



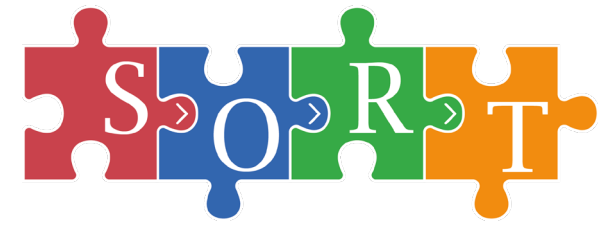
Year 8

Learning Cycle 1

Preparing for Assessment

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

Each day, for home learning, students will be set a task of memorising a part of a knowledge organiser from two subjects.

Summarise	Organise	Recall	Test
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
Strategies			
<ul style="list-style-type: none"> • Cornell Notes • Flash cards • Mind mapping • Revision clocks • Dual coding 	<ul style="list-style-type: none"> • How to use your PLC • How to schedule your home learning and stick to it! 	<ul style="list-style-type: none"> • Look cover & test • Leitner system • Blurt it • Transform it 	<ul style="list-style-type: none"> • Low stakes • Self-quizzing • Quiz each other • Online quizzes • High stakes • Exam style questions

Instructions on how to use your learning cycle booklet:

Learning cycle 1 will focus on all the SORT strategies:



Summarise	Organise	Recall	Test
<ul style="list-style-type: none">Cornell NotesFlash cardsMind mapping	<ul style="list-style-type: none">How to use your PLCHow to schedule your home learning and stick to it!	<ul style="list-style-type: none">Look cover & testLeitner system	<ul style="list-style-type: none">Self-quizzing

Using the 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 1 Personal Learning Check lists

English

Key Ideas	S	O	R	T
What is the mystery genre?				
How are mystery narratives structured?				
What examples are there of famous detective fiction?				
Why was detective fiction so popular in the Victorian era?				
What social and historical context influenced Phillip Pullman?				
What happens in 'Ruby in the Smoke'?				
What are the key themes and ideas in 'Ruby in the Smoke'?				
How is Sally Lockhart an unconventional protagonist?				
How does Pullman use language and structural features to engage the reader?				

Maths

Key Ideas	S	O	R	T
Using formal written methods for arithmetic (including decimals and negatives)				
Solving linear equations in one variable (unknown on both sides)				
Understanding alternate and corresponding angles				
Using tables, grids, Venn and Carroll diagrams for sets and unions				

Science

Key Ideas	S	O	R	T
I can identify organs in the respiratory system and describe their structure and function				
I can describe how the respiratory system is adapted for gas exchange				
I can recall word and symbol equations for aerobic and anaerobic respiration				
I can identify organs in the respiratory system and describe their structure and function				
I can explain how and why the respiratory systems respond to exercise				
I can describe the major bones and muscles in the skeletal and muscular system and describe how joints work				
I can identify what nutrients are needed for a healthy balanced diet				
I can describe how the digestive system is adapted for nutrient absorption				
I can explain the role of enzymes in digestion				

Year 8 Learning Cycle 1 Personal Learning Check lists

Geography

Key Ideas	S	O	R	T
Difference between weather & climate				
Describe UK weather patterns				
Explain factors that affect the microclimate of an area				
Describe the causes of the Boscastle floods				
Explain the social, economic and environmental impacts of the floods				
Describe the impacts of the Beast from the East				
Explain how tropical storms form				
Explain the impacts of Hurricane Irma				

History

Key Ideas	S	O	R	T
Columbus discovers America				
First contact with the Incans				
Incan Emperor refuses to convert to Christianity				
Capture and ransom of the Emperor				
Incan rebellion around the capital city				
Execution of all Incan leaders				
Failure of the Roanoke Colony				
First colony in Jamestown				
Differences in the English colonies				
Boston Tea Party				
American Revolution				

Spanish

Key Ideas	S	O	R	T
I understand the rules for correct Spanish pronunciation				
I know my non-negotiable past tense verbs				
I can express my opinion in Spanish				
I can confidently talk about my recent holidays				
I know how to form regular verbs in the preterite tense				
I know how to form regular verbs in the present tense				
I can name and describe different modes of transport				
I know how to make comparisons in Spanish				

Year 8 Learning Cycle 1 Personal Learning Check lists

Computing

Key Ideas	S	O	R	T
I can explain what good practice us when communicating online				
I can explain what makes strong and weak passwords				
I can explain what the Data Protection Act is and how the Copyright law can be used to protect the use of artists work without their permission				
I can explain the issues with ethics in Computer Science.				
I can explain what a hacker is				
I can explain bias and how you can check information you read online				
I can identify computer input and output devices				
I can explain the difference between software and hardware				
I can give a definition of a computer				
I can explain the role of the historical figures: Ada Lovelace Charles Babbage Alan Turing				

Art

Key Ideas	S	O	R	T
I can use tone, texture, line, shape, scale and composition in observational drawing.				
I can explain the work of Halima Cassell and Peter Randall-Page and how they create and use texture.				
I can explain how to develop my ideas into an abstract 3D form.				
I have experimented with a range of materials.				
I can refine my work through annotation.				

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 1 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				

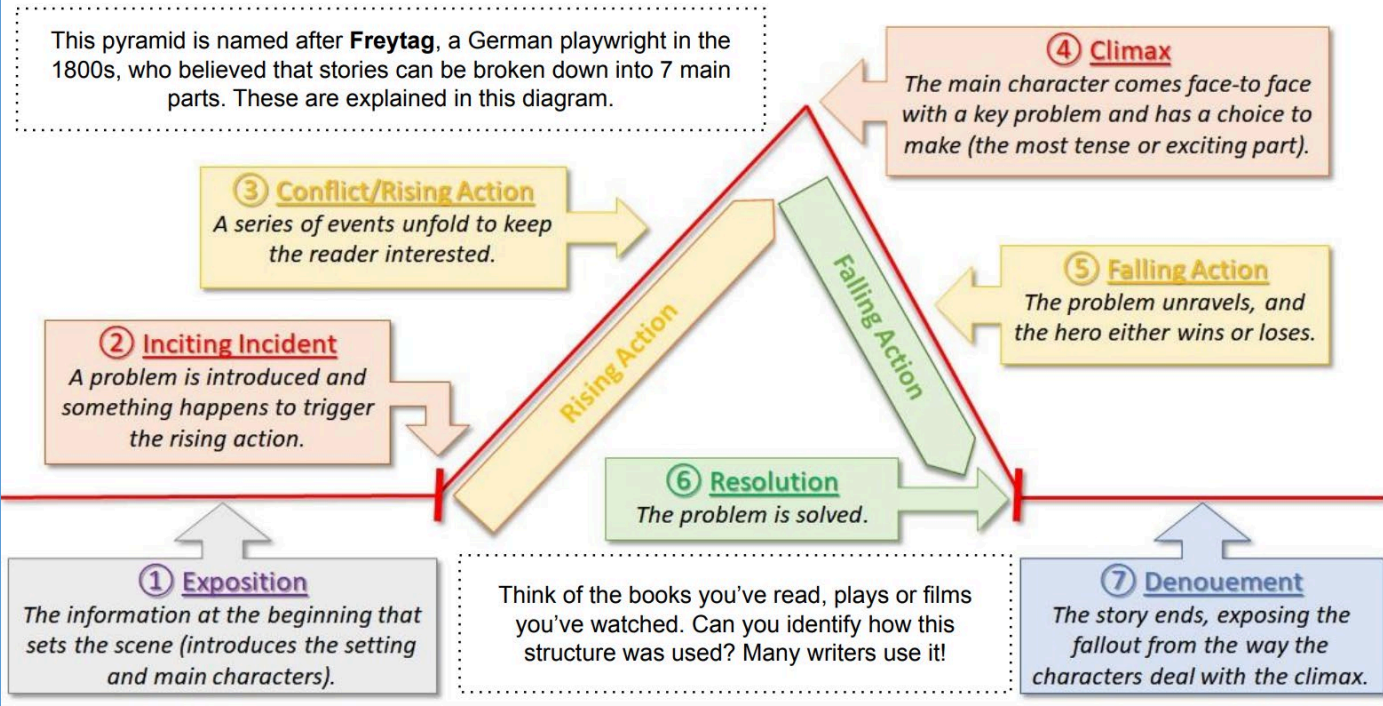
RE

Key Ideas	S	O	R	T
I can explain the concept of Iman				
I can explain the concept of Ibadah				
I can explain the concept of Akhlaq				
I can explain the meaning of Haram				
I can explain the meaning of Halal				

