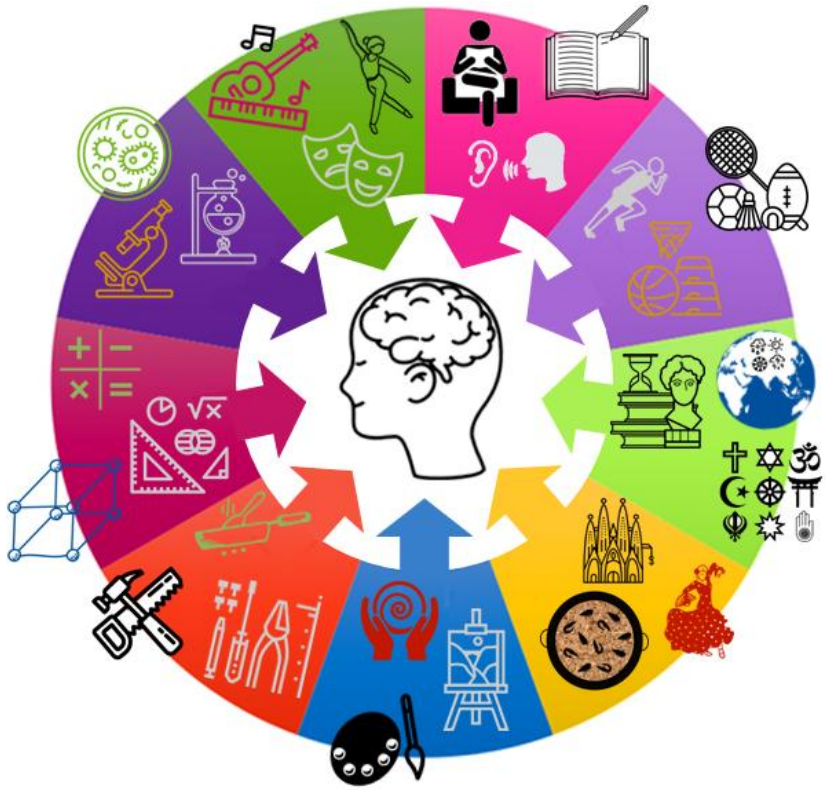
100% book - Year 9 Grammar

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



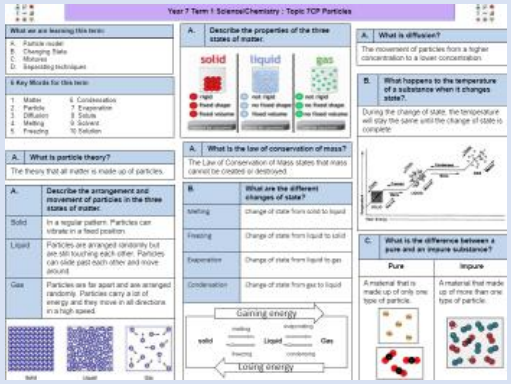
Term 1

Swindon Academy 2025-26	
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

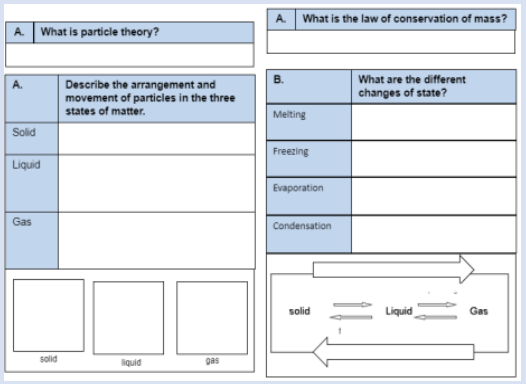
Knowledge Organisers



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!

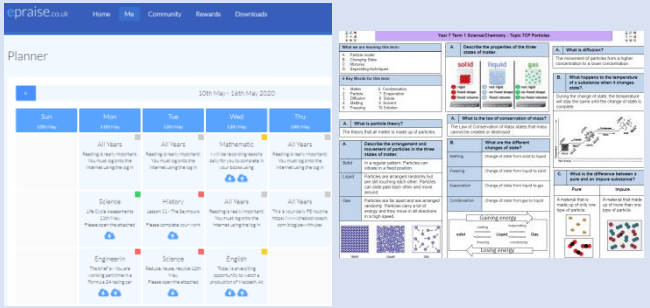
Expectations for Prep and for using your Knowledge Organisers

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.
10. Review your prep work in green pen using the mark scheme.

How do I complete Knowledge Organiser Prep?

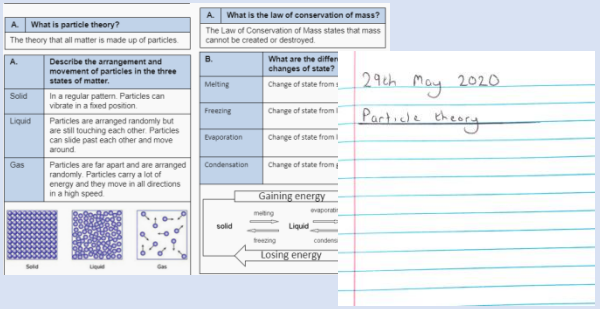
Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.



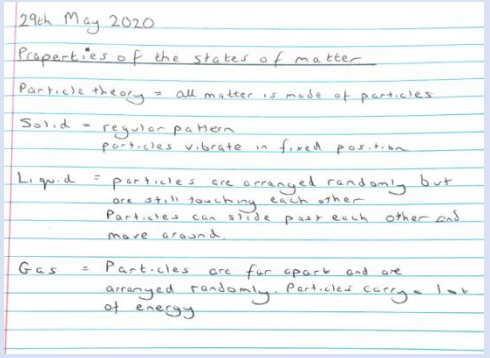
Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.



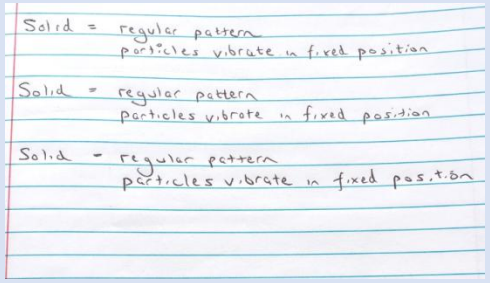
Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.



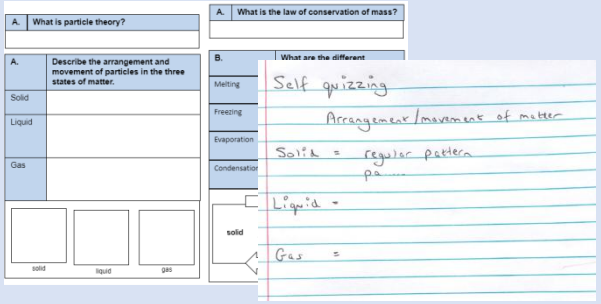
Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.



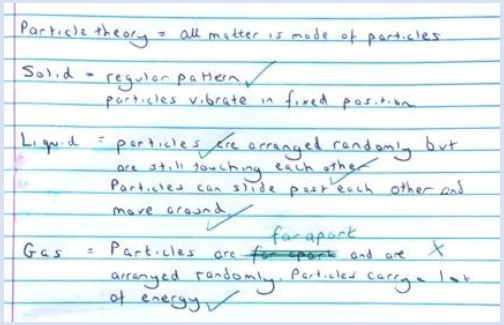
Step 5

Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.



Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.



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

Year 9 Term 1 English Knowledge Organiser: Jane Eyre

Chapter breakdown of Jane Eyre

1	On a bitter day, Jane is curled up with a book when her cousin, John Reed, discovers her and hits her. She fights back and is sent to the red-room.
2	Jane is locked in the red-room. She sits in turmoil until she hears and sees something odd. She begs to be let out. She faints.
3	Jane wakes up in the nursery. Bessie and Mr Lloyd are there. Jane is miserable. Mr Lloyd talks to Jane about going to school.
4	Jane is visited by Mr Brocklehurst, the headteacher at Lowood School. After his visit, Jane and Mrs Reed argue. Jane says she will never call her 'aunt' again.
5	Jane travels to Lowood School. She meets Miss Temple, the kind teacher, and Helen Burns, another pupil.
6	Helen is thrashed for having dirty hands. Later, she talks with Jane and explains that it is better to forgive and be patient than to get angry and seek revenge.
7	Mr Brocklehurst visits Lowood School. He calls Jane to the front of the classroom and calls her a liar in front of all the teachers and pupils. Helen smiles at Jane, bringing Jane hope.
8	Afterwards, Jane and Helen visit Miss Temple. Miss Temple says she believes that Jane is not a liar. Jane listens to Miss Temple and Helen's fascinating conversations. Miss Temple hears from Mr Lloyd that Jane is not a liar and tells the school.
9	Jane enjoys the area around Lowood in the spring. Typhus breaks out at Lowood School. Lots of girls get sick. Many die. Helen Burns dies of tuberculosis.
10	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 applies to be a governess for a family at Milcote.

The Big Ideas:

1	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 abuse by John Reed, her 'master' Lowood is harsh and corrupt – religious hypocrisy.
2	Growth: Jane is constantly growing and maturing. She is an adult reflecting back on her childhood in the novel. She learns to manage her emotions. Her relationships with others help her grow .
3	Oppression: Oppression of women. Jane's abusive childhood is a form of oppression. Adults oppressing children in a huge theme in the novel. Religion as a form of oppression. In the novel.
4	Role of women in society: Jane is angry at her place in society. Lowood is an all-girls' school. Women as governesses, teachers, servants. Low class women are powerless.

Locations in the first 10 chapters

Gateshead Hall
Home of Mrs Reed, John, Georgiana, and Eliza Reed. Jane grows up here. Jane is locked in the red-room.

