

Knowledge Organisers Year 8 Summer 2022

Knowledge Organisers

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Art
Computing
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Design Technology (DT)
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Science
*Some subjects have Knowledge Organisers which last two terms or a year, therefore it will be the same as in past booklets.

An Introduction to Knowledge Organisers

What is a Knowledge Organiser?

A knowledge organiser is a document, usually one side of A4, occasionally two, that contains key facts and information that children need to have a basic knowledge and understanding of a topic, or in some cases a series of topics.

Students are expected to bring their Knowledge Organiser Booklet to school every day. Students will be issued with a new booklet to bring each term. However, it is import they keep the old booklets to help with revision for end of year exams.

What are the benefits of knowledge organisers?

The main benefit of knowledge organisers is that they give students and parents the 'bigger picture' of a topic or subject area. Some topics can be complicated, so having the essential knowledge, clear diagrams, explanations and key terms on one document can be really helpful.

Research shows that our brains remember things more efficiently when we know the 'bigger picture' and can see the way that nuggets of knowledge within that subject area link together. Making links, essentially, helps information move into our long-term memory.

How can the students use them?

As mentioned earlier, students are expected to bring their Knowledge Organiser Booklet to school everyday. In lessons they can be used in a number of ways, for example, to look up the meaning of key words, spell words correctly and do some additional work if they have finished classwork.

At home knowledge organisers can be used to support homework, independent work and revise for tests and exams. Two quick and easy ways to do this are:

- 1. <u>Look, cover write, check</u> look at <u>part</u> of the knowledge organiser, cover it, write as much as you can remember and then check it
- 2. <u>Word up</u> Pick out any words you don't understand. Use a dictionary or thesaurus to find the meaning. If they don't help as your teacher.

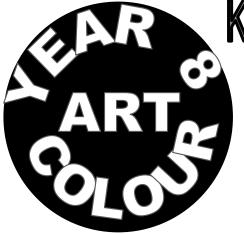
The more often you do this the better. YouTube has some clips on them; search 'Mr Garner look, cover, write, and check 'and 'Mr Garner word up'

How can parents use them?

- Read through the organiser with your son/daughter if you don't understand the content then ask them to explain it to you 'teaching' you helps them to reinforce their learning.
- Test them regularly on the spellings of key words until they are perfect. Get them to make a glossary (list) of key words with definitions or a list of formulae.
- Read sections out to them, missing out key words or phrases that they have to fill in. Miss out more and more until they are word perfect.

How the booklet is organised

The knowledge organisers are in alphabetical order by subject.



Knowledge Organiser - Term 2 & 3

INDIA
AFRICAN
NATIVE AMERICAN
CELTIC
ISLAMIC
CHINESE

MAORI JAPANESE ABORGINAL MEXICAN AZTEC Cultures around the world

KEY WORDS

Primary

Secondary

Tertiary

Complementary

Highlight

Abstract

Shadow

Shade

Tone

Cool

Warm

Application

Foreground

Background

Colour Theory:

The primary colours are the three main colours. They cannot be made but when mixed together they make all other colours.

The secondary colours are made by mixing two primary colours together

The tertiary colours are made by mixing a primary and secondary colour together.

Complementary colours are opposite on the colour wheel. They contrast each other to have a vibrant look.

To make a lighter colour you add white, this is called a tine.





Skills

Pattern and symbolism Printmaking

Culture understanding/ application

Development of mixed media skills

<u>Artists inspired by colour</u>

Claude Monet

Henri Matisse

Barbara Rae

Georgia O'Keeffe

Mark Rothko

David Hockney

Warm colours - perceived as ener-

Cool colours— are

attract attention and are generally getic or exciting.

generally perceived as soothing and

WARM COLOURS

I RED

ORANGE

■ YELLOW

COOL COLOURS

BLUE

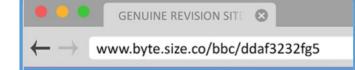
GREEN

VIOLET

Computer Misuse Act 1990

The CMA was made law in 1990 and has been updated several times since. It outlines four offences:

- 1. Unauthorised access to computer material.
- 2.Unauthorised access to computer material with intent to commit further crime.
- Fraud or blackmail could be committed with the information found out
- 3. Unauthorised modification of computer material
- This means changing programs or data on a computer.
- Using malware, such as viruses and trojans.
- 4. Making, supplying or obtaining anything that can be used to assist in hacking a computer system.
- This means creating, distributing or knowingly getting malware.



How to Spot Fake News

- Has the story been reported anywhere else? Is it on the radio, TV or in the newspapers?
- Have you heard of the organisation that published the story?
- Does the website where you found the story look genuine? Does it look like a copycat website?
- Does the website address at the very top of the page look real? Is the end of the website something normal like '.co.uk' or '.com', and not something unusual, like 'com.co'?
- Does the photo or video look normal?
- Does the story sound believable?

Computing: The Impact of Computers on Society

How society has been shaped by information technology

Why are Games so Addictive?

Tactics used by games designers to keep you playing:

- 1. They are often free.
- 2. Earn rewards for playing.
- 3. Punishments for not playing.
- 4. Notifications to remind you to play.
- 5. Use an in-game currency to buy game enhancements.
- 6. Progression points, such as XP.
- 7. Endless games.
- 8. Complete levels with a scoring system, such as stars.
- 9. Daily rewards that increase as you play more.
- 10. Global league tables.

Copyright

Key words:

Copyright is a law to protect creators of work from other people stealing it.

Work can mean pieces of literature, photographs, artwork, music, video software etc.

Plagiarism is passing off somebody else's work as yours.

Public domain work is not protected by copyright law.

Creative commons licences allow certain things to be done to work. This is decided by the owner.

Attribution is giving the owner credit for the work.

Drama Knowledge Organiser: Year 8

Blood Brothers	Soap Opera	Theatre through the ages
 Willy Russel wrote the play Blood Brothers in the 1970's. The main characters are Edward and Mickey; two twins separated by birth. Mrs Johnstone and Mrs Lyons demonstrate the class divides in Liverpool at the time. They are both the parents of the boys. Linda is both brothers' best friend and Mickey's future wife. Prologue - Piece of text before the action explaining what is about to happen. Musical theatre- Theatre created with sona 	 Students will understand the basic features of a soap opera. Over exaggerated. Very dramatic and over the top storylines. Understanding/creating setting and plot within a performance. Creating and sustaining character using skills such as- Gait, Voice, Facial Expressions and Gesture. Identify and explain key elements of soap operas and effectively explain and perform stereotypical characters. Exploring new skills such as, Marking the Moment and Cross-Cutting. 	 Greek theatre - Chorus, amphitheatre, masks and movement. Medieval - trades, biblical stories and guild. Commedia - Exaggeration, masks, body language, characterisation, Kabuki - Dance, design, set, costume and make-up. Victorian theatre - Stock characters, Melodrama, Shakespeare, globe theatre. Naturalism - Stanislavsky, emotional memory, relaxation, character building. Brecht - Epic theatre, non- naturalism, placards, alienation.
song. Anne Frank	Moment and Cross-Cutting. Key Words	Employability
 Exploring a historical event/person(s) Utilising Brecht's techniques: Explanatory captions, placards, illustrations, songs, narration, third-person narration, stage directions, breaking the fourth wall, multirole, split-role 'Epic Theatre' Bertolt Brecht Socio-political issues Realism Catharsis 	Pitch Pace Important Practitioner: Pause Volume Tone Diction Choral Speaking Role on the wall Gait Body Language Facial Expression Posture Cross - cutting Marking the moment Direct Address Interpretation of text Genre	 Team work Collaboration Listening Skills Creative Thinking Leadership Focus Concentration Positivity Confidence Self-Belief Problem solving Reflection Refining work Independence