Year 8 Knowledge Organiser – Mystery Narratives: Phillip Pullman's 'Ruby in the Smoke'

What is narrative writing? - The Mystery Genre

Narrative writing	1a = A narrative is a piece of text or prose that focuses on telling a story. We refer to a story as a narrative. Novels are the most common form (type) of narrative writing.
Genre	1b = Genre comes from the French word 'type.' If a writer wants to write a certain type of book, they need to know its main features, known as genre conventions. Popular genres include crime, science fiction and fantasy
Plot	1c = A plot is the name given to the main events in a play, novel, film or similar work. Narratives typically follow the same plot structure with 7 main parts. These can be seen on the diagram...
Setting	1d = A setting is where or when a story is set. It is usually introduced at the exposition (beginning) of a story along with the characters. .
Character	1e = A character is a person, animal or being within a story. Writers use characters to perform the actions and speak, moving the story along the plot line.



What is the mystery genre?	1f = Mystery is a genre of literature whose stories focus on a puzzling crime or situation that needs to be solved. Many mysteries involve a 'whodunit' scenario, meaning that the mystery revolves around an investigation into uncovering a culprit or criminal. There are always a set of suspects who come under suspicion before the crime is resolved at the end.
When and why did mystery stories appear?	1g = Mystery stories appeared in the 1800s. At this time, people began to crowd into cities and there was more crime. As the need for detectives emerged, the mystery genre emerged. One of the first mystery writers was the American Edgar Allen Poe. In the 1860s, novels like The Moonstone by Wilkie Collins became popular. Perhaps the most famous mystery writer is Arthur Conan Doyle. He created Sherlock Holmes in 1887.
Genre conventions	1h = Plot: the mystery story typically begins with a crime or murder, after which readers follow the detective as he or she conducts an investigation. Key features: the author may hide clues and motives, revealing information as the story progresses. Red herrings are false clues that lead the reader and the detective away from the true culprit. Character: the central character will often be a detective, like Sherlock Holmes, who eventually solves the crime by using his/her great mind, becoming a hero. Mystery novels always feature a villain who tries to cover up their crime.

The Ruby in the Smoke

2a = Key info - Author: Phillip Pullman - Written: 1985 - Genre: Neo-Victorian Mystery detective / Set: 1872

Summary: After the sudden death of her father, Sally Lockhart is forced to go to live in London with an obnoxious cousin. There, she receives an anonymous letter containing a warning so dire that it makes a man die of fear at her feet. Determined to discover the truth about what happened to her father, Sally is soon plunged into a dangerous and terrifying adventure that takes her to the dark heart of Victorian London.

Key context: Victorian England

2b = Life in Victorian England - Women were considered the 'property' of their fathers and later, when married, their husbands. They had no rights to property, personal income or to sue in court. They could not vote. Their role was considered domestic and ornamental. There was a strict class system in place: upper class, middle class and working class. The working class were considered a criminal underclass and there were slums and little in the way of help or sympathy. After the 1834 Amendments to the Poor Act the workhouse or prison were considered the correct treatment for poverty. A police force was introduced in Britain in 1829 by Sir Robert Peel, the first policemen were called 'Peelers' or 'Bobbies' after him

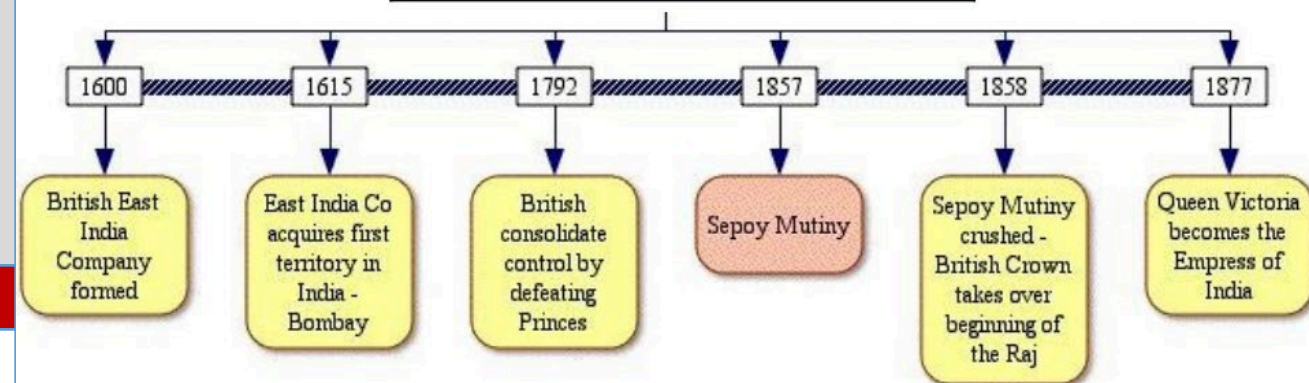
2c = The Industrial Revolution 1760-1840

During the Industrial Revolution, Britain moved from a mainly agrarian, rural farming society to an industrialised, urban society. The Industrial Revolution brought about phenomenal change to all areas of the British way of life: the way we lived was changed forever. Although the novel is set in 1872, after the first Industrial Revolution, many of the changes of this way of life can be seen in the novel - mainly in the slums, poverty and crime witnessed by Sally in London.

2d = The Indian Mutiny 1857-1858

- A mutiny against the ruling of the East India Trading Company which was ultimately successful. The Company acted as a sovereign power in India on behalf of the British Crown - Queen Victoria later went by the name Empress of India
- The rebellion began on 10th May 1857 in the form of a mutiny of Sepoys who were in the Company army, it then spread across the country leading to other revolts and rebellions against the Company. Both sides committed atrocities with British women and children being murdered by rebelling Indians - but also whole villages of women and children being wiped out by British reprisals. It led to The Government of India Act of 1858 which led to the British Raj and India being governed by the British Government and not the Company.

Timeline of British India



2e = The East India Trading Company and the Opium trade

- The East India Trading Company, began in 1600, was a trade company which established British Imperialism around the World, it had huge influence and power - even having its own army in India twice the size of the British army - and is associated with a time of past glory when 'Britain Ruled the World'. It was at the height of its power and influence during the early 1800's
- In order to trade with China, uninterested in trading manufacturing goods, & who produced East tea and other goods that were very popular in Britain, the Company traded opium grown in India. This had a terrible effect on Chinese society & way of life & led to several Opium Wars with China that Britain eventually won - leading to Hong Kong being given to the British for 156 years.
- The Company was dissolved in 1874 after the Indian Mutiny of 1858 effectively brought about the abolishment of the Company in India.