Lowood School
Jane is sent to Lowood by Mrs Reed. Mr Brocklehurst is the headteacher. Conditions are harsh and strict. The girls receive brutal punishments and are fed poorly. A typhus outbreak kills many of the girls.

Terminology: Key words

thesis – the main idea that you want to discuss throughout an essay.

juxtaposition – a literary technique where a writer places very different things or people close to each other. This helps to show how the things are similar or different.

Characters in Jane Eyre

Jane Eyre The main character. A young, intelligent, and passionate orphan. "You think I have no feelings, and that I can do without one bit of love or kindness; but I cannot live so"

Mrs Reed – Jane's aunt She neglects and abuses Jane and is glad to send her away to Lowood School. "Guard against her worst fault, a tendency to deceit"

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 her soul"

Helen Burns – Jane's friend A kind and forgiving Christian. She inspires Jane to be more patient and accepting. She dies of tuberculosis at 14. "Love your enemies; bless them that curse you; do good to them that hate you and despitefully use you."

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, Jane, you are clear now."

Vocabulary: Key words

protagonist – the main character

dependent – someone who relies on another person to support them financially. Jane is a **dependent** because she relies on Mrs Reed to feed, clothe and house her.

oppress (vb.) – to treat a group of people in an unfair way, often by limiting their freedom.

solitude – state or situation of being alone

sombre – serious or sad

conventional – normal or accepted way

obedience – submission to another's authority

ominous – something bad that is going to happen

clandestine – something that is done in secret

humiliate (vb.) – to make someone feel stupid or ashamed. If something makes you feel stupid or ashamed, you could describe it as **humiliating.**

hypocrite – someone who says one thing but does the opposite at another time.

comeuppance – when a villain receives some form of punishment for what they did.

Victorian attitudes to childhood

1	A child is a blank slate and can be trained to develop into a rational being.
2	A child is born completely **innocent** and **pure**. They are only contaminated by contact with corrupt forces.
3	The child is born evil and must therefore be controlled and punished in order to submit to the rules of God and society.

Biographical information

1	'Jane Eyre' written in 1847 by Charlotte Brontë.
2	Parts of 'Jane Eyre' were influenced by Brontë's experiences at school and as a young woman.
3	'Jane Eyre' was unusual when it was published because it is written in the first-person from a female perspective.

Year 9 Term 1 English Knowledge Organiser: Jane Eyre

Chapter breakdown of Jane Eyre

1	On a bitter day, Jane is curled up with a book when her cousin, John_____, discovers her and hits her. She _____back and is sent to the_____-_____.
2	Jane is locked in the _____-_____. She sits in turmoil until she hears and sees something odd. She begs to be let out. She_____.
3	Jane wakes up in the nursery. _____ and Mr _____are there. Jane is_____. Mr _____talks to Jane about going to school.
4	Jane is visited by Mr_____, the _____at _____ _____. After his visit, _____and Mrs _____ _____. Jane says she will _____call her '_____' again.
5	Jane travels to _____ School. She meets Miss_____, the kind_____, and Helen_____, another_____.
6	_____ is thrashed for having _____ hands. Later, she talks with Jane and explains that it is better to _____and be _____than to get _____and seek_____.
7	Mr Brocklehurst visits Lowood School. He calls Jane to the front of the classroom and calls her a _____ in front of all the _____and_____. Helen smiles at Jane, bringing Jane_____.
8	Afterwards, _____and _____visit Miss Temple. Miss Temple says she believes that Jane is _____ a_____. Jane listens to Miss Temple and Helen's _____ _____. Miss Temple hears from Mr _____ that Jane is not a _____ and tells the_____.
9	Jane _____ the area _____ _____in the_____. _____ breaks out at Lowood School. Lots of girls get_____. Many_____. Helen Burns _____ of_____.
10	_____ _____ pass. Jane has become a _____ at _____ _____. Mr _____ had his _____ _____ when his _____at the school was_____. Jane applies to be a governess for a family at Milcote.

The Big Ideas:

1	Social Class: Jane is an _____and _____on the _____ of her extended family. Jane is _____and of _____class – _____. She suffers _____by John Reed, her 'master'. Lowood is harsh and _____– religious_____.
2	Growth: Jane is constantly _____ and_____. She is an adult _____ back on her _____ in the novel. She learns to manage her_____. Her _____with _____help her _____.
3	Oppression: Oppression of_____. Jane's _____ childhood is a form of oppression. Adults oppressing _____ in a huge theme in the novel. _____as a form of oppression in the novel.
4	Role of women in society: Jane is _____at her place in_____. Lowood is an all-girls' school. Women as governesses, teachers, servants. Low class women as _____.

Locations in the first 10 chapters

Gateshead Hall
Home of_____ _____,_____,_____, and _____ _____. _____grows up here. _____ is locked in the _____-_____.

Lowood School
_____ is sent to _____ by Mrs _____. Mr _____ is the_____. Conditions are _____ and_____. The girls receive brutal _____and are fed_____. A _____ outbreak _____ many of the girls.

Terminology: Key words

thesis –.

juxtaposition –

Characters in Jane Eyre

Jane Eyre

Mrs Reed – Jane's aunt

Mr Brocklehurst – The governor of Lowood school

Helen Burns – Jane's friend

Miss Temple

Vocabulary: Key words

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dependent –

oppress (vb.) –

solitude –

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hypocrite –

comeuppance –

Victorian attitudes to childhood

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2	A child is born completely **innocent** and **pure…**
3	The child is born evil…

Biographical information

1	'Jane Eyre' written in _____by Charlotte_____.
2	Parts of 'Jane Eyre' were influenced by Brontë's experiences at _____and as a young_____.
3	'Jane Eyre' was unusual when it was published because it is written in the_____ _____

Year 9 Grammar Term 1 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

A 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

Feature	Eukaryotic	Prokaryotic
DNA	In nucleus	Single loop DNA & plasmids
Cytoplasm	Yes	Yes
Cell membrane	Yes	Yes
Cell wall	No	Yes
Size	Larger	Smaller

C How are these cells specialised?

Cell	Animal or plant	Specialised features
Sperm cell	Animal	Tail to swim. Pointed head, containing acrosome. Lots of mitochondria.
Nerve cell	Animal	Long. Branched ends (dendrites). Fatty sheath to insulate axon.
Muscle cell	Animal	Layers of protein filaments for contraction. Lots of mitochondria.
Root hair cell	Plant	Large surface area. Thin walls.
Xylem cells	Plant	Continuous. Thickened & woody.
Phloem cells	Plant	Companion cells have lots of mitochondria.

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Structure	Function	Found in…
Nucleus		
Cell membrane		
Cell wall		
Cytoplasm		
Mitochondria		
Chloroplast		
Vacuole		
Ribosome		

B Compare eukaryotic and prokaryotic cells

Feature	Eukaryotic	Prokaryotic
DNA		
Cytoplasm		
Cell membrane		
Cell wall		
Size		

C How are these cells specialised?

Cell	Animal or plant	Specialised features
Sperm cell		
Nerve cell		
Muscle cell		
Root hair cell		
Xylem cells		
Phloem cells		

Year 9 Grammar Term 1 Biology : Topic B1 Cell biology

What we are learning this term:

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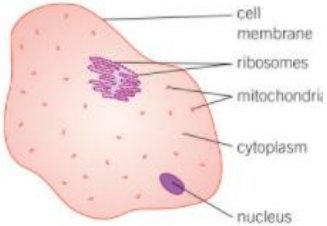
D. Cell differentiation
E. Microscopy
F. Culturing microorganisms

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

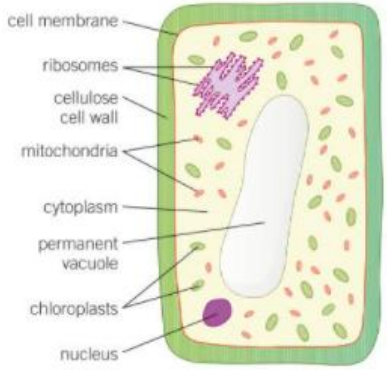
E	Define resolution
The minimum distance at which two distinct points of a specimen can still be seen.	

E	What is the formula for magnification?

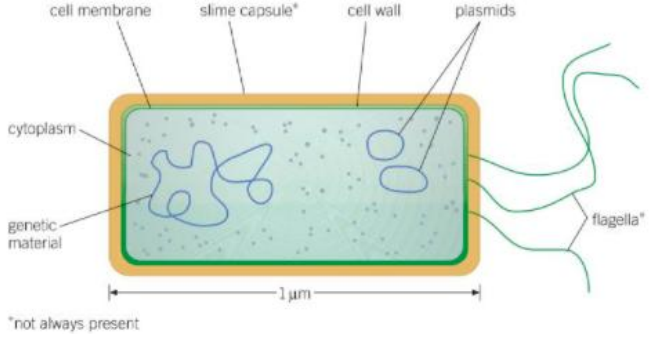
$$magnification = \frac{size\ of\ image}{real\ size\ of\ image}$$



Eukaryotic Animal cell



Eukaryotic Plant cell



Prokaryotic Bacterial cell

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	

E	Compare light and electron microscopes	
Feature	**Light**	**Electron**
Radiation used	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	In multicellular animals, what is cell division required for?

