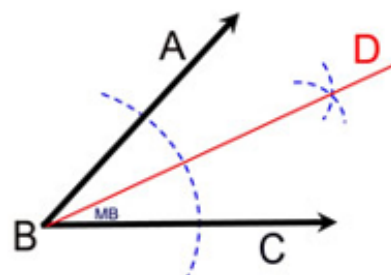
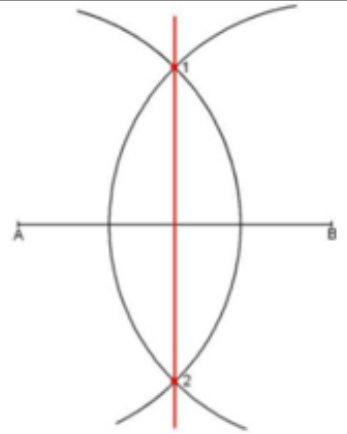
This is always a straight line because as one variable increases so does the other at the same rate

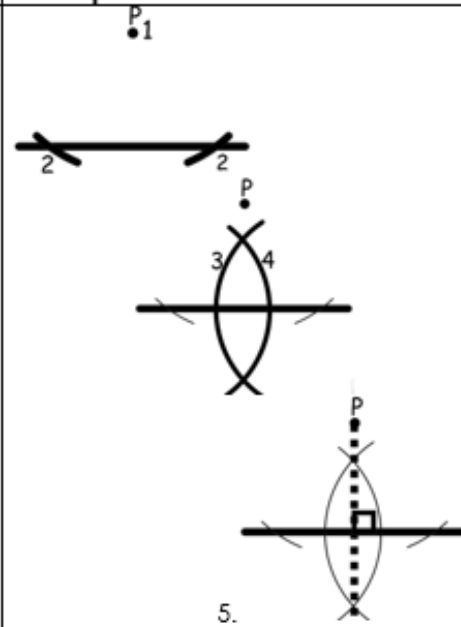
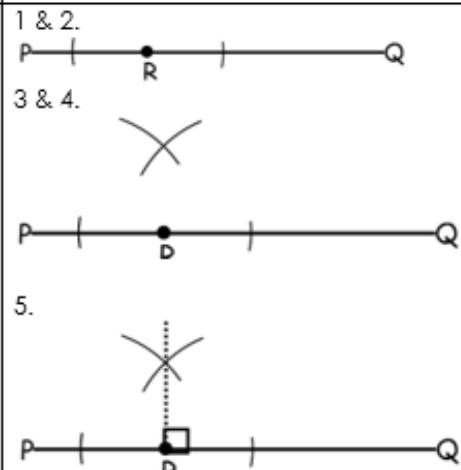
To make conversions between units you need to find the point to compare – then find the associated point by using your graph  
Using a ruler helps for accuracy  
Showing your conversion lines help as a "check" for solutions



4

## Constructions

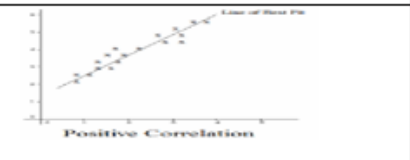
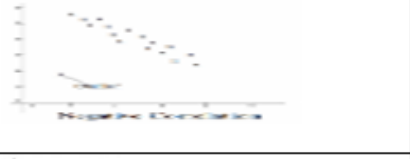


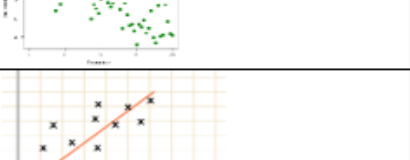
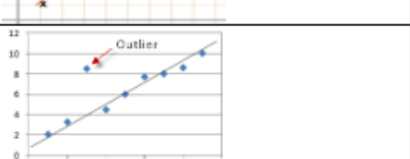
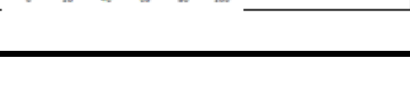
Topic/Skill	Definition/Tips	Example
<b>Angle Bisector</b> 	<b>Angle Bisector: Cuts the angle in half.</b> 1. Place the sharp end of a pair of compasses on the vertex. 2. Draw an arc, marking a point on each line. 3. Without changing the compass put the compass on each point and mark a centre point where two arcs cross over. 4. Use a ruler to draw a line through the vertex and centre point.	
<b>Perpendicular Bisector: Cuts a line in half and at right angles.</b> 1. Put the sharp point of a pair of compasses on A. 2. Open the compass over <u>half way</u> on the line. 3. Draw an arc above and below the line. 4. Without changing the compass, repeat from point B. 5. Draw a straight line through the two intersecting arcs.		

Topic/Skill	Definition/Tips	Example
<b>Perpendicular from an External Point</b> The <b>perpendicular distance</b> from a point to a line is the <b>shortest distance</b> to that line. 1. Put the sharp point of a pair of compasses on the point. 2. Draw an arc that crosses the line twice. 3. Place the sharp point of the compass on one of these points, open over <u>half way</u> and draw an arc above and below the line. 4. Repeat from the other point on the line. 5. Draw a straight line through the two intersecting arcs.		
<b>Perpendicular from a Point on a Line</b> Given line PQ and point R on the line: 1. Put the sharp point of a pair of compasses on point R. 2. Draw two arcs either side of the point of equal width (giving points S and T) 3. Place the compass on point S, open over halfway and draw an arc above the line. 4. Repeat from the other arc on the line (point T). 5. Draw a straight line from the intersecting arcs to the original point on the line.		

5

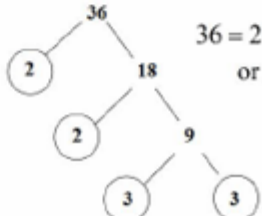
## Using average and relationships to describe data

