## 100% book - Year 9 Grammar

Aim to memorise 100% of the knowledge on these Knowledge Organisers.



## Term 1

Swindon Academy 2024-25					
Name:					
Tutor Group:					
Tutor & Room:					

"If you are not willing to learn, no one can help you.

If you are determined to learn, no one can stop you."











## How to use your 100% book of Knowledge Organisers and Quizzable Organisers

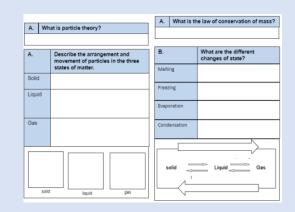
## **Knowledge Organisers**

# The two trains of the training finish trace: A plantain reader A pla

Knowledge Organisers contain the essential knowledge that you MUST know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

## **Quizzable Knowledge Organisers**



These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

## **Top Tip**

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

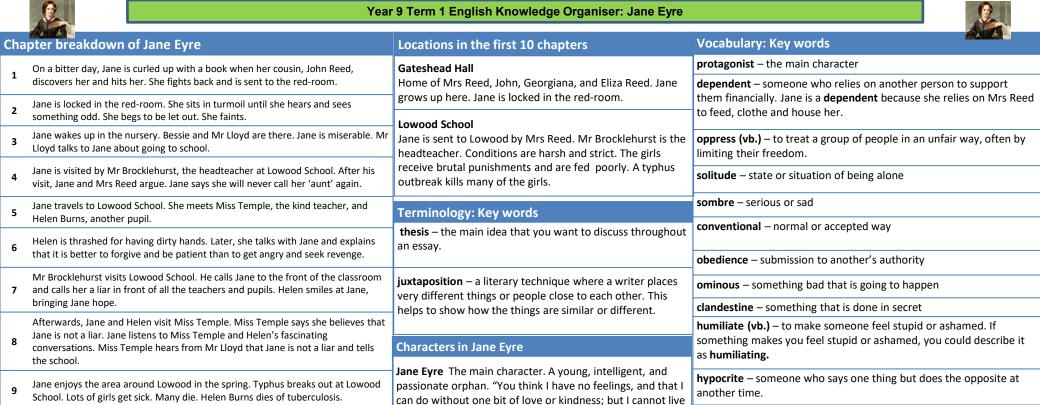
## **Expectations for Prep and for using your Knowledge Organisers**

- 1. Complete all prep work set in your subject prep book.
- 2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
- 3. Take pride in your prep book keep it neat and tidy.
- 4. Present work in your prep book to the same standard you are expected to do in class.
- 5. Ensure that your use of SPAG is accurate.
- 6. Write in blue or black pen and sketch in pencil.
- 7. Ensure every piece of work has a title and date.
- 8. Use a ruler for straight lines.
- 9. If you are unsure about the prep, speak to your teacher.
- Review your prep work in green pen using the mark scheme.

## How do I complete Knowledge Organiser Prep?

Step 1	Step 2	Step 3
Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.  Planner    Debta: 180 Mar 1900   Debta: 18	Write today's date and the title from your Knowledge Organiser in your Prep Book.  A What is particle theory? The theory that all matter is made up of particles.  A Describe the arrangement and with the westers of particles.  A Describe the arrangement and with the westers of particles.  A Describe the arrangement and with the westers of particles.  A Describe the arrangement and with the westers of particles.  A Describe the arrangement and with the wester of particles are arranged and only but all matter is made up of particles.  A Describe the arrangement and with the wester of particles.  A Describe the arrangement and with the wester of particles.  A Describe the arrangement and with the wester of particles.  A What are the difference of states from 1 change	Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.  29th May 2020  Prespectives of the states of matter  Particle theory = all matter is made of particles  Solid = regular pattern forticles vibrate in fixed position  Liquid = particles are arranged randomly but  ore still banching each other  Particles are sinde past each other only mave around.  Gas = Particles are for opart and are arranged randomly. Perticles carry a lax  of energy
Step 4	Step 5	Step 6
Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.  Solid = regular pattern	Open your quizzable Knowledge Organiser.  Write the missing words from your quizzable Knowledge organiser in your prep book.  A What is particle theory?  A Describe the arrangement and states of matter.  Sold Freezing Arrangement of matter.  Cass Condensator Particle Sold Cass Sold Condensator Particle Sold Cass So	Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.  Particle theory = all metter is made of particles  Solid = regular pattern  particles vibrate in fixed position  Liquid = particles fre arranged randomly byt  are still touching each other and  mare ground  Gas = Particles are for particles carry a law  of energy

Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.



Mrs Reed - Jane's aunt She neglects and abuses Jane and

is glad to send her away to Lowood School. "Guard against

Mr Brocklehurst - The governor of Lowood school A cruel

and hypocritical Christian. He believes in driving evil from

children through harsh discipline. "Punish her body to save

Helen Burns - Jane's friend A kind and forgiving Christian.

dies of tuberculosis at 14. "Love your enemies; bless them that curse you; do good to them that hate you and

She inspires Jane to be more patient and accepting. She

Miss Temple The kind and understanding teacher at Lowood. Offers care and affection to Jane and Helen. "You

shall be publicly cleared from every imputation: to me,

her worst fault, a tendency to deceit"

her soul"

despitefully use you."

Jane, vou are clear now."

Eight years pass. Jane has become a teacher at Lowood School. Mr Brocklehurst

had his power removed when his treatment at the school was discovered. Jane

Social Class: Jane is an orphan and dependent on the charity of her

extended family. Jane is poor and of low class – powerless. She suffers

2 back on her childhood in the novel. She learns to manage her emotions.

Growth: Jane is constantly growing and maturing. She is an adult reflecting

Oppression: Oppression of women. Jane's abusive childhood is a form of

Role of women in society: Jane is angry at her place in society. Lowood is

4 an all-girls' school. Women as governesses, teachers, servants. Low class

3 oppression. Adults oppressing children in a huge theme in the novel.

applies to be a governess for a family at Milcote.

Lowood is harsh and corrupt – religious hypocrisy.

Her relationships with others help her grow.

Religion as a form of oppression. In the novel.

abuse by John Reed, her 'master'

women are powerless.

The Big Ideas:

comeuppance – when a villain receives some form of punishment for

A child is a blank slate and can be trained to develop into a

A child is born completely **innocent** and **pure**. They are only

The child is born evil and must therefore be controlled and punished in order to submit to the rules of God and society.

Parts of 'Jane Eyre' were influenced by Brontë's experiences at

'Jane Eyre' was unusual when it was published because it is

written in the first-person from a female perspective.

contaminated by contact with corrupt forces.

1 'Jane Eyre' written in 1847 by Charlotte Brontë.

what they did.

rational being.

**Biographical information** 

school and as a young woman.

Victorian attitudes to childhood

### Year 9 Term 1 English Knowledge Organiser: Jane Eyre Chapter breakdown of Jane Eyre **Locations in the first 10 chapters** Vocabulary: Key words On a bitter day, Jane is curled up with a book when her cousin, John\_\_\_\_\_ protagonist -**Gateshead Hall** 1 discovers her and hits her. She \_\_\_\_\_\_back and is sent to the \_\_\_\_\_-dependent and \_\_\_\_\_\_ grows up here. Jane is locked in the \_\_\_\_\_\_. She sits in turmoil until she hears and sees is locked in the something odd. She begs to be let out. She Lowood School Jane wakes up in the nursery. and Mr are there. Jane \_\_\_\_\_ is sent to \_\_\_\_\_\_ by Mrs \_\_\_\_\_\_. Mr oppress (vb.) – is\_\_\_\_\_\_. Mr \_\_\_\_\_talks to Jane about going to school. \_\_\_\_\_ is the\_\_\_\_\_\_. Conditions are Jane is visited by Mr\_\_\_\_\_\_ the \_\_\_\_\_at \_\_\_\_\_ and . The girls receive brutal \_\_\_\_\_\_. After his visit, \_\_\_\_\_\_ and Mrs \_\_\_\_\_\_ . Jane says solitude – \_\_\_\_\_and are fed\_\_\_\_\_\_. A \_\_\_\_ she will \_\_\_\_\_\_ call her '\_\_\_\_\_ ' again. outbreak \_\_\_\_\_ many of the girls. Jane travels to \_\_\_\_\_\_, the sombre – kind\_\_\_\_\_, and Helen\_\_\_\_, another\_\_\_\_. Terminology: Key words conventional is thrashed for having hands. Later, she talks with Jane and thesis –. 6 explains that it is better to \_\_\_\_\_and be \_\_\_\_than to get \_\_\_\_and obedience -Mr Brocklehurst visits Lowood School. He calls Jane to the front of the classroom and ominous -7 calls her a \_\_\_\_\_ in front of all the \_\_\_\_\_ and \_\_\_\_\_. Helen smiles at juxtaposition -Jane, bringing Jane\_\_\_\_\_.

Characters in Jane Evre

Mrs Reed - Jane's aunt

Helen Burns - Jane's friend

Miss Temple

Mr Brocklehurst - The governor of Lowood school

Jane Eyre

Afterwards, \_\_\_\_\_\_\_and \_\_\_\_\_\_visit Miss Temple. Miss Temple says she believes

\_\_\_\_\_. Mr \_\_\_\_\_ had his \_\_\_\_\_ when his at the school was . Jane applies to be a governess for a

Social Class: Jane is an \_\_\_\_\_\_ on the \_\_\_\_\_ of her extended family. Jane is \_\_\_\_\_ and of \_\_\_\_ class - . She

suffers by John Reed, her 'master'. Lowood is harsh and –

Oppression: Oppression of \_\_\_\_\_\_. Jane's \_\_\_\_\_ childhood is a

3 form of oppression. Adults oppressing \_\_\_\_\_\_ in a huge theme in the novel.

Role of women in society: Jane is at her place in .

4 Lowood is an all-girls' school. Women as governesses, teachers, servants. Low

Growth: Jane is constantly \_\_\_\_\_ and \_\_\_ . She is an adult \_\_\_\_\_ back on her \_\_\_\_\_ in the novel. She learns to manage

her . Her with help her

as a form of oppression in the novel.

. Miss Temple hears from Mr that Jane is not a

that Jane is a . Jane listens to Miss Temple and Helen's

Jane \_\_\_\_\_\_ in the \_\_\_\_\_.

\_\_\_\_\_ breaks out at Lowood School. Lots of girls get\_\_\_\_\_. Many\_\_\_\_\_. Helen Burns \_\_\_\_\_ of \_\_\_\_\_. \_\_\_\_\_ pass. Jane has become a \_\_\_\_\_ at \_\_\_\_

family at Milcote.

religious\_\_\_\_\_.

class women as \_\_\_\_\_\_.

The Big Ideas:

clandestine -

hypocrite -

comeuppance -

Victorian attitudes to childhood

2 A child is born completely innocent and pure...

and as a young\_\_\_\_\_\_.

by Charlotte

Parts of 'Jane Eyre' were influenced by Brontë's experiences at

'Jane Eyre' was unusual when it was published because it is

**1** A child is a blank slate...

3 The child is born evil...

**Biographical information** 1 'Jane Eyre' written in

3 written in the

humiliate (vb.) -



## Year 9 Grammar Term 1 Science/Biology: Topic B1 Cell biology



## What we are learning this term:

- A. Animal & plant cells
- B. Eukaryotes & prokaryotes
- C. Cell speicalisation
- D. Cell differentiation
- E. Microscopy
- F. Culturing microorganisms

## 5 Key Words for this term

- 1. Eukaryotic
- 2. Prokaryotic
- 3. Differentiation
- 4. Magnification
- 5. Resolution

## What are the names and functions of animal and plant sub-cellular structures?

Structure	Function	Found in
Nucleus	Controls the cell & contains genetic information	Animal & plant
Cell membrane	Controls movement in & out of the cell	Animal & plant
Cell wall	Supports the cell. Made of cellulose	Plant
Cytoplasm	Jelly-like substance where chemical reactions take place	Animal & plant
Mitochondria	Respiration, to release energy	Animal & plant
Chloroplast	Photosynthesis, to produce glucose	Plant
Vacuole	Filled with cell sap, keeps cell turgid	Plant
Ribosome	Protein synthesis	Animal & plant

B Compare eukaryotic and prokaryotic cells		С	How are th	ese cells sp	ecialised?		
Fea	ıture	Eukaryotic	Prokaryotic	i Celi - i		Animal or plant	Specialised features
DN	A	In nucleus	Single loop DNA & plasmids	Sper	m cell	Animal	Tail to swim. Pointed head, containing acrosome. Lots of mitochondria.
Cyt	oplasm	Yes	Yes	Nerv	e cell	Animal	Long. Branched ends (dendrites). Fatty sheath to insulate axon.
Cell		Yes	/es Yes	Mus	cle cell	Animal	Layers of protein filaments for contraction. Lots of mitochondria.
me	mbrane	100		Root hair cell		Plant	Large surface area. Thin walls.
Cel	l wall	No	Yes	Xyle	m cells	Plant	Continuous. Thickened & woody.
Size	e	Larger	Smaller	Phlo	em cells	Plant	Companion cells have lots of mitochondria.