- Growth or repair
- To replace cells

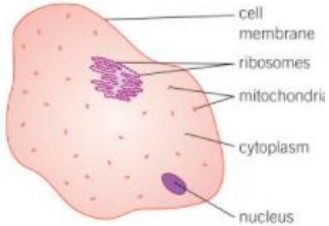
Year 9 Grammar Term 1 Biology : Topic B1 Cell biology

What we are learning this term:
A. Animal & plant cells B. Eukaryotes & prokaryotes C. Cell speicalisation D. Cell differentiation E. Microscopy F. Culturing microorganisms

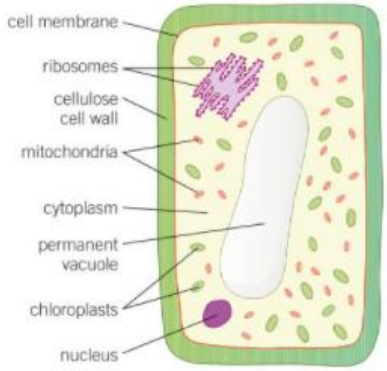
E	Define magnification

E	Define resolution

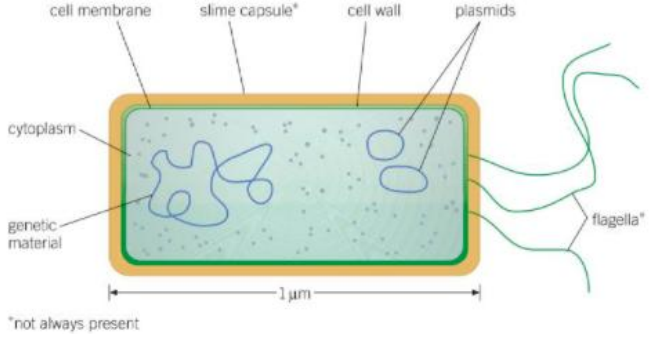
E	What is the formula for magnification?



Eukaryotic Animal cell



Eukaryotic Plant cell



Prokaryotic Bacterial cell

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

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

E	Compare light and electron microscopes	
Feature	**Light**	**Electron**
Radiation used		
Magnification		
Resolution		
Size & cost		

D	In multicellular animals, what is cell division required for?
	• •

Year 9 Grammar Term 1 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	Compounds contain two or more elements chemically 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 shown 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

Copper Oxide + Sulphuric Acid → Copper Sulphate + Water

What are symbol equations?

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

$CuO + H_2SO_4 \rightarrow CuSO_4 + H_2O$

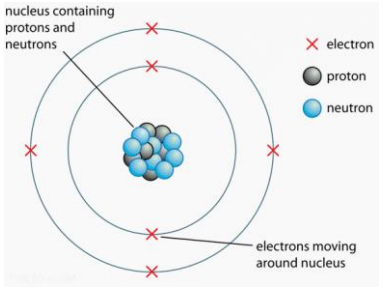
D. What are subatomic particles?

The particles that make up atoms

Name the 3 subatomic particles

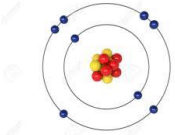
Protons, neutrons and electrons

Where are each subatomic particles found?



Year 9 Grammar Term 1 Chemistry : Topic C1 Atomic Structure

C. Development of the Atomic Model – How was our current atomic model developed?

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

D. How big are atoms?

0.1nm (1 x 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 subatomic particles?

Subatomic particle	Relative Mass	Relative Charge
Proton	1	+1
Neutron	1	0
Electron	1/2000	-1

D. 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?

$^{12}_{6}C$

12 ← Mass Number

6 ← Atomic Number

What is Mass 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

D. What is relative atomic mass of an element?

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

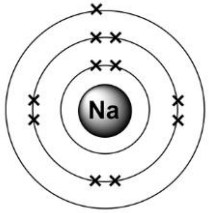
E. Which energy level do electrons fill first?

Electrons in an atom occupy lowest energy level first

How many electrons does each orbital hold?

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

Electronic structure of Sodium:



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Year 9 Grammar Term 1 Chemistry : Topic C1 Atomic Structure

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C. Development of the atomic model
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E. Electronic structure

6 Key Words for this term

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

B. What is a mixture?

What properties do mixtures have?

How are mixtures separated?

Are new substances made?

A. What is Conservation of Mass

A. What are atoms?

What are elements?	What are compounds?
How are elements represented?	**How are compounds represented?**
Example: Sodium	**Example: Sodium Chloride**
How many elements are there?	**How can compounds be separated?**

A. What are word equations?

_____ → _____

Copper Oxide + Sulphuric Acid → Copper Sulphate + Water

What are symbol equations?

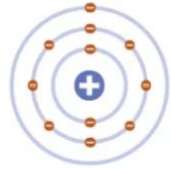
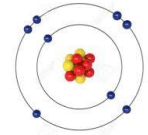
D. What are subatomic particles?

Name the 3 subatomic particles

Where are each subatomic particles found?

Year 9 Grammar Term 1 Chemistry : Topic C1 Atomic Structure

C. Development of the Atomic Model – How was our current atomic model developed?

Person/Time	Demicritus (400BC) Dalton (1803)	JJ Thomson (1898)	Ernest Rutherford (1909)	Niels Bohr (1913)	James Chadwick (1932)
Ideas/model					
Diagram					
Contribution to current model:					

D. How big are atoms?

How big is the radius of an atom?

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

Subatomic particle	Relative Mass	Relative Charge
Proton		
Neutron		
Electron		

D. What is the overall charge of an atom?

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

C^{12}_{6}

12 ← Mass Number

6 ← Atomic Number

What is Mass number?

What is atomic number?

D. How can we know what element we have?

What is an isotope?

D. What is relative atomic mass of an element?

E. Which energy level do electrons fill first?

How many electrons does each orbital hold?

First	
Second	
Third	

Electronic structure of Sodium:

Year 9 Grammar Term 1 Physics : Topic P1 Energy

What we are learning this term:

A. Energy stores and transfer between energy stores
B. Work done
C. Gravitational potential energy
D. Kinetic energy and elastic energy stores
E. Wasted energy and Dissipation
F. Energy efficiency

6. Key Words for this term

1. Dissipate
2. Generation
3. Efficiency

A.	What are the changes in energy stores for the following objects?
An arrow being thrown directly up into the air	From kinetic to gravitational potential. As it comes back down, the opposite is true.
A toy car (with battery) hitting a wall head on	Energy is transferred from chemical to kinetic to vibrational in sound and heat.
A car accelerating	Energy is transferred from the chemical energy from the petrol/diesel to kinetic energy.
A bike slowing down	Energy is transferred from kinetic to heat.
Water boiling in an electric kettle	Energy is transferred from electrical to heat.

A. What is a system?

It is an object or group of objects

A. What is the law of conservation of energy?

Energy cannot be created or destroyed, just changed in form.

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?

20000 J, assuming non is lost by air resistance/friction

B. 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)

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. Nuclear	**8. Electrostatic**

A. What is the energy store of a person on a 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.

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

Sun → solar panel → lightbulb.

store of nuclear energy in sun → energy transferred to light bulb by electric current → energy transferred to surroundings by heating and light waves

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

300 J

B. What is the equation for work done?

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)

B. 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 = 800 x 50 = 4000 J or 4 kJ

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

Work done = 400 x 15 = 6000 J or 6 kJ

Year 9 Grammar Term 1 Physics : Topic P1 Energy

What we are learning this term:

A. Energy stores and transfer between energy stores
B. Work done
C. Gravitational potential energy
D. Kinetic energy and elastic energy stores
E. Wasted energy and Dissipation
F. Energy efficiency

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An arrow being thrown directly up into the air	
A toy car (with battery) hitting a wall head on	
A car accelerating	
A bike slowing down	
Water boiling in an electric kettle	

A. What is a system?

A. What is the law of conservation 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 the 8 energy stores?

1.	5.
2.	6.
3.	7.
4.	8.

A. What is the energy store of a person on a bungee jump?

B. What is work?

What is the link between work and energy?

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

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

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_____ is measured in _____
_____ is measures in _____
_____ is measured in _____

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

Year 9 Grammar Term 1 Physics : Topic P1 Energy

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.

C. 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 kg x 10N/kg x 150 m = 4500 J or 4.5 kJ

D. What is the equation for kinetic energy?

KE = ½ × mass × velocity^2
= ½mv^2
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 = ½ x 1750 kg x 30^2 = 787,500 J or 787.5 kJ

D. What is the equation for elastic potential energy?

EPE = ½ spring constant x extension^2
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?

EPE = ½ 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	Wasteful
Heater: heat	car: sound
heater: light	television: light
car: kinetic	car: heat
television: sound	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?

It saves mon… …uels.

How do yo…

$$\text{energy efficiency} = \frac{\text{useful output energy}}{\text{total input energy}}$$

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

Year 9 Grammar Term 1 Physics : Topic P1 Energy

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

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

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?

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

_____ is measured in _____
_____ is measured in _____, usually taken as 10 N/kg on Earth.
_____ is measured in _____
_____ is measured in _____

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?

D. What is the equation for kinetic energy?

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?

D. What is the equation for elastic potential energy?

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

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

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	Wasteful

F. What is energy efficiency?

Why is energy efficiency so important?

How do you calculate energy efficiency?

C. How is power calculated?

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

Year 9 Grammar Term 1 Physics : Topic P1 Energy

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?

1. 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.

B. 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.

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	Bad (insulators)
Metals: silver, copper, gold, aluminium	Glass, air, plastic, rubber and wood.

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

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 °C

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

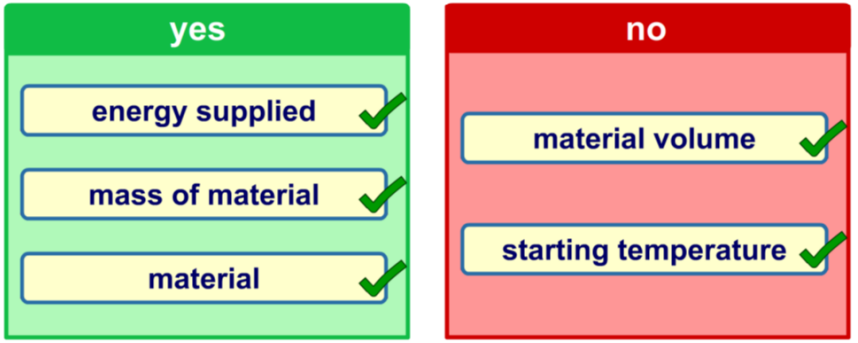
In what state (s, l, g) does conduction happen?