Topic/Skill	Definition/Tips	Example																				
1. Mean	<b>Add</b> up the values and <b>divide</b> by how many values there are.	The mean of 3, 4, 7, 6, 0, 4, 6 is $\frac{3 + 4 + 7 + 6 + 0 + 4 + 6}{7} = 5$																				
2. Mean from a Table	1. Find the midpoints (if necessary) 2. Multiply Frequency by values or midpoints 3. Add up these values 4. Divide this total by the Total Frequency  If <b>grouped</b> data is used, the answer will be an <b>estimate</b> .	<table border="1"> <thead> <tr> <th>Height in cm</th> <th>Frequency</th> <th>Midpoint</th> <th>F × M</th> </tr> </thead> <tbody> <tr> <td>0 &lt; h ≤ 10</td> <td>8</td> <td>5</td> <td>8 × 5 = 40</td> </tr> <tr> <td>10 &lt; h ≤ 30</td> <td>10</td> <td>20</td> <td>10 × 20 = 200</td> </tr> <tr> <td>30 &lt; h ≤ 40</td> <td>6</td> <td>35</td> <td>6 × 35 = 210</td> </tr> <tr> <td>Total</td> <td>24</td> <td>Ignore!</td> <td>450</td> </tr> </tbody> </table> <p><b>Estimated Mean height:</b> 450 ÷ 24 = 18.75cm</p>	Height in cm	Frequency	Midpoint	F × M	0 < h ≤ 10	8	5	8 × 5 = 40	10 < h ≤ 30	10	20	10 × 20 = 200	30 < h ≤ 40	6	35	6 × 35 = 210	Total	24	Ignore!	450
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Total	24	Ignore!	450																			
3. Median Value	The <b>middle</b> value.  Put the data in order and find the middle one. If there are <b>two middle values</b> , find the number halfway between them by <b>adding them together and dividing by 2</b> .	Find the median of 4, 5, 2, 3, 6, 7, 6  Ordered: 2, 3, 4, <b>5</b> , 6, 6, 7  Median = 5																				
4. Mode /Modal Value	<b>Most</b> frequent/common.  Can have more than one mode (called bi-modal or multi-modal) or no mode (if all values appear once)	Find the mode: 4, 5, 2, 3, 6, 4, 7, 8, 4  Mode = 4																				
5. Range	<b>Highest value subtracts the Smallest value</b>  Range is a 'measure of spread'. The smaller the range the more <u>consistent</u> the data.	Find the range: 3, 31, 26, 102, 37, 97.  Range = 102 - 3 = 99																				

Topic/Skill	Definition/Tips	Example
1. Correlation	Correlation between two sets of data means they are <b>connected</b> in some way.	There is correlation between temperature and the number of ice creams sold. 
2. Positive Correlation	As one value <b>increases</b> the other value <b>increases</b> .	
3. Negative Correlation	As one value <b>increases</b> the other value <b>decreases</b> .	
4. Strong Correlation	When two sets of data are <b>closely linked</b> .	
5. Weak Correlation	When two sets of data have <u>correlation</u> , but are <b>not closely linked</b> .	
6. Scatter Graph	A graph in which values of <b>two variables</b> are plotted along two axes to <b>compare</b> them and see if there is any <b>connection</b> between them.	
7. Line of Best Fit	A <b>straight line</b> that <b>best represents the data</b> on a scatter graph.	
8. Outlier	A value that 'lies outside' most of the other values in a set of data. An outlier is <b>much smaller or much larger</b> than the other values in a set of data.	

6

## Multiples, factors and primes

Topic/Skill	Definition/Tips	Example
1. Multiple	The result of multiplying a number by an integer. The <b>times tables</b> of a number.	The first five multiples of 7 are:  7, 14, 21, 28, 35
2. Factor	A number that <b>divides exactly</b> into another number without a remainder.  It is useful to write factors in pairs	The factors of 18 are: 1, 2, 3, 6, 9, 18  The factor pairs of 18 are: 1, 18 2, 9 3, 6
3. Lowest Common Multiple (LCM)	The <b>smallest</b> number that is in the <b>times tables</b> of each of the numbers given.	The LCM of 3, 4 and 5 is 60 because it is the smallest number in the <u>3, 4 and 5 times</u> tables.
4. Highest Common Factor (HCF)	The <b>biggest</b> number that <b>divides exactly</b> into two or more numbers.	The HCF of 6 and 9 is 3 because it is the biggest number that divides into 6 and 9 exactly.
5. Prime Number	A number with <b>exactly two factors</b> .  A number that can only be divided by itself and one.  The number <b>1 is not prime</b> , as it only has one factor, not two.	The first ten prime numbers are:  2, 3, 5, 7, 11, 13, 17, 19, 23, 29
6. Prime Factor	A factor which is a prime number.	The prime factors of 18 are:  2, 3
7. Product of Prime Factors	Finding out which <b>prime numbers multiply</b> together to make the <b>original</b> number.  Use a <b>prime factor tree</b> .  Also known as 'prime factorisation'.	 $36 = 2 \times 2 \times 3 \times 3$ or $2^2 \times 3^2$

7

## Weekly home learning

Week 1 – complete flashcards on the topic suggested on Class Charts

Learn the content of your flashcards

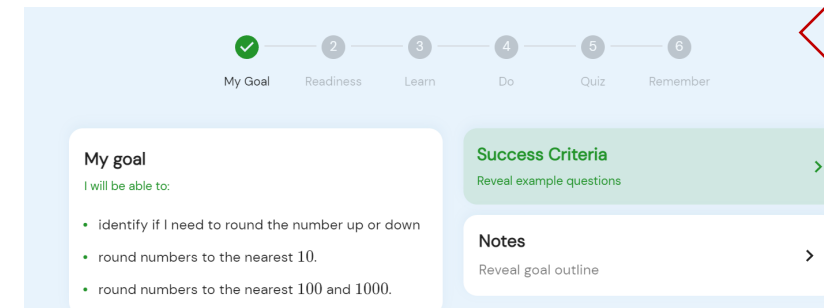


Week 2 – complete the Complete Maths Classroom quiz

8

## Complete Maths Daily Goals

- 1) Complete the diagnostic
- 2) Add the selected course
- 3) Complete 5 daily goals a fortnight
- 4) Repeat steps 1 – 3 when completed the course

Success on a goal is a quiz score of 100% without watching the Learn videos or 80% with.

# Year 8 Science Knowledge Organiser Learning Cycle 2 – Chemical reactions

## 1 Key words

Key words	Definition
Chemical reaction	When chemical bonds are broken and made between atoms, so that new substances (compounds or elements) are made.
Reactant	The chemical present at the start of the reaction.
Product	The chemical which is made in a chemical reaction.
Catalyst	A substance that speeds up a chemical reaction.
Exothermic	When energy is transferred to the surroundings and usually feels hot.
Endothermic	When energy is taken in from the surroundings and usually feel cold.
Combustion	A chemical reaction where fuel is burned and reacts with oxygen to release energy.
Thermal decomposition	A chemical reaction that happens when a compound breaks down when heated.

## 2 Physical changes and chemical changes

### PHYSICAL CHANGES

In a physical change, matter changes form but not chemical identity.

### CHEMICAL CHANGES

In a chemical change, a chemical reaction occurs and new products are formed.

## 3 pH

Neutral solutions are exactly pH 7.

Acidic solutions have pH values less than 7. The closer to pH 0, the more acidic a solution is.

Alkaline solutions have pH values more than 7. The closer to pH 14, the more alkaline a solution is.