Year 8 Cooking & Nutrition Mediterranean Cuisine Knowledge Organiser

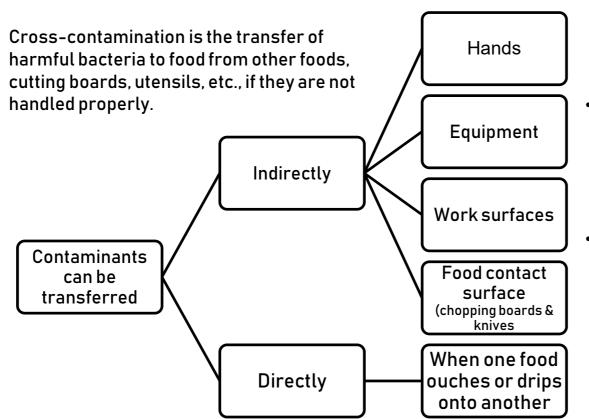


Food Hygiene



VEGETABLES

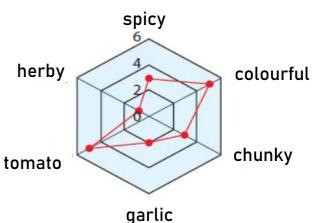
BAKERY & DAIRY



Sensory Testing/Star Profile Charts

These kind of tests can be used to find out what people particularly like about a food product to help build up a profile of it according to a range of sensory qualities such as saltiness, smoothness, crispiness, flavour.

Star profile –This type of test gets testers to describe the appearance, taste and texture of a food product on a star chart.



Key abbreviations: Weights and Measurements		
L	Litres	
g	Grams	
ml	millilitres	1000ml =1 litre
Kg	kilograms	1000g
Tbsp	tablespoons	15ml
Tsp	teaspoon	5ml
1pt	1 pint	568ml

Bread Production Flow Chart



Flour and Other Ingredients

Weighing

Kneading

Mixing Resting

Dividing/Moulding

Proofing

Baking Cooling Slicing

Packaging

Example Time Plan

Time	Process	Hygiene & Safety
8:50 – 9:00	Collect all equipment and ingredients. Wash hands.	Is fridge 0°C - 4°C?
9:00 – 9:15	Dice onion, peppers and mushrooms.	Use a green chopping board. Use bridge and claw techniques.
9:15 – 9:30	Thread vegetables onto a skewer. Make dressing.	Ensure skewer has been soaked in cold water.

Key vocabulary		
Design Brief	An written outline which	
	explains the aims and	
	objectives and milestones of a	
	design project.	
Task Analysis	Breaking a design brief down to understand the requirements of the task.	
Target Audience	The person or people most likely to be interested in your design or product.	
Mediterranean Cuisine	Food from the countries that surround the Mediterranean Sea.	

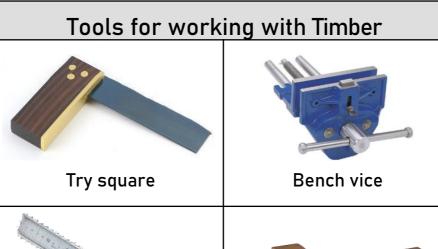
Year 8 Product Design Knowledge Organiser

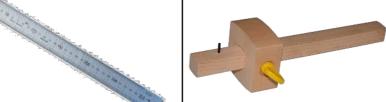
Picture Frame Clock Design

Key Skills

- Responding to a Design Brief & identifying an audience
- Developing CAD skills using 2D Design tools to create a clock face design appropriate for a target audience
- Applying Health & Safety procedures and PPE in the workshop environment
- Identify specific workshop tools and equipment
- Developing practical skills to create lap & rebate joints to join materials
- Knowledge of specific timbers & their origins
- Inserting a clock mechanism
- Prototype modelling including finishing & presentation skills
- Evaluating the manufacturing process

Belt & Disc Sanders

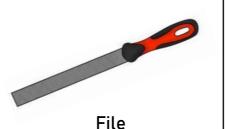




Marking gauge



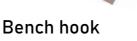
Steel rule





Tenon saw





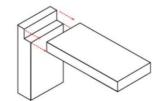


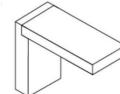
Joining materials - construction techniques

Lap & Rebate joints

A lap or rebate joint is where two pieces of material overlap. This joint can be used to join wood, plastic, or metal.

Coping Saw





Key vocabulary	
Function	What a product does, how it works and what it will be used for?
Target Audience	The person or people most likely to be interested in your design or product.
Wood grain	Wood grain is the pattern made by the wood fibres in trees when it grows.
Materials	What something is made from.
Clock mechanism	This is the engine of a watch that makes the clock and its functions work.
Finishing	The process of applying a finish to preserve or protect a material & improve aesthetics.
Modelling	To present ideas in 2D & 3D to the user (target audience) or client.
Prototype	A prototype is a model that is built to test to see if it is successful or whether it needs further modification or improvements.
PPE	Personal protective equipment are items

Timber is a natural material with imperfections, knots and grain - always sand with the grain

Softwood

From coniferous trees that are evergreen, which are faster to grow and are less expensive than hardwoods. Softwoods are a sustainable material as the resource can be regrown and not depleted. Softwoods are strong and easy to work with.

Manufactured boards are timber produced by gluing wood layers or wood fibres together.

Medium Density Fibreboard

Medium Density Fibreboard or also known as MDF is made from wood fibres which are glued together. MDF has a smooth even surface which makes it easier to work than natural timber.

Year 8 Product Design Knowledge Organiser Pizza Cutter Ergonomic Design

design technology

Key Skills

- Responding to a Design Brief & identifying an audience
- Applying Health & Safety procedures and PPE in the workshop environment
- Understand the key working properties of acrylic and aluminium
- Investigate temporary and permanent joining methods
- Identify specific workshop tools and equipment
- Developing practical skills to create
- Prototype modelling including finishing & presentation skills
- Evaluating the manufacturing process



Tools for working wi	th metals and plastics
Toole for working w	
Engineers square	Bench vice
Engineers square	Benefit vice
Steel rule	Centre Lathe
Hacksaw	File
The state of the s	
Wet and Dry Sandpaper	Pillar drill

	Key vocabulary
Function	What a product does, how it works and what it will be used for?
Target Audience	The person or people most likely to be interested in your design or product.
Lathe	A lathe is a machining tool that is used primarily for shaping metal or wood. It works by rotating the workpiece around a stationary cutting tool.
Materials	What something is made from.
Ergonomic	Ergonomics is the application of psychological and physiological principles to the engineering and design of products, processes, and systems.
Finishing	The process of applying a finish to preserve or protect a material & improve aesthetics.
Modelling	To present ideas in 2D & 3D to the user (target audience) or client.
Prototype	A prototype is a model that is built to test to see if it is successful or whether it needs further modification or improvements.
PPE	Personal protective equipment are items such as goggles and aprons.