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.

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



Year 9 Grammar Term 1 Physics : Topic P1 Energy

What we are learning this term:

A. Conduction
B. Insulators
C. Specific heat capacity

6. Key Words for this term

1. Specific
2. Absorption

A. What are the factors that affect conduction?

1.
2.
3.
4.

B. Why do insulators not conduct heat?

B. Why are cotton sheets good insulators?

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

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

A. What is a good conductor?

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

Good	Bad (insulators)

B. What materials make good insulators?

B. Why is air a good insulator?

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

What is specific heat capacity?

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

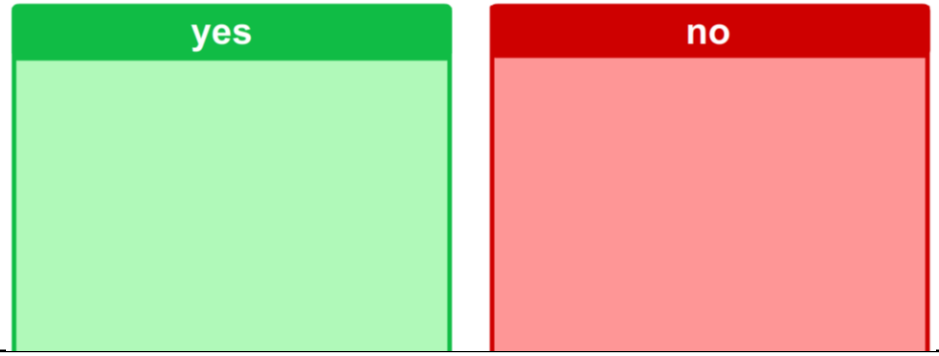
1. 2. 3.

In what direction does heat energy flow?

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

How do metals conduct heat?

C. Do the following factors affect the temperature change of a material when it is heated? Energy supplied, mass of material, material, material volume, starting temperaturw.



Year 9 Grammar Term 1 Physics : Topic P1 Energy

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 capacity x temperature 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 kg x 4200 J/kg°C x 80°C = 168,000 J

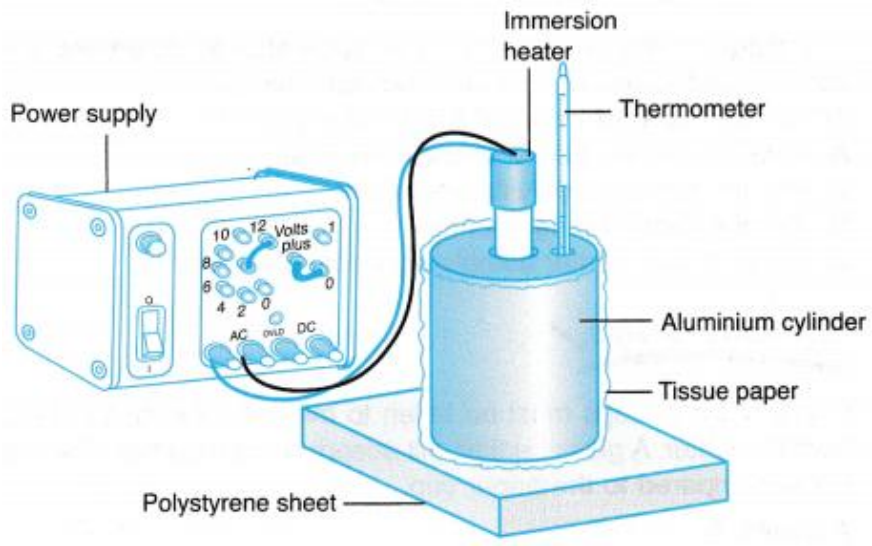
How can we rearrange this equation to calculate SHC?

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

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

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

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.

F. **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.

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

Year 9 Grammar Term 1 Physics : Topic P1 Energy

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

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

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

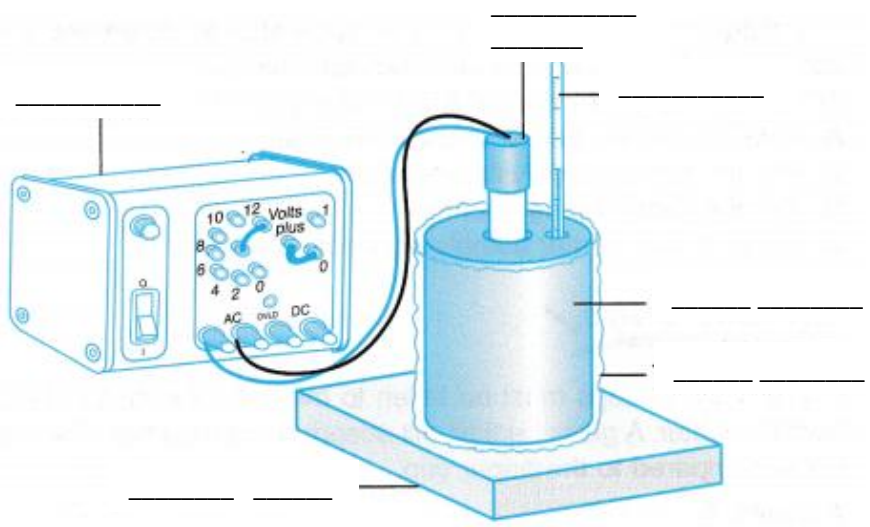
_____ is measured in _____
_____ is measured in _____
_____ is measured in _____
_____ is measured in _____

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

How can we rearrange this equation to calculate SHC?

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

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



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F. How else can heat loss from homes be reduced?

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

F. How can heat loss from homes be reduced from the windows?

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

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

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

Y9- T1 – Geography Life in an Emerging Country

Background:
1. Development means positive change that makes things better.
2. As a country develops it usually means that the people's standard of living and quality of life improve. ***(B)***
3. Different factors can affect development such as economic, social and political factors. ***(A)***
4. Emerging countries have begun to experience higher rates of development, with a rapid growth in secondary industries. ***(A, C)***
5. Emerging countries have some of the fastest rates of urbanisation in the world. ***(D)***
6. 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)***
7. 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)***

A.	**Characteristics of emerging countries *(7)***
BRIC countries	Brazil, Russia, India, China.
MINT countries	Mexico, Indonesia, Nigeria, Turkey.
Industrialisation	The process of a country moving from mostly agriculture (farming) to manufacturing (making) goods.
Employment structure	How the workforce is divided up between primary, secondary, tertiary and quaternary employment.
Secondary industry	An industry which manufactures goods.
Exports	Sending goods to another country for sale.
Urbanisation	The growth in the number/ proportion of people living in towns and cities.

B.	**Development indicators *(3)***
GDP per capita	The total value of goods and services sold by a country in a year divided by the population.
HDI	A development measure which combines GDP per capita, life expectancy and literacy rate.
Life expectancy	The average age you are expected to live to in a country.

D.	**Rural to urban migration *(4)***
Rural to urban migration	The movement of people from rural areas (countryside) to urban areas (cities).
Push factor	Things that make people want to leave an area e.g. a lack of jobs.
Pull factor	Things that attract people to live in an area e.g. good health care.
Mechanisation	When machines begin to do the work which humans once completed.

F.	**Transnational corporations (TNCs) *(5)***
Transnational corporation	Those that operate across more than one country.
Footloose	Industries which are not tied to a location due to natural resources or transport links.
Globalisation	The increased connectivity of countries around the world e.g. through trade.
Host country	The country where the TNC places it's factories e.g. in an emerging or developing country.
Source country	The country where the headquarters for the TNC is located e.g. a developed country.

C.	**Encouraging 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.
Minimum wage	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.	**Squatter 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.
Sanitation	Measures to protect public health e.g. clean water and disposing of sewage.
Informal economy	Jobs which are not taxed, workers do not have contracts or rights.
Quality of life	A measure of how 'wealthy' people are, but measured using housing, employment and environment, rather than income.

G.	**Impact of TNCs**
Positive: *(5)*	1. More jobs. 2. More taxes. 3. Invest in infrastructure projects. 4. GDP increases. 5. Develop workers skills.
Negative: *(3)*	1. Can exploit workers e.g. long hours. 2. Most of the profits from TNCs leave the country where production takes place. 3. Increased levels of pollution e.g. air and water (from industrial waste).

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

Background:

1. Development means _____
2. As a country develops it usually means _____. ***(B)***
3. Different factors can affect development such as _____ _____ _____. ***(A)***
4. Emerging countries have begun to experience higher rates of _____with a rapid growth in _____ ***(A, C)***
5. Emerging countries have some of the _____ in the world. ***(D)***
6. This is causing urban areas (cities) to become _____, this process can have both opportunities and challenges. One such challenge is the growth of _____. ***(E)***
7. 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)***

A.	**Characteristics of emerging countries *(7)***
BRIC countries	
MINT countries	
Industrialisation	
Employment structure	
Secondary industry	
Exports	
Urbanisation	

B.	**Development indicators *(3)***
GDP per capita	
HDI	
Life expectancy	

C.	**Encouraging development *(4)***
Subsidy	
Tax breaks	
Minimum wage	
Trade unions	

D.	**Rural to urban migration *(4)***
Rural to urban migration	
Push factor	
Pull factor	
Mechanisation	

E.	**Squatter settlements *(5)***
Squatter/ shanty settlement	
Inequality	
Sanitation	
Informal economy	
Quality of life	

F.	**Transnational corporations (TNCs) *(5)***
Transnational corporation	
Footloose	
Globalisation	
Host country	
Source country	

G.	**Impact of TNCs**
Positive: *(5)*	1. 2. 3. 4. 5.
Negative: *(3)*	1. 2. 3.

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

What we are learning this term:

A. What caused WWI to break out in 1914
B. The main battles on the British Sector of the Western Front during WWI
C. The trench system – structure and features
D. What health problems happened in the trenches
E. How did the war end in 1918
F. What happened after WWI?