## 4 Acid reactions

Acids react with some metals to produce a salt and hydrogen gas.  
**Metal + acid → salt + hydrogen (M.A.S.H)**

**Naming the salt from the reaction of a metal and an acid**

- The first word is the name of the metal  
 For example, a salt made when magnesium is added to an acid would have magnesium as its first word.
- The second word of the name is taken from the name of the acid  
 Hydrochloric acid → chloride  
 Nitric acid → nitrate  
 Sulfuric acid → sulfate



Metal	Acid	Salt name
Magnesium	Nitric acid	Magnesium nitrate
Calcium	Hydrochloric acid	Calcium chloride
Zinc	Sulfuric acid	Zinc sulf

## 5 Exothermic and endothermic

### Example of an exothermic reaction

This neutralisation reaction is exothermic.

The temperature on the thermometer has risen, meaning it is an exothermic reaction.

### Example of an endothermic reaction

The temperature fell, so this was an endothermic reaction.

The temperature on the thermometer has fallen, meaning it is an endothermic reaction.

## 6 Conservation of mass

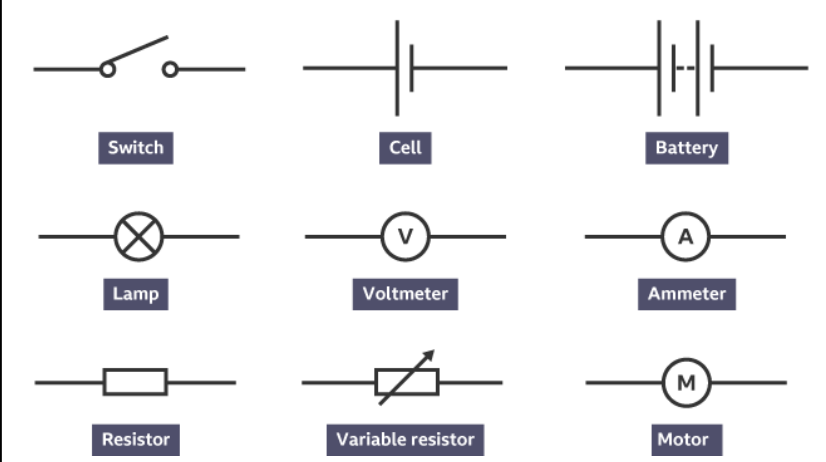
Log + Oxygen gas → Ashes + gases produced

Whenever a physical or a chemical change happens, the mass of the chemicals before is the same as the mass of the chemicals after. This is called the Law of Conservation of Mass.

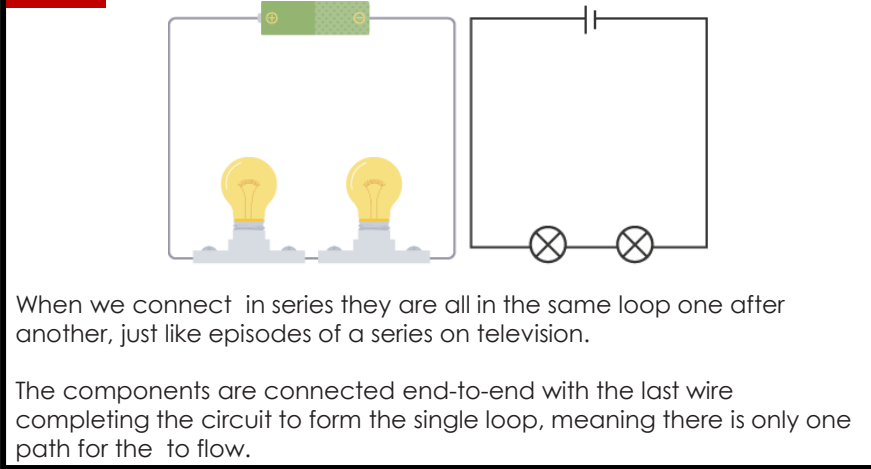
# Year 8 Science Knowledge Organiser Learning Cycle 2 – Electricity and circuits

1	Definition
<b>Key words</b>	
Component	A part of a circuit eg a battery, motor, lamp, switch or wire.
Current	Current is a flow of charges. It is measured in amps (A).
Potential difference	The amount of energy transferred by each unit of charge passing between two points of a circuit. The unit for potential difference is the volt (V).
Resistance	How difficult it is for current to flow.
Series circuit	All the components are connected in one loop so there is only one route for current to flow.
Parallel circuit	Components on separate branches, so the current can take different routes around the circuit.