2f = Imperialism and our Empire Building past

- Britain, like Japan and Russia, pursued an aggressive empire building policy of Imperialism from the 1870's onwards
- Empire building countries exploited the resources of the countries they subjugated and added to their empires
- The 1980's - when Pullman wrote Ruby - was a time when Britain was entering a new post-colonial phase in its history. 1982 saw the last Imperial war with Argentina over the Falklands Isles.
- Recently, in 2020, as a consequence of the death of George Floyd in America, campaigners such as Black Lives Matter have once again raised the spectre of British Imperialism - questioning the statuary that honours the lives of slave-traders, white oppressors or white supremacists such as that of Cecil Rhodes in Oxford and Edward Colson in Bristol.

Year 8 Knowledge Organiser – Mystery Narratives: Phillip Pullman’s ‘Ruby in the Smoke’ – Plot summary and Vocabulary

<p>3a -Chapter 1: The Seven Blessings We meet Sally Lockhart. She visits her dead father's old offices and accidentally kills Mr Higgs. She meets Jim Taylor, who offers to help.</p>	<p>3b - Chapter 2: The Web Major Marchbanks reads about Sally in the newspaper. Mrs Holland discusses the ruby with her lawyer. Sailor Matthew Bedwell returns to London suffering from Opium addiction</p>	<p>3c - Chapter 3: The Gentleman of Kent Sally goes to Kent to visit Major Marchbanks. Mrs Holland is also there—and Sally only escapes thanks to Fred Garland, a photographer.</p>	<p>3d -Chapter 4: The Mutiny On the train back to London, Sally reads through Major Marchbanks' diary. She falls asleep and the diary is stolen from her by Mr Hopkins. Sally only has a few scraps of paper left.</p>	Tier 2	
<p>3e -Chapter 5: The Ceremony of the Smoke Sailor Matthew Bedwell is in Mrs Holland's lodging house, looked after by little Adelaide. Opium is used to get to his secrets.</p>	<p>3f - Chapter 6: Messages Adelaide sees Jim Taylor for help. Sally and Jim realise that Mrs Holland wants the ruby—and needs the scraps from the diary as a clue. Mrs Holland blackmails Mr Hopkins into stealing the scraps of paper and murdering Sally.</p>	<p>3g - Chapter 7: The Consequences of Finance Mr Hopkins breaks in — but cannot bring himself to murder the sleeping Sally. Leaving the house, he is murdered by a mugger. In the morning, Sally decides to leave Mrs Rees's house. She goes to her lawyer</p>	<p>3h - Chapter 8: The Passions of Art Desperate for somewhere to stay, Sally goes to Fred Garland. She meets Rosa and gets a job as their accountant. They decide that the scraps of paper are a treasure clue to the ruby.</p>	<p>4a -Nefarious adjective = meaning wicked, or criminal</p>	
<p>3i - Chapter 9: A Journey to Oxford Fred and Sally go to Oxford to meet sailor Nicholas Bedwell's brother, the Reverend Nicholas Bedwell. They decide to find some opium to help Nicholas.</p>	<p>3j - Chapter 10: Madam Chang Sally and Fred go to an Opium Den to buy the drug. Sally smells the drug and has a “nightmare” about murder, Major Marchbanks and her father. She realises it is actually a memory.</p>	<p>3k - Chapter 11: The Stereographic Repertory Company The Reverend Bedwell and Fred set off to rescue Nicholas. Mrs Holland gets hold of the scraps of paper and the clues to finding the ruby.</p>	<p>3l - Chapter 12: Substitution Fred and the Reverend Nicholas Bedwell rescue Matthew from Mrs Holland. Adelaide runs away to live with Fred, Rosa and Sally</p>	<p>4b - Deception noun = the act of deceiving / tricking / cheating or lying to someone</p>	
<p>3m - Chapter 13: Lights Below the Water Sally finds out that her father was murdered. She also learns about the deadly society of The Seven Blessings and its evil leaders, Ah Ling.</p>	<p>3n - Chapter 14: Arms and the Girl Sally practises firing her new gun.</p>	<p>3o -Chapter 15: The Turk's Head Mrs Holland works out that the ruby is hidden in the cellar of a pub in Kent. However, when she gets there it has already been taken.</p>	<p>3p - Chapter 16: Protecting the Property A mysterious stranger wishes to talk to Sally.</p>	<p>4c - Compulsion noun = an irresistible urge to act or behave in a certain act</p>	
<p>3q - Chapter 17: King James's Stairs Sailor Matthew Bedwell is murdered. Adelaide is snatched away from safety by Mrs Holland. Fred and Jim try to get Adelaide back—but both are badly beaten.</p>	<p>3r - Chapter 18: London Bridge Sally takes the ruby to meet with Mrs Holland. There, Sally finds out the truth of her own real identify. Sally throws the ruby into the river and Mrs Holland kills herself by jumping in after it. Ah Ling turn up in a coach.</p>	<p>3s - Chapter 19: Ah Ling is a drug smuggler who betrayed and murdered Sally's father. He tries to blackmail Sally into joining him; she shoots him.</p>	<p>3t Chapter 20: Ah Ling mysteriously disappears. Later, Sally finds a letter from Captain Lockhart and a large amount of money.</p>	<p>4d - Addiction noun = a craving, habit or dependency on something</p>	
				<p>4e -Sleuth noun and verb = mostly a noun for a person investigating something</p>	
				<p>4f - Retribution noun = a punishment inflicted on someone as a penalty for a wrong act</p>	
				<p>4g - Intrepid adjective = fearless or adventurous</p>	
				<p>4h - Mutiny noun = an open rebellion against the authorities</p>	
				<p>4i - Justice noun = the condition of being morally correct or fair</p>	
				<p>4j - Wily adjective = clever, shrewd or sharp-witted - skilled at gaining advantage.</p>	
				<p>4k - Patriarchy noun = a system of society in which men hold the power and women are largely excluded from it.</p>	
				<p>4l - Subordinate adjective, noun and verb = of lesser importance / weaker / inferior</p>	
				<p>4m - Duplicitous adjective = to be deceitful</p>	
				<p>4n - Malevolent adjective = wanting to cause harm or commit evil</p>	

Year 8 Knowledge Organiser – Mystery Narratives: Phillip Pullman’s ‘Ruby in the Smoke’

Key themes

Authorial Intent

Key characters

5a - Mystery genre

The ‘Ruby in the Smoke’ is a homage to Victorian mystery writers such as Wilkie Collins (one of Dickens’ best friends), who wrote arguably the first two detective mystery novels, ‘The Moonstone’ and ‘The Woman in White’. ‘The Moonstone’ in particular shares many features with ‘The Ruby in the Smoke’ and both include many of the features of the mystery genre. Pullman uses setting cleverly to create mystique and threat - whether this be an opium den, a Victorian slum or a darkened sinister Victorian street. The rich settings of the Victorian urban landscape provide Pullman with plenty of fertile descriptions for our imaginations.

5b - Gender Stereotypes

Sally Lockhart does not conform to the stereotypical idea of a girl during the Victorian period, she is strong, independent person and knows about how to invest money and how to shoot a gun. Pullman is retrospectively exploring the world of Victorian society through a more modern vision of a female role model. In 1985 when Philip Pullman wrote the novel there was a female Prime Minister for the first time in Britain - when the book is set, women did not even have the right to vote in General Elections. Sally does not conform either to Propp’s idea of the Princess/Prize and is more like the stereotypical idea of the hero.