6 Key Words for this term

1 **First Aid Nursing Yeomanry (FANY)** – A women's voluntary organisation which provided medical services on the frontlines such as driving ambulances and emergency first aid
2 **Royal Army Medical Corps (RAMC)** – The branch of the army responsible for medical care
3 **No-man's land –** The area between two opposing trenches during WWI
4 **Shrapnel –** Fragments of metal from exploded shells
5 **Salient** - An area of a battlefield that is surrounded by enemy territory on 3 sides
6 **Alliances –** An agreement countries make to support each other if they are attacked by other countries

A.	*Causes of WWI*
Militarism	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'.
Alliances	In 1882 Austria, Germany and Italy signed the Triple Alliance. They promised to defend each other if either were attacked. This is called the **Triple Alliance.** *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 **Triple Entente** with England in 1907 as England became increasingly worried about German naval strength. This left Germany surrounded
Imperialism	During the 19th century both Britain and France conquered huge overseas empires – this gave them access to raw materials for industry and a market for their goods, 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 .
Nationalism	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.
Assassination of Franz Ferdinand	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.
The Blank Cheque	On July 5, 1914, Germany gave Austria a "**blank cheque**" in handling its punishment of Serbia regarding the assassination of the heir to the Austrian throne.

B	**Describe two features of the key battles during WWI**
Battle	Features
1st Battle of Ypres (1914)	This battle was aimed at stopping the German army from advancing towards the Belgium coast.
2nd Battle of Ypres (1915)	This battle was the first time that the Germans used chlorine gas as a weapon against the British.
Battle of the Somme (1916)	Bloodiest battle in the whole of the war – total of 57,000 men were killed during the first day alone. The RAMC were not prepared for the amount of casualties and hospitals and casualty stations were overwhelmed.
Battle of Arras (1917)	This British used tunnels to dig near to the German trenches and surprise them with the attack. No progress was made and there were 160,000 casualties.
3rd Battle of Ypres (1917)	During this battle the weather turned to heavy rain. The ground became waterlogged and many men fell into the mud and drowned.
Battle of Cambrai (1917)	This battle saw the first large-scale use of tank to break through the enemies barbed wire. Also the first time that there was a blood bank, which meant doctors could deliver a vital medical service to those soldiers who had lost too much blood.

C.	**Describe two features of the trench system during the Western Front**
1 – Dugout	This was an area where soldiers could be protected from light fire
2 – Barbed wire	This would make it more difficult for the enemy to get into the trench
3 – Sandbags	These could absorb the shock of the bullets and help the trench maintain its shape
4 – Fire step	This is what soldiers stepped on when they wanted to climb over the top. Between fighting it was often used as a bench or bed
5 - Duckboards	Wooden boards that were placed on the floor of the trench to provide a flatter and dryer ground for the soldiers to walk over
6 – Elbow rest	This is where soldiers would prop their guns to shoot out of the trench
7 - Parapet	This was a way of protecting soldiers as they shout out of the trench

E. How did World War One end?

1917 – The Russian Revolution started. Russia left the war, surrendering to Germany in 1917.
1917 – Following the sinking of US ships, such as the Luscitania, and the potential threat of an alliance between Germany and Mexico leading to an attack on the USA, the USA joined the war on the side of the Triple Entente.
1918 – Entente forces on the Western Front push the German army back to the Hindenberg Line, the last line of German defenses.
1918 – Blockades enforced by the Entente led to lack of resources and food in Germany. Thousands of people in Germany were starving.
1918 – The Germany Navy began to Mutiny
1918 – The Kaiser abdicated.
11th November 1918 – An armistice is signed, formally ending the First World War

D. What health problems were caused by conditions in the trenches?

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** – 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 **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
4 **Trench fever** – flu-like condition that was spread by lice in the trenches
5 **Trench foot** – painful swelling of the feet caused by standing in cold mud and water, which could lead to gangrene.

F. What happened after WWI?

Why is it called a World War?	Why did WW1 End?	Was the Treaty of Versailles harsh on Germany?
Many soldiers from all over the world fought on the Western Front. Many came from the Empires of Britain and France. War also took place in colonies around the world such as in Africa and Asia. There was also fighting on the Eastern Front in Russia.	Germany was starving because of the British blockade Allies had many new inventions such as tanks. Many new allied troops were entering the war from the USA. Germany faced many rebellions as Germany was starving	Germany had inflicted a much harsher treaty on Russia called the Treaty of Brest Litovsk. Germany had to pay £6.3 billion German army was limited to 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.

6 Key Words for this term – Section A
1 **First Aid Nursing Yeomanry (FANY)** –
2 **Royal Army Medical Corps (RAMC)**
3 **No-man's land**
4 **Shrapnel**
5 **Salient**
6 **Alliances**

A.	*Causes of WWI*
Militarism	
Alliances	
Imperialism	
Nationalism	
Assassination of Franz Ferdinand	
The Blank Cheque	

B	Describe two features of the key battles during WWI
Battle	Features
1st Battle of Ypres (1914)	
2nd Battle of Ypres (1915)	
Battle of the Somme (1916)	
Battle of Arras (1917)	
3rd Battle of Ypres (1917)	
Battle of Cambrai (1917)	

C.	Describe two features of the trench system during the Western Front
1 – Dugout	
2 – Barbed wire	
3 – Sandbags	
4 – Fire step	
5 - Duckboards	
6 – Elbow rest	
7 - Parapet	

D.	What health problems were caused by conditions in the trenches?
1 **Gangrene**	
2 **Shellshock**	
3 **Shrapnel wounds**	
4 **Trench fever**	
5 **Trench foot**	

E.	How did World War One end?
1917 –	
1917 –	
1918 –	
1918 –	
1918 –	
1918 –	
11th November 1918 –	

F	What happened after WWI?	
Why is it called a World War?	Why did WW1 End?	Was the Treaty of Versailles harsh on Germany?

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	The view that all life is sacred because it is 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.

C	**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.	1. Preserve innocent life 2. Live in an ordered society 3. Educate children 4. Reproduce 5. Worship God

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 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	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 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?***	***What are the weakness of S.E theory about what is morally good?***
	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 without 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!.	How can we be sure what is the most loving thing when we cannot be sure what the outcome of our actions will be

B.	***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?*
Key word	**Key definition**
Morality	
Ethics	
Sanctity of Life	
Quality of Life	
Natural Moral Law	
Precept	
Reason	
Absolute	
Situation Ethics	
Relativism	
Agape	
Abortion	
Pro-Life	
Pro-Choice	
Euthanasia	
Capital Punishment	
Dominion	
Stewardship	

C	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?

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?*

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?*	*What are the weakness of S.E theory about what is morally good?*

B.	*Bible quotes relating to the sanctity of life*
1	
2	
3	
4	
5	

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

What we are learning this term:

A. Talking about your family
B. Describing your family and friends
C. Explaining family relationships
D. Describing relationships
E. Describing future plans
F. Translation practice

6 Key Words for this term

1. Me llevo bien
2. No soporto
3. discuto
4. El año próximo
5. Por otro lado
6. Voy a…

1.1G ¿Cómo es tu familia?

1.1G ¿Cómo es tu familia?

El/la abuelo/a	grandfather/grandmother
los abuelos	grandparents
alegre	happy
alto/a	tall
amable	kind
anciano/a	old
la barba	beard
calvo/a	bald
cariñoso/a	affectionate, tender
casi nearly,	almost
castaño/a	brown hair colour
corto/a	short
delgado/a	thin
las gafas	glasses
gracioso/a	funny
guapo/a	good looking, handsome
El/la hermano/a	brother/sister
El/la hijo/a	son/daughter
joven	young
largo/a	long
liso/a	straight
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
triste	sad
el verano	summer
la vida	life

1.1H Relaciones con la familia

abierto/a	open
aconsejar	to advise
actualmente	nowadays
aguantar	to bear, to put up with
arreglar	to tidy
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
injustamente	unfairly
juntos	together
la libertad	freedom
manera	way
molestar	to bother
oír hablar de	to hear about
olvidar	to forget
orgulloso/a	proud

Key Verbs

Llevarse to get on	Ir To go	Soportar To stand	Hacer – to do/make	Discutir – to argue
Me llevo I get on	Voy I go	Soporto I can stand	Hago I do	Discuto I argue
Te llevas You (s) get on	Vas You go	Soportas You can stand	Haces You do	Discutes You argue
Se lleva He/se gets on	Va s/he goes	Soporta He/she can stand	Hace s/he does	Discute He/she argues
Nos llevamos They get on	Vamos They go	Soportamos W can stand	Hacemos We do	Discutios We argue
Se llevan They get on	Van They go	Soportan They can stand	Hacen They do	Discuten They argue

1.1H Relaciones con la familia

parecido/a	similar
la pelea	fight
perezoso/a	lazy
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	guest
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
el piso	flat, apartment
serio/a	serious, responsible
sonreír	to smile

1.2F Planes para el futuro

así que	so, therefore
la boda	wedding
buscar	to look for
cambiar	to change
el casamiento	wedding
casarse	to get married
el compañero/a	colleague, friend
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
alguien	someone
cara a cara	face to face
distinto/a	different
en contra	against
en primer lugar	in the first place,
la edad	age
estar de acuerdo	to agree
el/la jubilado/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

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4. El año próximo
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6. Voy a…

1.1G ¿Cómo es tu familia?

1.1G ¿Cómo es tu familia?