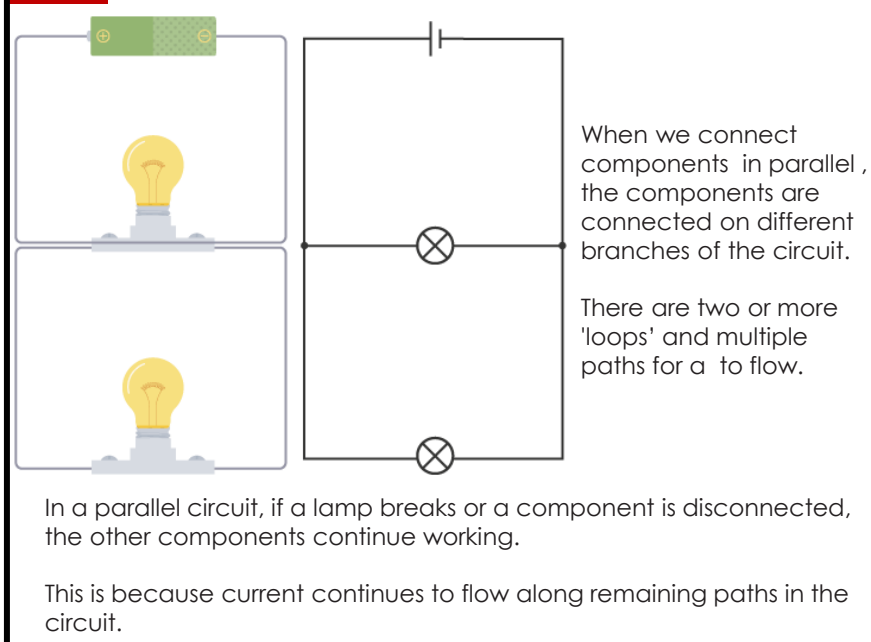
## 2 Circuit components and symbols



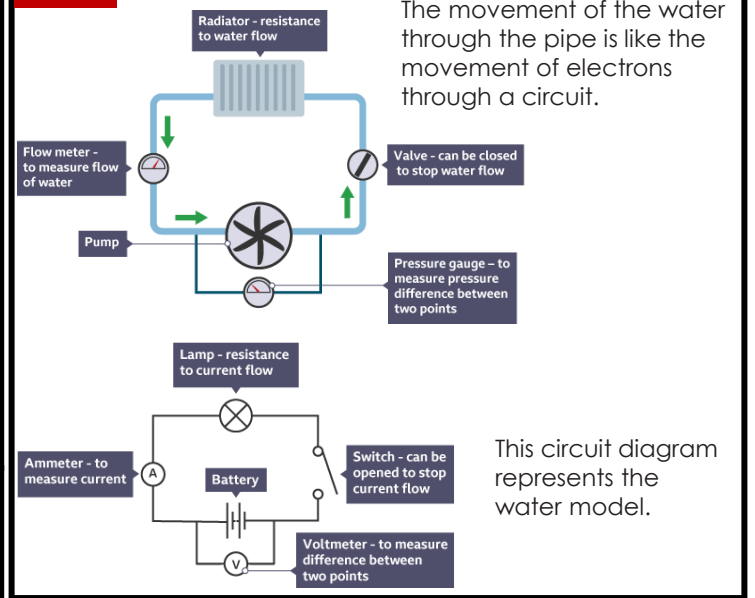
## 3 Series circuits



## 4 Parallel circuits



## 5 Modelling circuits



## 6 Resistance

To find the resistance of a component we need to know the potential difference (V) across it and the current (I) flowing through it. We can then use the formula to calculate the resistance:

$$Resistance = \frac{potential\ difference}{current}$$

The equation can also be written using symbols:  $R = \frac{V}{I}$

Example:

$$Resistance = \frac{potential\ difference}{current}$$

$$Resistance = \frac{12\ V}{2\ A}$$

$$Resistance = 6\ \Omega$$

# Year 8 Science Knowledge Organiser Learning Cycle 2 – Energy

## 1 Key words

Key words	Definition
Energy	Energy can be stored and transferred. Energy is a conserved quantity.
Kinetic energy store	The amount of energy in the kinetic energy store depends on the speed of the object.
Gravitational potential energy store	The amount of energy in the gravitational potential energy store depends on the height of the object.
Work	This is done when energy is transferred.
Power	The energy transferred each second, measured in watts (W).
Conduction	Energy transfer by heating through a material due to collisions between particles.
Convection	When particles with a lot of thermal energy in a liquid or gas move and take the place of particles with less thermal energy.
Radiation	The transfer of heat energy by electromagnetic waves without involving particles.

## 2 GPE and KE calculations

Energy in the **gravitational potential energy store** ( $E_p$ ) = mass (m) x gravitational field strength (g) x height (h)

$$E_p = m \times g \times h$$

On Earth, the gravitational potential energy (g) is 9.8 N/kg.

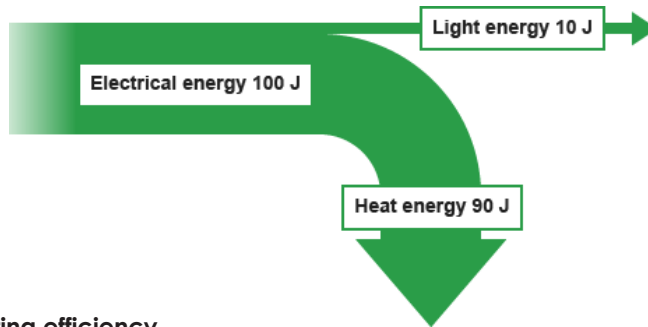
Energy in the **kinetic energy store** ( $E_k$ ) = 0.5 x mass (m) x velocity<sup>2</sup> ( $v^2$ )

$$E_k = 0.5 \times m \times v^2$$

## 3 Energy efficiency and Sankey diagrams

Sankey diagrams summarise all the **energy transfers** taking place in a process. The thicker the line or arrow, the greater the amount of energy involved.

This Sankey diagram for an electric lamp shows that most of the electrical energy is transferred as heat rather than light.



### Calculating efficiency

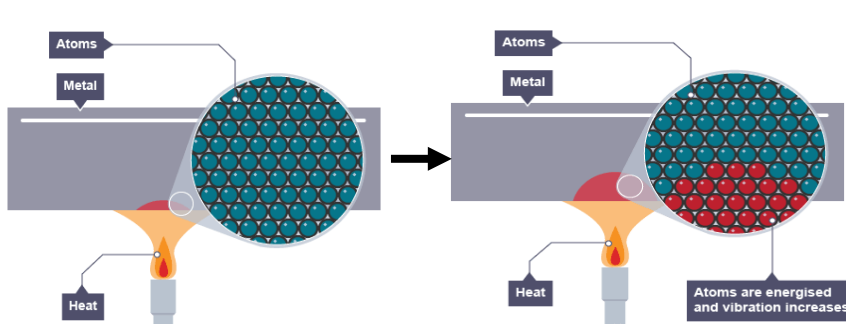
The efficiency of a device, such as a lamp, can be calculated:

$$\text{efficiency} = \frac{\text{useful energy out}}{\text{total energy in}} \text{ (for a decimal efficiency)}$$

or

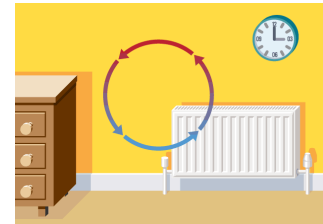
$$\text{efficiency} = \left( \frac{\text{useful energy out}}{\text{total energy in}} \right) \times 100 \text{ (for a percentage efficiency)}$$

## 5 Conduction



## 4 Convection and radiation

**Convection**  
Convection occurs when particles with a lot of heat energy in a liquid or gas move and take the place of particles with less heat energy.

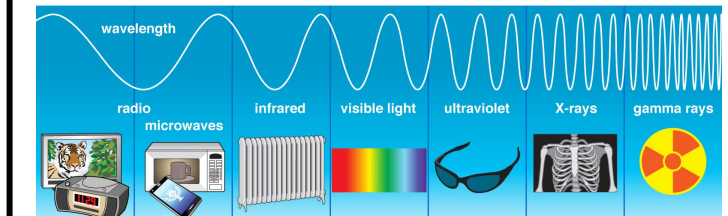


**Radiation**  
Heat can be transferred by **infrared radiation**, a type of **electromagnetic radiation** that involves waves.

Radiation doesn't require particles to transfer energy.