A	Ø	-	
I	E-MC <sup>2</sup>	5	
	-0-	^^	

## Year 9 Grammar Term 1 Science/Biology : Topic B1 Cell biology

A	Ø	
I	E-MC <sup>2</sup>	5
: t	8	40

* * *					* * *
What we are learning this term:	A	What are the structures?	e nam	es and functions of animal and plant sub	o-cellular
A. Animal & plant cells	Structure			Function	Found in
B. Eukaryotes & prokaryotes C. Cell speicalisation	Nucleus				
D. Cell differentiation E. Microscopy F. Culturing microorganisms	Cell membi	rane			
	Cell wall				
5 Key Words for this term	Cytoplasm				
1. Eukaryotic	Mitochond	ria			
2. Prokaryotic	Chloroplas	t			
Differentiation     Magnification	Vacuole				
5. Resolution	Ribosome				
B Compare eukaryotic and	prokaryotic	cells	С	How are these cells specialised?	

B Compare eukaryotic and prokaryotic cells		C How are these cells specialised?					
Fea	ature	Eukaryotic	Prokaryotic	Cell		Animal or plant	Specialised features
DN	A			Spei	rm cell		
Cyt	oplasm			Nerv	ve cell		
Cel	I			Mus	cle cell		
me	mbrane			Roo	t hair cell		
Cel	l wall			Xyle	m cells		
Siz	e			Phlo	em cells		



## Year 9 Grammar Term 1 Science/Biology: Topic B1 Cell biology



## What we are learning this term:

- A. Animal & plant cells
- B. Eukaryotes & prokaryotes
- C. Cell speicalisation
- D. Cell differentiation
- E. Microscopy
- F. Culturing microorganisms

## E Define magnification

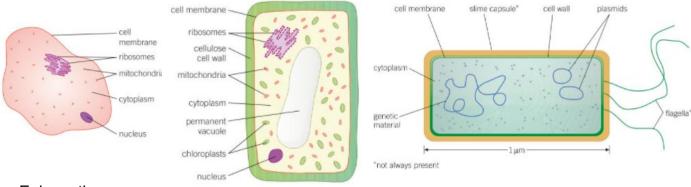
The number of times larger an image is than the original specimen.

## E Define resolution

The minimum distance at which two distinct points of a specimen can still be seen.

What is the formula for magnification?

$$magnification = \frac{\textit{size of image}}{\textit{real size of image}}$$



Eukaryotic Animal cell

Eukaryotic Plant cell Prokaryotic Bacterial cell

E	Con	npare light and electron microscopes					
Feature		Light	Electron				
Radiation u	sed	Light waves (visible light)	Electron beams				
Magnification		Lower magnification (~ 1500 times )	Greater magnification (~ 2 000 000 times)				
Resolution		Larger resolution (200nm)	Smaller resolution (0.2nm)				
Size & cost		Smaller & portable. Cheaper.	Very large & not portable. Very expensive.				

D When does
differentiation occur
for most types of
animal cells?

At early development

D When does
differentiation occur
for most types of
plant cells?

Throughout the lifetime of the plant

In multicellular

D animals, what is cell
division required for?

- Growth or repair
- To replace cells



## Year 9 Grammar Term 1 Science/Biology: Topic B1 Cell biology



## What we are learning this term:

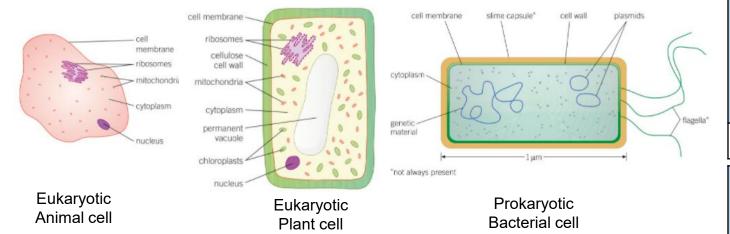
- A. Animal & plant cells
- B. Eukaryotes & prokaryotes
- C. Cell speicalisation
- D. Cell differentiation
- E. Microscopy
- F. Culturing microorganisms

E Define magnification

E Define resolution

What is the formula for magnification?

D



E	Con	ompare light and electron microscopes				
Feature		Light	Electron			
Radiation used						
Magnification						
Resolution						
Size & cost						

When does
differentiation occur
for most types of
animal cells?

D When does
differentiation occur
for most types of
plant cells?

In multicellular

D animals, what is cell

division required for?



## Year 9 Grammar Term 1 Science - Chemistry : Topic = C1 Atomic Structure



## What we are learning this term:

- A. Atoms, elements and compounds
- B. Mixtures and separation
- C. Development of the atomic model
- D. Structure of the atom
- E. Electronic structure

## 6 Key Words for this term

- 1. Isotopes
- 2. Protons
- 3. Ionisation
- 4. Aqueous
- 5. Residue

## B. What is a mixture?

A mixture consists of two or more elements or compounds not chemically combined.

### What properties do mixtures have?

Each substance in the mixture will have the same chemical properties

## How are mixtures separated?

By physical methods:	Filtration
Crystallisation	Simple Distillation
Fractional Distillation	Chromatography

### Are new substances made?

No new substances are made

### A. What is Conservation of Mass

Atoms are not created or destroyed in a reaction

## A. What are atoms?

All substances are made of atoms. An atom is the smallest part of an element that can exist

What are elements?		What are compounds?		
An element is a substance made of one type of atom		om Compounds contain two or more elements chemica combined		
How are elements represented?		How are compounds represented?		
By a chemical symbol.		By the symbols of the atoms that formed them		
Example: Sodium	Na	Example: Sodium Chloride NaCl		
How many elements are there?		How can compounds be separated?		
There are about 100, all sh	own on the periodic table	By chemical reactions only		

## A. What are word equations?

These show the names of each substance that is involved in a chemical reaction.

The reactants are shown on the left. The products are shown on the right.

Reactants → Products

 $\textbf{Copper Oxide + Sulphuric Acid} \ \rightarrow \ \textbf{Copper Sulphate + Water}$ 

## What are symbol equations?

The chemical formulae (symbols) of the reactants and products show what happens in a chemical reaction

 $\text{CuO} + \text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + \text{H}_2\text{O}$ 

D.	What are subatomic particles?	Where are each subatomic particles found?
The	particles that make up atoms	nucleus containing protons and Aneutrons X electron
Nam	e the 3 subatomic particles	neutron
Proto	ons, neutrons and electrons	electrons moving around nucleus



## Year 9 Grammar Term 1 Science - Chemistry: Topic = C1 Atomic Structure



### C. Development of the Atomic Model - How was our current atomic model developed? Ernest Rutherford (1909) James Chadwick Person/Time Demicritus (400BC) JJ Thomson (1898) Niels Bohr (1913) Dalton (1803) (1932)Plum Pudding model Small indivisible matter Discovered the Ideas/model Alpha particle scattering experiment Electrons are restricted to Tiny hard spheres. Proved that mass of atoms found in certain orbits like planets neutron the centre - nucleus round the sun Sphere of positive charge with Negative electrons surround the negative charged particles positive nucleus spread throughout (like plums in a pudding) Diagram Negative electrons Electrons orbit in Contribution to Everything is made of atoms Neutrons found in Positive mass in the centre surrounded current model: by negative electrons shells/orbitals at specific nucleus along with distances protons

### How big are atoms? D.

 $0.1nm (1 \times 10^{-10}m)$ 

## How big is the radius of an atom?

1/10000 the size of the atom  $-1x10^{-14}$ m

### D. What is relative mass and charges of the substamic particles?

	Subatoffic particles?										
Suba parti	atomic cle	Relative Mass	Relative Charge								
Proto	on	1	+1								
Neut	ron	1	0								
Elect	ron	1/2000	-1								

## What is the overall charge of an atom?

Atoms have no charge

No of protons = no of electrons

### D. How do we know how many subatomic particles are in each element?

Mass Number Atomic Number

Number of protons and neutrons

## What is atomic number?

Number of protons - same for each individual element

### D. How can we know what element we have?

Each element has a unique number of protons

## What is an isotope?

An isotope is a substance with the same number of protons but different number of neutrons

## What is Mass number?

### D. What is relative atomic mass of an element?

An average value that takes account of the abundance of the isotopes of an element

## Which energy level do electrons fill first?

Electrons in an atom occupy lowest energy level first

E.

## How many electrons does each orbital hold?

First	Up to 2
Second	Up to 8
Third	Up to 8

## Electronic structure of Sodium:



2,8,1



## Year 9 Grammar Term 1 Science - Chemistry : Topic = C1 Atomic Structure

Z	Ø	
J	E+MC <sup>2</sup>	5
ic.	200	8

What we are learning this ter	m: A.	A. What are atoms?								
<ul><li>A. Atoms, elements and com</li><li>B. Mixtures and separation</li><li>C. Development of the atomic</li><li>D. Structure of the atom</li></ul>	c model	nat are elements?		What are compounds?						
E. Electronic structure										
6 Key Words for this term	Ho	w are elements repres	ented?	How are compounds represen	ited?					
<ol> <li>Isotopes</li> <li>Protons</li> <li>Ionisation</li> </ol>	Ex	ample: Sodium		Example: Sodium Chloride						
4. Aqueous 5. Residue		w many elements are	there?	How can compounds be sepa	rated?					
B. What is a mixture?										
	A.	A. What are word equations?								
What properties do mixtures	s have?									
		Compan Ovide   Sylphovic Acid   Compan Sylphote   Weter								
		Copper Oxide + Sulphuric Acid → Copper Sulphate + Water								
How are mixtures separated	, Wi	What are symbol equations?								
	D.	What are subatom	ic narticles?	Where are each subatomic pa	articles found?					
		What are capacon	o partiolog.	Triloro dio odon odbatolino pe	initiolog round .					
Are new substances made?										
	Na	Name the 3 subatomic particles								
A. What is Conservation of	Mass									



## Year 9 Grammar Term 1 Science - Chemistry : Topic = C1 Atomic Structure



C.	Developm	ent of the Atomic Model – How was our current atomic model developed?													
Perso	on/Time	Demicritus (400BC) Dalton (1803)		JJ Thomson	n (1898)	_	Ernest Ruth	Ernest Rutherford (1909) Niels Bo					)		James Chadwick (1932)
Ideas/model															
Diagram					• •				0						
Contribution to current model:															
D. How big are atoms?					D.	D. How do we know how many subatomic particles are in each element?						E. Which energy level do electrons fill first?			
How	oig is the radi	us of an atom?				12 Mass Number What is Mass number?				,					
D.	What is re	elative mass and c	hargos	of the		Atomic What is atomic number?				r?	How many electrons does each orbital hold?				
<i>D</i> .		c particles?	yes	or the		0	Number	Number				Firs	t		
Suba parti	itomic cle	Relative Mass	Relati Charg										ond		
Proto					D.	How can v	ve know wha e have?	t	D.	What is	relative mass of				
Neut	ron						Sidmont we have:			an elem	ent?	Elec	tronic stru	ıctuı	e of Sodium:
Elect	ron														
D. What is the overall charge of an atom?				Wha	What is an isotope?										





↓ E-MC <sup>2</sup> ↓		Year	9 Gramr	Grammar Term 1 Science / Physics : Topic P1 Energy								
What w	ve are learning this term:		A.	V	What are the changes in ene	rgy stores for the	follo	wing objects?				
B. Wo	37				being thrown directly up ir	_	From kinetic to gravitational potential. As it comes back down, the opposite is true.					
E. Wa	A toy car (with battery) hitting a wall head on			Energy is transferred from chemical to kinetic to vibrational sound and heat.								
6. Key Words for this term				асс	elerating	Energy is transferred from the chemical energy from the petrol/diesel to kinetic energy.						
2. Ge	ssipate eneration		A bike	e slo	owing down	Energy is transferred from kinetic to heat.						
J. EII	iciency		Water	r bo	iling in an electric kettle	Energy is transferred from electrical to heat.						
A.	What is a system?	Α.	Wha	at is	s the law of conservation of	energy?	A.	Theoretically, if a roller				
It is an object or group of objects Energy car				nnot be created or destroyed, just changed in form.				20000 J of GPE at the to slope, how much KE wi gained when it reaches	ill it have			
A. What are the 8 energy stores?					What is the energy store of a bungee jump?	20000 J, assuming non is lost by air						

A.	What are the 8 energy stores?								
1. Chemical		5. Gravitational potential (GPE)							
2. Kinetic (KE)		6. Thermal (internal)							
3. Magnetic		7. Elastic potential							
4. Nuc	lear	8. Electrostatic							

bungee jump?

Whilst the rope is slack, energy is transferred form GPE to KE. As the rope tightens, the jumpers KE store decrease but the ropes elastic potential energy store increases. They stop when all the KE store is stored as elastic potential energy.

B.

and light waves

В. If a person uses 300 J of energy pushing a bike, what is the work done? 300 J

What is the equation for work done?

resistance/friction

В. What is work?