El/la abuelo/a	_____
los abuelos	_____
alegre	_____
alto/a	_____
amable	_____
anciano/a	_____
la barba	_____
calvo/a	_____
_____/a	affectionate, tender
_____	nearly, almost
_____/a	brown hair colour
_____/a	short
_____/a	thin
_____	glasses
_____/a	funny
_____/a	good looking, handsome
El/la _____/a	brother/sister
El/la _____/a	son/daughter
_____	young
_____/a	long
_____/a	straight
la _____	stepmother
los _____	eyes
el _____	stepfather
las _____	freckles
_____/a	red-haired
el _____	hair
_____/a	curly
la _____	aunt
el tío	_____
viejo/a	_____
sensible	_____

1.1F Hablando de los amigos

a _____	often
_____ de	to be happy about
_____/a	understanding
_____	to know a person
el _____	advice
la _____	thing
_____	to look after
la _____	argument
_____/a	good fun
egoísta	_____
el equipo	_____
escribir	to _____
fastidiar	to _____
fuerte	_____
hablador/a	_____
honrado/a	_____
maduro/a	_____
mismo/a	_____
_____/a	dangerous
_____	to laugh
_____/a	certain, sure
el ____ del ___	sense of humour
_____/a	naughty
_____	sad
el _____	summer
la _____	life

1.1H Relaciones con la familia

abierto/a	_____
aconsejar	to _____
actualmente	_____
aguantar	to _____
arreglar	to _____
la barrera generacional	_____
el cariño	_____
celoso/a	_____
la culpa	_____
los _____	others
_____/a	fed up
el _____	home
_____	nowadays
_____	even
_____	unfairly
_____	together
la _____	freedom
_____	way
_____	to bother
oír _____ de	to hear about
_____	to forget
_____/a	proud

Key Verbs

Llevarse to get on	Ir To go	Soportar To stand	Hacer – to do/make	Discutir – to argue
Me _____ I get on	_____ I go	_____ I can stand	_____ I do	_____ I argue
Te _____ You (s) get on	_____ You go	_____ You can stand	_____ You do	_____ You argue
Se _____ He/se gets on	_____ s/he goes	_____ He/she can stand	_____ s/he does	_____ He/she argues
Nos _____ They get on	_____ They go	_____ W can stand	_____ We do	_____ We argue
Se _____ They get on	_____ They go	_____ They can stand	_____ They do	_____ They argue

1.1H Relaciones con la familia

_____/a	similar
la _____	fight
perezoso/a	lazy
_____	to cause
el sobrino / la sobrina	_____
tender a	to _____ to
todavía	_____
tratar	to _____
triste	_____

1.2G Hablando de parejas

el beso	_____
cada vez más	_____
cocinar	to _____
comprar	to _____
echar de menos	to _____
enamorado/a	in _____
los familiares	_____
_____	happy
la _____	people
el _____/a	guest
_____/a	rude
el _____	husband
el _____	marriage
la _____	wife, woman
la novia	_____
el novio	_____
_____	to seem
la _____	partner
los _____	relatives
pelear(se)	to _____
el piso	_____
serio/a	_____
sonreír	to _____

1.2F Planes para el futuro

_____	so, therefore
la _____	wedding
_____	to look for
_____	to change
el _____	wedding
_____	to get married
el _____/a	colleague, friend
_____/a	disappointed
encontrar	to _____
la felicidad	_____
la fiesta	party, _____
por eso	_____
_____/a	next
el _____	place
solo/a	_____ / _____
_____/a	single
tener _____	to be lucky
las _____	holidays
ya no	_____

1.2H Las relaciones de hoy en día

_____	now
_____	someone
cara a cara	_____
distinto/a	_____
en contra	_____
_____	in the first place,
la _____	age
estar de _____	to agree
el/la _____/a	retired person,
_____	to pay
la _____	partner
la _____	skin
por _____	on the other hand

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

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

Key Questions: Answer the following in your own words. Use these model answers	
¿Puedes describir te? ¿Cómo es tu aspecto físico, tu personalidad?	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.
¿Cómo sería un novio perfecto/una novia perfecta? ¿Por qué?	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.
¿Quiénes son los miembros de tu familia?	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
¿Te llevas bien con tu familia? ¿Por qué?	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.
¿Hay discusiones en tu familia? ¿De qué se discute?	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
¿Quieres casarte y tener niños en el futuro? ¿Por qué?	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
¿Qué has hecho recientemente con tu familia?	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.
¿Crees que el matrimonio es importante para ti? ¿Por qué?	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 we are learning this term:

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

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

1. Using a sharp pencil

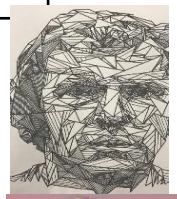
2. Keeping your pencil on the page and not taking it off

3. Lighter areas have fewer pencil lines and darker areas have far more pencil lines.

Using continuous line drawing, recreate the face below.

Example

Your response




F. Keywords

Portrait	An image which shows a person/animal
Identity	Information about a person's personality, interests, friend's family – what makes someone who they are
Collage	Using torn or cut paper in an artwork
Material	The substance used to create the artwork
Photomontage	process and the result of making a composite photograph by cutting, gluing, rearranging and overlapping two or more photographs
Characteristics	A list of describing words about a person or thing.
Surreal	strange; not seeming real; like a dream:
Observation	the action or process of closely observing or monitoring something or someone
Mixed media	An artwork made from more than one material

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

Similarities:
- Surreal appearance
- Use of juxtaposition
- Sinister atmosphere created

Differences:
- Use of everyday objects
- Painting vs photomontage
- Contrast colour scheme (black and white vs colour)

Describe what is happening in each stage of the making?



C. List 3 words to describe the Surrealism style of artwork?

1.) Strange, uncanny, abnormal
2.) Juxtaposition, contrast
3.) dream-like, unconscious



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

1	What materials does she use to create her work? Photographs/images craft knife and matt
2	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
7	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

1. Identify horizon line
2. Draw outline of objects
3. Identify where the light source is
4. 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
C. Rene Magritte
D. Photomontage
E. Observational drawing
F. Key Words

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

1. Using a sharp pencil

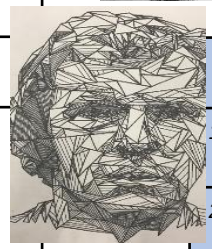
2. Keeping your pencil on the page and not taking it off

3. Lighter areas have fewer pencil lines and darker areas have far more pencil lines.

Using continuous line drawing, recreate the face below.

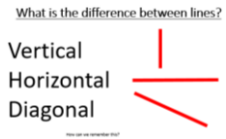
Example

Your response



F. Keywords

Portrait	
Identity	
Collage	
Material	
Photomontage	
Characteristics	
Surreal	
Observation	
Mixed media	




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

Similarities:

Differences:

Describe what is happening in each stage of the making?



C. List 3 words to describe the Surrealism style of artwork?

1.)
2.)
3.)



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

1	What materials does she use to create her work?
2	What subject matter does she use?
3	What messages could she be portraying in her work?
4	How does he create his work?
5	What is his subject matter?
6	What messages might he be presenting in his work?
7	What are the techniques both artist use?

D. What is the definition for photomontage?

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

Year 9 – High Skills

What we are learning this term:

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

6 Key Words for this term

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

A.	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 touching you.

B. *Can you list 5 of the dietary requirements of a teenager?*

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.

A. *What is cross contamination and how can it be prevented?*

Cross contamination happens when you use the wrong chopping board or equipment to prepare food which can therefore result in food poisoning. You must use the correct equipment for the correct ingredients. You must also ensure that you are always following good hygiene practices when cooking.

B. What do the following terms mean?	
Grilling	Using the top part of the oven. It 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 another fat. It is usually done in a frying pan using the hob of the cooker. It also known to be unhealthy.

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

Rule	Why it is important
• 1 to get rid of bacteria on the food	• 1 to stop food poisoning
• 2 to make the food taste better	• 2 to make the food more appealing
• 3 to make food chewable	• 3 it could be raw or a choking hazard
• 4 to ensure that food is not raw	• 4 to stop food poisoning
• 5 to add colour to the food	• 5 to make it look more appetising or change its use

E.	Keywords
Hygiene	A method of keeping yourself and equipment clean
Research	Information that you find out to help you with a project
Nutritious	A meal that is healthy and contains vital nutrients.
Target Market	The age or type of person you re creating a product for.
Carbohydrates	Foods that give you energy
Protein	Food that grow and repair your muscles
Fibre	Foods that keep your digestive system healthy and avoid constipation.
Calcium	Foods that make your teeth and bones strong
Design Idea	A sketch or plan of how you are hoping a project to turn out.
Organisation	Having everything ready for a lesson and following instructions
Time keeping	Using the time to remain organised.
Sensory analysis	Use your senses to taste and describe a product
Mood Board	A collage of photos and key words based on a project
Time Plan	Instructions of wat you are going to do and how long it should take.
Skills Test	Demonstrating your knowledge of a cooking term.
Teenager	Someone between the age of 13 – 19.

Year 9 – High Skills

What we are learning this term:

A. Health, safety and hygiene in the kitchen
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C. The Dietary requirements of a teenager
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E. Healthy cooking
F. Chopping Board Colours

6 Key Words for this term

1 Hygiene
2 Dietary Requirements
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A.	Explain the main four things that you should do when you enter the kitchen area.