Married on 1 1988/94	Aluminium is a silvery-white, lightweight metal. It is soft and malleable. Uses. Aluminium is used in a huge variety of products including cans, foils, kitchen utensils, window frames, beer kegs and aeroplane parts.
Acrylic	Acrylic is a transparent plastic material with outstanding strength, stiffness, and optical clarity. Acrylic sheet is easy to fabricate, bonds well with adhesives and solvents, and is easy to thermoform.

Joining materials - construction techniques

Rivets:

Rivets are used to join plates together and they have been used for hundreds of years.

Before the widespread use of welding.

Year 8 Textiles Knowledge Organiser

Sustainable Children's Toy

Key Skills

- Responding to a Design Brief
- Analysing existing products
- Identifying a target audience
- Designing & annotating to include a range of a range of decorative and construction techniques
- Demonstrating ability to complete decorative techniques:
 - Tie dye
 - Appliqué
 - Hand embroidery stitches (running stitch, blanket stitch)
- Using a range of construction techniques:
 - 3D features
 - o Inserting wadding
 - Applying buttons & googly eyes
 - Sewing seams on the sewing machine
- Understanding the properties of materials:
 - Natural fibres & organic fabrics





100% ORGANIC

Product	features
Consideration of a specified target market	Appliqué or reverse appliqué
Engaging & stimulating	Creative & individual
Recycled materials & components as decoration	Features are in proportion to the body shape
Organic Cotton fabric	Accurate machine stitches
3D features	Seam allowance
Hand embroidery	Sustainable

Health & safety
Follow teacher instructions
Move slowly around the room do not run
Tie long hair back
Hold scissors or shears correctly when walking around the room.
Only one person operating a sewing machine at one time
Never use a sewing machine unless supervised by a teacher/technician
Turn off the sewing machine when not in use.
Report any injuries or breakages to the teacher immediately

	Key vocabulary
Design Context	The circumstances, problem or setting in which a product will be used.
Design Brief	An written outline which explains the aims and objectives of a project.
Target Audience	The person or people most likely to be interested in your design or product.
Function	What a product does, how it works and what it will be used for? Is it sensory or educational or both?
Sustainable	Conserving an ecological balance by avoiding the depletion of natural resources.
Organic Cotton	Cotton that is produced without the use of chemical fertilizers, pesticides, or other artificial chemicals that cam pollute the environment and be harmful to the producer.
Fairtrade	When producers in developing countries are paid a fair price for their work.
Materials	What the product is made from?
Components	The parts/materials/threads needed to make a product.
Interactive	Components or features that can be attached/detached or have different textures
3D features	Use of wadding to make a feature stand up or raised off the backing fabric
Aesthetics	How a product or design looks .
Embroidery	Even stitch widths and lengths completed by hand sewn stitches
Reverse appliqué	A decorative technique whereby a fabric is sewn on the reverse of the top fabric and is visible from the front
Appliqué	A decorative technique whereby one material is sewn on top of another by machine
Tie dye	Patterns in cloth created by tying parts so its resists the dye.

ENGLISH KNOWLEDGE ORGANISER: ROMANTIC POETRY

Popular poetry of the late 18th and early 19th century The genre was introduced and developed by William Wordsworth and Samuel Taylor-Coleridge Wordsworth's Lyrical Ballads (1798) is the first major collection of Romantic Poetry Romantic poems celebrated the natural world Romantics thought we could learn from nature and understand life better from its example FAMOUS ROMANTIC POETS William Wordsworth (1770-1850) Samuel Taylor Coleridge (1772-1834) William Blake (1757-1827) P.B. Shelley (1792-1822) Lord Byron (1788-1824)

'JERUSALEM' BY WILLIAM BLAKE

- This poem was written by Blake by 1820
- It celebrates the past beauty of England by comparing it to the Holy land of Jerusalem

Romantics were fascinated by the human mind and imagination

 It is a poem that fears the impact of industrial change on beautiful, rural England

KEY QUOTES:

- 'dark satanic mills'
- 'England's green and pleasant land'
- 'Bring me my chariot of fire!'

'OZYMANDIAS' BY P.B. SHELLEY

- This sonnet was written by P.B. Shelley in 1818
- Shelley wrote this poem, inspired by the discovery of the statue of Ramesses
 II in Egypt. He wrote it before the statue had even arrived in the British
 Museum in London, where you can still see it today

John Keats (1795-1821)

UNIT: 4

- Rameses was a tyrant who had immense power in Egypt; he fought many wars and built many monuments to celebrate this power
- Ozymandias is the Greek name for Ramesses II.

KEY QUOTES:

- 'Two vast and trunkless legs'
- 'Look on my works, ye Mighty, and despair!'

'SONGS OF INNOCENCE AND EXPERIENCE' BY WILLIAM BLAKE

- These collections of poems were counterparts to each other: Songs of Innocence was published in 1789 and the Songs of Experience in 1794.
- Blake explored childhood innocence in his first collection and then explored the adult world of 'experience' and suffering in a time of industrialisation and war. Here are some examples...

 | THE CHIMNEY CHIEF PARTY | PROPERTY | PROPERTY

THE LAMB (INNOCENCE) AND THE FIGER (EXPERIENCE)	THE CHIMNET SWEEPER FOEMS
These poems use animal symbolism to explore the innocence of	These poems explore the experiences of young chimney sweepers. Blake criticises
childhood (<i>The Lamb</i>) compared to the corruption and	how institutions like the Church would justify this child labour through religion
industrialisation of the Victorian era (<i>The Tyger</i>) KEY QUOTES	with working be the behaviour of good boys. KEY QUOTES
The Lamb: 'Little Lamb, God bless thee!'	The Chimney Sweeper (Innocence): 'If all do their duty they need not fear harm'
The Tyger: 'Tyger tiger, burning bright/In the forests of the night'	The Chimney Sweeper (Experience): 'They clothed me in the clothes of death'

KEY SPELLINGS FOR THIS SCHEME OF WORK

Romanticism	ballad	symbolism	pastoral
sublime	sonnet	refrain	radical
beautiful	meter	enjambment	persona
awesome	rhyme	caesura	speaker

ENGLISH KNOWLEDGE ORGANISER: INTRODUCTION TO THE GOTHIC GENRE

GOTHIC CONVENTIONS

- Elements of both the horror and romance genres
- Texts feature sinister settings like castles, dungeons, secret passages, etc. Sometimes
 they feature vast landscapes too Frankenstein has chapters set in the Swiss mountains
 and the Arctic!
- The weather is often used to create fear: storms, thunder, lightning, mist and fog are all common examples
- Curses, secrets, hauntings and bad omens are amongst the supernatural conventions of the genre
- Typical character types are ghosts, vampires, monsters, doppelgangers and scientists. This was because of people's greater supernatural beliefs and their increasing curiosity into the possibilities of scientific discover

FAMOUS OLDER GOTHIC NOVELS

The Castle of Otranto by Horace Walpole (1764) - the first Gothic novel

Northanger Abbey by Jane Austen (1817) Frankenstein by Mary Shelley (1818)

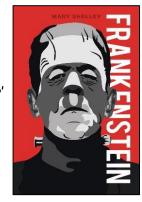
Dracula by Bram Stoker (1897)

Dr. Jekyll and Mr. Hyde by Robert Louis Stevenson (1886)

The genre has continued to be popular because readers enjoy being scared and discovering the truth of many of the mysteries gothic texts hold!