When energy is transferred, work is done.

What is the link between work and energy?

Work done = energy transferred

If the units for energy are -joules, what are the units for work done?

-joules (J)

energy transferred energy transferred to store of nuclear to light bulb by surroundings by heating energy in sun

electric current

What is the energy transfer from the sun, to solar panel to light bulb?

If a person pushes a trolley with force of 800 N and moves it down a 50 m isle, how much work has been done by the person?

Work done = force x distance moved Force is measured in newtons (N) Distance is measures in meters (m)

Work done is measured in joules (J)

В. A crane lifts 400 N crate full of coca cola 15 m. How much work was done by the crane?

Work done =  $400 \times 15 = 6000 \text{ J or } 6 \text{ kJ}$ 

В.

A.

Work done =  $800 \times 50 = 4000 \text{ J or } 4 \text{ kJ}$ 

Sun  $\rightarrow$  solar panel  $\rightarrow$  lightbulb.





What w	e are learning	this term:		A.	What are the c	hange	s in ene	rgy stores for the	follow	ving objects?	
B. Wo C. Gra	rk done vitational poter	transfer between ener ntial energy l elastic energy stores	rgy stores	An arrow being thrown directly up into the air							
E. Wa	sted energy and ergy efficiency	d Dissipation		A toy car (with battery) hitting a wall head on							
6. Key Words for this term				A car accelerating							
<ol> <li>Dissipate</li> <li>Generation</li> <li>Efficiency</li> </ol>				A bike slowing down							
3. Efficiency				Water	boiling in an ele	ctric k	ettle				
A. What is a system? A.				Wh	at is the law of co	onserv	ation of	energy?	A.	Theoretically, if a roller-coaster has 20000 J of GPE at the top of the slope, how much KE will it have gained when it reaches the bottom?	
A.	What are th	ne 8 energy stores	?	А		What is the energy store of a person on a					
1.		5.			bungee jump?						
2.		6.						В.	What is work?		
3.		7.									
4.		8.							Wha	t is the link between work and energy?	
		ergy transfer from th	e sun, to sol	ar panel	to light bulb?	В.	energy	son uses 300 J of pushing a bike, the work done?		e units for energy are –joules, what are units for work done?	
Sun →	solar panel →					300 .				es (J)	
	ore of nuclear	energy tra		ene	rgy transferred to by heating	B.	What	is the equation for	<u> </u>		
energy in electric current				а	nd light waves		-	is measured in _ is measures in _			
B. If a person pushes a trolley with force of 800 N and moves					d moves it			is measured in _			
		0 m isle, how much v				В.		lifts 400 N crate full the crane?	of cod	ca cola 15 m. How much work was	
					1 1						



## B. Who is doing the most work in these images and why?



The bodybuilder on the right is doing the most work. This is because work done depends on force and the on the right is lifting a larger force.



The fireman on the left is doing the most work. This is because work done depends on distance and the foreman on the left has travelled a longer distance.

## B. Why, when work is done, isn't all the energy transferred?

Some is lost in heat and sound.

Compare a glass block being pushed 1 m across a polished floor with a wooden block being pushed 1 m across a rubber floor.

Which needs more force and why? Which is more work done?

For the glass block, most of the energy will be transferred into kinetic energy, so only a small force is needed. For the wooden block, most of the energy will be transferred into heat, so a large force is needed. More work is done on the wooden block as more energy is transferred to heat rather than KE.

## What is the equation to calculate gravitational potential energy (GPE)?

GPE = mass × gravitational field strength × height Mass, m is measured in kilograms (kg)
Gravitational field strength, g, is measured in newtons per kilogram (N/kg), usually taken as 10 N/kg on Earth. Height, h, is measured in metres (m).
GPE is measured in joules (J).

A bird with a mass of 3 kg flies at a height if 150 m about the ground, how much GPE store does it have?

GPE =  $3 \text{ kg} \times 10 \text{N/kg} \times 150 \text{ m} = 4500 \text{ J or}$ 4.5 kJ

## D. What is the equation for kinetic energy?

KE =  $\frac{1}{2}$  × mass × velocity<sup>2</sup> =  $\frac{1}{2}$ mv<sup>2</sup>

Mass is measured in kilograms (kg). Velocity is measured in metres per second (m/s). KE is measured in joules (J).

If a car with a mass of 1750 kg is travelling at a velocity of 30 m/s, what is the KE of the car?

 $KE = \frac{1}{2} \times 1750 \text{ kg} \times 30^2 = 787,500 \text{ J or } 787.5 \text{ kJ}$ 

## D. What is the equation for elastic potential energy?

## EPE = ½ spring constant x extension<sup>2</sup>

EPE is measured in joules (J)

Spring contact is measured in Newtons per metre (N/m)

Extension is measured in Meters (m)

If a spring has a spring constant of 25 N/m and the extension is 0.2 m, what is the EPE?

els.

EPE =  $\frac{1}{2}$  25 N/m x  $0.2^2$  = 0.5 J

## D. What happens to energy that is not usefully used?

It spreads out to the surrounding in many forms, this is called dissipated energy.

## Are the following useful or wasteful; energy transfers:

Heater: heat, car: sound, heater: light, television: light, car: heat, car: kinetic, television: sound, television: heat?

Useful Heater: heat heater: light car: kinetic television: sound

Wasteful
car: sound
television: light
car: heat
television: heat

## F. What is energy efficiency?

All devices waste energy, so no device is perfectly efficient. The more efficient a device is, the less energy is wasted.

## Why is energy efficiency so important?

energy efficiency =

How do you

useful output energy total input energy

## C. How is power calculated?

Power (Watts, W) = energy transferred (Joules, J)/time taken (seconds, s)

If a student did 2000 J of work walking up the stairs and I took 10 seconds, what is the power?

P = 2000 J / 10 s = 200 W





В.	Who is doing the most work in these ima	iges	B. Why, when work is do the energy transferred		C .	What is the equation t	to calculate gravitational			
			Compare a glass block being pushed 1 m across a polished floor with a wooden block being pushed 1 m across a rubber floor. Which needs more force and why? Which is more work done?			is measured in is measured in, usually taken as 10 N/kg on Earth is measured in is measured in				
			William to more work done.			out the ground, how mu	flies at a height if 150 m uch GPE store does it			
				D.	D. What happens to energy that is not usefully used?					
D. V	What is the equation for kinetic energy?	D.	What is the equation for elast energy?	ic potential						
					Are the following useful or wasteful; energy transfers: Heater: heat, car: sound, heater: light, television: light, car: heat, car: kinetic, television: sound, television: heat?					
					Use	<u>ful</u>	<u>Wasteful</u>			
	with a mass of 1750 kg is travelling at a of 30 m/s, what is the KE of the car?		spring has a spring constant of 25 N/m the extension is 0.2 m, what is the EPE?							
F.	What is energy efficiency?			C. How	is pov	wer calculated?				
Why is	energy efficiency so important?									
					If a student did 2000 J of work walking up the stairs and I took 10 seconds, what is the power?					
How do	you calculate energy efficiency?									





### What we are learning this term:

- A. Conduction
- B. Insulators
- C. Specific heat capacity
- D. Heating and insulating buildings
- E. Infrared radiation

## 6. Key Words for this term

- 1. Specific
- 2. Absorption

## A. What are the factors that affect conduction?

- Material
- 2. Cross-sectional area
- 3. Surface contact
- 4. Temperature difference

## B. Why do insulators not conduct heat?

They do not have any free electrons to move through the material and transfer the energy.

## A. What is a good conductor?

A material that allows heat and electricity to pass through.

## What are examples of good and bad conductors (insulators)?

Good

Metals: silver, copper, gold, aluminium

Bad (insulators)

Glass, air, plastic, rubber and wood.

## A. What are the three main processes that heat can be transferred by?

1. Conduction 2. Convection 3. Radiation

## In what direction does heat energy flow?

From HOT to COLD

From a warmer to cooler area

## In what state (s, I, g) does conduction happen?

Solids

## How do metals conduct heat?

The outer electrons are not attached, are free to move (delocalised). When the metal is heated they gain electrons and transfer the energy through the metal.

## B. What materials make good insulators?

Rubber, wood, air, glass, plastic

## B. Why is air a good insulator?

Because its a gas. Therefore its spread-out molecular configure resists heat transfer to some degree

## 8. Why are cotton sheets good insulators?

Because the cotton does not conduct any heat as there are no free electrons.

There is also air trapped in the cotton and air is not a good conductor.

## C. What can the heat energy stored in a material be thought of as?

The total kinetic energy of all the particles.

## C. Which has more heat energy, a bath of hot water or a spark from a sparkler? And why?

The particles in a spark from a fire move around very quickly, so it has a high temperature. However, there are only a few particles, so it has very little stored heat energy

Compared to a spark, the particles in a bath of water move slowly, so it has a relatively low temperature, but there is a large amount of energy stored since there are many particles.

C. Why do copper and water require a different amount of energy to get to increase their temperature to the same amount?

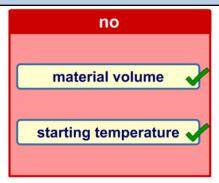
Because they have a different specific heat capacity.

## What is specific heat capacity?

SHC is the amount of energy required to increase the temperature of 1 kg of a material by 1  $^{\circ}\text{C}$ 

## C. Do the following factors affect the temperature change of a material when it is heated?

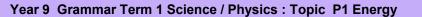








				_				11. 20. 0			
What we a	re learning this te	rm:	A.		are the factors that conduction?	E	3.	Why are cotton sheets good insulators?			
A. Condu B. Insulat C. Specif			1. 2. 3.	allect	Conductions						
			4.	4.			C.	What can the heat energy stored in a material be thought of as?			
6. Key Words for this term			B. Why do insulators not conduct heat?								
1. Specific 2. Absorption						(		nich has more heat energy, a bath of hot water or a spark om a sparkler? And why?			
A.	What is a good	d conductor?			What materials make good insulators?						
What are examples of good and bad conductors (insulators)?				B. Why is air a good insulator?		1 6		Why do copper and water require a different amount of energy to get to increase their temperature to the same amount?			
Good		Bad (insulators)		, I	iisuiatoi :	ļΓ					
			_			١	What is	specific heat capacity?			
A.	What are the t heat can be tra	hree main processes tha ansferred by?	t								
1.	2. lirection does he	3.		C.				the temperature change of a material when it is heated? erial, material, material volume, starting temperaturw.			
		at one.gy non.			ye	s		no			
In what s	tate (s, I, g) does	s conduction happen?									
How do metals conduct heat?											







C. What are the factors which affect the amount f energy required to increase the temperature of an object?

Energy supplies Material Mass of material

Why would a material with a high specific heat capacity be beneficial?

It can store a large amount of heat energy for a minimal temperature change.

For example, radiators have water in the because it as a high SHC.

C. What is the equation for energy, in which you use specific heat capacity?

## Energy = mass x specific heat x temperature capacity change

Energy is measured in joules (J).

Mass is measured in kilograms (kg).

Temperature change is measured in °C.

Specific heat capacity is measured in J/kg°C.

How much energy is needed to increase the temperature of 0.5 kg of water by 80 °C in a kettle? SHC of water = 4,200 J/kg°C

Energy =  $0.5 \text{ kg x } 4200 \text{ J/kg}^{\circ}\text{C x } 80^{\circ}\text{C} = 168,000 \text{ J}$ 

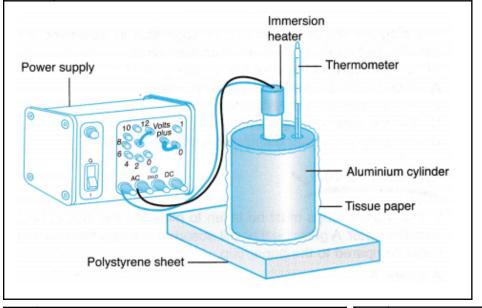
How can we rearrange this equation to calculate SHC?

$$SHC = \frac{energy}{mass \times temp. change}$$

What is the SHC of copper if 11500 J raises the temperature of 1.5 kg by 10°C

$$SHC = \frac{11,500 J}{1.5 kg \times 10^{\circ} C} = 766.66 J/kg^{\circ} C$$

C. This is the apparatus used to measure the SHC of an aluminium block.



D. If the white, yellow and red areas show the warmest and the blue and green areas show the coolest parts of the house, which [arts are the best insulated?



the walls are the best insulated as they are the coolest. The roof and windows are the least insulated as they appear the warmest, they are letting lots of heat out F. How else can heat loss from homes be reduced?

All draughts should be eliminated. Use curtains for this, as well as draught excluders over gaps in doors and window. Carpets also trap air. How can heat loss from homes be reduced from the windows?

Double glazing. It is two panes of glass with trapped air between them which is an insulator.

How can heat loss from homes be reduced from the roof?

Roof insulation. Stops the warm air that has risen escaping.

How can heat loss from homes be reduced from the walls?

Outside walls have an empty space between them called a cavity this had air trapped in it (an insulator) and stops any conduction from the bricks.

