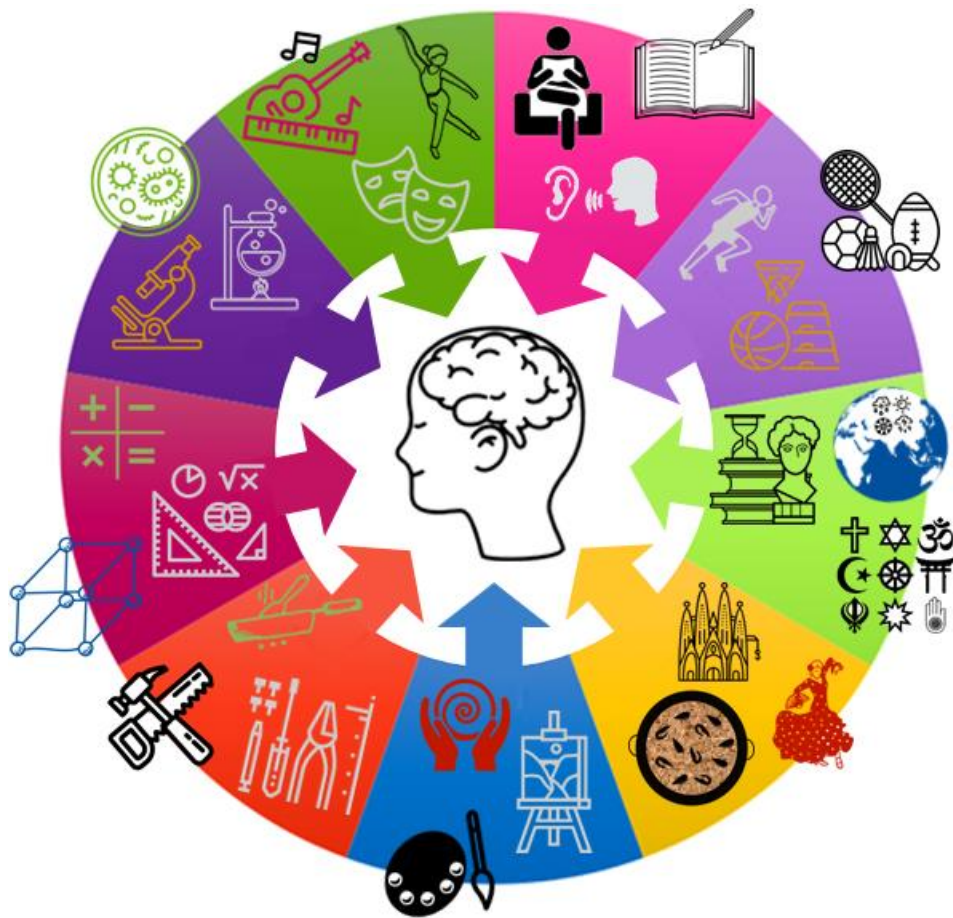


# Year 9 – Mainstream Knowledge Organisers

## Term 5



### Swindon Academy 2024-25

Name:	
Tutor Group:	
Tutor & Room:	

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

# Using your Knowledge Organiser and Quizzable Knowledge Organiser

## Knowledge Organisers

Year 7 Term 1 Science/Chemistry - Topic TOP Particles

**What are we learning this term:**

- Particle model
- Changing states
- Mixtures
- Separating mixtures

**5 Key Words for this term:**

- Matter
- Particles
- Dissolution
- Mixing
- Freezing
- Condensation
- Solids
- Solvent
- Filtration

**A. What is particle theory?**  
The theory that all matter is made up of particles.

**A. Describe the properties of the three states of matter.**

solid	liquid	gas
• tight	• not tight	• not tight
• fixed shape	• no fixed shape	• no fixed shape
• fixed volume	• fixed volume	• no fixed volume

**B. What happens to the temperature of a substance when it changes state?**  
During the change of state, the temperature will stay the same until the change of state is complete.

**A. What is the law of conservation of mass?**  
The Law of Conservation of Mass states that mass cannot be created or destroyed.