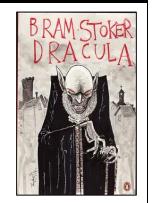
FRANKENSTEIN

This famous novel features the tale of a young doctor, Victor Frankenstein, who due to bereavement decided to try and recreate life. He uses body parts that he gathers and creates a means of using electricity to bring his 'monster' to life. Victor is immediately scared of his monster and abandons it - this makes for a very interesting discussion of who the real 'monster' of the novel is.



DRACULA

Dracula is probably the most famous vampire in literature! A young lawyer travels to Castle Dracula in Transylvania; he quickly realises though that the gentleman that lives there has effectively made him a prisoner. After nearly being attacked by female vampires, Jonathon escapes and returns to England.



UNIT: 5

However, soon in England, people start becoming ill and dying... and with two little red marks appearing on their necks...

DR. JEKYLL AND MR. HYDE

Dr. Jekyll is a doctor and scientist who is very good friend with a lawyer called Mr. Utterson. However, Jekyll starts behaving very unusually and seems incredibly depressed. This change seems to tie-in with the sudden introduction of a criminal called Mr. Hyde who scares everybody who meets him, although little else is known about him. Who could this strange man be?

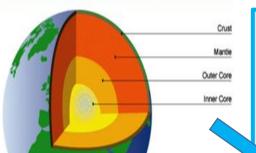




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IVEL OF PEFILION LOW LINE	Josielie of Moldi			
supernatural	grotesque	isolation	isolation	morality
imprisonment	monstrosity	abandonment	abandonment	criminality
power	haunting	abjection	abjection	deformity
sublime	trope	ancestral curse	ancestral curse	science

Layers Of The Earth



Lesson 3-4: The Theory of plate tectonics and the location patterns of Vols and Equakes.

ever fit together? Wegner said they did and they have drifted apart.... Evidence has found that convection cells

Did the continents

move the plates in

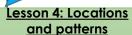


Year 8 Geography Unit 4: Tectonic Landscapes

Lesson 1-2 To identify Volcanoes and Earthquakes as hazards and to understand the structure of the Earth.

Vols and Equakes can cause different and similar general effects – For example volcanoes can create fires but so can earthquakes. However so effects are different. For example Earthquakes can create buildings to collapse but Vols can cover towns in super hot gases and ash.

The Earth has 4 basic layers to it. CRUST, MANTLE, OUTER CORE AND INNER CORE. All have different thicknesses, temperatures and made from different materials. It is hottest at the core which is a solid ball of Iron and Nickel while the only fully liquid layer is the Outer Core. The mantle is the thickest layer and the crust is the coolest and thinnest.



Vols and Equakes are found in LINEAR patterns often near to each other. They often occur on the edges of continents where plate boundaries are found

Lesson 6 Plate boundaries: DESTRUCTIVE. CONSTRUCTIVE. CONSERVATIVE AND COLLISION Destructive Oceanic vs oceanic away continental sliding Continental from oceanic past continental

Lessons 7-9 Two examples of Earthquakes – LIC Haiti 2010 in the Caribbean and a HIC example of Japan in 2011.

Both had severe effects however, Haiti was less prepared and the damage was more serious due to it being very poor. Japan coped better even though it was a big event. It was prepared and buildings were stronger.

Lesson 10-Composite and Shield

differences_and the key parts to volcano



Crater, Cone Vent, Ash Magma Chamber Lava,

Lesson 11- 14

LIC Example: Volcanic eruption in the Congo – Nyiragongo

HIC Example: Mt Etna in Italy.



Primary Effects	The effects of a disaster that happen immediately. For example People are trapped under rubble in an Earthquake.
Secondary Effect	These are effects that happen a while after the a disaster. For example In an Earthquake fires can start and burn houses down.
Plate Boundary	This is where there is a crack in the earth's crust, it is a dividing line. The plates can move.
Responses	Prediction, planning and protection can be put in place so we know how to react/respond to a

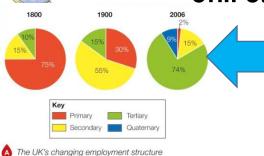
disaster.



Year 8 Geography **Unit 3: Economic Activities**







Lesson 1-2: Economic activities are split into 4 categories, primary, secondary, tertiary, quaternary.

Lesson 17:

- In the past, the UKs economy was based on farming. Two types- arable and pastoral farming
- During industrialisation, the UK moved to the secondary sector
- De-industrialisation (factories and industry moving to elsewhere)
- The UK then moved into tertiary and quaternary sectors

Lesson 2-4: When choosing a site for a factory to locate, the following factors need to be considered:

Raw materials-These are the things that are made into something

Labour- These are the workers who work at the factory

Power- This is the energy used to make the factory work

Transport-This is how the natural resources and finished products are moved

Market-This is the place where the finished products are sold

Site-This is where the factory is located



Lesson 5-6: 'Made in China' China now produces goods for the world. This has given China much more money, but has harmed the environment

Lessons 10-15: Shopping patterns, high street change and Altrincham fieldwork.



Out of town shopping centres (like the TC) led to a decline in UK high streets, especially Altrincham, resulting in many empty shops. Altrincham has changed its high street to attract more people back to it.

Methodologies carried out during Alt. fieldwork. These were presented as a bipolar graph and bar chart.

	HOW?	Wh	POSITIVES?	NEGATIVES?
Land Use Mapping				
Environmental Quality				
Pedestrian Counts				

Lesson 16: High tech industries: These are advanced industries, that develop new things. They are located near business/science parks and Universities so they can recruit a highly skilled workforce.

The M4 corridor is the most famous UK EG



Lesson 18: Modern industries, like quarries, can be made more sustainable. This means that the damage they do to the environment can be reduced. One way to do this is by turning old quarries into nature reserves.



Ō



	Definition
Primary	collecting or producing raw materials e.g coal miner, farmer
Secondary	making something using the processed raw materials. Manufacturing products. e.g a joiner
Terliary	Selling services or skills. e.g banking or retail jobs
uaternary	Providing information services. E.g. research and development jobs,

government



Wellington History Year 8 HT 5 Knowledge Organiser

How was slavery abolished by the Americans and the British? Has Britain (and Manchester) done enough to confront its links to the Slave Trade?



- ✓ What and why? To study the variety of reasons for the ending of the slave trade and the impact of slavery on the modern world. You will also consider whether Britain has done enough to acknowledge the impact of slavery.
- Stop, think and link: Why did the Slave Trade develop?
 What impact did slavery have?

Want to explore further?

Book: Underground to Canada by Barbara Smucker

Book: Brit(ish) On Race, Identity and Belonging by Afua Hirsch

Book: The Interest How the British Establishment Resisted the

Abolition of Slavery by Michael Taylor

Documentary:

https://www.bbc.co.uk/iplayer/episodes/b063db18/britains-

<u>forgotten-slave-owners</u>



Key Questions

- Why did the British abolish slavery?
- How was abolition different in the USA?
- Did life change after the abolition of Slavery in the USA?
- Did life change after the abolition of Slavery in British colonies?
- How important was slavery to the Industrial Revolution?
- How should we remember the Salve Trade?
- How does Quarry Bank Mill confront its links to slavery?
- Should Britain do more to confront its link to the Slave Trade?