5c - Opium and British Imperialism

The British exploited the addiction of millions of Chinese to opium in order to set up a trade deal with China that provided them with tea, silks and porcelains for their homes. This is British Imperialism at its worst. It ultimately destroyed the Qiing dynasty in China. The novel explores the role that British Imperialism has played, including exploring some of the effects of the Indian Mutiny in India. The ruby itself could be said to be a symbol of British Imperialism - stolen as it was from an Indian maharajah: it is representative of the resources and goods that the British have plundered India and China of in the past.

Philip Pullman wrote this novel for a purpose and uses the story and characters to send a message to his readers / audience...

6a - To encourage... *readers of children’s literature to see girls as strong leading characters - not just the Princess waiting to be rescued by a male.*

6b - To reveal... *Pullman reveals the impact of the opium trade and the consequences of drug addiction. This trade was cynically encouraged by the activities of the East Indian Trade Company.*

6c - To celebrate... *the imagery and richness of the Victorian setting, nostalgically writing in homage to writers such as Wilkie Collins in ‘The Moonstone.’*

6d - To expose... *the injustices of British Imperialism during the 1870’s and the effects of the exploitation of the opium trade by the East Indian Trade Company*

6e - The text is relevant today as... *The British Imperialist past is still a contentious issue as we saw during the Corona Virus Lockdown...it is important to present female protagonists in strong, heroic roles subverting the stereotype of girls as weak and passive.*

7a - Sally Lockhart:
Sally is not a typical Victorian girl: she has been brought up to be resourceful, independent and astute with figures. She has been trained in the use of guns by her father. Sally finds it hard to show her feelings and is quite reserved and not easy to get to know.

7b – Frederic
Frederick is a bohemian photographer who is also very independent and free-spirited. He has a very likeable personality and people instinctively trust and warm to him. He is open and extrovert.

7c – Mrs Holland
Mrs Holland is the main antagonist or villain of the novel, she was a beautiful woman in her younger years but is now a bitter and cruel criminal mastermind. She keeps Bedwell hooked on opium and treats Adelaide very cruelly; she also intends to kill Sally.



Year 7 Maths Knowledge Organiser Learning Cycle 1

1

Key words	Definition
Integer	An integer is a whole number (not a fractional number) that can be positive, negative, or zero
Formula	A mathematical relationship or rule expressed in symbols.
Substitute	Replacing variables (letters) in an algebraic expression with their numerical values
Equation	A statement that the values of two mathematical expressions are equal (indicated by =)
Coefficient	A numerical or constant quantity placed before and multiplying the variable in an algebraic expression
Equidistant	Same distance away
Transversal	A line that passes through a pair of parallel lines
Supplementary	Two angles sum to 180 degrees – also called co-interior or allied angles
Alternate	Two angles, formed when a line crosses two other lines, that lie on opposite sides of the transversal line and on opposite relative sides of the other lines. If the two lines crossed are parallel, the alternate angles are equal.
Corresponding	The angles which occupy the same relative position at each intersection where a straight line crosses two others. If the two lines are parallel, the corresponding angles are equal.
Vertically opposite	Opposite angles, formed when two lines cross, are equal
Congruent	Identical in form
Venn	A diagram representing mathematical or logical sets pictorially as circles or closed curves within an enclosing rectangle (the universal set), common elements of the sets being represented by intersections of the circles.
Set	A group of numbers, pictures, data etc
Union	Everything that is either or both circles of the Venn diagrams
Intersection	The overlap of a Venn diagram – an element from the set lies in all circles of the Venn

Year 8 Maths Knowledge Organiser Learning Cycle 1

2

Linear Equations

Some equations have unknowns on both sides.

Solve $9y - 5 = 4y + 41$

Eliminate the smaller value of y to make an equation with the unknown on one side only

Looks like e.g. 1 now

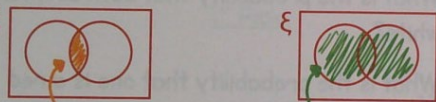
$$\begin{array}{r} 9y - 5 = 4y + 41 \\ -4y \quad -4y \\ \hline 5y - 5 = 41 \\ +5 \quad +5 \\ \hline 5y = 46 \\ \div 5 \quad \div 5 \\ \hline y = \frac{46}{5} \end{array}$$

So $y = \frac{46}{5}$ (or 9.2) is the solution

3

Sets and Unions

Venn diagrams are a useful tool for sorting information into sets. They are constructed using overlapping rings (either 2 or 3), each one representing a different set. The rings are enclosed by a rectangle which is the universal set. The intersection and union are two key regions of a Venn diagram:



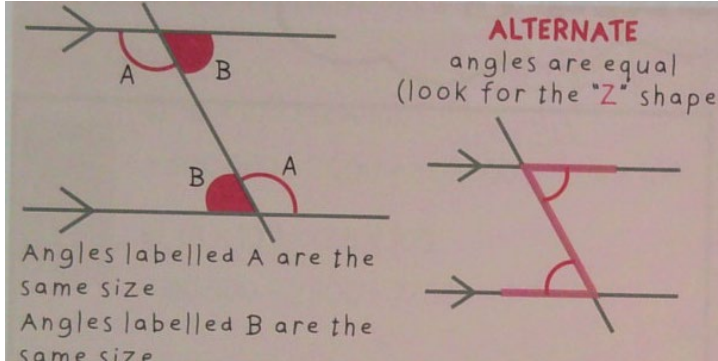
The **intersection** (the overlap) of two or more sets uses the symbol \cap

The **union** (the things in all the specified sets) uses the symbol \cup

4

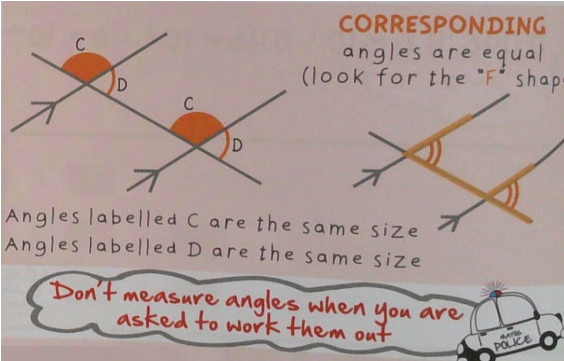
Parallel, Alternate and corresponding

ALTERNATE
angles are equal
(look for the "Z" shape)




Angles labelled A are the same size
Angles labelled B are the same size

CORRESPONDING
angles are equal
(look for the "F" shape)

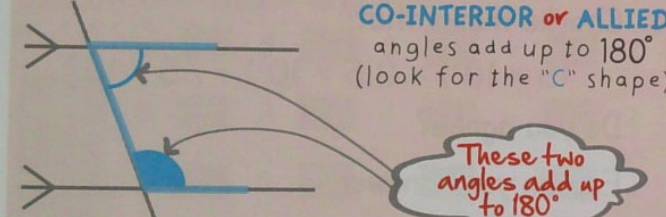


Angles labelled C are the same size
Angles labelled D are the same size

Don't measure angles when you are asked to work them out



CO-INTERIOR or ALLIED
angles add up to 180°
(look for the "C" shape)