Surface	Absorption	Emission
Dull, matt or rough	Good	Good
Shiny	Poor	Poor

## 6 Electromagnetic radiation



Energy	Frequency	Wavelength	Radiation type	Typical use
Lowest	Lowest	Longest	Radio waves	Television signals
			Microwaves	Cooking, mobile phones
			Infrared	Optical fibre communication
			Visible light	Seeing
			Ultraviolet	Detecting forged bank notes
			X-rays	Medical images of bones
Highest	Highest	Shortest	Gamma radiation	Killing cancer cells

# Year 8 Geography Knowledge Organiser Learning Cycle 2

## 1 Tropical Storms – Hurricanes/Cyclones/Typhoons

**Distribution** – They all occur in a band around 5-15° North and South of the Equator.

### Formation:

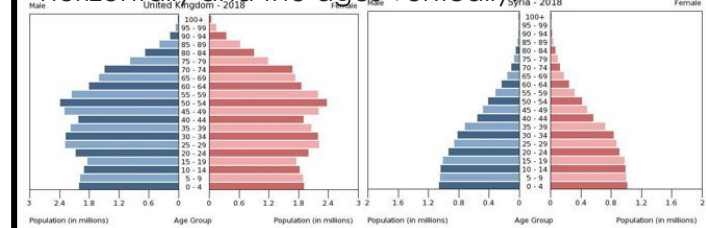
1. The sun's rays heat large areas of ocean in the summer and autumn causing warm moist air to rise.
2. Once the temperature is 27°C, the rising moist air leads to a low pressure which eventually turns into a thunderstorm causing air to be sucked in from trade winds.
3. With trade winds blowing in the opposite direction and the rotation of the earth involved, the thunderstorm starts to spin.
4. When the storm spins faster than 74mph a tropical storm is officially born.
5. With the tropical storm growing in power, more cool air sinks in the centre of the storm, creating calm, clear conditions known as the eye of the storm.
6. When the storm hits land, it loses its energy source and begins to lose strength.

## 2 Key words

Key terms	Definitions
Ageing population	Low birth rate and death rates, resulting in a larger proportion of elderly people.
Birth/Death rate	The number of live births/deaths per thousand of population per year.
Migration	The movement of people from one location to another.
Natural Increase	How the population has changed due to birth and death rates. Calculated by the number of people born – the number of people who have died.
Population	The number of people living within an area.

## 3 Population Pyramids

The population pyramid represents the **breakdown of the population by gender and age at a given point in time**. It consists of two histograms, one for each gender (by convention, men on the left and women on the right) where the numbers are shown horizontally and the ages vertically.



## 4 Factors impacting Birth & Death rates

### Factors impacting on birth rate

- Access to contraception and family planning.
- Reliance on large families in LICs to work.
- Government policies
- Cost of living and raising a child.
- Women working and having children later.

### Factors impacting on death rate

- Access to medication and high-quality health care.
- Access to vaccinations.
- Access to clean water and nutritious food.
- War and conflict.
- Lower infant mortality rates.

## 5 Ageing Population

### UK Ageing Population

**1 in 4 people** Cornwall – 549,000 estimated population in 2015.



aged 65+ by 2050

**8 million people**

aged 65+ by 2050

A high level of outmigration of those between the ages of 18-26 for better employment opportunities.

An ageing population is left.

## 6 Push and Pull Factors



- few services
- lack of job opportunities
- unhappy life
- poor transport links
- natural disasters
- wars
- shortage of food

- access to services
- better job opportunities
- more entertainment facilities
- better transport links
- improved living conditions
- hope for a better way of life
- family links

# Year 8 History Knowledge Organiser Learning Cycle 2

## 1 Triangular Trade Route

Europeans took guns, cloth and iron to Africa  
They took captives from Africa to North America and the Caribbean to sell as slaves.  
Then they took tobacco, sugar, rum back to Europe to sell



## 2 The Slave Trade

The slave trade was huge. British ships transported around 2.6 million enslaved people. It has been estimated overall, about 12 million Africans were enslaved and taken to the Americas. The death rate of the enslaved people was horrific.

Unknown millions died in Africa before they even made it to the ships. It has been estimated that at least 2 million enslaved Africans died on the Middle Passage across the Atlantic.

## 3 Middle Passage

Journeys lasted from six weeks to several months, depending on the weather. The ships were often too small to carry the hundreds of enslaved Africans on board. Those enslaved were tightly packed into cramped spaces below deck with one person's right leg chained to the left leg of another person. Conditions on the ships were terrible, and many of those enslaved died from diseases like scurvy and measles.

## 4 Life on the Plantations

Life on the fields meant working sunup to sundown six days a week and having food sometimes not suitable for an animal to eat. Plantation slaves lived in small shacks with a dirt floor and little or no furniture.

Life on large plantations with a cruel overseer was oftentimes the worst.

## 5 Abolition

The decision to bring the practice of slavery to an end was a contentious one. Britain had been engaged in slavery since the sixteenth century, with economic prosperity being secured through the use of slave-grown products such as sugar and cotton.

The British Empire relied on cultivating products in order to trade in a global market: the use of slaves was paramount to this process.

## 6 Key Terms

**Enslaved**-to make a slave or to hold someone in slavery or bondage.

**Captive**-a prisoner or a person who is enslaved.

**Shackles**-handcuffs or chains used to bind a captive.

**Abolish**-to do away with or put an end to.

**Abolitionist**-a person who advocated or supported the abolition of the slave trade.



# Year 8 Spanish Knowledge Organiser Learning Cycle 1

## 1 Know your phonics!

Revisit these rules and then apply them to all new vocabulary that we cover this term. Remember the rules never change!

- a - e - i - o - u
- ca - ce - ci - co - cu
- ca - que - qui - co - cu
- ga - ge - gi - go - gu
- ga - gue - gui - go - gu
- rr - ll - v - h - j - ñ - z

Pronouncing words in Spanish:  
<https://www.bbc.co.uk/bitesize/topics/zhy27nb/articles/zk78382>

## 4 The conditional tense

These are some of the most useful verbs in the conditional.

- sería = it would be
- habría = there would be
- tendría = I /it would have
- me gustaría = I would like
- podría = I could

Using a time frame is essential. What do these mean?  
 En un mundo ideal  
 Si fuera posible  
 Si fuera rico/a

Remember for all regular verbs, add *ía* to the end to say I would e.g. viviría = I would live, jugaría = I would play etc.

## 2 Extending your writing

When completing a written task, you need to develop your answers fully. Check you know how to include each of these features:

- 5 places you could visit in your local area
- At least three interesting adjectives for describing an area
- 3 x activities you do in your local area
- 3 x preterite verbs for things you did in town
- 3 x verbs in the conditional to talk about your ideal town
- How to form comparative and superlatives

## 5 Comparatives and superlatives

Last term we studied comparatives, this term we will also look at superlatives. Practise using the structures below to create your own sentences:

- |              |   |   |
|--------------|---|---|
| comparatives | { | más...que = more...than<br>menos...que = less...than<br>mejor que = better than<br>peor que = worse than  |
| superlatives | { | el/la más... = the most<br>el/la menos... = the least<br>el/la mejor = the best<br>el/la peor = the worst |

## 3 Vocab learning techniques

Regularly practise your topic specific vocabulary using the techniques listed below:

1. Log into your Memrise Group and practise online
2. Look-cover-write-check  
 This video demonstrates what to do: <https://youtu.be/eKoOoW8PBc0>
3. Use the Parallel text  
 This video demonstrates what to do: <https://youtu.be/WcvVeNM6dWc>
4. Make Flashcards and self-test: <https://youtu.be/SL9037YMKA>