Key events and Key People

Ignatius Sancho: Well known 18th century black Briton, and the first to vote in an election

William Grenville: Prime Minster of Britain from 1806-1807

Olaudah Equiano: Freed slave who lived in London as a prominent

antislavery campaigner

Thomas Clarkson: Leading campaigner against slavery and the slave trade

1582: First English Slavery voyage to Africa **1660:** Royal African Company is founded

1787: Thomas Clarkson sets up the Abolition of Slavery Committee

1789: Olaudah Equiano publishes his autobiography

1791: The slave rebellion on St Domingue

1804: The slaves on St Domingue win the rebellion

1807: The Slave Trade is abolished in Britain **1833:** Slavery abolished in Britain's Empire

1861-1865: The American Civil War is fought between Northern and Southern States. The North defeats the South and Slavery is officially abolished in the USA.

Keywords

Abolish

To stop something happening by making it illegal

Abolitionist

Someone involved in public campaigning to end slavery and the slave trade

Boycott

Refusal to purchase a particular product as an act of protest

Labour

Physical work done by people

Middle Passage

The second voyage of the Triangular Trade

Petition

A written request made to the government asking for change

Plantation

Fields where crops were grown

Quaker

A Christian group

Slavery

A slave is a person who is owned by another person. Slaves are forced to work and are not paid.

Society for the Abolition of the Slave Trade

Group formed in 1781 to campaign for an end to the slave trade

Civil War

War between two groups within one country

Key Stage 3 Topic 15: Angles

Topic/Skill	Definition/Tips	Example	Non-example
Introduction to angles	A right angle is 90°. An acute angle is less than 90°. An obtuse angle is between 90° and 180°. A reflex angle is between		
	180° and 360°. Angles are labelled using	R	The labelled
	three letters. They are determined by the lines forming the angle with the middle letter being where the angle 'is'.	The labelled angle is $\angle BAC$	angle across is not angle A .
	Angles around a point add up to 360°.	w + x + y + z = 360	
	Angles on a straight line add up to 180°.	E = x - y - C $x + y + z = 180$	$x + y \neq 180$
	Vertically opposite angles are equal. 'Vertically' is used as the angles are around a single vertex.	x = y	$x \neq y$

2.	Angles in triangles	Angles in a triangle add up to 180°.		
3.	Properties of triangles	A <u>scalene triangle</u> has all lengths and angles of different sizes. An <u>isosceles triangle</u> has two equal lengths and angles.		
		An <u>equilateral triangle</u> has all equal lengths and angles (60°).		
		A <u>right-angled triangle</u> is either scalene or isosceles but contains a right-angle.		
		Two shapes are congruent if they have all properties exactly the same (other than orientation).	SSS 8cm Z 6cm 7cm Z	
		Two triangles are congruent if you can match up:	SAS 7cm 9cm 9cm 9cm	
		SSS (Side, Side, Side) SAS (Side, included Angle, Side)	ASA × 700 6cm 450 Z	
		ASA (Angle, included Side, Angle)	RHS	
		RHS (Right angle, Hypotenuse, Side)	8cm Z 8cm Z	
4.	Angles in quadrilaterals	Angles in a quadrilateral add up to 360°.		

5.	Properties of quadrilaterals	A square is a special rectangle (all sides are same length).		
		A square is a special rhombus (all angles are the same size).		
		A rectangle is a special parallelogram (all angles are right-angles).		
		A rhombus is a special parallelogram (all lengths are the same size).		
		A parallelogram is a special trapezium (two pairs of parallel sides).		
		A trapezium has four sides and one pair of parallel lengths.		
6.	Properties of polygons	An interior angle of a polygon is an angle on the inside of a shape.		
		An exterior angle is formed by extending an edge and measuring the angle.		
		The sum of interior angles for an n -sided polygon is: $180(n-2)$	The sum of a heptagon (7-sided shape) is: $180(7-2) = 180 \times 5 = 900$	
		The sum of exterior angles for an n -sided polygon is:		

Key Stage 3 Topic 13: 3D Shapes

Topic/Skill	Definition/Tips	Example	Non-example
3D Shapes and Vertices, Edges and	A <u>face</u> is a two- dimensional surface on a 3D shape.		
Faces	An <u>edge</u> is where two faces meet on a 3D shape.		
	A <u>vertex</u> is where multiple edges meet on a 3D shape.		
	A <u>prism</u> is a polyhedron with a constant cross-section.	Cuboids, cubes, triangular prisms etc. are all prisms.	A cylinder is not a prism as it is not a polyhedron (3D shape with straight edges and vertices).
2. Nets	The <u>net</u> of a shape is the two-dimensional representation of a 3D shape. The edges of the 3D shape must match with the net.		
3. Surface Area	Surface area is the total amount of space that is used on the outside of the shape. When calculating the surface area of a 3D shape, we label each face and then calculate the areas systematically.	13 cm 1	

4. Volumes Volume is the amount of of Prisms 3D space occupied by an object. and Cylinders 4cmTo calculate the volume of a prism or cylinder, you $Vol \neq 5 \times 4 \times 6$ multiply the area of the 6cm $Vol = 4 \times 6 \times 5$ cross-section by the length.

Key Stage 3 Topic 14: Ratio

То	pic/Skill	Definition/Tips	Example	Non-example
1.	Introduction	A <u>ratio</u> is a way of comparing the relative size of two or more quantities.	20: 40 1: 5: 4 $\frac{1}{2}$: 5: 61.3	$\frac{3}{7}$
		Ratios are in their simplest form when the terms are coprime integers.	4: 5 3: 6: 8 25: 16	$1:\frac{1}{2}$ 36: 12: 48
2.	Unit Ratios	Ratios can be written so that one part is 1, typically 1: n or n: 1. When written as a unit, ratios may not be written in their simplest form.	1: 4 $\frac{5}{2}: 1$ 1: 20.2	$\frac{1}{3} \cdot \frac{1}{2}$
3.	Sharing Ratios	Quantities can be shared into a ratio. We must look at the total number of parts and then share the quantity amongst them.	Share £45 in the ratio 6: 3. $45 \div 9 = 5$ $6 \times 5 = 30 3 \times 5 = 15$ $5 5 5 5 5 5 5$ £30: £15	Share £210 in the ratio 7: 3. $210 \div 7 = 30$ $210 \div 3 = 70$ $£30:£70$
4.	Proportional Reasoning	Two quantities are in proportion if there is a multiplicative relationship. This typically involves a scale factor.	A film character is 160cm tall. A toy company makes a doll of them that is 12cm tall. How tall would the toll be of a character that is 180cm? $S.f. = \frac{12}{160} \frac{12}{160} \times 180 = 13.5$	
5.	Maps and Scales	When using ratios with maps, remember that each term must be in the same units.	A distance on a map is 3cm. The scale is 1:10 000. What is the actual distance in km? $3\times 10000 = 30000cm = 300km$	

Year 8 French Knowledge Organiser HT5

<u>Intensifiers</u>			
vraiment	really		
très	very		
assez	quite		
trop	too		
un peu	a bit		
Giving an opinion			
je pense que	I think that		
je crois que	I believe		
	that		
à mon avis	in my		
	opinion		
je préfère	I prefer		

Je suis fan de I'm a fan of J'ai horreur de I hate

je ne suis pas d'accord I don't agree

I find it

Complex justifications

je suis d'accord I agree

je trouve ça

Ils me font peur They frighten me Ils me font rire They make me laugh Ça me plait It pleases me Ca m'énerve It annoys me Ça me rend... It makes me...