These two angles add up to 180°

6

Further reading, websites

www.completemaths.com

www.corbettmaths.com

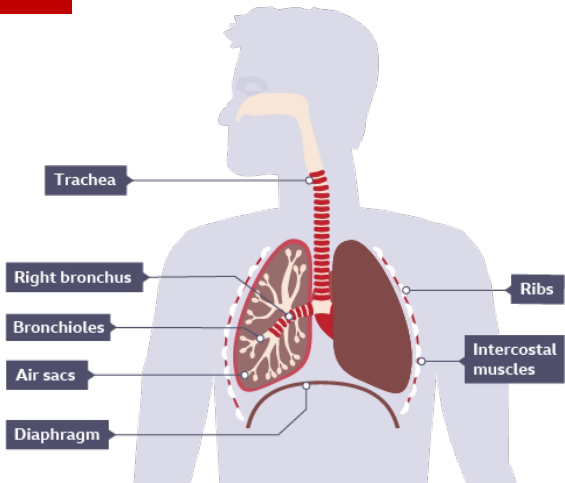
www.mathsisfun.com

www.justmaths.com

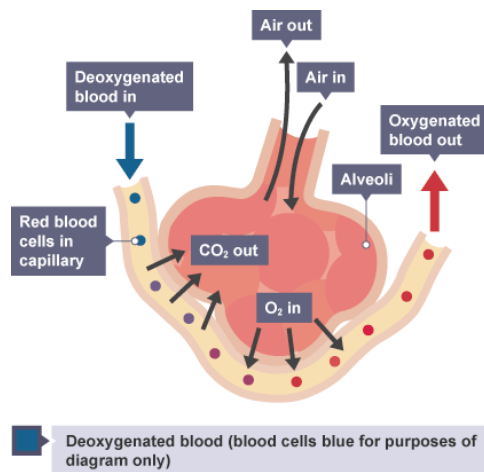
Key words	Definition
Trachea	Also known as the windpipe – It is the tube that connects the mouth and nose to the bronchus. Rings of cartilage keep the trachea open.
Bronchus	Where the trachea branches (splits) into the left and right lungs
Bronchiole	Each bronchus branches again to form many more passageways for air into and out of each lung
Alveoli	The tiny air sacs at the end of each bronchiole where gases are exchanged into and out of the blood
Diaphragm	A sheet of muscle that contracts (tightens) and relaxes (loosens) to allow air to be breathed in and out
Diffusion	The movement of particles from an area of high concentration to an area of low concentration
Aerobic respiration	A chemical reaction inside cells that releases energy from glucose by reacting it in the presence of oxygen.
Anaerobic respiration	A chemical reaction inside cells that releases energy from glucose WITHOUT oxygen.
Artery	A blood vessel that carries blood away from the heart
Vein	A blood vessel that carries blood back to the heart.
Capillary	A tiny blood vessel that is only one cell thick so that substances can be easily exchanged across it
Oesophagus	Also known as the gullet – It is a tube that connects the mouth to the stomach.
Intestine	The part of your digestive system where most substances are absorbed – There is a small and large intestine.
Lipids	The scientific name for fats and oils
Enzyme	Chemicals secreted (released) by glandular tissue that help to digest (break down) nutrients (long-chain substances) in the foods we eat

Year 8 Science Knowledge Organiser Learning Cycle 1

2 The Respiratory System



2 Gas Exchange



2 Aerobic and Anaerobic Respiration

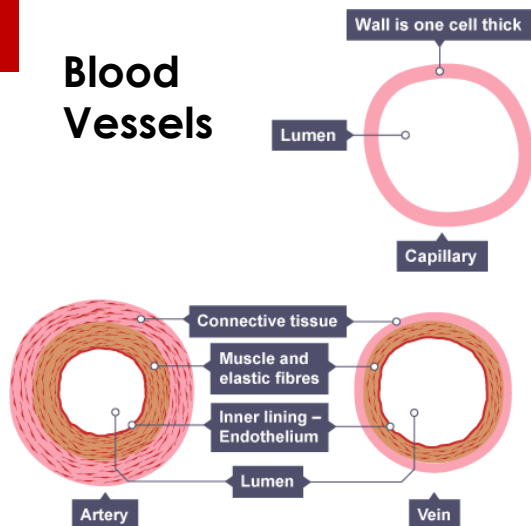
Aerobic Respiration:



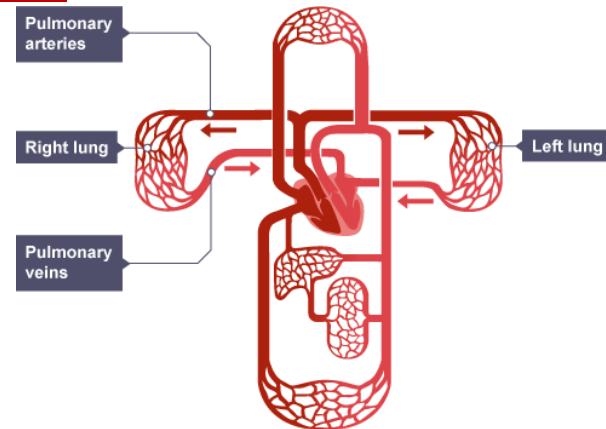
Anaerobic Respiration: $\text{glucose} \rightarrow \text{lactic acid}$

	Reactant(s)	Products(s)	Rate of reaction	Energy released
Aerobic respiration	Glucose, oxygen	Carbon dioxide, water	Slow	More
Anaerobic respiration	Glucose	Lactic acid	Fast	Less

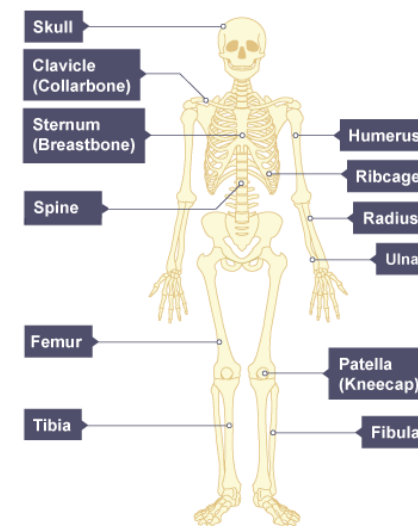
3 Blood Vessels



3 The Circulatory System



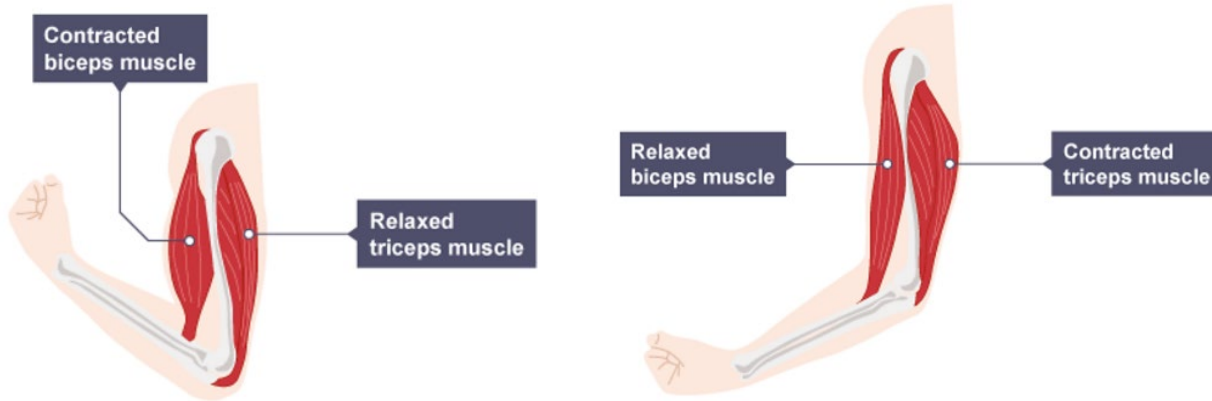
4



The Skeletal System

Year 8 Science Knowledge Organiser Learning Cycle 1

4 How Muscles Work

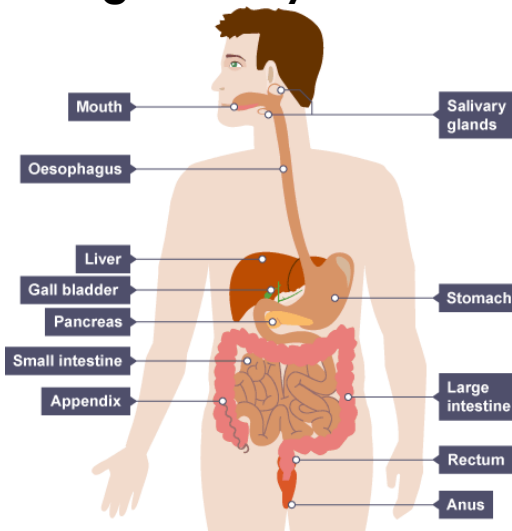


5 Healthy Diet

To keep healthy, it is vital to eat a balanced diet. This means eating the right amount from different food groups. Too much may cause obesity and too little may cause malnutrition.