## 6 Further reading, websites

Talking about where you live using ser and estar:  
<https://www.bbc.co.uk/bitesize/to/pics/zfgt6v4/articles/znryxyc>  
 How to use the conditional tense (this links to a GCSE resource so has some words we haven't learnt yet- but do use it to revise the rules we have learnt to date)  
<https://www.bbc.co.uk/bitesize/guides/zjkghv/revision/2>



# Year 8 Computer Science Knowledge Organiser Learning Cycle 2: Topic 1: Representing Data

## 1 Binary digits

Key Words	Definition
Switch	Early computers used simple switches to store data. The switch was either ON or OFF
Binary Numbers	Binary is a number system that only uses two digits: 1 and 0. All information that is processed by a computer is in the form of a sequence of 1s and 0s.
Base 2	Binary is also known as base 2 because there are only 2 possible numbers for each digit

## 3 Units of measurement

	Abbreviation	Conversion
bit	b	1 bit
Byte	B	8 bits
Kilobyte	KB	1000 bytes
Megabyte	MB	1000 kilobytes
Gigabyte	GB	1000 megabytes
Terabyte	TB	1000 gigabytes
Petabyte	PB	1000 terabytes

## 2 Numbers in Binary

Key Words	Definition
Denary	This is the number system normally used, also called decimal. It uses 10 digits, 0-9.
Place Value	Converting between Binary and Denary requires the use of place value. In binary the place value increments in powers of 2

128	64	32	16	8	4	2	1	Denary
0	0	0	0	0	0	0	1	1
0	0	0	0	0	0	1	0	2
0	0	0	0	0	0	1	1	3
0	0	0	0	0	1	0	0	4
0	0	0	0	0	1	0	1	5
0	0	0	0	0	1	1	0	6
0	0	0	0	0	1	1	1	7

## 1 Binary Addition

There are four rules that need to be followed when adding two binary numbers. These are:

$0 + 0 = 0$	Zero + zero = zero
$1 + 0 = 1$	One + zero = one
$1 + 1 = 10$	10 in binary = 2 in denary
$1 + 1 + 1 = 11$	11 in binary = 3 in denary

The rules can be used to add larger binary numbers:

8	4	2	1
	1	1	0
	1	1	1
1	1	0	1
1	1		

1 is carried over to the next column

## 2 Boolean Logic

Key Words	Definition
Boolean	Boolean logic is a form of algebra where all values are either True or False.
Condition	In computing, this is a statement or sum that is either true or false. A computation depends on whether a condition equates to true or false.
Truth Table	AND considers two (or more) conditions. The result is True if the result of all comparisons is True. OR considers two (or more) conditions. The result is True if either comparison is True.

AND		
A	B	Result
FALSE	FALSE	<b>FALSE</b>
FALSE	TRUE	<b>FALSE</b>
TRUE	FALSE	<b>FALSE</b>
TRUE	TRUE	<b>TRUE</b>

OR		
A	B	Result
FALSE	FALSE	<b>FALSE</b>
FALSE	TRUE	<b>TRUE</b>
TRUE	FALSE	<b>TRUE</b>
TRUE	TRUE	<b>TRUE</b>

Key Terms	Definitions
Thunderbird	Symbol of power.
First Nations	Indigenous people of North America & Canada
Tribe	A group of people that identify as an extended family or community.
Resource Materials	Collection of images used to inform ideas and develop understanding.
3D	Solid object with height, width and depth.
1620	Date of the Pilgrim Fathers arriving in Plymouth, Massachusetts.

1



What do I need to know 2

The formal and visual elements such as line, shape, tone, texture, and colour. You will use these skills to develop your design ideas inspired by the First Nations totem poles.



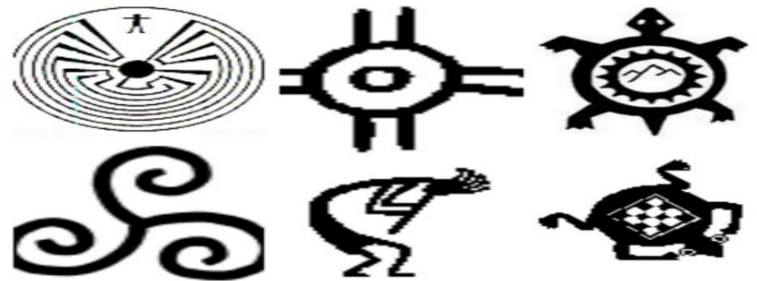
People **should** live in harmony with the natural world and all it contained".



3

What will I learn?

You will research, collect resource material, then develop a design inspired by First Nations Art work. Culminating in a 3D response.



# Year 8 D&T Knowledge Organiser Learning Cycle 2

## 1 Tools and equipment

Coping saw- used for cutting materials into precise shapes, because it has a thin blade it can cut curves.



Tenon Saw- Used for cutting a straight deep surface or timber strips to length.



Try Square- Used for marking out 90 degrees for cutting shoulders or as a datum line.



Scroll saw- (Hegner) Can be used to cut curves and detailed components. Can be very accurate. Needs to be used with goggles.



Bench hook- used to hold the workpiece so that you can push against it. Hooks over edge of bench.



Disc sander, used to bring material to size and to flatten rough end grain.



## 2 Materials

### Spruce, pine or Cedar.

Spruce, pine and Cedar are evergreen trees which grow all year round. They grow quickly which gives them a soft and light structure. This also makes them reasonably cheap compared with hardwoods. The knots can cause weakness and sticky sap can be a problem. Cedar resists rot and mould so is often used outdoors.

### Oak and Beech.

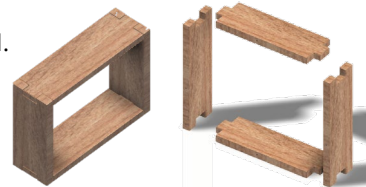
These are both deciduous trees which grow in Europe, they drop their leaves each year and grow very slowly. They have a very close grain They produce hardwood which is much more expensive than softwood because it takes longer to produce. It will last much longer, possibly hundreds of years.

### Stock forms

Available as planks and boards.

### Alternative materials

MDF, Plywood, Chipboard.



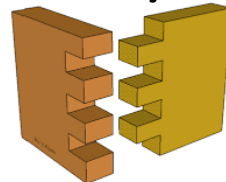
### Wood Joints

A wood joint is needed to provide a strong structure.

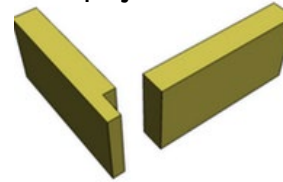
Joints are used to lock parts together and increase the surface area for gluing.

We are likely to use Comb joints and lap Joints.