Sequencers and Time phrases D'abord First of all

Avant Before Après After Puis Then Ensuite Next Finalement Finally

Quand	When
Si	If

<u>Adjectives</u>	
Drôle/marrant	funny
rigolo(te)	funny
amusant	fun
passionant	exciting
ennuyeux/barbant	boring
effrayant	scary
pénible	annoying
casse-pied	annoying
gentil(le)	nice/kind
sympa	nice
intelligent(e)	intelligent

Frequency Words	
Normalement	Normally
En general	In general
D'habitude	Usually
Toujours	Always
Tout le temps	all the time
De temps en temps	From time to
time	
Souvent	Often
Parfois/Quelquefois	Sometimes
Rarement	Rarely

Verbes essentiels	Key verbs
<u>ALLER</u>	<u>TO GO</u>
Je vais	I am going/I
	go
Tu vas	You go/You
	are going
Il/elle va	He/She is
	going/He/Sh
	e goes
On va	We are
	going/we go

ETRE Je suis Tu es Il/elle est	TO BE I am You are He/she is
AVOIR J'ai Tu as Il/elle a	TO HAVE I have You have He/she has
FAIRE Je fais Tu fais Il/elle fait	TO DO I do You do He/she does

Using the past tense

Hier	Yesterday
La semaine dernière	Last week
Je suis allé(e)	I went
Nous sommes allé(e)s	We went
J'ai visité	I visited
J'ai regardé	I watched
C'était	It was

Using the future tense

Ce weekend	This weekend		
Cet été	This summer		
Je vais aller	I'm going to go		
Je vais visiter	I'm going to		
visit			
Je vais regarder I'm going to watch			

Ca va être It's going to

be

Using the conditiona	<u>ai tense</u>
Je voudrais	I would like
Mes parents voudraien	t My
parent	s would like
Ce serait	It would be

Les mots essentiels High frequency words Avec with Bien well Comme d'hab as usual En plus in addition Ensemble together Même same Ou or Partout everywhere Plutôt rather

otherwise

especially

all, every

often

Sinon

Surtout

Souvent

Tout(e)



Year 8 French Knowledge Organiser HT6 End of Year revision

Basic verbs 1 ^{st-} 3rd person		
J'ai	I have	
Tu as	You have	
Il/elle/on a	He/She/	
	(we) have	
Je suis	I am	
Tu es	You are	
Il/elle/on est	He/She	
	(we) are	
J'habite	I live	
Tu habites	You live	
Il/elle/on habite	He/she	
	(we) live	
J'aime	I like	
Tu aimes	You like	
Il/elle/on aime	he/she	
	(we) like	
J'adore	I love	
Tu adores	You love	
Il/elle/on adore	He/She	
	(we love)	
Je regarde	I watch	
Tu regardes	You watch	
Il/elle/on regarde	He/She	
	(we) watch	
Je pense	I think	
Tu penses	You think	
Il/elle/on pense	He/she	
	(we) think	

Je vais	I am going/I go You go/You are going He/She is going/He/S he goes We are going/we go
Tu vas	
Il/elle va	
On va	
Je fais Tu fais Il/elle fait	I do You do He/she does
On fait	we do

Giving an opinion

je pense que je crois que	I think that I believe
	that
à mon avis	in my
	opinion
je préfère	I prefer
je trouve ça	I find it
je suis d'accord	d I agree
je ne suis pas	d'accord I
	don't agree

I'm a fan of Je suis fan de J'ai horreur de I hate

Making comparisons

Plus que	more than
Moins que	less than

Complex justifications

Ils me font peur They frighten me Ils me font rire They make me laugh Ça me plait It pleases me Ca m'énerve It annoys me It makes Ça me rend... me...

<u>Adjectives</u>	
Joli(e)	pretty
Vieux/Vielle	old
Douillet	cosy
Bel/belle	beautiful
Drôle/marrant	funny
rigolo(te)	funny
amusant	fun
passionant	exciting
ennuyeux/barbant	boring
effrayant	scary
pénible	annoying
casse-pied	annoying
gentil(le)	nice/kind
sympa	nice
paresseux/se	lazy

Frequency and Time markers

Aujourd'hui	Today
En general	In general
D'habitude	Usually
Toujours	Always
Tous les jours	everyday
De temps en temps	From time
to tim	ne

Souvent	Often
Parfois/Quelquefois	Sometimes
Rarement	Rarely
Quand	When
Si	If
Puis	then

Using the past tense

Hier soir Last night La semaine dernière Last week Je suis allé(e) I went Nous sommes allé(e)sWe went J'ai visité I visited I watched J'ai regardé C'était It was...

Using the future tense

Ce weekend This weekend Cet été This summer Je vais aller I'm going to qo Je vais visiter I'm going to visit Je vais regarder I'm going to watch Ça <u>va</u> être It's going

Using the conditional tense

Je voudrais I would like Mes parents voudraient My parents would like

to be

It would be Ce serait

Year 8 Spanish Knowledge Orgnaiser

Las vacaciones - Holidays

Where did you go (to)? ¿Adónde fuiste? el año pasado... Last year... Fui a... I went to... Alemania Germany Argentina Argentina Cuba Cuba Scotland Escocia España Spain Francia France Gales Wales Grecia Greece India India Inglaterra England Irlanda **Ireland** Italia Italy México Mexico Pakistán Pakistan Portugal Portugal

República Dominica the Dominican Republic

¿Cómo fue? What was it like?

Fue... It was...
estupendo fantastic
genial brilliant
guay great,cool
aburrido boring
horrible awful
un desastre a disaster

¿Con quién fuiste? Who did you go with?

Fui... I went...

con mi familia with my family

con mis padres with my parents

con mis amigos with my friends

<u>iBuen viaje!</u>

¿Adónde fuiste de vacaciones? Fui a Madrid I went to Madrid ¿Cómo fuiste? ¿Cómo fuiste?

Fui... I went
a pie on foot
en autocar by bus
en avión by plane
en barco by boat
en bicicleta by bike
en coche by car

en monopatín by skateboard

en tren by train

Las estaciones

la primavera pasadalast Springel verano pasadolast Summerel otoño pasadolast Autumnel invierno pasadolast Winter

¿Qué hiciste?

Bailé I danced

Descansé I had a rest/break.
Escuché música I listened to music
Fui de excursión I went on a trip

Jugué al voleibol en la playa I played volleyball on the beach

Mandé mensajes I sent messages
Monté en bicicleta I rode my bike
Saqué fotos I took photos
Tomé el sol I sunbathed

Visité monumentos I visited monuments

¿Qué tal lo pastaste?

iLo pasé bomba! I had a fantastic time
iLo pasé fenomenal! I had a wonderful time
iLo pasé guay! I had a wonderful time!
iLo pasé bien! I had a good time!
iLo pasé mal! I had a bad time!
iLo pasé fatal! I had an awful time

<u>Duración</u> <u>Duration</u> ¿Cuánto tiempo pasaste allí?

Pasé I spent...
diez días ten days
una semana a week
dos semanas two weeks
una quincena two weeks
un mes a month

Mis vacacionesMy holidaysGeneralmente...Usually...Normalmente...Normally...Me quedo en casaI stay at home

Salgo con mis amigos I go out with my friends

Por la noche
Vamos a la cafetería
Voy a España
Pero el año pasado...
fui a Cuba
fuimos en avión

In the evening
We go to the café
I go to Spain
But last year...
I went to Cuba
We went by plane

fuimos a un restaurante italiano We went to an Italian restaurant hice excursiones muy interesantes I went on very interesting trips

jugué al fútbol I played football

pinté I painted

<u>Palabras muy útiles</u> Very useful words

a to
con with
en in, by
¿Cómo? How?
¿Adónde?where (to)
¿Quién? Who? Whom?
¿Qué? What?