How can heat loss from homes be reduced from the radiators?

A shiny foil can be put between the wall and radiator to prevent radiation by reflecting it back into the room.

## D. What is payback time and how is it calculated?

Payback time is the time it takes for the cost of installing insulation to be equalled by the savings made from reduced energy costs.

 $payback time (years) = \frac{cost of insulation}{saving each year}$ 

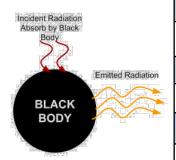




C.	What are the factors which affect the amount f energy required to increase the temperature of an object?	C.	This is the apparatus used to measure the SHC of block. Label this.	<sup>:</sup> an alur	minium	F	How can heat loss from homes be reduced from the windows?
	would a material with a high specific heat acity be beneficial?	© @	0 10 12 Volts 1 plus 1 plus 1 AC out DC			hor	w can heat loss fron nes be reduced fror roof?
C.	What is the equation for energy, in which you use specific heat capacity?			$\geq$		hor	w can heat loss fron nes be reduced fron walls?
	is measured inis measured inis measured inis measured inis measured in	V	f the white, yellow and red areas show the warmest and the blue and green areas show the coolest parts of the house, which [arts are the pest insulated?	F.	How else can heat loss from homes be reduced?		
temp	much energy is needed to increase the perature of 0.5 kg of water by 80 °C in a e? SHC of water = 4,200 J/kg°C		Jest Ilisulated !		be reduced:	hor	w can heat loss fron nes be reduced fror
calc	can we rearrange this equation to ulate SHC?		Alfred Pasieka / SPL			the	radiators?
	t is the SHC of copper if 11500 J raises the perature of 1.5 kg by 10°C	D.	What is payback time and how is it calculated?			·!	







## E. What is infrared radiation?

Infrared radiation is an electromagnetic wave. All objects emit and absorb infrared radiation.

## What is a perfect black body?

An object that absorbs all the radiation that hits it. It does not reflect or transmit any radiation.

## What is black body radiation?

Radiation emitted by a body that absorbs all the radiation incident on it.

## E. Describe factors that affect the temperature of the Earth

- 1. The rate at which radiation from the Sun's reflected back into space or absorbed by the Earth's atmosphere or the Earth's surface.
- 2. The rate at which radiation is emitted from the Earth's surface and from the Earth's atmosphere into space.

## What affect does the atmosphere have on the surface temperature of the Earth?

It keeps the surface of the Earth from dropping to -180°C at night. As the surface would not be receiving any radiation from the Sun but would be emitting radiation into space.

## Which gases in the Earth's atmosphere absorb longer wavelength infrared radiation?

Water vapour, methane, carbon dioxide (Greenhouse gases)

## E. What is the relationship between surface temperature and infrared radiation?

The higher the temperature of an object the more infrared radiation it emits in a given time.

## Describe the radiation emitted by an object with a constant temperature.

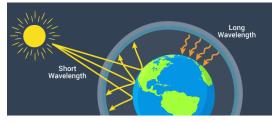
An object that has a constant temperature emits radiation across a continuous range of wavelengths.

## What happens to the temperature of an object if it absorbs more radiation than it emits?

The temperature increases.

## E. Describe the green house effect.

- 1. Infrared radiation from the Sun warms the surface of the Earth.
- 2. The Surface becomes warmer and emits longer wavelength infrared radiation.
- 3. Greenhouse gases absorb the longer wavelength radiation and re-emit back to the ground.
- 4. The surface of The Earth heats up.



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¢;	200	8	

Incident Radiation Absorb by Black Body	Emitted Radiation
BLACK BODY	

	200000					
E.	What is infrared radiation?					
What is a pe	Vhat is a perfect black body?					
What is blac	k body radiation?					

E.	Describe factors that affect the temperature of the Earth							
1								
2.								
What affe	What affect does the atmosphere have on the surface temperature of the Earth?							
Which ga	ses in the Earth's atmosphere absorb longer wavelength infrared radiation?							

E.	What is the relationship between surface temperature and infrared radiation?	E.	Describe the green house effect.
		1.	
	ribe the radiation emitted by an object with a stant temperature.	2.	
	t happens to the temperature of an object if it orbs more radiation than it emits?	3.	Short Wavelength
		4.	



## Y9- T1 – Geography Life in an Emerging Country

located e.g. a developed country.



9	round:		B.	Develo	pment i	indicators (3)		
	things better.	means positive change that makes				The total value of goods and services sold by a country in a year divided by the population.		
	people's stand (B)	develops it usually means that the dard of living and quality of life improve.	HDI			relopment measure which combines GDP apita, life expectancy and literacy rate.		
	economic, so Emerging cou	ors can affect development such as cial and political factors. (A) Intries have begun to experience higher opment, with a rapid growth in	Life expec	tancy	The a	verage age you are expected to live to in ntry.		
	secondary ind	fustries. <i>(A, C)</i> Intries have some of the fastest rates of	D.	Rural t	o urba	n migration <i>(4)</i>		
<ol> <li>Emerging countries have some of the fastest rates of urbanisation in the world. (D)</li> <li>This is causing urban areas (cities) to become highly populated, this process can have both opportunities and challenges. One such challenge is the growth of squatter settlements. (E)</li> <li>Emerging countries often host the factories of many transnational companies. They provide wages and taxes, and can promote development. However, they can also cause negatives. (F, G)</li> </ol>				to urban tion	1	The movement of people from rura areas (countryside) to urban areas		
						(cities).		
				factor		Things that make people want to leave an area e.g. a lack of jobs		
				actor		Things that attract people to live in an area e.g. good health care.		
	Characteri				an area e.g. good nealth care.			
IC	countries	Brazil, Russia, India, China.	Mechanisation		1	When machines begin to do the work which humans once		
NΤ	countries	Mexico, Indonesia, Nigeria, Turkey.				completed.		
uet	rialisation	The process of a country moving	F.	Trans	nationa	tional corporations (TNCs) (5)		
usi	nansauon	from mostly agriculture (farming) to manufacturing (making)	Transnational corporation			Those that operate across more than one country.		
		goods.	Footloose			Industries which are not tied to a		
Employment structure  Secondary industry		between primary, secondary, tertiary and quaternary employment.				location due to natural resources or transport links.		
				Globalisation		The increased connectivity of countries around the world e.g.		
				country		through trade.  The country where the TNC		
or		Sending goods to another country for sale.	HUSU	country		places it's factories e.g. in an emerging or developing country.		
Urbanisation		The growth in the number/ proportion of people living in	Source count		Source country		y	The country where the headquarters for the TNC is

towns and cities.

C.	Encou	raging development (4)				
Subsidy		Money given by a government to help an industry keep down the cost of exports.				
Tax breaks		This reduces the amount of tax a company must pay (normally for a fixed period), therefore increasing profit.				
Minim wage	um	The lowest wage permitted by law in a country.				
Trade unions		An organisation of workers who work to protect the rights of those employed.				
	_					
E.	Squatt	er settlements (5)				
Squatter/ shanty settlement		An area (often illegal) of poor quality housing, lacking basic services e.g. water.				
Inequality		Differences in wealth, and wellbeing.				
Sanita	tion	Measures to protect public health e.g. clean				

G. Impact	of TNCs					
Quality of life	A measure of how 'wealthy' people are, but measured using housing, employment and environment, rather than income.					
Informal economy	Jobs which are not taxed, workers do not have contracts or rights.					
	water and disposing of sewage.					

G.	Impact	t of TNCs
Positive: (5)		<ol> <li>More jobs.</li> <li>More taxes.</li> <li>Invest in infrastructure projects.</li> <li>GDP increases.</li> <li>Develop workers skills.</li> </ol>
Negative: (3)		<ol> <li>Can exploit workers e.g. long hours.</li> <li>Most of the profits from TNCs leave the country where production takes place.</li> <li>Increased levels of pollution e.g. air and water (from industrial waste).</li> </ol>



## Y9- T1 - Geography Life in an Emerging Country - Quizzable

C.

Encouraging development (4)



Background:		B. Development indicators (3)		C.	Encoura	ging development (4)		
1.	Development means			pinent maicators (3)		Subsidy	,	
2.	As a country develops it usually means		GDP per capita  HDI  Life expectancy			Tax breaks  Minimum wage  Trade unions		
3.	Different factors can affect development such as	HDI						
4.	(A) Emerging countries have begun to experience higher rates ofwith a rapid growth							
5.	in(A, C) Emerging countries have some of the	D.	Rural to	urban migration <i>(4)</i>		E.	Squatt	er settlements (5)
6.	in the world. (D)  This is causing urban areas (cities) to become , this process can have both	Rural to urban migration			Squatter/ shanty settlement			
	opportunities and challenges. One such challenge is the growth of	Push	Push factor			Inequality		
7.	<ul> <li>(E)</li> <li>Emerging countries often host the factories of many transnational companies. They provide wages and taxes, and can promote development. However, they can also cause negatives. (F, G)</li> </ul>		Pull factor		Sanitation			
			Mechanisation			Informal economy		
A.	A. Characteristics of emerging countries (7)				Quality of life			
BRIG	Countries	F. Transnational corporations (TNCs) (5)						
MIN <sup>3</sup>	T countries	Transnational corporation		G. Impact of TNCs				
Indu	Industrialisation		Footloose		Positiv	/e:	1. 2.	
	Employment structure		Globalisation					3. 4.
	econdary		Host country					5.
	Exports				Negat (3)	ive:	1. 2.	
Urba	nisation	Sourc	Source country				3.	

## Year 9 Term 1 History Knowledge organiser: Topic = British Sector of the Western Front, 1914-1918: injuries, treatments and trenches.

What we are le	earning this term:		,	A. Causes of WWI						
B. The mai during V	used WWI to break out in 1914 n battles on the British Sector of the Western F VWI ch system – structure and features	ront	Militaris	m	Britain 'ruled the waves'. It had to most powerful Navy in the world. Germany wanted to rival Britain's empire so it began to build an even better navy. Once Britain heard about Germany's plans to build a navy, they too began to build a bigger and better navy. This is called the 'naval race'.					
D. What health problems happened in the trenches E. How did the war end in 1918 F. What happened after WWI?				es	In 1882 Austria, Germany and Italy signed the Triple Alliance. They promised to defend each other if either were attacked. This is called the <b>Triple Alliance</b> .  France and Russia: France and Russia had had an alliance since 1904 – because they both thought the best way of controlling Germany was to surround her. This then turned into the <b>Triple Entente</b> with England in 1907 as England became increasingly worried about German naval strength. This left Germany surrounded					
6 Key Words f	or this term		Imperialism		During the 19 <sup>th</sup> century both Britain and France conquered huge overseas empires – this gave them access to raw materials for industry and a market for their goods,					
1 First Aid voluntar the front first aid					it also gave them huge amounts of political power across the world Both Britain and France were very happy being the most powerful nations and wanted this to continue. Kaiser Wilhelm wanted to compete with Britain and conquer a German Empire that would challenge Britain's supremacy.  Before 1871 Germany didn't exist. Instead it was a series of separate kingdoms. The most powerful of these was called Prussia. Prussia was an industrialised nation, like Britain, and had a powerful army.In 1871 Prussia fought and defeated France in the Franco Prussian War. After the defeat of France, Germany united.  Germany then had a big desire to 'nation build' – to build a national identity rather than separate identities for different kingdoms.					
<ul> <li>2 Royal A army res</li> <li>3 No-man during V</li> <li>4 Shrapne</li> </ul>	iches	Nationa	lism	like Britain, and had a powerful army.ln 1871 Prussia fought and d						
territory  6 Alliance other if t	5 Salient - An area of a battlefield that is surrounded by enemy territory on 3 sides				The Austria-Hungary government saw the assassination as a direct attack on the country. They believed that the Serbians had helped the Bosnian terrorists in the attack. They made harsh demands on the Serbians which the Serbians rejected. At the same time, Russia began to mobilize their army to help protect Serbia. When Serbia rejected the demands, Austria-Hungary declared war on Serbia. A few days later, Germany declared war on Russia to help its ally Austria-Hungary. Then France began to mobilize to help its ally Russia, and Germany followed by declaring war on France. World War I had begun.					
В	B Describe two features of the key  battles during WWI			ne Blank Cheque On July 5, 1914, Germany gave Austria a "blank cheque" in handling its punishment of Serbia regarding the assassination of the				rding the assassination of the heir	neir to the Austrian throne.	
<u>Battle</u>			_				-			
1 <sup>st</sup> Battle of Ypres (1914)	This battle was aimed at stopping the German army from advancing towards the Belgium coast.				an area where soldiers could be protected from light fire	1 Gangrene – a condition where a loss of blood supply causes body tissue to die and usually occurred as a result of an injury. Treated by amputation of the affected area. Gas Gangrene –				
		2 – Ba wire	arbed	This wou	lld make it more difficult for the enemy to get into the trench	infection that produces gas in the gangrenous area. Caused by bacteria in the soil on the Western Front which had been heavily farmed using fertiliser.				
2 <sup>nd</sup> Battle of Ypres (1915)	This battle was the first time that the Germans used chlorine gas as a weapon against the British.	3 – Sandb			ould absorb the shock of the bullets and help the trench maintain	2 Shellshock – a condition that was not really understood during the war. Caused by the constant noise and shell fire in the trenches, many soldiers experienced nightmares, loss of speech and a complete mental breakdown.  3 Shrapnel wounds – when shells exploded, shrapnel travelled at fast speeds over wide areas, causing injuries to anyone in their way				
Battle of the	Bloodiest battle in the whole of the war –	4 – Fi	re step	This is what soldiers stepped on when they wanted to climb ove Between fighting it was often used as a bench or bed						
Somme (1916)	total of 57,000 men were killed during the first day alone. The RAMC were not	5 -	o o rdo		boards that were placed on the floor of the trench to provide a d dryer ground for the soldiers to walk over			on that was spread by lice in the to g of the feet caused by standing in		
	prepared for the amount of casualties and hospitals and casualty stations were overwhelmed.	Duckboards 6 – Elbow			here soldiers would prop their guns to shoot out of the trench	F.	What happened	l after WWI?		
	overwneimed.	rest	DOW	11115 15 W	Tiele solulers would prop their gans to shoot out of the trench	Why is it called a World		Why did WW1 End?	Was the Treaty of Versailles	
Battle of Arras	This British used tunnels to dig near to the German trenches and surprise them	<del>7 Ра</del>		This was	Vorld War One end?	War? harsh on German				
(1917)	with the attack. No progress was made and there were 160,000 casualties.								much harsher treaty on	
3 <sup>rd</sup> Battle of Ypres (1917) During this battle the weather turned to heavy rain. The ground became Triple (1917) waterlogged and many men fell into the mud and drowned.			<ul> <li>7 – The Russian Revolution started. Russia left the war, surrendering to Germany in 1917.</li> <li>7 – Following the sinking of US ships, such as the Luscitania, and the potential threat of an alliance ween Germany and Mexico leading to an attack on the USA, the USA joined the war on the side of the ble Entente.</li> <li>8 – Entente forces on the Western Front push the German army back to the Hindenberg Line, the last of German defenses.</li> </ul>				from the Empires of Britain and France.  Allies had many new inventions such as tanks.  Many new allied troops were entering the war from the billion  Brest Litovsk.  Germany had to billion		Germany had to pay £6.3	
Battle of Cambrai (1917)	people 1918 – 1918 –	Blockades enforced by the Entente led to lack of resources and food in Germany. Thousands of ople in Germany were starving.     The Germany Navy began to Mutiny     The Kaiser abdicated.     November 1918 – An armistice is signed, formally ending the First World War			such as in Africa and Asia. There was also fighting on the Eastern Front in Russia.		Germany faced many rebellions as Germany was starving	100 thousand. (previously was ten million. Germany gave up 12% and 10% of it's population. Worst of all they were blamed for the war		