**B. What are the different changes of state?**

Change of state	From	To
Melting	Solid	Liquid
Freezing	Liquid	Solid
Evaporation	Liquid	Gas
Condensation	Gas	Liquid

**C. What is the difference between a pure and an impure substance?**

**Pure**: A material that is made up of only one type of particle.

**Impure**: A material that is made up of more than one type of particle.

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

**A. What is particle theory?**

**A. What is the law of conservation of mass?**

**A. Describe the arrangement and movement of particles in the three states of matter.**

State	Arrangement and movement
Solid	
Liquid	
Gas	

**B. What are the different changes of state?**

Change of state	From	To
Melting	Solid	Liquid
Freezing	Liquid	Solid
Evaporation	Liquid	Gas
Condensation	Gas	Liquid

**C. What is the difference between a pure and an impure substance?**

**Pure**: A material that is made up of only one type of particle.

**Impure**: A material that is made up of more than one type of particle.

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.

## Expectations for Prep and for using your Knowledge Organisers

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

### 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!

# 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.

The screenshot shows the epraise.com website interface. On the left is a 'Planner' for the week of 10th May to 14th May 2020, with columns for different subjects. On the right is a 'New! View! (Knowledge Organiser) - Topic: 10th Physics' page. It contains various sections: 'What is particle theory?', 'Describe the arrangement and movement of particles in the three states of matter', 'What is the law of conservation of mass?', and 'What are the different changes of state?'. There are also diagrams of particle arrangements for solid, liquid, and gas states.

## Step 2

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

The image shows a handwritten page in a prep book. At the top, the date '29th May 2020' is written. Below it, the title 'Particle theory' is written. The page is structured to match the knowledge organiser grid, with sections for 'What is particle theory?', 'Describe the arrangement and movement of particles in the three states of matter', 'What is the law of conservation of mass?', and 'What are the different changes of state?'. There are also small diagrams of particle arrangements for solid, liquid, and gas states.

## Step 3

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

The image shows a handwritten page in a prep book. At the top, the date '29th May 2020' is written. Below it, the title 'Properties of the states of matter' is written. The page contains full definitions for solid, liquid, and gas states of matter, written in a cursive style. The definitions are: 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other particles can slide past each other and move around', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

## Step 4

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

The image shows a handwritten page in a prep book. The definitions of solid, liquid, and gas states of matter are repeated three times, written in a cursive style. The definitions are: 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other particles can slide past each other and move around', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

## Step 5

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

The image shows a handwritten page in a prep book. The page is structured to match the quizzable Knowledge Organiser grid. The missing words are written in a cursive style. The words are: 'Self quizzing', 'Arrangement / movement of matter', 'Solid = regular pattern particles can slide past each other and move around', 'Liquid = far apart', and 'Gas ='. There are also small diagrams of particle arrangements for solid, liquid, and gas states.

## Step 6

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

The image shows a handwritten page in a prep book. The definitions of solid, liquid, and gas states of matter are repeated, with checkmarks indicating correct answers. The definitions are: 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other particles can slide past each other and move around', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