El tiempo

Había buen tiempo It was good

weather

Había calor
Había frío
Había tormenta
Había niebla
Llovía
Nevaba

It was hot
It was cold
It was stormy
There was fog
It was raining
It was snowing

Year 8 Spanish Knowledge Organiser HT6 End of Year revision

Basic verbs 1 ^{st-} 3rd person		
Tengo	I have	
Tienes	You have	
Tiene	He/She has	
	·	
Soy/Estoy	I am	
Eres/estás	You are	
Es/está	He/She/it is	
•		
Vivo	I live	
Vives	You live	
Vive	He/she lives	
	,	
Me gusta	I like	
Te gusta	You like	
Le gusta	he/she likes	
J	,	
Me encanta	I love	
Te encanta	You love	
Le encanta	He/She loves	
	,	
Veo	I watch	
Ves	You watch	
Ve	He/She watches	
	•	
Pienso	I think	
Piensas	You think	
Piensa	He/she thinks	
	•	
Voy	I go/I am going	
Vas	You go/You are going	
Va	He/she goes/	
	He/She is going	
Vamos	We go/We are going	

Hago I do Haces You do Hace He/she does Hacemos we do

Giving an opinion

I think that pienso que I believe that creo que in my opinion en mi opinion prefiero I prefer lo encuentro I find it estoy de acuerdo I agree no estoy de acuerdo I don't agree Odio I hate

Making comparisons

Más... que more... than
Menos... que less... than
Tan... como as... as

Adjectives Bonito/a pretty Viejo/a old Acogedor(a) COSV Hermoso/a beautiful gracioso/a funny divertido fun exciting emocionante aburrido/a boring fácil easy fastidoso/a annoving amable nice/kind sympa nice perezoso/a lazy

Frequency and Time markers Today Hoy Por lo general In general Generalmente Usually siempre Always todos los días everyday De vez en cuando From time to time Often A menudo A veces Sometimes Rarely Casi nunca Cuando When Si If then Luego

Using the past tense

Anoche
Last night
La semana pasada
Fui
Fuimos
Visité
Comí
Last night
Last week
I went
Ve went
Vi visited
I ate

Era It was...

Using the future tense

Este fin de semana This weekend
Este verano This summer
Voy a ir I'm going to go
Voy a visitar I'm going to visit
Voy a comer I'm going to watch

Va a ser It's going to be

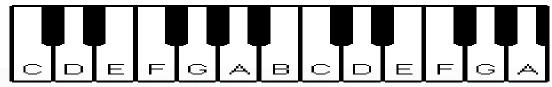
Using the conditional tense

Me gustaría I would like Ser<u>ía</u> It would be



Music Year 8 Knowledge Organiser: Musical Theatre (Summer Term)

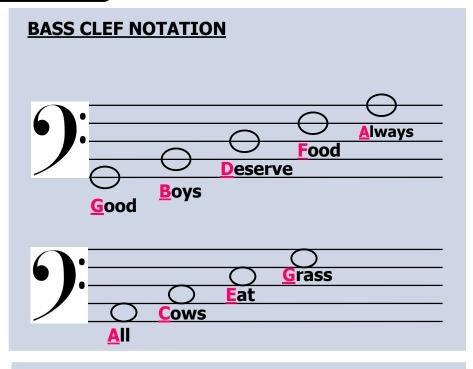
Overture	A piece of music to open the musical, often including some of the key themes form the show.
Solo	A song sung by one member of the production
Duet	A song sung by two of the main members of cast
Chorus	A number where everyone on the show performs together
Dance	An extended dance number of any type
Action	A song which moves the story or plot forward
Character	A song which allows the character to express their feelings.
Finale	The final piece of music in a musical—usually recycles common themes from throughout the production.











Greased Lightnin' Chord Structure

C C C

F F C C

G F C C

Unit 4: Citizenship Year 8

Skills

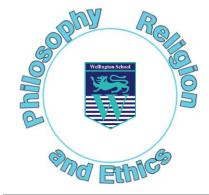
- Is reflective about the knowledge and skills needed for setting realistic targets and personal goals.
- Engage with and reflect on different ideas, opinions and beliefs to help develop personal opinion.
- Can express and explain opinions through discussion and written assessments.

Knowledge

Develop knowledge and understanding about political parties and their policies and understand how Campaigns work







Y8: Unit 3 Islam

Islam is the second largest religion in the world with over 1 billion followers worldwide and probably, the most misunderstood. There are around 2 million Muslims in Britain with accounts for around 2.7% of the population. In this unit of work you will explore Islamic beliefs, practices and how the religion of Islam influences the lives of people everyday. This opens a wider debate on issues such as the use of violence, what happens when we die and whether places of worship are actually important and needed in the 21st century.

Curriculum Organiser

Religions

Lesson 1

Islam: What is it all about?

Can you identify key beliefs and practices of the religion of Islam?

The 5 pillars are vital. Can you identify each one, including it's Arabic term and explain why each is important?

Lesson 4

Muhammad: Why is he important?

Did Muhammad have an easy life? Give examples to illustrate this.

Can you give examples as to why Muhammad was a good individual, family man, leader and teacher?

Can you give reasons why He is an important Prophet in Islam?

Lesson 7

Why go to a Mosque?

Can you give different examples of how a mosque is used?

Can you give different examples of what you might find in a Mosque?

Ethics

Lesson 2

Should the 5 Pillars be compulsory for all?

Can you give 1 example for each pillar as to why it might be a positive if we ALL followed it?

Can you give 1 examples for each pillar as to why it might not be a positive for us all to follow it?

Lesson 5

Charlie Hebdo: Do acts of terror represent the religion of Islam?

Why is it wrong to draw Allah & Muhammad What has happened previously as a result?

Do you think we should all have the right to offend others, regardless of their faith and beliefs?

Lesson 8

Halal and Haram: Is it misunderstood?

Can you describe, and give examples of things that are halal, haram and mashbooh in the religion of Islam?

Philosophy

Lesson 3

Who is Allah?

Can you give examples of things that Muslims <u>cannot</u> do to describe Allah and why?

Can you describe what the idea of Tawhid is and give quotes that illustrate this key belief in God?

Lesson 6

Jihad: is violence ever OK?

"Fight in the name of Allah" Can you give and consider different interpretations of this?

Can you give examples of rules left by Muhammad regarding Jihad?

Does violence ever solve anything?

Lesson 9

Islam and Life after Death – unrealistic?

What do Muslims believe happens to us when we die?

Would you say it is a realistic belief about what may happen after our death?

*Following these 9 lessons pupils will be assessed and feedback will be given in exercise books.

Thermal energy vs Temperature

Thermal energy – The total kinetic energy of the particles in a material, measured in joules or J.