## Year 9 Term 1 History Knowledge organiser: Topic = British Sector of the Western Front, 1914-1918: injuries, treatments and trenches.

	for this term – Section A		A.	Causes of WWI							
1 First A	id Nursing Yeomanry (FANY) –		Militarism								
2 Royal A	Army Medical Corps (RAMC)		Alliances								
3 No-mai	n's land		Imperialism								
4 Shrapn	el										
5 Salient			Nationalism								
6 Alliances			Assassination of Franz Ferdinand								
В	Describe two feetures of the law										
В	Describe two features of the key battles during WWI										
<u>Battle</u>	Features Features		The Blank Cheque								
1st Battle of	<u>. euta 60</u>	C.	Describe two	features of the trench system during the Western Front	D. What health problems were caused by conditions in the trenches?						
Ypres (1914)		1 – Du	ugout			1 Gangrene					
2 <sup>nd</sup> Battle of		2 – Ba wire	rbed	2 Obellahaata							
Ypres (1915)		3 –				2 Shellshock					
		Sandb			3 Shrapnel wounds						
Battle of the Somme (1916)	5 -		e step		4 Trench fever 5 Trench foot						
(1313)			oards								
		6 – Elb			F What happened after WWI?						
Battle of		rest			Mby is it soll:	od a World	Mby did MM1 5-40	Was the Treet; of Variable -			
Arras (1917) E.			How did World War One end?			Why is it called a World Why did WW1 End? Was the Treaty of Versa harsh on Germany?					
3 <sup>rd</sup> Battle of		1917 –									
Ypres (1917) 1917 - 1918 - 191											
			vember 1918 –								

## Year 9 Religious Education: Matters of life and death

A. Can you define these key words?					
Key word	Key definition				
Morality	Principles concerning the distinction between right and wrong or good and bad behaviour.				
Ethics	Moral principles that govern a person's behaviour or the conducting of an activity.				
Sanctity of Life	made by God.				
Quality of Life	The standard of health, comfort, and happiness experienced by an individual or group.				
Natural Moral Law	A system of laws based on close observation of human nature, given to humans by God.				
Precept	A general rule intended to regulate behaviour or thought.				
Reason	The power of the mind to think, understand, and form judgements logically.				
Absolute	A value or principle which is regarded as universally valid.				
Situation Ethics	The view that there should be flexibility in the application of moral laws according to circumstances.				
Relativism	The view that morality exists in relation to culture, society, or historical context, and is not absolute.				
Agape	Unconditional love, "the highest form of love, charity" and "the love of God for man and of man for God".				
Abortion	A procedure to end a pregnancy.				
Pro-Life	Opposing abortion and euthanasia.				
Pro-Choice	Advocating the legal right of a woman to choose whether or not she will have an abortion.				
Euthanasia	The painless killing of a patient suffering from an incurable and painful disease or in an irreversible coma.				
Capital Punish ment	The legally authorized killing of someone as punishment for a crime.				
Dominion	To be in charge of something or rule over it.				
Stewardship	The job of supervising or taking care of something.				

С	What does the theory of Natural Moral Law say about moral behaviour?	What are the 5 precepts of NML that we must be fulfilling for morally good behaviour?
	NML says absolute moral rules exist and are revealed to us through by God. Through the use of human reason we can look at the way things were created to know their God given design and functions. The way we are supposed to act according to the way we were created by God is morally good and any way that goes against it is morally wrong.	<ol> <li>Preserve innocent life</li> <li>Live in an ordered society</li> <li>Educate children</li> <li>Reproduce</li> <li>Worship God</li> </ol>

D	What are the strengths of NML theory about what is morally good?	What are the weaknesses of NML theory about what is morally good?			
	The theory is based on reason so everyone can work out for themselves what is morally good	If you do not believe in a God who has created absolute moral laws about right and wrong then NML cannot tell us anything about right or wrong.			
	It seems to be true that we do tend to follow the primary precepts- it is in our nature- and following them will generally bring about what we think of as good. For example, preserve life' means people will protect the innocent and also believe murder is wrong	It can lead to classifying actions as immoral which mainstream society would argue are not. For example, the use of contraception is immoral according to NML because it does not contribute to reproduction.			

E	What does the theory of situation ethics say about moral behaviour?	What are the strengths of S.E theory about what is morally good?	the	hat are the weakness of S.E leory about what is morally bood?	
	There are no absolute moral laws about right or wrong. The only guiding principle about what is morally right is 'do the most loving thing' in any situation.	It allows flexibility and can avoid acts we would deem to be immoral. For example, an absolute rule like 'do not lie' cannot always be followed withour sometimes needing to be broken. For example if a mad axeman came in asking for your mother you would not want to tell the truth because it could lead to her death!	t t	How can we be sure what is the most loving thing when we cannot be sure what the outcome of our actions will be	

В	Bible quotes relating to the sanctity of life					
•						
1	Humans were 'made in the image of God'					
2	'All your days are ordained (set out) for you'					
3	'The body is a temple of the holy spirit'					
4	"Only God gives and takes life'					
5	'Do not kill'					

## Year 9 Religious Education: Matters of life and death

A. Can you define these key words?		С	What does the theory of Natural Moral Law say about moral behaviour?				we mu	are the 5 precepts of NML that ust be fulfilling for morally good
Key word	Key definition						behav	iour?
Morality								
Ethics								
Sanctity of Life								
Quality of Life		D	•	What are the strengths of NML the is morally good?	eory about what	What are the about what i	weakn	nesses of NML theory ally good?
Natural Moral Law								
Precept								
Reason								
Absolute								
Situation Ethics		E	<u>w</u>	hat does the theory of situation hics say about moral behaviour?	What are the stre S.E theory about morally good?	engths of what is	th	hat are the weakness of S.E eory about what is morally ood?
Relativism							•	
Agape								
Abortion								
Pro-Life								
Pro-Choice		В	Di.	ble quotes relating to the sanctity o	of life			
Euthanasia			ы	ble quotes relating to the sanctity t	n me			
Capital Punish ment		2						
Dominion		3						
Stewardship		5						
	•							



## GCSE unit 1 SPANISH Knowledge organiser. Topic Me my family and friends

### What we are learning this term:

- Talking about your family
- Describing your family and friends В.
- C. Explaining family relationships
- Describing relationships D.
- E. Describing future plans
- Translation practice

### 6 Key Words for this term

Me llevo bien

3.

- 4. El año próximo
- 2. No soporto
- 5. Por otro lado
- discuto 6. Vov a...

### 1.1G ¿Cómo es tu familia?

1.1G ¿Cómo es tu familia?

grandfather/grandmother El/la abuelo/a

los abuelos grandparents

alegre happy

alto/a tall

amable kind old

anciano/a la barba beard

calvo/a bald

cariñoso/a affectionate, tender

casi nearly, almost

castaño/a brown hair colour

corto/a short thin delgado/a las gafas glasses gracioso/a funnv

guapo/a good looking, handsome

brother/sister El/la hermano/a

El/la hijo/a son/daughter joven young long

largo/a straight liso/a la madrastra stepmother

los ojos eyes el padrastro stepfather

las pecas freckles pelirrojo/a red-haired

el pelo hair rizado/a curly la tía aunt el tío uncle

viejo/a old sensible

sensitive

### 1.1F Hablando de los amigos

a menudo often alegrarse de to be happy about comprensivo/a understanding conocer to know a person el consejo advice

la cosa thing cuidar to look after

la discusión argument divertido/a good fun egoísta selfish el equipo team

> escribir to write fastidiar

to annoy, to bother fuerte strong

hablador/a talkative honrado/a honest maduro/a mature mismo/a same peligroso/a dangerous

reírse to laugh

seguro/a certain, sure el sentido del humor sense of humour

travieso/a naughty

sad triste

el verano summer

la vida life

### 1.1H Relaciones con la familia

abierto/a open aconseiar to advise actualmente nowadays

aguantar to bear, to put up with

to tidy arreglar

la barrera generacional generation gap

el cariño affection celoso/a jealous la culpa blame, fault los demás others harto/a fed up el hogar home hoy en día nowadays incluso even unfairly injustamente together iuntos la libertad freedom manera way molestar to bother

to hear about

to forget

proud

oír hablar de

orgulloso/a

olvidar

Llevarse Soportar Hacer -Discutir -To go to do/make to get on To stand to arque Me llevo Voy Soporto Hago Discuto I get on I can stand I do I argue I go Te llevas Vas Soportas Haces Discutes

**Key Verbs** 

You go You (s) get on You can stand You do You argue Se lleva Va Soporta Hace Discute He/she can stand He/se gets on s/he goes s/he does He/she argues Nos llevamos Vamos Soportamos Hacemos Discutios W can stand They go We do We argue They get on

Se llevan Van Soportan Hacen Discuten They can stand They do They get on They go They argue

### 1.1H Relaciones con la familia

parecido/a similar la pelea fight perezoso/a lazv provocar to cause

el sobrino / la sobrina nephew, niece

tender a to tend to todavía

still tratar to treat triste sad

### 1.2G Hablando de parejas

el beso kiss cada vez más more and more cocinar to cook

comprar to buy echar de menos to miss someone

enamorado/a in love los familiares relatives feliz happy la gente people el invitado/a quest

maleducado/a rude el marido husband el matrimonio marriage

la mujer wife, woman la novia girlfriend, fiancée

el novio boyfriend, fiancé parecer to seem

la pareja partner los parientes relatives pelear(se) to fight

sonreír

el piso flat, apartment serio/a serious, responsible

to smile

### 1.2F Planes para el futuro

así que so, therefore la boda wedding buscar to look for cambiar to change el casamiento weddina casarse to get married colleague, friend el compañero/a decepcionado/a disappointed encontrar to find la felicidad happiness la fiesta party, festival por eso therefore próximo/a next el sitio place solo/a alone, only soltero/a single tener suerte to be lucky las vacaciones holidays ya no no longer

## 1.2H Las relaciones de hoy en día

ahora now alquien someone face to face cara a cara distinto/a different en contra against en primer lugar in the first place, la edad age estar de acuerdo to agree el/la iubilado/a retired person. pagar to pay la pareja partner la piel skin por otro lado on the other hand



## GCSE unit 1 SPANISH Knowledge organiser. Topic Me my family and friends

		l opic ivie my					
Wh	What we are learning this term:						
A. B. C. D. E. F.	<ul> <li>B. Describing your family and friends</li> <li>C. Explaining family relationships</li> <li>D. Describing relationships</li> <li>E. Describing future plans</li> </ul>						
6 k	Key Words for this te	rm					
1. 2. 3.	No soporto     5. Por otro lado						
1.1G ¿Cómo es tu familia?							