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

# 'Romeo and Juliet': T Knowledge Organiser

Plot breakdown		Characters	Vocabulary: Key words
<b>P</b>	<b>The Prologue</b> outlines the main conflict in the play and warns the audience of the tragic fate of Romeo and Juliet.	<b>Romeo (Montague)</b> Young man. Falls in love with Juliet. Kills himself at the end of the play. <i>"Did my heart love till now? forswear it, sight! For I ne'er saw true beauty till this night!"</i> ; <i>"Thus with a kiss I die"</i>	<b>tragic</b> – describes something as being very sad, or as part of a tragedy.
<b>1.1</b>	The Montagues and Capulets fight in the streets of Verona. Prince Escalus swears that any further fighting will be punished by death.		<b>submissive</b> - ready to obey or conform to the authority or will of others
<b>1.2</b>	Paris asks Lord Capulet about marrying his daughter Juliet. Capulet tells Paris to wait as she is too young.	<b>Juliet (Capulet)</b> 13-year old girl. Falls in love with Romeo. Kills herself at the end of the play. <i>"Wherefore art thou Romeo? Deny thy father and refuse thy name!"</i> ; <i>"O happy dagger, This is thy sheath; there rust, and let me die"</i>	<b>narcissistic</b> – self-obsessed
<b>1.3</b>	Lady Capulet advises Juliet to agree to marry Paris.		<b>feud</b> – a serious argument and sometimes violent argument between two people or groups that continues for a long time.
<b>1.5</b>	At the Capulet's masked ball, Romeo sees Juliet and falls in love with her. They talk, kiss, and fall in love. As they depart, they learn they are from feuding families.	<b>Lord Capulet (Capulet)</b> Head of the Capulet family. Juliet's father. Orders her to marry his friend, Paris. <i>"She will be ruled In all respects by me"</i>	<b>shrine</b> – a holy place that people go to pray.
<b>2.2</b>	In the balcony scene, Romeo and Juliet fall deeper in love. They agree to get married.		<b>status quo</b> – the situation that exists now, without any changes.
<b>2.3</b>	Romeo asks Friar Lawrence to marry him and Juliet. Lawrence agrees, thinking it will unite the warring families.	<b>Paris (no family)</b> Nobleman of Verona. Wants to marry Juliet. Killed by Romeo at the end of the play.	<b>obstacle</b> – a problem that must be overcome.
<b>2.6</b>	Friar Lawrence marries Romeo and Juliet.		<b>vindictive</b> – vengeful
<b>3.1</b>	Montagues and Capulets fight in the streets. Tybalt kills Mercutio; Romeo kills Tybalt. Prince Escalus decides to banish Romeo from Verona.	<b>Friar Lawrence (no family)</b> Religious leader in Verona. Agrees to marry Romeo and Juliet, thinking it will bring peace to the city. <i>"For this alliance may prove To turn your households' rancour to pure love"</i>	<b>patriarchy</b> - a society in which power lies with men
<b>3.4</b>	Lord Capulet tells Paris that he can marry Juliet in three days' time.		<b>belligerent</b> - warlike
<b>3.5</b>	After their wedding night, Romeo leaves Juliet for the last time. They have a vision of the other's death. After Romeo leaves, Lord Capulet orders Juliet to marry Paris, threatening to disown her if she disobeys.	<b>Mercutio (Montague)</b> Romeo's friend. Killed by Tybalt. <i>"A plague a'both your houses!"</i>	<b>exile (vb.)</b> – to force them from their home and live in another place.
<b>4.1</b>	Friar Lawrence comes up with a plan: Juliet must pretend to be dead and then escape Verona with Romeo. She agrees to the plan.		<b>tenacious</b> – very determined
<b>5.3</b>	Romeo does not learn of Friar Lawrence's plan. He sneaks back into Verona and visits Juliet's tomb. He thinks she is dead, and kills himself with poison. Moments later, Juliet wakes up. She finds Romeo's body and kills herself with his dagger. The two families agree to end their feud.	<b>Prince Escalus (no family)</b> Ruler of Verona. Wants to bring peace to the city. <i>"If ever you disturb our streets again, Your lives shall pay the forfeit of the peace"</i>	<b>catastrophe</b> – a terrible accident.
Terminology: Key words			
<b>The Big Ideas:</b>		<b>Structure of Shakespearean tragedy (Bradley)</b>	<b>Tragedy</b> – a play in which the main character brings about their own downfall.
			<b>prologue</b> – the introduction to a book, film, or play.
<b>Role of women:</b> Juliet is powerless to make her own decisions. She is ruled by her father who eventually decides to marry her off to a powerful man. She breaks the status quo when she defies her father and makes her own decisions.		<b>Exposition</b> Introduces the main characters and the obstacles they will overcome in the play.	<b>sonnet</b> – a type of love poem. It has 14 lines, a strict rhyme scheme and 10 syllables per line.
			<b>dramatic irony</b> – when the audience knows something that the character on stage does not
<b>Evolution of Juliet's character:</b> Juliet is a stereotypical Renaissance daughter at the outset, she is loyal and submissive. She becomes empowered and independent through her romance with Romeo. She becomes a tragic hero by acting in pursuit of her own desires.		<b>Rising tension</b> The heroes try to overcome the obstacles they face. They suffer.	<b>Tragic hero</b> – the main character in a Tragedy that makes an error of judgement that leads to their downfall.
			<b>soliloquy</b> – a speech in a play where the character speaks to himself or herself.
<b>Tragedy:</b> A Shakespearean tragedy is the story of one or two heroes of 'high-status,' such as Kings or Lords. They act in pursuit of one desire. The story leads up to and includes the death of the hero as a result of their actions.		<b>Catastrophe</b> The play ends with the deaths of the heroes.	<b>hyperbole</b> – exaggeration.
			<b>tragic flaw</b> - a character has a tragic flaw when what makes them so special also brings about their downfall.
<b>Fate and destiny:</b> Fate is the idea that the events of someone's life are not in their control. The <i>star-crossed</i> lovers suggests they were fated for tragedy. This leads to many questions: Is the tragic ending inevitable? Do they act independently?			<b>foreshadow</b> – to show or warn that something bigger, worse, or more important is coming.
			<b>thesis</b> – the main idea that you want to discuss throughout an essay.
Features of Shakespearean tragedy (Bradley)			
			The characters are ' <b>high-status</b> ' – they are important people.
			The tragic hero <b>acts</b> : they <b>try to do things</b> . They don't just let things happen to them.
			Whatever they try to do, it always <b>puts them in a worse situation</b> .
			They are <b>exceptional</b> – there is something that makes them special.