Temperature- A measure of the average kinetic energy of the particles in a material. The temperature of an object is to do with how hot or cold it is, measured in degrees Celsius.

e.g. A swimming pool at 30°C is at a lower **temperature** than a cup of tea at 80°C. But

the swimming pool contains more water, so it stores more **thermal energy** than the

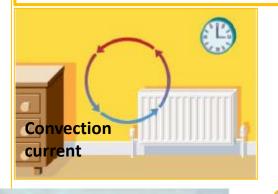
cup of tea. Conduction

Particles bump into nearby particles and make them vibrate more. This passes the thermal energy through the substance by conduction, from the hot end to the cold end.

Convection

Particles with a lot of thermal energy in a liquid or gas move apart, the liquid or gas becomes less dense and rises, taking the place of particles with less thermal energy.

Year 8 P3 Knowledge Organiser : Energy Transfers



CONDUCTION

transmitted in the form of

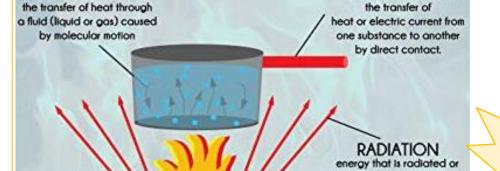
rays or waves or particles

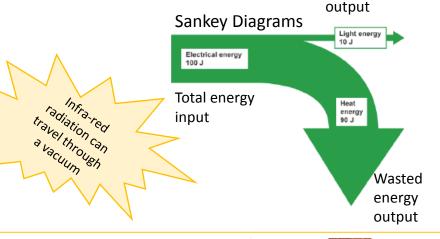
Energy cannot be created or destroyed, only transferred from one form to another.

Power

- Power is the rate at which energy is used and is measured in Watts.
- The power of an electrical appliance is shown on the rating plates in Watts

Useful energy





Infra-red Radiation

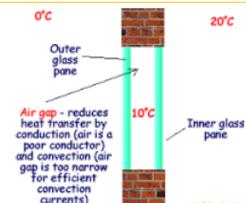
All objects transfer thermal energy by emitting **infra-red radiation**, the hotter an object is the more infra-red radiation it emits. Infra-red radiation is part of the electromagnetic spectrum.

$$Efficiency (\%) = \frac{Useful \ energy \ output}{Total \ energy \ input} (\times \ 100) \quad Power \ (W) = \frac{Energy \ transferred \ (J)}{Time \ taken \ (s)}$$

CONVECTION

Specific Heat Capacity is how much energy can be stored as heat in 1kg of material. **Specific Latent Heat** is how much energy is required to melt or to evaporate 1kg of material.

Insulation (if a material is a poor conductor we say it is an insulator) is used to reduce energy transfers by heating. You will have some insulation in your own home e.g. double glazed windows or cavity wall insulation. This acts to stop conduction and convection through the walls and roof of your house.



8C3 Combustion Knowledge Organiser

Burning Fuels

Fuels are usually **hydrocarbons** which are burnt to release **energy.**

Examples of fuels are: wood, methane, petrol and diesel.

When a hydrocarbon burns it reacts with oxygen from the air to produce **carbon dioxide** and **water**. However, when Hydrogen burns it reacts with oxygen from the air to produce water only.

Fire Safety







Flammable

Oxidising

Explosive

The three sides of the fire triangle are: fuel, oxygen and heat.

If you want to put out a fire you remove at least one side of the fire triangle. It is easier to remove the heat or oxygen than the fuel.

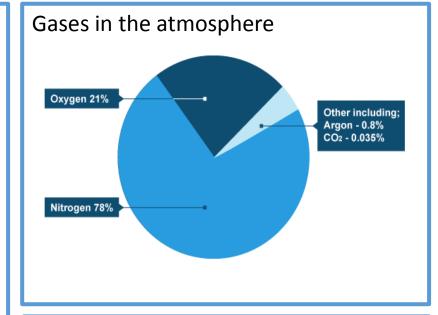
Burning Candles

An experiment to find the effect of volume of air on the burning time of a candle.

The method is:

- 1. Place a small candle on a safety mat.
- 2. Light the candle.
- 3. Place a 100 cm³ beaker over the candle and start the stop clock.
- 4. Time how long it takes for the candle to go out.
- 5. Repeat with four more different sized beakers.
- 6. Repeat each beaker 3 times.

Result: As the size of the beaker increases the time taken also increases.



Air Pollution

Lots of pollutants are released when fuels burn.

For example;

Carbon dioxide, nitrogen oxides and sulphur dioxide.

These gases cause environmental problems such as acid rain. This happens when sulphur reacts with oxygen to make sulphur dioxide and then it dissolves in rain water to make it acidic

Year 8 Knowledge Organiser: Health and Disease

Pathogens are microorganisms that cause infectious disease. Pathogens may be viruses, bacteria, protists or fungi. They can be spread by direct contact, by water or by air. Bacteria and viruses may reproduce rapidly inside the body.

Fungi can also cause disease, by growing on living tissue (for example, athlete's foot is caused by a fungus).

Viruses need a host to survive. They

This releases them, so they can be

passed onto other host cells or other

people (e.g. by coughing or sneezing

nbrane from host cell)

Health is the state of physical and mental well-being. Diseases, both communicable and non-communicable, are major causes of ill health. Other

factors including diet, stress and life situations may have a profound effect

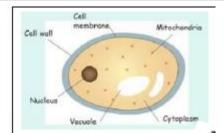
cause disease symptoms by

out mucus that contains the

viruses).

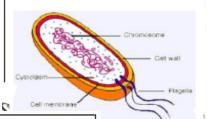
DNA or RNA

reproducing inside cells, and bursting the cell from the inside.



Bacteria reproduce rapidly and can release poisonous chemicals, called toxins, that damage our cells.

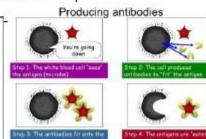
Examples of diseases caused by pathogenic bacteria include cholera, tuberculosis (TB) and food poisoning.



The specific defence system:

White blood cells help to defend against pathogens by: phagocytosis, antibody production & antitoxin

production.



and enguits the

Antibiotics, such as penicillin, are medicines that help to cure bacterial disease by killing infective bacteria inside the body. It is important that specific bacteria should be treated by specific antibiotics. The emergence of strains resistant to antibiotics is of great concern. Antibiotics cannot kill viral pathogens.

Painkillers and other medicines are used to treat the symptoms of



disease but do not kill pathogens. In coronary heart disease layers of fatty material build up inside the coronary arteries, narrowing them. This

BARID ANIMA Fig. 8.4. Various modes of transmission of diseases

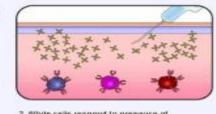
The non-specific defence systems of the human body against pathogens include the skin, nose, trachea and bronchi & stomach.

antibacterial antibacteria enzymes enzymes mucus linings traps dirt and microbes low pH kills harmful

First Lines of Defence

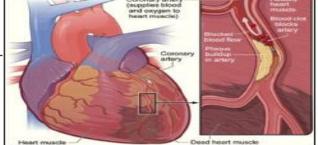
microbes

Whatenest or hannless version of pathogen is introduced into



2. White cells respond to presence of pathogens

reduces the flow of blood through the coronary arteries, resulting in a lack of oxygen for the heart muscle. and oxygen to



Vaccination involves introducing small quantities of dead or inactive forms of a pathogen into the body to stimulate the white blood cells to produce antibodies. If the same pathogen re-enters the body the white blood cells respond quickly to produce the correct antibodies, preventing infection. The spread of pathogens can be reduced by immunising a large proportion of the population



on both physical and mental health.