1.1G ¿Cómo es tu familia?					
1.1G ¿Cómo es tu El/la abuelo/a los abuelos alegre alto/a amable anciano/a la barba calvo/a/a/a/a/a/a/a/a/a la/a la/a la/a el/a la/a el tío viejo/a					
sensible					

family and friend	ds	Llevarse	Ir	Soportar
1.1F Habla	ndo de los amigos	to get on	To go	To stand
ade	often to be happy about	Me I get on	l go	I can stand
/a  el	understanding to know a person advice	Te You (s) get on	You go	You can sta
la  la	thing to look after argument	Se He/se gets on	s/he goes	He/she can s
/a egoísta	good fun	Nos They get on	They go	W can stand
el equipo escribir fastidiar	to to	Se They get on	They go	They can s
fuerte hablador/a		1.1H Relac	ciones con la fai	milia
honrado/a maduro/a mismo/a/a/a el/a el/a	dangerous to laugh certain, sure sense of humour naughty sad summer	/a la perezoso/a el sobrino / la sob tender a todavía tratar triste	similar fight lazy to cause rina toto	- 0
la	life	1.2G Hat	olando de pare	jas
abierto/a aconsejar actualmente aguantar arreglar la barrera generaci el cariño celoso/a la culpa los/a el la oír de/a	ones con la familia  to to to to to onal others fed up home nowadays even unfairly together freedom way to bother to hear about to forget proud	el beso cada vez más cocinar comprar echar de menos enamorado/a los familiares  la/a el/a lalalalala novia el novio  lale jos pelear(se) el piso serio/a sonreír	to to to to to to to in happy people guest rude husband marriage wife, woman to seem partner relatives to to to	

and	You do	You argue		
stand s/he does		He/she argues		
	We do	We argue		
tand	They do	They argue		
	1.2F Planes p	ara el futuro		
enco la feli la fiei por e el solo/s tener las _ ya no	Wito   to   to   wito     wito	so, therefore wedding to look for to change wedding to get married colleague, friend disappointed to party, next place/ single to be lucky holidays		
1.	.2H Las relacion	es de hoy en día		
disti en c la esta el/la  la la	s a cara	omeone  in the first place, ge o agree etired person, o pay earther kin in the other hand		

Discutir ! to argue

I argue

**Key Verbs** 

<u>Hacer –</u> to do/make

l do

	blue F – orange H - Green
Mi <b>a</b> es	My <b>grandfather</b> is
а у	Happy and Kind
Tiene losverdes	He has green eyes
Y tiene el pelo	He has Curly hair
la de mis sueños	The <b>wife</b> of my dreams
Quiero un guapo	I want a pretty <b>boyfriend</b>
Mis padres me dan buenos	My parents give me good advice
Es importantea otros	It's important <b>to look</b> <b>after</b> others
Se debe a los niños	It's necessary <b>to advise</b> kids
Mi hermano es	My brother is understanding
Es bueno a otra gente	It's good <b>to know</b> other people
Tener una me importa	Having a <b>partner</b> is important
me interesa	Getting married interests me
Mis padres me dan mucho	My parents give me lots of affection
No soy nunca	l'm never <b>jealous</b>
Estoy/a de los deberes	I'm <b>fed up</b> of homework
encontrar	To find a <b>partner</b>
Fue una buena	It was a good <b>party</b>
No quiero ser	I don't want to be <b>single</b>

Key Questions: Answer the following in your own words. Use these model answers				
Soy bastante alto y delgado. Tengo los ojos azules y el pelo marrón y liso. Mis padres me describen como una persona cariñosa, comprensiva, sensible, honesta y un poco vaga.				
Mi novia perfecta sería muy guapa y honesta y tendría el pelo rubio, corto y rizado. Todos los días seria sensible y no sería nunca perezosa o torpe.				
Somos cinco en mi familia. Vivo con mis padres que se llaman Tengo un hermano menor que se llama y tengo una hermana mayor que tiene años				
Me llevo bien con mi hermano porque es cariñoso y siempre comprensivo. No me llevo bien con mi hermana porque nos peleamos mucho y mi hermana se enfada conmigo.				
Sí, hay discusiones en mi familia. Hay tensión en la casa de vez en cuando. No estoy de acuerdo con los consejos de mis padres. También hay discusiones porque mi hermana pone su música demasiado fuerte				
Si, en el futuro me gustaría casarme con un hombre/mujer (man/woman) honesto y sensible. Quiero casarme porque el matrimonio es muy importante para mi y quiero una boda perfecta en una iglesia. Quiero tener dos niños, una chica y un chico. Voy a tener niños después de haber ido a la universidad				
Recientemente, fui al centro de la ciudad con mi familia. Fuimos juntos en coche y fuimos para comprar unos regalos para el cumpleaños de mi abuelo. Después comimos en un restaurante, yo comí un bocadillo de pollo, mi hermana comió una ensalada. Me gustó mucho porque fue muy divertido y la comida fue muy deliciosa.				
Quiero casarme porque el matrimonio es muy importante para mí y quiero una boda perfecta en una iglesia. Aunque las bodas son muy caras, tener una boda es mi ambición.				

Key Grammar			
Forming the preterite (past tense). Always remove the –AR, -ER, -IR endings first	Remember the preterite (past) tense endings for –AR, -ER, -IR verbs. They are:  -AR: -é, -aste,-ó, -amos, -astéis, -aron -ER: -í, -íste, -ió, -imos, -istéis, - ieron -IR: -í, -iste, -ió, -imos, -istéis, - ieron		
Forming the conditional ('would like to' tense). Always remove the –AR, -ER, -IR endings first	Remember the conditional ('would') tense endings for –AR, -ER, -IR verbs. They are: -AR, -ER, -IR: -ía, -ías, -ía, -íamos, -íais, -ían		
Using the immediate future tense IR + A + INFINITIVE	Voy a casarme = I'm going to get married Va a discutir con su padre = He / She is going to argue with his/her father		

## Year 9 Art Term 1 : Topic = Distorted Portraits

## What are the similarities and differences between MERVE ÖZASLAN and Magritte? List 3 of each.

### Similarities:

В.

- Surreal appearance
- · Use of juxtaposition
- · Sinister atmosphere created

### Differences

colour)

- Use of everyday objects
- Painting vs photomontageContrast colour scheme (black and white vs
- C List 3 words to describe the Surrealism style of artwork?
- 1.) Strange, uncanny, abnormal
- 2.) Juxtaposition, contrast
- 3.) dream-like, unconscious







Describe what is happening in each stage of the making?



## A. What are 3 rules for successful continuous line drawing?

1. Using a sharp pencil

A. Line Drawing

F. Key Words

Rene Magritte

Photomontage

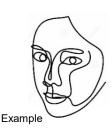
What we are learning this term:

B. Introduction into Surrealism

Observational drawing

- 2. Keeping your pencil on the page and not taking it off
- 3. Lighter areas have fewer pencil lines and darker areas have far more pencil lines.

Using continuous line drawing, recreate the face below.



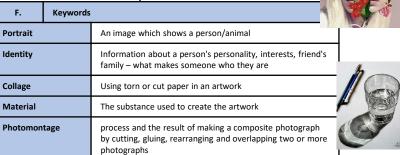
Characteristics

Surreal

Observation

Mixed media

Your response



A list of describing words about a person or thing.

An artwork made from more than one material

the action or process of closely observing or monitoring

strange; not seeming real; like a dream:

something or someone

D. Answer the following questions on MERVE ÖZASLAN and Marcelo Monreal?

What materials does she use to create her work?
Photographs/images craft knife and matt

What subject matter does she use?
Portraits and landscapes

3 What messages could she be portraying in her work?
Human effect on nature
Urbanization
Detachment with nature

4 How does he create his work?
Collage, cutting and sticking images/photographs

5 What is his subject matter?
Celebrity portraits and flowers

6 What messages might he be presenting in his work? People are made of flowers Beauty within people

What are the techniques both artist use? Photomontage and collage

What is the difference between lines?

Vertical Horizontal Diagonal







## D. What is the definition for photomontage?

Photomontage is the process and the result of making a composite photograph by cutting, gluing, rearranging and overlapping two or more photographs into a new image. Sometimes the resulting composite image is photographed so that the final image may appear as a seamless physical print.

**E**. Write a step-by-step guide to a successful observational drawing

- Identify horizon line
- Draw outline of objects
- B. Identify where the light source is
- Add highlight, shadows and mid-tones
- 5. Add in any extra details (pattern, lines and texture)

## Year 9 Art Term 1 : Topic = Distorted Portraits

## What we are learning this term:

- A. Line Drawing
- B. Introduction into Surrealism
- Rene Magritte
- Photomontage
- Observational drawing
- F. Key Words

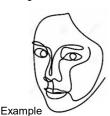
A.



## What are 3 rules for successful continuous line drawing?

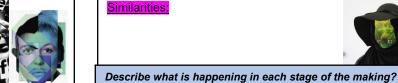
- 1. Using a sharp pencil
- 2. Keeping your pencil on the page and not taking it off
- 3. Lighter areas have fewer pencil lines and darker areas have far more pencil lines.

Using continuous line drawing, recreate the face below.



Mixed media

Your response



В.

Horizonta Diagonal



D.





Differences:

What are the similarities and differences between MERVE ÖZASLAN and Magritte? List 3 of each.

List 3 words to describe the Surrealism style of artwork?

2.)

3.)



MERVE ÖZASLAN and Marcelo Monreal? What materials does she use to create her work?

Answer the following questions on

What subject matter does she use?

What messages could she be portraying in her work?

How does he create his work?

What is his subject matter?

What messages might he be presenting in his work?

What are the techniques both artist use?



**E**. Write a step-by-step guide to a successful observational drawing







## What we are learning this term:

- Health, safety and hygiene in the kitchen
- The Eatwell guide and nutrients
- The Dietary requirements of a teenager
- D. Skills testing
- E. Healthy cooking
- Chopping Board Colours

- 1 A diet high in carbohydrate as a teenager is normally an energetic person.
- 2 A diet with 2-3 potions of protein to maintain muscle growth and cell repair
- 3 A diet with 2 -3 sources of calcium to build developing teeth and bones.
- 4 A diet low in fat to avoid becoming obese or developing other health problems.
- 5 Drinking 2 litres of water a day.

### 6 Key Words for this term

- 4 Healthy 1 Hygiene 2 Dietary Requirements 5 Teenager
- 3 Skills Test 6 Cross Contamination

### Explain the main four things that you should do when you enter the kitchen area.

Remove all of your jewellery.	Jewellery can harbour bacteria and could fall off into the food.
Tie back your hair	Hair could fall into the food or touch equipment.
Wash your hands with hot soapy water.	To remove any germs and bacteria from your hands and nails.
Put on and apron and tie it back.	To protect you from the food and equipment and the food from



### FOOD SAFETY CHOPPING BOARDS If used correctly, colour coded chopping boards can eliminate or reduce the risk of What is cross contamination and how can it be prevented? RAW MEAT Cross contamination happens when you use the wrong chopping board or equipment to prepare food which can therefore result in food poisoning. You RAW FISH must use the correct equipment for the correct ingredients. You must also ensure that you are always following good hygiene practices when cooking. COOKED MEATS B. What do the following terms mean? SALAD & FRUIT PRODUCTS Grilling Using the top part of the oven. It VEGETABLE PRODUCTS involves a significant amount of direct, radiant heat, and tends to be used for cooking meat and vegetables quickly. It is also a healthier method of cooking meat products. Baking Baking is a method of preparing food that uses dry heat, normally in an oven. Heat is gradually transferred from the surface of cakes, cookies, and breads to their centre. Frying Frying is the cooking of food in oil or