### Comb joint



### Lap joint



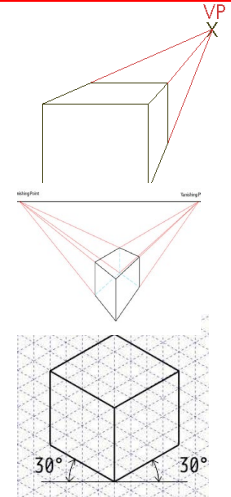
## 3

## Design drawing.

1 point perspective drawing. Used to quickly make a front view into a 3D shape. They use 1 vanishing point.

2 point perspective drawing. These are more realistic because we see the object from a number of angles.

Isometric drawing. These are a simple form of 3D drawing using 30 degrees for most lines. Useful because we can use real measurements.



## 4

### The 6 Rs

**The 6 Rs of sustainability is a tool widely used to help designers reduce the impact of their products on the environment can be used as a checklist for each product that is designed.**

**Reduce** — How can the amount of materials and components used in the product be reduced?

**Rethink** — How can the design of the product be changed so that it is less harmful to the environment?

**Refuse** — Should the product be produced if it is not sustainably designed?

**Recycle** — Is the product made using recycled materials?

**Reuse** — Could the product be used in a different way once its current use has expired?

**Repair** — Is the product easy to repair?

## 5

### Key words and definitions

**Materials:** anything that we use to make something- wood, metal, plastic, fabric, composite etc.

**Photosynthesis:** the process plants use to gather sunlight and create energy for growth.

**Assembly:** The combining or joining of individual components to make a product.



# Year 8 Food Knowledge Organiser Learning Cycle 2

1 Key term	Meaning
Safety	the condition of being protected from or unlikely to cause danger, risk, or injury.
Hygiene	conditions or practices conducive to maintaining health and preventing disease, especially through cleanliness

## 2 Nutrients – Key Terms

**1. Protein** is used to grow and repair the body tissues after illness, injury or surgery. It provides the amino acids for the body to grow especially in children and pregnancy

**2. Carbohydrates** are needed for energy, there are two types which are starches and sugars. Carbohydrate provides an important source of energy for the body.

**3. Fat** provides the body with essential fatty acids and energy. Fat carries important fat soluble vitamins (A, D, E and K) and is important for their absorption.

**4. Vitamins** and **5. Minerals** are considered essential nutrients because they perform hundreds of roles in the body. They help shore up bones, heal wounds, and bolster your immune system. They also convert food into energy, and repair cellular damage.



3 Practical	Key Terms
Fruit kebabs	Knife skills- bridge hold and claw grip
Cheesecake	Melting method, micronutrients, protein and fats
Macaroni Cheese	All-in-one white sauce gelatinisation

## 4 Teenage Diet

Children, adolescents are growing rapidly. This is commonly referred to as the **growth spurt**. **Unsaturated fat** should be taken rather than saturated fat, to carry out its functions and provide energy. Care should be taken to monitor fat intake in order to reduce the risk of obesity.

Carbohydrate  
**Starchy (complex) carbohydrates** should be eaten to meet energy requirements. Many adolescents are very active and play sport, so their energy requirements will be very high.

Protein  
 Protein is required to carry out the following functions:  
**Growth** – protein is needed during the growth spurt (in general, males will need higher amounts than females due to their larger muscle mass)  
**Repair and maintenance** of body cells and tissues (as adolescents are a very active age group)  
**Energy** – protein can be used as a secondary source of energy to meet the high demands during this stage of life

Vitamin C  
 Vitamin C is required to help the absorption of iron.

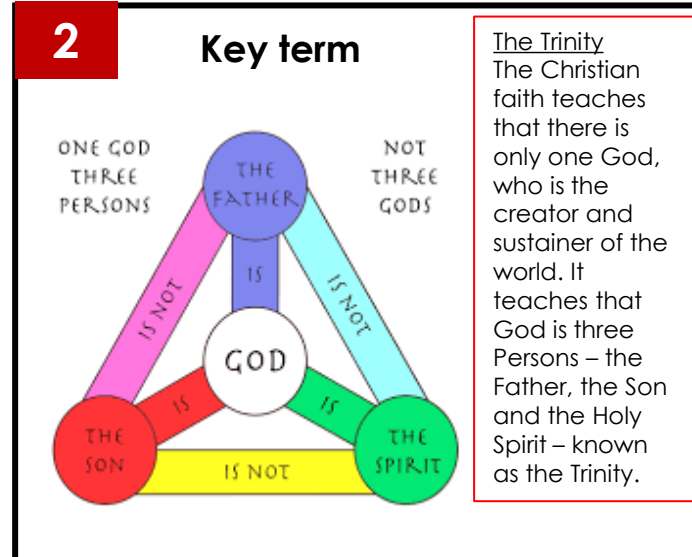
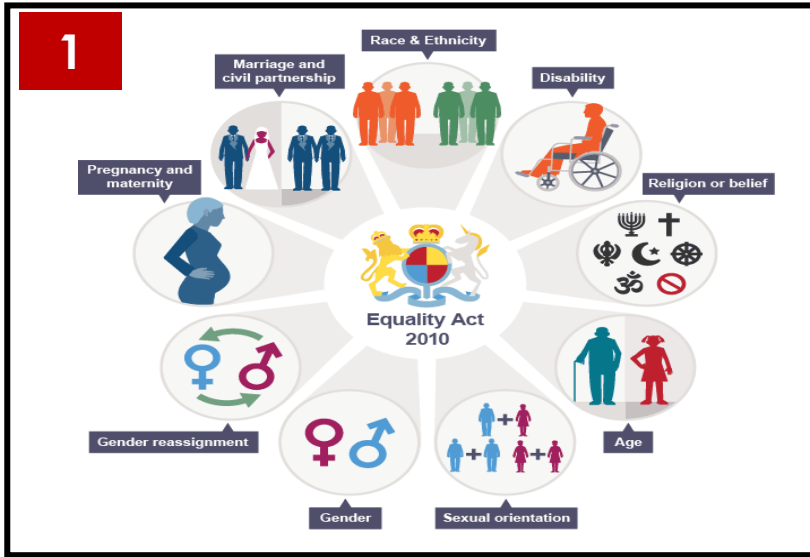
Iron  
 Iron is important during adolescence, in particular for girls who are losing blood through menstruation.

B group vitamins  
 Vitamins B<sub>1</sub> and B<sub>12</sub> are required to help release energy from food. This is important due to the high energy demands of adolescents.