There are seven major nutrients to include in a healthy diet: Carbohydrates, Proteins, Fats, Vitamins, Minerals, Water and Fibre

5 The Digestive System



5 Enzymes and Digestion

Enzymes are chemicals made from proteins that help to break down our foods into smaller molecules so that they can be absorbed into our bloodstream

Name of enzyme	Where it is produced	Nutrient that it helps to digest
Carbohydrase	Mouth, pancreas and small intestine	Carbohydrates
Protease	Stomach, pancreas and small intestine	Proteins
Lipase	Pancreas and small intestine	Lipids (Fats)

6 Further reading, websites

Respiration and Gas Exchange

<https://www.bbc.co.uk/bitesize/topics/zvrrd2p>

The Skeletal System

<https://www.bbc.co.uk/bitesize/topics/znnycdm/articles/zgbddp3>

Digestion

<https://www.bbc.co.uk/bitesize/topics/zf339j6>

Year 8 Geography Knowledge Organiser Learning Cycle 1

1 Key Words

Air Mass – A large body of air in the atmosphere that is mostly uniform in temperature and moisture

Climate- The long-term average of temperature and precipitation over a period of 30 years

Flooding - occurs when a river bursts its banks and overflows onto the surrounding land

Tropical storm- is a hazard that brings heavy rainfall, strong winds and other related hazards such as mudslides and floods

Climate Change - long-term shifts in temperatures and weather patterns.

Precipitation - any liquid or frozen water that forms in the atmosphere and falls back to the Earth. It comes in many forms, like rain, sleet, and snow

Micro-Climature - The climate of a small, specific place within a larger area

Weather - Weather is the way the air and the atmosphere feels. It includes the outside temperature, strength of the wind, and whether it is raining, sunny, hailing, snowing, sleeting, foggy, or cloudy.

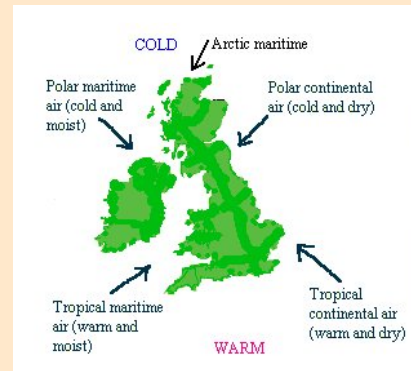
2 What is normal weather for the UK?

4 seasons, Summer, Autumn, Winter & Spring., Warm summers and mild winters. Rain occurs all year round. During winter, snow usually falls in Scotland, northern England and upland and mountainous areas.

Predominate wind direction from the South West.

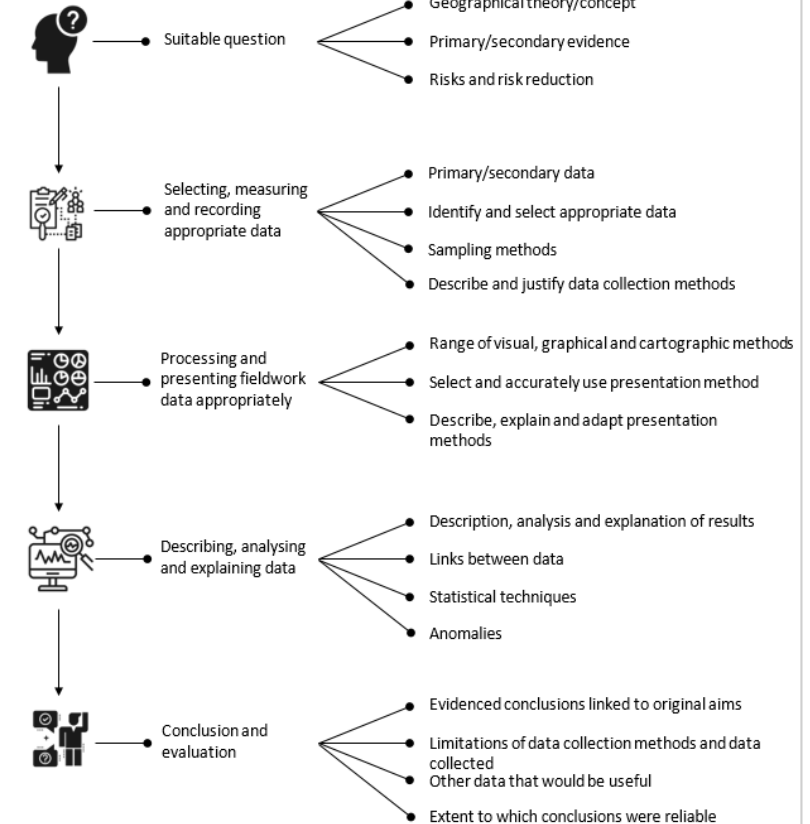
The UK is affected by 4 different air masses

- **Polar** – from the north brings freezing artic air.
- **Tropical** – from the south brings warm air from places from such as North Africa and the Mediterranean
- **Maritime** – from the west, brings moisture from the Atlantic bringing lots of rain.
- **Continental** – from the east brings dry from Europe and Asia.



3 Extreme Weather in the UK

Geographical Enquiry



4

Extreme cold – “Beast from the East” -Feb 2018

Caused by a change to the northern polar jet stream, which twisted its direction unexpectedly, drawing in cold air to the UK from the east.

Impacts

- Widespread snow and ice across much of the UK
- Disruption to transport. Deep snow and thick icy meant that people abandoned their cars or were forced to stay inside. Trains and flights cancelled.
- Schools a businesses closed (Some students were stuck in school overnight)

Management

- Advise on travelling , weather warnings issued across the country.
- Closure of schools, colleges and some businesses
- Roads gritted




Year 8 Geography Knowledge Organiser Learning Cycle 1

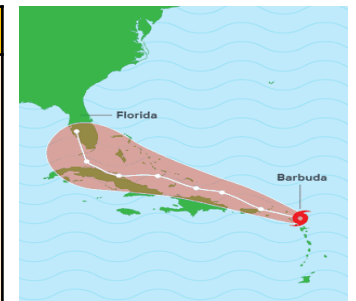
5 Flash flooding – Boscastle , Aug 2004	
<p>On the 16th August 2004 the small town of Boscastle on the North Cornish Coast flooded in a matter of hours.</p> <p>Causes</p> <ul style="list-style-type: none"> • Heavy localised rainfall - 75 mm of rain fell in 2 hours on the day of the flood. • The ground was already saturated from previous rainfall • The Topography. The landscape upstream of Boscastle, a steep-sided valley, acted as a funnel directing vast volumes of water into the village. • Narrow river channels in the village itself. 	
<p>Impacts</p> <ul style="list-style-type: none"> • The river burst its banks. • Extensive damages to homes, shops and other buildings. • The vast amounts of water washed 50 cars into the sea. • More than 60 people had to be airlifted to safety. 	<p>Responses</p> <ul style="list-style-type: none"> • Prince Charles made a large donation to help rebuild Boscastle. • £4.5 million has been spent on a flood defence scheme. • Boscastle car park has been raised in height, which will stop the river from bursting its banks so easily. • New drains allow water to run into the lower section of the river quickly. • The river channel has been made deeper and wider so that it can accommodate more water.