### C. Can you list 5 reasons for why we cook food and why it is important?

### Rule

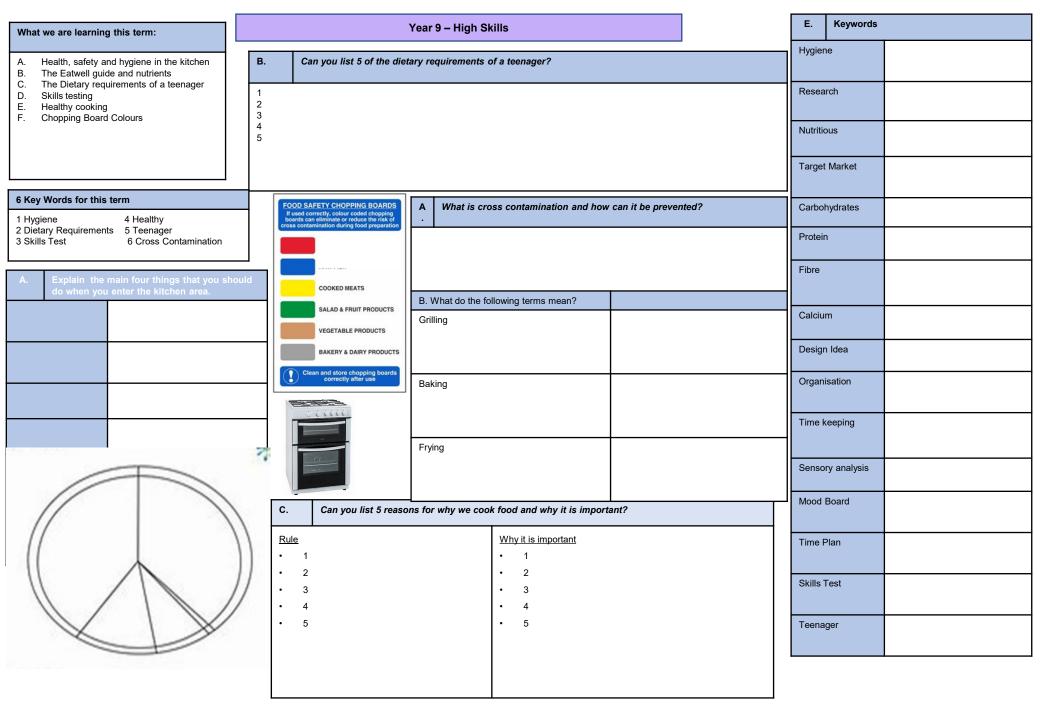
- 1 to get rid of bacteria on the food
- 2 to make the food taste better
- 3 to make food chewable
- 4 to ensure that food is not raw
- 5 to add colour to the food

### Why it is important

- 1 to stop food poisoning
- 2 to make the food more appealing
- 3 it could be raw or a choking hazard
- 4 to stop food poisoning
- 5 to make it look more appetising or change its use

another fat. It is usually done in a

E.	Keywords		
Hygiene		A method of keeping yourself and equipment clean	
Resea	ırch	Information that you find out to help you with a project	
Nutriti	ous	A meal that is healthy and contains vital nutrients.	
Targe	t Market	The age or type of person you re creating a product for.	
Carbo	hydrates	Foods that give you energy	
Protei	n	Food that grow and repair your muscles	
Fibre		Foods that keep your digestive system healthy and avoid constipation.	
Calciu	m	Foods that make your teeth and bones strong	
Desig	n Idea	A sketch or plan of how you are hoping a project to turn out.	
Organ	isation	Having everything ready for a lesson and following instructions	
Time I	keeping	Using the time to remain organised.	
Senso	ry analysis	Use your senses to taste and describe a product	
Mood	Board	A collage of photos and key words based on a project	
Time I	Plan	Instructions of wat you are going to do and how long it should take.	
Skills	Test	Demonstrating your knowledge of a cooking term.	
Teena	ger	Someone between the age of 13 – 19.	





## Year 9 PRODUCT DESIGN Rotation Knowledge Organiser



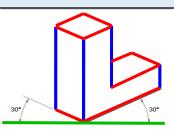
## What we are learning this term:

- A. Drawing Skills
- B. Materials
- C. Wooden Joints & Their Uses
- D. Tools & Machinery

## A. Drawing Skills

## **Isometric Technical Drawing**

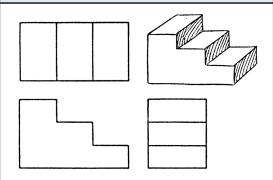
Made up of a series of par parallel **vertical lines** and parallel **30-degree lines**. But no **horizontal lines**.



Used to show a 3D (3-dimensional) perspective of a object or product.

## **Orthographic Projection**

This shows 2D views of a 3D object from different angles – front, plan and end.



Commonly used in industry to help the manufacturer understand the design.

## B. Materials

## Timbers come from trees



Scots pine – which you used for your frame – is a softwood

**Softwood** trees have needle like leaves and are more sustainable

## Dowels are a common component in joinery



**Dowels** – which you used in your dowel joint – is a **hardwood** 

**Hardwood** trees have broad like leaves and loose their leaves in winter

## Polymers come from crude oil



**Acrylic** – which you used for your stand – is a **polymer** 

Acrylic is a thermoforming polymer which means it can reheated and reshaped again and again

		ooden Joints & Their Uses				
Joint		Uses	Image			
Mitre Joint		<ul> <li>Picture Frames.</li> <li>Joining Moldings</li> <li>Window or Door Frames</li> <li>Trim and Skirtings</li> </ul>	0			
Dowel Joint		<ul> <li>Make joints stronger.</li> <li>Axles on toys.</li> <li>Frames</li> <li>Shelves</li> <li>Table or Chair Leg Attachments</li> </ul>	By K. Cooper 2006			
Mortise and Tenon Joint	•	<ul><li>Tables</li><li>Chairs</li><li>Door</li><li>Beds</li><li>Windows</li><li>Cabinets</li><li>Panelling</li></ul>				
Cross Halving Joint	J	<ul><li>Picture frames</li><li>Drawers</li><li>Cabinets</li><li>Structural Framing</li></ul>				
	Mortise and Tenon Joint  Cross Halving	Mitre Joint  Dowel Joint  Mortise and Tenon Joint  Cross Halving	Mitre Joint  Picture Frames. Joining Moldings Window or Door Frames Trim and Skirtings  Make joints stronger. Axles on toys. Frames Shelves Table or Chair Leg Attachments  Mortise and Tenon Joint Tenon Joint  Cross Halving Joint  Picture frames Windows Cabinets Panelling  Picture frames Cabinets Structural			

## Steel Rule Tri Square Mitre Square Tenon Saw Wooden Mallet Chisel Bandfacer Pillar Drill Mortice



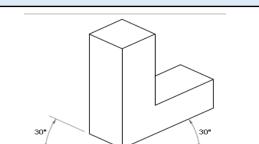
## Year 9 PRODUCT DESIGN Rotation Knowledge Organiser

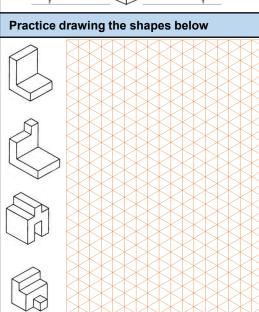


## What we are learning this term:

- A. Drawing Skills
- B. Materials
- C. Wooden Joints & Their Uses
- D. Tools & Machinery

## A. Drawing Skills \_\_\_\_\_Technical Drawing This is used for \_\_\_\_\_





B. Materials	
Timbers come from	
	Scots pine – which you used for your frame – is a  Softwood trees have and are more sustainable
are a common	n <b>component</b> in joinery
	Dowels – which you used in your dowel joint – is a  Hardwood trees have and loose their leaves in winter
Polymers come from	
	Acrylic – which you used for your stand – is a  Acrylic is a thermo- polymer which means it can be

C.	Wo	Wooden Joints & Their Uses			
Joint		Uses	Image		
		·			
		·	By K. Cooper 2006		
		·			
		• •			





## Year 9 COMPUTER SCIENCE Term 1 – Digital Literacy



Α	A Passwords and Shortcuts		
A feature	A feature of a strong password has		
1	10 to 15 characters		
2	Special characters		
3	Upper- and lower-case letters		
4	Numbers		
5	NO patterns or sequences		
6	Only been used for one website/account		
7	NO obvious letter substitutions (for example, 'E' replaced by 3)		
8	NO personal information		
9	To be memorable		
What do the	ne following shortcuts do?		
Ctrl-C	Сору		
Ctrl-V	Paste		
Ctrl-X	Cut		
Ctrl-Z	Undo		
Ctrl-A	Select all		
Ctrl-S	Save		
F2	Rename (file/folder)		
Ctlr-Shift-N	Create a new folder		
Ctrl-P	Print		
Ctrl-B	Bold text		
Ctrl-U	Underline text		

В	Excel Cell Refere	nces
Whatis	the cell reference for th	e following
1 2 3 4	A B	B2
1 2 3 4 5	A B C	A3:C3
1 2 3 4	A B C	A2,A4,C1
1 2 3 4 5	B C	A1:B4

С	C Excel Formulae				
Wha		el formula for			
	Α	В	С	$\neg$	
1	2.3		1.1	-	Adding cells B1 and C2
2	4.01	0.0	8.73		=B1+C2
3	-5	0.004	12.7		
					Subtracting cell A1 from cell A3 =A3-A1
B2 a	Finding the mean of cells: A1, A2, A3, B1, B2 and B3 =AVERAGE(A1:B3)			,	Multiplying cells B3 and C1 =B3*C1
B1, E	Finding the maximum of cells: A1, A2, A3, B1, B2, B3, C1, C2 and C3 =MAX(A1:C3)			3,	Dividing cell A2 by cell B2 =A2*B2
C1, (	Finding the product of cells: A1, A2, A3, C1, C2 and C3 =PRODUCT(A1:A3,C1:C3)		Raising A1 to the power of 7 =A1^7		

D	Excel Absolute Cell References		
	are absolute cell ences used?	To stop a cell reference from being modified automatically	
	t is the absolute reference for the wing	\$A\$3	
1 2 3 4	B C		
	do you duplicate xisting sheet?	1. Right click the sheet we want to copy. 2. Select 'move or copy'.	
28 29 30	3. Select 'create a copy'. 4. Choose where you want the		
	do you reference I in a different t	=Sheet Name!Cell Reference For example, cell H3 in Sheet5 Would be referenced as	
		=Sheet5!H3	

E	Excel Tools
What do	the following buttons in Excel do?
<b>₹</b>	Accounting Number Format (format the cell in a currency, £, \$, and so on)
В	Bold (make text bold)
<u>⟨</u>	Fill Colour (change the colour of selected cells)
<u>+</u> •	Borders (put an outline around selected cells)
<b>₩</b> >	Merge & Center (combine multiple cells into one)
ab	Wrap Text (make the selected text fit in one cell)



## Year 9 COMPUTER SCIENCE Term 1 – Digital Literacy



Α	Р	asswords and Shortcuts				
A feature of a strong password has						
1						
2						
3						
4						
5						
6						
7						
8						
9						
What do th	e fo	ollowing shortcuts do?				
Ctrl-C						
Ctrl-V						
Ctrl-X						
Ctrl-Z						
Ctrl-A						
Ctrl-S						
F2						
Ctlr-Shift-	N					
Ctrl-P						
Ctrl-B						
Ctrl-U						

В	Excel Cell Referen	nces					
Whatis	What is the cell reference for the following						
1 2 3 4	A B						
1 2 3 4 5	ВС						
1 2 3 4	ВС						
1 2 3 4 5	ВС						

С	Excel Formulae							
What is t		formula for.						
1 2 3	A 2.3 4.01 -5	B 5.7 6.3 0.004	C 1.1 8.73 12.7		Adding cells B1 and C2			
			Subtracting cell A1 from cell A3					
	Finding the mean of cells: A1, A2, A3, B1, B2 and B3				Multiplying cells B3 and C1			
Finding the maximum of cells: A1, A2, A3, B1, B2, B3, C1, C2 and C3					Dividing cell A2 by cell B2			
Finding t C1, C2 a		ct of cells: A	Raising A1 to the power of 7					

D	Excel Absolute Cell References		
	are absolute cell ences used?		
	is the absolute reference for the wing		
1 2 3 4	A B C		
	do you duplicate kisting sheet?		
28 29 30	Sheet1 +		
	do you reference I in a different t		

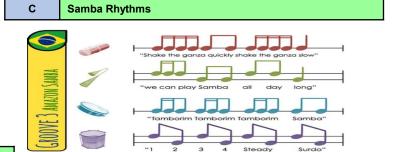
E	Excel Tools						
What do	What do the following buttons in Excel do?						
~							
В							
<u>♦</u> ~							
₩ •							
<b>*</b>							
ab C							



Α	What we are learning about this term
1	History of samba and carnival
2	Polyrhythms, grooves and breaks
3	Call and response/improvising



В	Keywords		
PULSE	The steady beat		
RHYTHM	A combination of long and short sounds and silence		
POLYRHYTHM	Two or more rhythms played at the same time		
SAMBISTA	The leader of the ensemble, gives musical cues to the performers using the APITO (Samba Whistle)		
CALL AND RESPONSE	Where a pattern is played by the leader, and then repeated or responded to by the rest of the performers.		
SYNCOPATION	accenting or emphasising the weaker beats of the bar		
OSTINATO	Songs and tunes passed down by EAR, not by writing them down		
MONOPHONIC / POLYPHONIC	One single rhythm or melody line / Lots of rhythms layered to create a thick texture		
IMPROVISATION	Music made up on the spot, without preparation		



D	Analysing Samba Music from Brazil						
	Listen to Raio De Sol do you notice how the texture begins monophonic (one single rhythm) using call and response?						
festival	Samba music is also designed for performance at large festivals with singers, dancers and processions, called carnivals, so the music is usually forte/fortissimo (very loud).						
differe	eresting patterns that are created by layering lots of nt rhythms (ostinatos) are called cross-rhythms and yed at a fast tempo for the dancing and marching along						

Listen here ->

FORM AND STRUCTURE of a piece of Samba may look like the following:

the streets in the carnival!