B.	*Can you list 5 of the dietary requirements of a teenager?*

1
2
3
4
5

A.	*What is cross contamination and how can it be prevented?*

B. What do the following terms mean?	
Grilling	
Baking	
Frying	

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

Rule	Why it is important
• 1	• 1
• 2	• 2
• 3	• 3
• 4	• 4
• 5	• 5

E.	Keywords
Hygiene	
Research	
Nutritious	
Target Market	
Carbohydrates	
Protein	
Fibre	
Calcium	
Design Idea	
Organisation	
Time keeping	
Sensory analysis	
Mood Board	
Time Plan	
Skills Test	
Teenager	

Year 9 PRODUCT DESIGN Rotation Knowledge Organiser

What we are learning this term:

A. Workshop Tools **B. Materials** **C. Key concepts** **D. Key Words** **E. Types of Cams**

A. Workshop Tools

Steel Rule	Tri-Square	Laser Cutter	Mitre square	Tenon Saw	Pillar Drill	Bandfacer
						

B. Materials

Timbers come from **trees**

Scots pine – which you used for your box walls – is a **softwood**

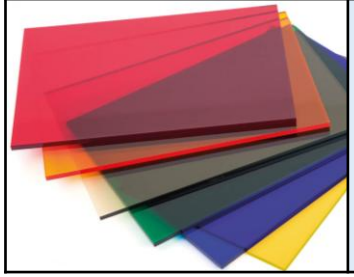
Softwoods come in planks and boards

Manufactured Boards come from **wood pulp**

Plywood – which you used as your base and Lid– is a **manufactured board**

Manufactured Boards come in sheets

Polymers come from **crude oil**



Acrylic – which you used as your lid decoration for your trinket box – is a **polymer**

Polymers come in sheets, graduals and filament

C. Key concepts

Designers research and investigate resources and materials to help inspire ideas.

Computer-aided design (CAD) is the process of using **computer software** to create **2D** or **3D designs**.

Advantages	Disadvantages
Designs can be **created**, **saved** and **edited** quickly, saving time	CAD takes a **long time** to **learn**
Designs or parts of design can be easily viewed from **different angles**, **copied** or **repeated**	Software can be **very expensive**
CAD is **very accurate**	CAD files can become **corrupted** or **lost**

Hazards – these are something that could potentially harm you. There are many such as:

- Bags and chairs acting as a trip hazard
- Untucked shirts, baggy clothes and untied hair are common things to get caught on tools and machines.
- Drinks and liquids, if spilled can become slip hazards

Preventative measures – rules put in place to minimize the likelihood of a hazard occurring.

- No food and drink in workshops
- Bags and chairs stored neatly in designated areas
- Long hair must be tied up and correct uniform worn.

Personal protective equipment (PPE)
The three used most often are aprons, safety goggles and ear defenders.

D. Key Words

Prototype	An early model or sample of a product used to test a concept
Tolerance	The margin of error allowed for a dimension without negatively impacting a product
Depth stop	A part on a tool which is used to help cut or drill a specific depth.
Assemble	Creating a product by bringing several components together.

E. Types of Cams

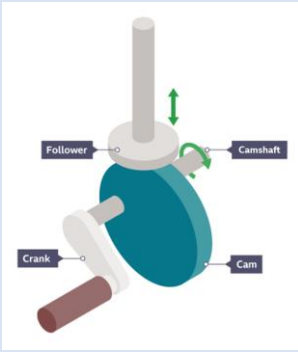
Cam mechanism

A cam mechanism has two main parts:

- A cam – attached to a crankshaft – which rotates
- A Follower – touches the cam and follows the shape, moving up and down

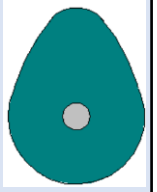
Cam shapes are important for the movement of the follower.

- Off set circular - gradually moves the follower up and down
- Pear shaped - keeps the follower at the same height for half a rotation before quickly moving it up and down.
- Snail Cam - allows the follower to rise before abruptly dropping, this cam can only rotate one way
- 4-lobed - rises and drops the follower 4 times per rotation and can only go one way

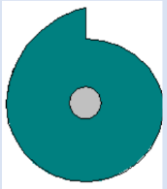


Off-set circular Cam

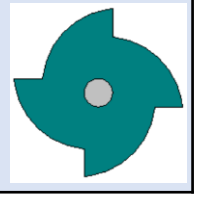
Pear shaped Cam



Snail Cam



4-lobed Cam



Year 9 PRODUCT DESIGN Rotation Knowledge Organiser

What we are learning this term:

A. Workshop Tools **B. Materials** **C. Key concepts** **D. Key Words** **E. Evaluating Work**

A. Workshop Tools







B. Materials

Timbers come from _____

Scots pine – which you used for your box walls – is a **softwood**

Softwoods come in_____
_____

Manufactured Boards come _____

Plywood – which you used as your base and Lid– is a **manufactured board**

Manufactured Boards come in_____

Polymers come from _____

Acrylic – which you used as your lid decoration for your trinket box – is a **polymer**

Polymers come in _____
_____
_____

C. Key concepts

Designers research and investigate _____
_____

_____**(CAD)** is the process of using **computer**_____.

Advantages	Disadvantages

Hazards – these are something that could potentially harm you. There are many such as:
_____
_____
_____
_____
_____

Preventative measures – rules put in place to minimize the likelihood of a hazard occurring.
_____
_____
_____.
_____

Personal protective equipment (PPE)
The three used most often are_____
_____

D. Key Words

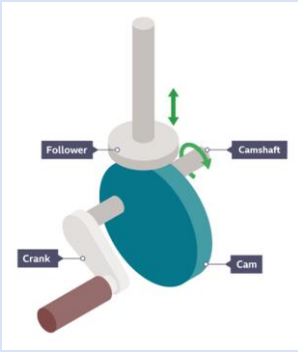
Prototype	
Tolerance	
Depth stop	.
Assemble	

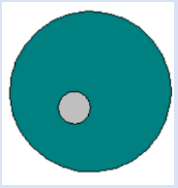
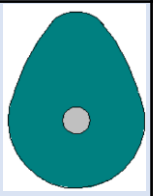
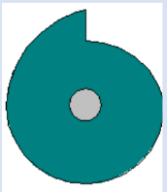
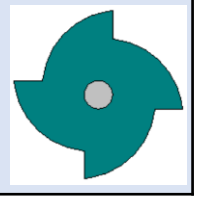
E. Types of Cams

Cam mechanism

A cam mechanism has two main parts:
- A cam – _____
- A Follower – _____
_____

Cam shapes are important for the movement of the follower.
- Off set circular -_____
_____
- Pear shaped -_____
_____
_____
_____
- Snail Cam -_____
_____
_____
- 4-lobed - _____
_____
_____



YEAR 9 GRAPHIC COMMUNICATION

What are we learning this term?

A	B	C	D	E
Logos	Typography	Computer skills	Key words	Evaluation

A | Logos

What is a logo?

A graphic design element that includes words and images, shapes, symbols or colour.

How does Alex Trochut design logos?

Alex Trochut collaborates with brands to create new catchy designs. He uses text and imagery to create visual art. The viewer first notices the imagery but looks closer to find a hidden message through typography.

B | Typography

Draw your initials in the typographic style of designer Alex Trochut work

C | Computer skills

What is the shortcut for copy?
Cntrl + C
What is the shortcut for paste?
Cntrl + V
What does this symbol stand for?

Photoshop

What does this symbol mean?

Cropping

D| Key words

Merchandise	Branded products used to promote and sell a product
Combined Logo	A logo that uses both images and text
Photoshop	A software for editing photos and graphics. It is used for image editing, making illustrations or web design.
Photo Editing	The act of image and enhancement and manipulation

E | Evaluation

Evaluation: To judge or give an opinion

Designers will evaluate their products to see what works well and what doesn't. This way they can make any improvements on their current designs to ensure a high-quality product.

When writing an evaluation it is important to include the following three things:

1. Positives – what works well
2. Negatives – what doesn't work well
3. Possible improvements – how could you make it better?

For example:
My tote bag looks great, the colours are bright which appeals to the audience of the festival. However, I have not designed a combined logo. One improvement I could make is to use images and text to create a combined logo.

YEAR 9 GRAPHIC COMMUNICATION

What are we learning this term?

A	B	C	D	E
Logos	Typography	Computer skills	Key words	Evaluation

A | Logos

What is a logo?

How does Alex Trochut design logos?

B | Typography

Please use pencil for the drawing of your design

C | Computer skills

What is the shortcut for copy?

What is the shortcut for paste?

What does this symbol stand for?

What does this symbol mean?

D| Key words

Merchandise	
Combined Logo	
Photoshop	
Photo Editing	

E | Evaluation

Evaluation: To judge or give an opinion

When writing an evaluation it is important to include the following three things:

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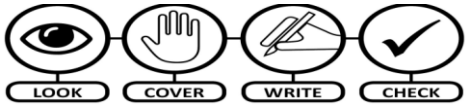
Year 9: What Makes a Good Song?

Term 1

A	What we are learning about this term…
1	Popular song structure
2	Lyrics , hooks and riffs in popular music
3	Melody – conjunct and disjunct
4	Range, instruments and lead sheets in pop music



B	Keywords
Lyrics	The words of a song – split into **verses and choruses**
Hook	the **'catchy bit' of the song** that you will remember. It is short and repeated in different places throughout the song.
Riff (Ostinato)	**Short, repeated musical pattern** often used in the introduction and instrumental breaks in a song.
Melody **Counter-melody**	The tune – usually **lead singer** has this **An 'extra' melody** often performed 'on top of' the main melody to compliment it
Homophonic (texture)	A texture that has a **melody and accompaniment** (e.g chords/bassline)
Lead Sheet	Form of **notation that only shows the essential parts** (eg lyrics, bassline and chords) to perform from
Arrangement	**Adapting songs** to be performed by other instruments or in a different style
Cover Version	A new **performance by someone OTHER than the original artist**/songwriter

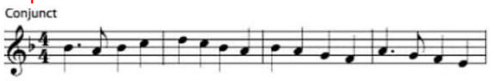
C Instruments in popular music

Pop Bands often feature a **DRUM KIT** and **PERCUSSION** to provide the rhythm along with **ELECTRIC GUITARS (LEAD GUITAR, RHYTHM GUITAR** and **BASS GUITAR)** and **KEYBOARDS**. Sometimes **ACOUSTIC INSTRUMENTS** are used such as the **PIANO** or **ACOUSTIC GUITAR**. **ORCHESTRAL INSTRUMENTS** are often found in pop songs such as the **STRINGS, SAXOPHONE, TROMBONE** and **TRUMPET.**

Singers are essential to a pop song - **LEAD SINGER** – Often the "frontline" member of the band (most famous) who sings most of the melody line to the song. **BACKING SINGERS** support the lead singer providing **HARMONY** or a **COUNTER-MELODY** (a melody that is often higher in pitch and different, but still 'fits with' the main melody) and do not sing all the time but just at certain points within a pop song e.g. in the chorus.