6 Distribution of Tropical Storms.
<p>They are known by many names, including hurricanes (North America), cyclones (India) and typhoons (Japan and East Asia). They all occur in a band that lies roughly 5-15° either side of the Equator.</p>

7 Formation of Tropical Storms	
1	The sun's rays heats large areas of ocean in the summer and autumn. This causes warm, moist air to rise over the particular spots
2	Once the temperature is 27°, the rising warm moist air leads to a low pressure. This eventually turns into a thunderstorm. This causes air to be sucked in from the trade winds.
3	With trade winds blowing in the opposite direction and the rotation of earth involved (Coriolis effect), the thunderstorm will eventually start to spin.
4	When the storm begins to spin faster than 74mph, a tropical storm (such as a hurricane) is officially born.
5	With the tropical storm growing in power, more cool air sinks in the centre of the storm, creating calm, clear condition called the eye of the storm.
6	When the tropical storm hits land, it loses its energy source (the warm ocean) and it begins to lose strength. Eventually it will 'blow itself out'.

8 Hurricane Irma 2017	
<p>Hurricane Irma first hit the island of Barbuda in the Caribbean and travelled north west across the Caribbean , Cuba and it hit Florida on the 10th Sept. It was a Category 5 storm when it made landfall on Barbuda on September 6, 2017, with winds of 185 MPH for 37 hours. It was a category 4 hurricane by the time it hit Florida.</p>	
<p>Immediate impacts</p> <ul style="list-style-type: none"> • Irma damaged 90% of the buildings on Barbuda (60 % of the population left homeless). • In the US 134 deaths and caused over \$65 billion in damage. • In the Florida Keys, the hurricane caused major damage to homes, buildings, trailer parks, boats, roads, the electricity supply, mobile phone coverage, internet access, sanitation, the water supply, and the fuel supply. 	<p>Long Term impacts</p> <ul style="list-style-type: none"> • Irma threatened \$1.2 billion in Florida's produce crops. The state is America's second largest grower of vegetables like tomatoes, green beans, and cucumbers. • Many Caribbean islands are strongly reliant on tourism and will continue to feel the economic impact of Irma for a long time into the future • Due to the significant impact of several hurricanes during 2017 insurance companies such as Lloyds of London reported an annual loss in earnings.

9 Management of Tropical storms
<p>Prediction and planning</p> <ul style="list-style-type: none"> • The hurricane was tracked across the Caribbean, so scientist were able to predict when it was likely to hit Florida. • 6.5 million people in Florida ordered to evacuate. • The east coast of America experiences tropical storms yearly, people have education in planning such as boarding up windows.

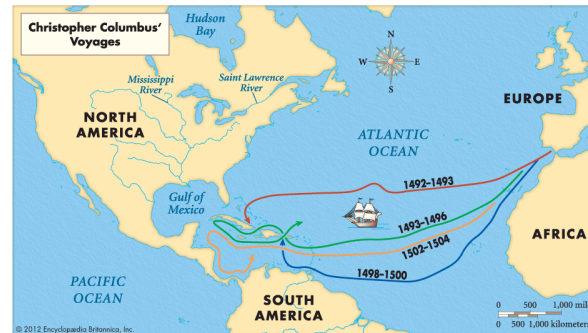


Year 8 History Knowledge Organiser Learning Cycle 1

1 Key terms and definitions

Key Word	Definition
Colonisation	To invade another country and settle there
Conquistador	A Spanish coloniser
Elizabethan	English people alive during the reign of Elizabeth I
Revolution	To overthrow the rulers
Ransom	Asking for money for the return of a prisoner

2 Discovery of America



Columbus discovers America in 1492

3 The Conquistadors

- Spanish send over Conquistadors to find gold in the South of America.
- They colonise the South of America and kill the Incan leaders.
- They control all of the Incan lands by 1572.



4 English colonies

Roanoke Colony – failed due to lack of supplies and colonisers with the wrong skills.

Jamestown – first successful English colony in 1607.



5 American War of Independence

- The settlers began to resent paying taxes without representation.
- The event that started the war was the Boston Tea Party.



6 Further reading, websites

Playlist of useful videos

<https://www.youtube.com/watch?v=xPm8E-zWwsQ&list=PLQn0jZGynv8dppkMIXwFjaN78bFHVDxBH&index=7>

Year 8 Spanish Knowledge Organiser Learning Cycle 1

1 Know your phonics!

When speaking in Spanish - accurate pronunciation is essential. Practise these sounds and 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>

2 Photos of the holidays

When describing a photo you want to include as much detail as possible. This vocab will help.

En la foto se ve = In the photo you can see
al fondo hay = In the background there is
a la derecha = to the right
en el centro = in the centre
a la izquierda = to the left
en primer plano = in the foreground

Can you answer these questions? Use your KO and Parallel text for support:

- ¿Qué opinas de viajar en tren/avión/barco etc?
- ¿Qué hiciste durante las vacaciones?
- ¿Qué haces normalmente en las vacaciones?

3 Vocab learning techniques

Your Knowledge Organiser includes all the topic specific vocabulary for this unit, this is also accessible on Memrise.

To effectively learn vocabulary, practise the suggestions below. What technique works best for you?

1. Look-cover-write-check This video demonstrates what to do: https://youtu.be/YFEzhGnJP_Q
2. Use the Parallel text. This video demonstrates what to do: <https://youtu.be/WcvVeNM6dWc>
3. Make Flashcards: <https://youtu.be/-SL9037YMKA>

4 The preterite

These are some of the most important verbs in the preterite. If you know these well, you can talk about most things in the past.

fui = I went
vi = I saw
fue = it was
me gustó = I like it
me divertí = I had fun
viajé = I travelled
visité = I visited
comí = I ate

Using a time frame is essential. What do these mean?
el año pasado
el verano pasado
en agosto

5 High frequency vocab

This vocab is commonly used all the time in Spain, the more of this you know, the better you will be able to communicate in any situation:

me flipa	} I like	dado que	} because
me mola		puesto que	
odio = I hate		ya que	
más...que = more...than			
menos...que = less...than			
mejor que = better than			
peor que = worse than			

6 Further reading, websites

Pronouncing words in Spanish:

<https://www.bbc.co.uk/bitesize/topics/zhy27nb/articles/zk78382>

How to talk about the past in Spanish:

<https://www.bbc.co.uk/bitesize/topics/zg9mhy/articles/zhgfmfr>

How to use adjectives and make comparisons:

<https://www.bbc.co.uk/bitesize/topics/zg9mhy/articles/zjdrvk7>



Year 8 Art Knowledge Organiser Learning Cycle 1 STRUCTURE AND FORM- AND WORDS AND ART

1

Key terms	Definitions
Tone	How the light falls on an object. From dark to light
Texture	What is the object made from?
Pattern	Repeating marks that can represent texture.
Experimentation of materials.	Use a range of materials to learn their different properties.
3D	Solid object with height, width and depth.
Preparatory Sheet	A2 paper full of drawings of natural forms using a range of materials.
Mono-Printing	Single print created from string or drawing.



Halima Cassell



Peter Randall-Page



Barbara Hepworth

2

What will I learn?