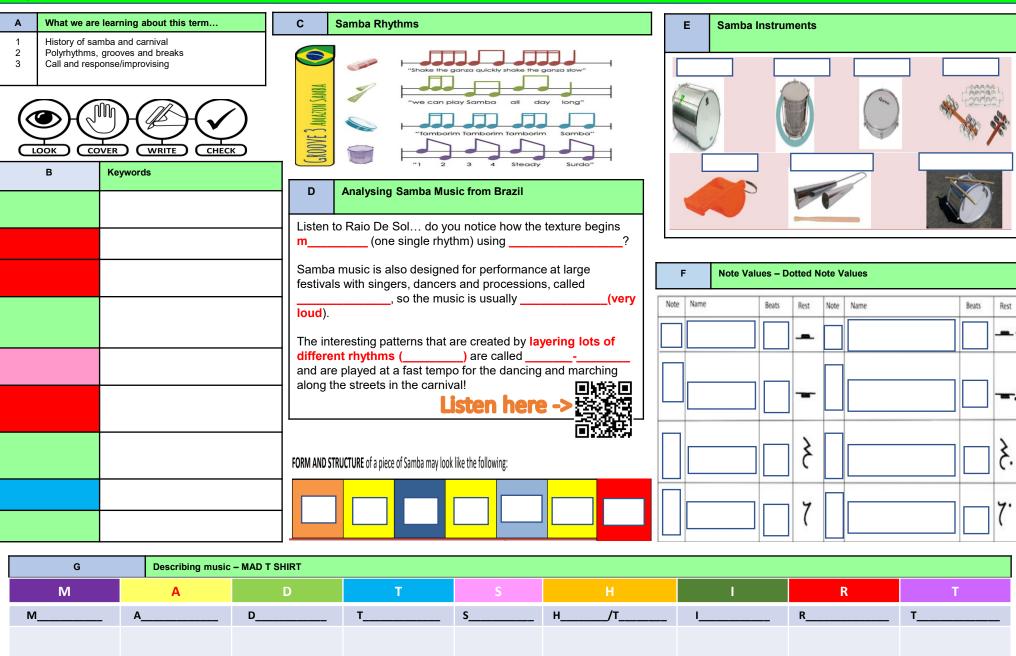
Intro	Groove	Break	Groove	Mid-Section	Groove	Coda
-------	--------	-------	--------	-------------	--------	------



Note	Name	Beats	Rest	Note	Name	Beats	Res
0	Semibreve, Whole Note	4 beats	_	0.	Dotted Semibreve, Dotted Whole Note	6 beats	_
d	Minim, Half Note	2 beats	-	d.	Dotted Minim, Dotted Half Note	3 beats	-
	Crotchet, Quarter Note	1 beat	ξ	J.	Dotted Crotchet, Dotted Quarter Note	1% beats	ξ
	Quaver, Eighth Note	1/2 beat	7	1	Dotted Quaver, Dotted Eighth Note	3/4 beat	7

G	Describing music	Describing music – MAD T SHIRT						
M	Α	D	Т	S	Н	1	R	Т
Melody	Articulation	Dynamics	Texture	Structure	Harmony/Tonality	Instruments	Rhythm	Tempo
The tune	How notes are played	Loud/quiet and any other volume changes	Layers of sound / how they fit together	The sections and organising	Chords used / the mood	Types of instruments heard	Pattern of notes	The speed

## Year 9: World Cultures 2: Samba





## Year 9 Knowledge organiser Topic: Practitioners



## What we are learning this term:

- A. Three influential practitioners in Drama.
- What the techniques are that they created/implemented into a variety of plays.
- Devise a performance using one of the chosen practitioners' techniques and influences.

### A- Key Words for this term

- Devising- Creation of an original performance in response to a stimulus.
- 2. Naturalism- seeks to mirror life with the utmost fidelity.
- Theatre of cruelty- Style of theatre that aims to shock and confront the audience
- Epic theatre- emphasizes the audience's perspective and reaction to the piece through a variety of techniques that deliberately cause them to individually engage in a different way.
- Multi-rolling- When an actor plays more than one character on stage
- Placards- A sign or additional piece of written information presented onstage
- Script analysis- Actors interrogate a script for its intended meaning
- Given Circumstances- Who, what, why, how and where of a character in a play
- Method Acting- A technique or type of acting in which an actor aspires to encourage sincere and emotionally expressive performances by fully inhabiting the role of the character
- 10. Practitioners- Someone who creates pieces of dramatic work or style of theatre.

## **Bertold Brecht 1898-1956**

Verfremdungseffekt (Veffect) (Alienation

## **Techniques**)

The process of 'making strange'. This is where the audience experience something familiar, but it is presented in an unrecognisable way or context .The audience then must reach a new understanding to 'move past' the strangeness.

This effect can be created through the use of:

Direct Address Narration Placards Montage

Multi-rolling Speaking stage directions
Music/song Props table / costumes

change on stage

Naturalism was at its peak, but Brecht thought that theatre should be political and be a force for change. He wanted his audiences to remain objective and distant from emotional involvement, so that they could make considered and rational judgements about the issues in the play – this is called **Epic Theatre** 

## Thinking questions.

1. Brecht said that in naturalistic theatre " audiences hang up their brains with their hats in the cloakroom." what do you think he was saying here?

2. What makes a successful, naturalistic performance?

## Constantin Stanislavski 1863-1938

A Russian actor and theatre director, he created The System of 'method acting'. As a reaction to the melodramatic acting of the late 19th century, he developed methods to help actors create the illusion of reality on stage — **Naturalism**.

<u>Objectives:</u> The actor needs to know what their character wants in each unit of the play – what are they trying to achieve?

<u>Super Objective</u>: The character's ultimate goal over the whole play – each objective should 'link in' and help the character achieve this goal.

The Magic If: How would the actor react/behave

if they were in the same situation as the character?

<u>Units</u> – Dividing a play or scene into different units of action.

**Emotional Memory:** Relating the actors own personal and emotional experience to that

of their character.

## **Antonin Artaud 1896-1948**

Famous for "Theatre of Cruelty." Wanted his audiences to experience and FEEL the pieces not just watch them. He felt that theatre should be cathartic-taboo subjects explored on stage, so that audience members didn't need to go and do these things in "real life."

Extremes – Artaud would portray the extremes and put his actors through extremes before performances. This was to access their "visceral" reactions and emotions.

Attack the senses. He believed that performances should be seen, heard, felt, smelt and tasted. The audience were always made to feel uncomfortable.

<u>Universal language-</u> He felt that all "writing is garbage" so he used a series of grunts, groans, noises and physical gesture to communicate meaning with an audience. This way, everyone could understand.

3. In an Artaudian performance of Little Red Riding Hood, HOW would you play to all 5 senses?



## Year 9 Knowledge organiser Topic: Practitioners



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- Placards-
- Actors interrogate a script for Script a its intended meaning
- Given Circumstances- W , w , w , h and w of a character in a play
- 9. - A technique or type of acting in which an actor aspires to encourage sincere and emotionally expressive performances by fully inhabiting the role of the character
- 10. Practitioners-

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Verfremdungseffekt (Veffect) (Alienation Techniques)

The process of 'm '. This is where the audience experience something familiar, but it is presented in an unrecognisable way or context .The audience then must reach a new understanding to 'move past' the strangeness.

This effect can be created through the use of:

Naturalism was at its peak, but Brecht thought that theatre should be political and be a force for change. He wanted his audiences to remain objective and distant from emotional involvement, so that they could make considered and rational judgements about the issues in the play - this is called \_\_\_\_\_ Theatre

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**Super Objective:** 

The Magic If:

**Units:** 

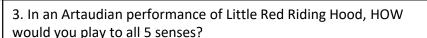
**Emotional Memory:** 

## Antonin Artaud 1896-1948

Famous for " ." Wanted his audiences to experience and FEEL the pieces not just watch them. He felt that theatre should be cathartic-taboo subjects explored on stage, so that audience members didn't need to go and do these things in "real life." **Extremes:** 

Attack the senses:

**Universal language:** 











## Sentence Stems: Year 5 to Year 9



## Listen and Mark

Pay close attention to others and point out important moments.

- I notice you used the word \_\_\_\_\_, which made me wonder \_\_\_\_\_.
- When you said \_\_\_\_ , it made me think about \_\_\_\_ .
- Did anyone notice what \_\_\_\_\_
   said about \_\_\_\_\_? This seems important because \_\_\_\_\_.

## Defend and Unpack

Defend your perspective and explain your thought process.

- I understand your perspective, but have you thought about \_\_\_\_?
- I actually think this because, firstly, \_\_\_\_\_. (Secondly, Thirdly).
- Actually, [evidence] suggests that \_\_\_\_\_.

## Introduce and Invite

Begin your contribution and encourage others to participate.

- I think that \_\_\_\_ because \_\_\_\_.
- \_\_\_\_, what do you think?
- We should discuss \_\_\_\_ because

## **Build and Support**

Add to others' ideas and bolster points by giving evidence.

- You said \_\_\_\_\_, and I want to add that by saying \_\_\_\_\_.
- \_\_\_ supports the idea that
- The points made by \_\_\_ and \_\_\_ link together because \_\_\_ .

## Challenge and Verify

Disagree and ask others to prove or clarify information.

- You said \_\_\_\_ . How do you know?
- I think you said \_\_\_\_ . Is that right?
- I disagree with what you said about \_\_\_\_ because \_\_\_\_.

## Summarise and Map

Draw together big themes and track the discussion.

- Our main findings were \_\_\_\_.
- On the whole, we believe that
- Initially, we thought \_\_\_\_\_, but we eventually decided \_\_\_\_\_.









## #AIMHIGH CHALLENGE TASKS Y9







<u>Subject</u>	<u>Reading</u>	<u>Watching</u>	Other Opportunities	
English	Read: https://www.bl.uk/romantics-and- victorians/articles/charlotte-bronte-the- familiar-and-the-fantastical	Watch: https://www.youtube.com/watch?v=Mv0snnk0 kio	https://www.bronte.org.uk/	
Maths	Read: Identifying features of a quadratic function – BBC Bitesize Worked examples - Identifying features of a quadratic function - National 5 Maths Revision - BBC Bitesize	Watch: Beautiful Trigonometry – Numberphile YouTube Beautiful Trigonometry - Numberphile - Bing video	Using your knowledge of patterns and sequences can you solve this famous ancient maths puzzle? Tower of Hanoi Tower Of Hanoi (transum.org)	
Science	Read: Difference Between Endothermic and Exothermic Reactions <a href="https://byjus.com/chemistry/endothermic-exothermic-reactions-difference/">https://byjus.com/chemistry/endothermic-exothermic-reactions-difference/</a>	Watch: Hydrogen peroxide catalyst video- watch it expand! https://www.youtube.com/watch?v=3Tn-7JcZJuQ	Dissolving laundry detergent in water is an exothermic reaction. Simply dissolve powdered laundry detergent in your hand with a small amount of water. Feel the heat? WASH YOUR HANDS	
Geography	Read Climate Change: Stopping Climate Change	Watch: BBC iPlayer - Climate Change - The Facts	Count how many days the weather in the UK reaches above 20 degrees. Compare this with previous years using Historic station data - Met Office to see how things have changed.	
History	Read Wounded –by Emily Mayhew	Watch: World War One (ALL PARTS) (2021 Re-edit) - YouTube	Visit: The Blunsdon and Cricket Railway Village. SN25 2DA	
Spanish	Read: the Spanish and English whilst watching this video of a tour of Barcelona: <a href="https://www.youtube.com/watch?v=17bHX9">https://www.youtube.com/watch?v=17bHX9</a> <a href="https://www.youtube.com/watch?v=17bHX9">Wkr0E</a>	Watch: this video about what Spanish people eat in their day to day lives: <a href="https://www.youtube.com/watch?v=n7Ma6Vu7COs">https://www.youtube.com/watch?v=n7Ma6Vu7COs</a>	Check out how many Spanish destinations EasyJet Fly to. Find out a little bit about each destination: <a href="https://www.easyjet.com/en">https://www.easyjet.com/en</a>	
Art	Read: How to develop your ideas in preparation for GCSE <a href="https://www.bbc.co.uk/bitesize/guides/zc7m">https://www.bbc.co.uk/bitesize/guides/zc7m</a> <a href="mailto:ng8/revision/1">ng8/revision/1</a>	Watch: How to use a sketchbook to develop your ideas <a href="https://www.youtube.com/watch?v=Kha7-gpgWok">https://www.youtube.com/watch?v=Kha7-gpgWok</a>	Try visiting an art gallery to see how an artist has created artwork in real life. The Tate website is an amazing tool to find 100's of established artists <a href="https://www.tate.org.uk/art">https://www.tate.org.uk/art</a>	