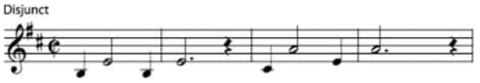
D Exploring Conjunct and Disjunct Melodies

CONJUNCT MELODIC MOTION – Melodies which move mainly by step or use notes which are next to or close to one another.



SCAN ME

DISJUNCT MELODIC MOTION – Melodies which move mainly by leap or use notes which are not next to or close to one another.



MELODIC RANGE – The distance between the lowest and highest note in a melody

F Note Values and Dotted Note Values

Note	Name	Beats	Rest	Note	Name	Beats	Rest
𝅝	Semibreve, Whole Note	4 beats	𝄻	𝅝.	Dotted Semibreve, Dotted Whole Note	6 beats	𝄻.
𝅗𝅥	Minim, Half Note	2 beats	𝄼	𝅗𝅥.	Dotted Minim, Dotted Half Note	3 beats	𝄼.
♩	Crotchet, Quarter Note	1 beat	𝄽	♩.	Dotted Crotchet, Dotted Quarter Note	1½ beats	𝄽.
♪	Quaver, Eighth Note	1/2 beat	𝄾	♪.	Dotted Quaver, Dotted Eighth Note	¾ beat	𝄾.

G Describing music – MAD T SHIRT

M	A	D	T	S	H	I	R	T
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: What Makes a Good Song?

Term 1

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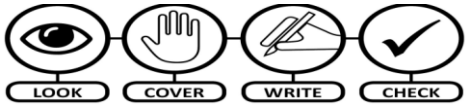
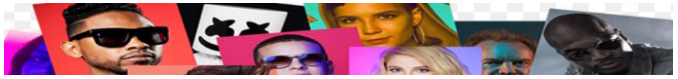
4	Range, instruments and lead sheets in pop music



B	Keywords

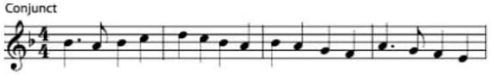
C	Instruments in popular music
Read the information and provide a SUMMARY here of the main points • Instruments used in pop music	



D Exploring Conjunct and Disjunct Melodies

C_____**MELODIC MOTION** – Melodies which move_____ _____or use notes which are next to or close to one another.

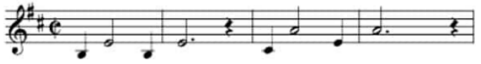
Conjunct



SCAN ME

D_____ **MELODIC MOTION** – Melodies which _____or use notes which are not next to or close to one another.

Disjunct



MELODIC RANGE – The _____note in a melody

F Note Values and Dotted Note Values

Note	Name	Beats	Rest	Note	Name	Beats	Rest

G Describing music – MAD T SHIRT

M	A	D	T	S	H	I	R	T
M_____	A_____	D_____	T_____	S_____	H_____/T_____	I_____	R_____	T_____

Drama – Year 9 Improvisation

Links to Comp 1 and 2 of GCSE

Improvisation

improvising is inventing and creating content spontaneously. It's a great way to generate new ideas and for creating and developing characters, using a variety of useful techniques.

Spontaneous improvisation which is completely unplanned can generate dialogue or scenarios that you feel work for the piece you are creating. This can then be refined, rehearsed and included in your finished **devised** piece.

A **constraint** is a condition that you must apply to a scene, so that you're improvising within a set of rules. Here are some ideas for working with constraints when improvising.

Space
A very small space, such as a lift. Characters must behave as they would normally but within a tiny playing area.

A vast space, such as across a giant mountain range. Consider how changing **proximity** affects body language, vocal tone and volume and interaction, between characters. There may be something that works and could be included in your devised piece.

This improvisational exercise is excellent for creating entirely new and unplanned characters and scenarios.

Where, who, what?
Choose a location, eg a supermarket or a roller coaster.
Select characters, eg an astronaut or an I.T. manager.
Finally, choose a motivation for the character, eg they are looking for a partner or want to be famous at any cost.
Each piece of information should be randomly selected, so that they don't necessarily match up. This can make for interesting and very humorous drama.

- **Improvisational Theater (improv):** is a form of theater where most or all of what is performed is created at the moment it is performed.
- In its purest form, the dialogue, the action, the story and the characters are created collaboratively by the players as the improvisation unfolds.
- Improv exists in performance as a range of styles of improvisational comedy as well as some non-comedic theatrical performances.
- It is sometimes used in film and television, both to develop characters and scripts and occasionally as part of the final product.

Examples – Mock the Week, Whose Line Is it Anyway? Outnumbered. The Office.

Tips for success

-Listen to your partner.
A scene will often 'go stale' if the people involved are not responding genuinely to each other. Improv is all about **teamwork** and the relationship you have with each other. The better the relationship, the better the scene will be to the audience.
-Use 'yes, and...".
When your partner tells you something in an improv scene, accept it and then add something to the conversation. If you're partner starts by asking you why you've come to a party dressed as a pineapple, don't tell them that you think they're seeing things. Ask them why they're the only one who hasn't come dressed as a giant piece of fruit and that you have a spare costume in your car if they need it. Scenes where actors deny what their partners are saying often go dry very quickly and offer nothing for the audience. It's also a good way to annoy your partners.
- Don't necessarily try to be funny.
Sure, comedy is great, but one person trying to make the audience laugh often alienates the others on stage.
-Accept your mistakes.
Like any learning process, you will make mistakes. It's how you learn. Don't beat yourself up if you forgot a key rule of improv or your scene wasn't particularly good. Make some general notes for yourself and put it behind you. Next time you get up to improvise, treat it like a fresh start and be positive.

Drama – Year 9 Improvisation

Improvisation

improvising is and content spontaneously. It's a great way to generate and for creating and developing , using a variety of useful techniques.

Links to Comp 1 and 2 of GCSE

Spontaneous improvisation-

A _____ is a condition that you must apply to a scene, so that you're improvising within a set of rules. Here are some ideas for working with constraints when improvising.

S_____
A very small s , such as a lift. Characters must behave as they would normally but within a tiny playing area.

A vast space, such as across a giant mountain range.
Consider how changing **p** affects body language, vocal tone and volume and interaction, between characters. There may be something that works and could be included in your devised piece.

Create your own

Where, who, what?
Location-

Character-

Motivation-

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Tips for success

What are the 5 tips for successful improvisation and why are these important?

Examples – Can you name any tv shows that are improvised?

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 ___ .

Introduce and Invite

Begin your contribution and encourage others to participate.

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

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 ___ .

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 ___ .

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

Hard Work ... Kindness...Responsibility

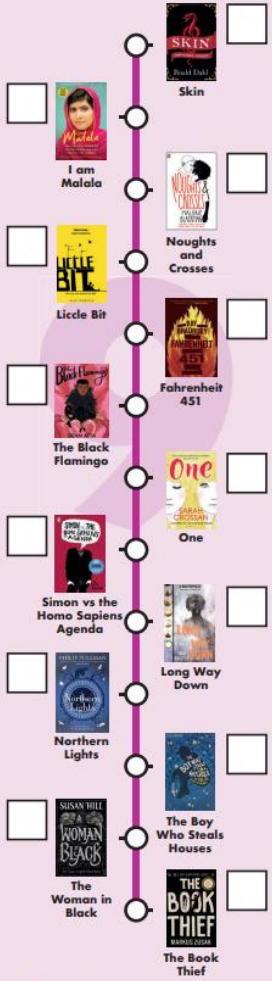
Subject	Reading	Watching	Other Opportunities
English	Read: https://www.bl.uk/romantics-and-victorians/articles/charlotte-bronte-the-familiar-and-the-fantastical	Watch: https://www.youtube.com/watch?v=Mv0snnk0kio	https://www.bronte.org.uk/
Maths	Read: Identifying features of a quadratic function – BBC 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 https://byjus.com/chemistry/endothermic-exothermic-reactions-difference/	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: https://www.youtube.com/watch?v=I7bHX9Wkr0E	Watch: this video about what Spanish people eat in their day to day lives: https://www.youtube.com/watch?v=n7Ma6Vu7COs	Check out how many Spanish destinations EasyJet Fly to. Find out a little bit about each destination: https://www.easyjet.com/en
Art	Read: How to develop your ideas in preparation for GCSE https://www.bbc.co.uk/bitesize/guides/zc7mng8/revision/1	Watch: How to use a sketchbook to develop your ideas https://www.youtube.com/watch?v=Kha7-GPgWok	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 https://www.tate.org.uk/art

SWINDON ACADEMY READING CANON

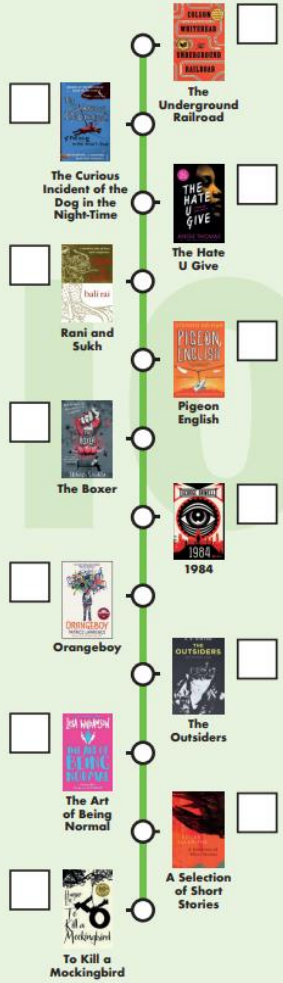
Year 7

Year 8

Year 9



Year 10



#ReadingisPower