We are going to continue to develop our observation skills through experimentation of materials; building on skills and knowledge to create a 3D abstract final outcome.



3

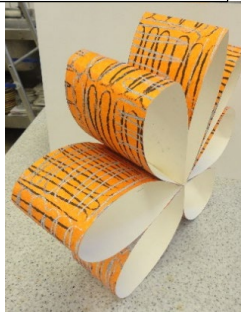
What do I need to know?

The formal and visual elements (such as line, shape, form, pattern, texture, colour etc). These elements combine to communicate in many ways, often suggestive of histories and traditions.

4

Useful Websites.

- <https://www.halimacassell.com/>
- <https://www.peterrandall-page.com/>
- <https://manchesterartgallery.org/exhibitions-and-events/exhibition/halima-cassell-eclectica-global-inspirations>
- <https://www.royalacademy.org.uk/art-artists/name/peter-randall-page-ra>



Year 8 Computer Science Knowledge Organiser Learning Cycle 1: Topic 1: Online Safety, Bias & Ethics

1

Data Protection Act	The law that governs the protection of personal data in the UK. It says personal data is private and should only be accessible by authorised people. Personal data must not be kept for longer than is necessary or used in ways not agreed.
Copyright law	The Copyright, Designs and Patents Act 1988 gives the creator of published material the control over the way it is used.
Freedom of Information Act 2000	Legislation introduced to give the public the right to access information recorded by public sector organisations.
Ethics	Having morals and principles and 'doing the right thing', irrespective of profit. Ethical issues in computing include: <ul style="list-style-type: none">▪ ensuring public safety▪ security of data
Hacker	A person who tries to gain unauthorised access to a computer.

2

Stay safe online by:

- Not sharing passwords
- Using complex passwords
- Check the age for sites and applications
- Block, Report and Tell someone if you are concerned.



3

Ethics

Many people around the world use computers and new technologies have provided many improvements in society. This has raised various ethical, legal, cultural and environmental concerns. It has also highlighted important issues surrounding privacy.



4

Bias - Biased information is information that is written from a particular perspective or point of view.

This could be due to:

- personal opinion
- a statement that has no factual basis
- prejudiced in favour of or against a person, product, situation or idea



Year 8 Computer Science Knowledge Organiser Learning Cycle 1: Topic 2: Computer Hardware and the CPU

1

Hardware	The physical parts of a computer system, eg a keyboard, hard disk drive or CD drive.
Input device	Any piece of computer hardware used to provide data to a computer system: Mouse, keyboard, camera, microphone
Output device	Any piece of computer hardware used to communicate the results of data that has been processed
Software	The programs, applications and data in a computer system.
CPU	Central Processing Unit – 'the brains' of the computer. Manages the instructions from the software.
Fetch-Decode-Execute Cycle (FDE)	The cycle used by the CPU to fetch an instruction, decode it and then execute, or do the command.
Memory	Computers contain two types of memory read only memory (ROM) and random access memory (RAM)
Secondary Storage	Extra storage can be used to store data needed by the computer, eg Solid State (USB) and Optical (DVD, CD)

2



Modern computers

Receive **input**, **process** it, produce **output**

General-purpose: designed to automate any process, as specified by a **program**

The data and instructions to be performed can be stored in **memory**.

The computer is the only appliance that can do more than one thing. **We use Software to program the computer to do things: play games, create art, listen to music.**

A computer is general purpose – it doesn't have a specific, well-designed purpose, the software is used to define what it does.

Compare this to a toaster - Toasters only toast – they are specialised, but the computer can do hundreds of tasks.

3 History of Computing

Ada Lovelace was the first person to write computer programs. She predicted that one day machines would do more than just maths.

Alan Turing Alan Turing created machines during the war. They helped people read secret coded messages.

Charles Babbage Charles Babbage designed a machine called the Analytical Engine 200 years ago. If it had been built this machine would have been the first modern computer.

Year 8 D&T Knowledge Organiser Learning Cycle 1

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.

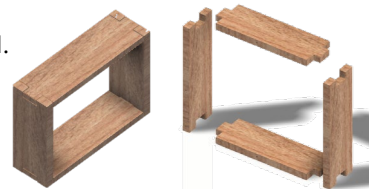
These are both deciduous trees which grow in Europe, they drop their leaves each year and grow very slowly. They have a very close grain They produce hardwood which is much more expensive than softwood because it takes longer to produce. It will last much longer, possibly hundreds of years.

Stock forms

Available as planks and boards.

Alternative materials

MDF, Plywood, Chipboard.



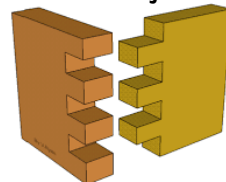
Wood Joints

A wood joint is needed to provide a strong structure.

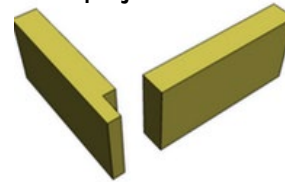
Joints are used to lock parts together and increase the surface area for gluing.

We are likely to use Comb joints and lap Joints.

Comb joint



Lap joint

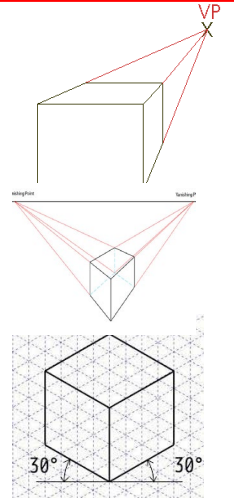


3 Design drawing.

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 1

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

5

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 B₁ and B₁₂ 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 1

1 Key terms and definitions

Key Terms:

Prophet Muhammad (pbuh): The last prophet.

Qur'an: Muslim holy book

5 Pillars: 5 duties a Muslim carries out to support their faith

Shahadah: declaration of faith

Salat: Prayer

Sawm: Fasting

Zakat: almsgiving

Hajj: pilgrimage

Sadaqah: giving money, time and skills to help others.

Iman: Faith

Ibadah: Worship and belief in action






Akhlaq: Character and moral conduct

Halal: actions/things which are permitted (food, clothing).

Haram: actions/things which are forbidden (food, clothing).

Hijab: a head covering worn by Muslim women in public.

2

5 PILLARS OF ISLAM		
	SHAHADAH	<i>Belief that there is only one Allah and that Muhammad is Allah's messenger.</i>
	SALAH	<i>Prayer are to be given Allah five times each day</i>
	ZAKAT	<i>Giving of alms, charity, to the poor 2.5% of income</i>
	HAJJ	<i>Making pilgrimage to the House of Allah in Mecca</i>
	FASTING	<i>Fasting sunrise to sunset during the Month of Ramadan</i>

4 The holy month of Ramadan

Most Muslims fast between dawn and sunset. Fasting allows Muslims to devote themselves to their faith. It is thought to teach self-discipline and reminds them of the suffering of the poor. However, children, pregnant women, elderly people and those who are ill or travelling don't have to fast.

During Ramadan, it is common to have one meal (known as the **suhoor**), just before dawn and another (known as the **iftar**), directly after sunset.

3 Food and Drinks

Food which Muslims are allowed to eat is called **halal** and the food they should not eat is called **haram** (an Arabic word for 'unlawful' or 'forbidden'). In order for meat to be halal, the animal must be slaughtered in a particular way. Most Muslims believe that the rules around the slaughter of animals are designed to minimise pain and distress for the animal. Alcohol and illegal drugs are haram.

5 Further reading, websites

[Facts about Islam – KS3 Religious Studies – BBC Bitesize](#) - BBC Bitesize