**Folate** is also a B group vitamin, and is required for normal cell division



# Year 8 RE Knowledge Organiser Learning Cycle 2



**3**

Key Word	Meaning
Agape Love	God's love for humans
Radical	New, different, a big change
Trinity	Three parts to one God
Parable	Stories from the Bible to illustrate an important point
Messiah	A promised Saviour or chosen one
Saviour	Saving you from something (like sin)

**4**

**Omnipotence**

what are other words for omnipotence?

supremacy, almightiness, power, authority, ascendancy, domination, invincibility, mastery, all-powerfulness

The term omnipotence refers to the idea that God is all-powerful. There are many stories in the Bible which reveal the power of God. An example of God's omnipotence is found in Genesis chapter 1 that describes the creation of the world. It states how God created the world in six days and rested on the seventh. Genesis chapter 2 describes how God made a man from the dust in the ground. Even Christians who do not believe this story to be literally true will still accept that it shows God's power over the world.

**5**

### The Good Samaritan (Luke 10:25–37)

In the Gospel of Luke, after Jesus tells his followers to love their neighbour, one of them asks who exactly they should think of as their neighbour. In reply, Jesus tells the Parable of the Good Samaritan.

In this story, a Samaritan man helps a Jewish man who has been beaten and robbed, although many people have walked by and ignored him. The Samaritan not only pays for the Jewish man's care but also says he will return to pay more if needed. This teaches that people should not only show agape to people within their own community but also to anyone in need of help.

**6**

### Further reading, websites

<https://www.bbc.co.uk/bitesize/guides/z43f3k7/revision/2>

1 TIER THREE VOCABULARY	
Note	A musical sound.
Notation	The symbols we use in music to record beats/rhythms and tunes/melodies.
Scale	A sequence of notes in a set order.
Pentatonic Scale	A sequence made up of just five notes.
Shakuhachi	A Japanese woodwind instrument that is made from bamboo.
Shamisen	A Japanese string instrument that is played with a large plectrum/pick called a 'bachi'.
Koto	A Japanese instrument that lies down horizontally and is played using finger picks.
Duration	A musical element that describes the length of a note.
Pitch	A musical element that describes how high or low a note is.

### 2 FINDING NOTES ON A PIANO/KEYBOARD

There is an easy method that will help you find notes on a piano/keyboard. All **black notes** are grouped in twos and threes. If you find the group of two black notes, The D (dog) sits in between the two black notes (kennel).

**DOG IN THE KENNEL**

### 3 DIFFERENT DURATIONS OF NOTES

SYMBOL	NAME	DURATION
	<b>Semibreve</b> SEH-ME-BREEV	hold for 4 beats
	<b>Minim</b> MIH-NIM	hold for 2 beats
	<b>Crotchet</b> CROTCH-IT	hold for 1 beat
	<b>Quaver</b> KWAY-VER	hold for 1/2 a beat

### 4 SYMBOLS AND PITCH NOTATION

Although the notes go up in alphabetical order, a nice way to remember the notes for the **TREBLE CLEF** is to separate the notes on a line and the notes in the spaces.

The notes on the lines spell out **Every Good Boy Deserves Food**, and the notes in the spaces spell out the word **FACE**.

### 5 SAKURA, SAKURA

The piece you are learning is called 'Sakura, Sakura'. It is a traditional Japanese piece of folk music that means 'Cherry Blossoms' and it was written to celebrate the coming of springtime. The song can be heard at the link below on YouTube.

[is.gd/sakuramusic](https://www.youtube.com/watch?v=...)

### 6 LINKS & FURTHER READING

**Article:**  
4 Traditional Japanese Instruments That Will Make Your Heart Melt  
[is.gd/japaneseinstruments](https://is.gd/japaneseinstruments)

**Lesson:**  
Music Theory - Note Durations  
[is.gd/notedurations](https://is.gd/notedurations)

**Revise:**  
Flash Card Maker  
[is.gd/flashcardmaker](https://is.gd/flashcardmaker)



# Year 8 Drama Knowledge Organiser Learning Cycle 2 History of Theatre



## 1 Greek Theatre



### Tier 3 Vocabulary:

**Greek chorus-** the chorus consisted of between 12 and 50 players, who variously danced, sang or spoke their lines in unison, and sometimes wore masks.

**Tragedy-** a play dealing with tragic events which have an unhappy ending.

**Choral speaking-** speaking as part of a group.

**Synchronised movement-** moving together- like mirroring each other

**Unison-** means to speak at the same time.

**Echo -** the repetition of a sound caused by reflection of sound waves

### Further Links:

National Theatre-

<https://www.youtube.com/watch?v=aSRLK7SogvE>



## 2 Medieval Theatre

### Tier 3 Vocabulary:

**Middle Ages-** 500-1500AD

**Liturgical Theatre** –a play acted within or near the church and relating stories from the Bible

**Mystery plays:** biblical Stories

**Morality Plays:** allegories (stories with a moral hidden message)

**Miracle Plays:** Plays about Saints



### Further Links:

Medieval Theatre-

<https://www.youtube.com/watch?v=AiBu7IDa87Q>



## 3 Commedia dell'arte

**Archetypal Characters-** a very typical of a certain kind of character within a play

**Prepared Improvisation-** When the actors are given the time to plan and discuss ideas before presenting or performing a piece of drama

**Gesture -** A movement of part of the body, especially a hand or the head, to express an idea or meaning.

**Gait-** A person's manner or way of walking.

### Further Links: The World of Commedia

[https://www.youtube.com/watch?v=h\\_0TAXWt8hY](https://www.youtube.com/watch?v=h_0TAXWt8hY)



## 4 Shakespearean Theatre

**Tragedy-** a play dealing with tragic events which have an unhappy ending.

**Setting-** the place or type of surroundings where something is positioned or where an event takes place

**Tension-** a feeling that the play is building up towards something exciting happening.

**Interpretation -** A representation of a creative work or dramatic role



### Further Links: Tragedies

<https://www.youtube.com/watch?v=9m5l-HO3w8w>

## 5 Victorian Melodrama

### Tier 3 Vocabulary:

**Stock Characters-** a stereotypical character in a melodrama

**Exaggeration-** the representation of something that is more extreme than it really is

**Aside-** a remark that is intended to be heard by the audience but unheard by the other characters in the play

**Projection-** the strength of speaking whereby the voice is used loudly and clearly

**Pitch-** speaking in a high, low or natural voice

**Gestures-** a movement made with the hand/arm/head.



### Further Links: Melodrama Narrative

<https://www.britannica.com/art/melodrama>

## 6 Improvisational Comedy

### Tier 3 Vocabulary

**Improvisation-** the activity of creating a performance that is not planned.

**Accepting-** to build on the others' ideas during improvisation.

**Blocking -** when an actor rejects other actors' ideas during improvisation (opposite to accepting).

**Spontaneous Improvisation -** an unrehearsed scene that is made up on the spot.

**Prepared Improvisation -** a rehearsed or planned scene.



### Further Links: Improvised Acting

<https://www.youtube.com/watch?v=HZViQVCTIjl>