# 'Romeo and Juliet': T Knowledge Organiser

Plot breakdown		Characters	Vocabulary: Key words
<b>p</b>	<b>The Prologue</b> outlines the main _____ in the play and _____ the _____ of the _____ of _____ and _____.	<b>Romeo (Montague)</b> Young _____. Falls in love with _____. _____ at the end of the _____. "Did my heart love till now? forswear it, sight! For I ne'er saw true beauty till this night!"; "Thus with a kiss I die"	tragic –
<b>1.1</b>	The _____ and _____ in the _____ of _____. Prince Escalus swears that any further fighting will be _____ by _____.		submissive –
<b>1.2</b>	_____ asks Lord _____ about marrying his _____ Juliet. Capulet tells Paris to wait as she is too young.		narcistic –
<b>1.3</b>	Lady _____ advises _____ to agree to _____.		feud –
<b>1.5</b>	At the Capulet's _____ ball, Romeo sees Juliet and _____ in love with her. They _____, _____, and fall in _____. As they depart, they learn they are from _____ families.	<b>Juliet (Capulet)</b> 13-y_____ - _____ girl. Falls in _____ with _____. Kills _____ at the end of the _____. "Wherefore art thou Romeo? Deny thy father and refuse thy name"; "O happy dagger, This is thy sheath; there rust, and let me die"	shrine –
<b>2.2</b>	In the _____ scene, Romeo and Juliet fall _____ in love. They _____ to get _____.		status quo –
<b>2.3</b>	Romeo asks _____ to _____ him and _____. Lawrence _____, thinking it will _____ the _____.	<b>Lord Capulet (Capulet)</b> Head of the _____ family. Juliet's _____. Orders her to marry his friend, Paris. "She will be ruled In all respects by me"	obstacle –
<b>2.6</b>	Friar _____ Romeo and _____.		vindictive –
<b>3.1</b>	_____ and _____ fight in the streets. _____ kills _____; _____ kills _____. Prince Escalus decides to _____ from Verona.	<b>Paris (no family)</b> _____ of Verona. Wants to _____. Killed by _____ at the end of the play.	patriarchy –
<b>3.4</b>	Lord _____ tells _____ that he can marry Juliet in three days' time.		belligerent - warlike
<b>3.5</b>	After their _____ night, Romeo leaves Juliet for the last time. They have a _____ of the other's _____. After Romeo leaves, Lord Capulet _____ Juliet to marry _____, threatening to _____ her if she _____.	<b>Friar Lawrence (no family)</b> _____ in Verona. _____ to _____ Romeo and Juliet, thinking it will bring _____ to the city. "For this alliance may prove To turn your households' rancour to pure love"	exile (vb.) –
<b>4.1</b>	Friar Lawrence comes up with a _____; Juliet must _____ to be _____ and then _____ Verona with Romeo. She _____ to the plan.		tenacious –
<b>5.3</b>	Romeo _____ learn of Friar Lawrence's _____. He sneaks back into Verona and visits Juliet's _____. He thinks she is _____, and kills himself with _____. Moments later, Juliet wakes up. She finds Romeo's body and kills _____ with his dagger. The two _____ agree to end their _____.	<b>Mercutio (Montague)</b> Romeo's _____. Killed by _____. "A plague a' both your houses!"	catastrope –
		<b>Prince Escalus (no family)</b> _____ of Verona. Wants to bring _____ to the city. "If ever you disturb our streets again, Your lives shall pay the forfeit of the peace"	stoicism –
<b>Terminology: Key words</b>			
			Tragedy –
			prologue –
			sonnet –
			dramatic irony –
			Tragic hero –
			soliloquy –
			hyperbole –
			tragic flaw -
			foreshadow –
			thesis –
<b>Features of Shakespearean tragedy (Bradley)</b>			
			The characters are ' _____ - _____ ' – they are important people.
			The tragic hero _____: they <b>try to do</b> _____. They don't _____ things _____ to them.
			Whatever they try to do, it always <b>puts them in a worse situation</b> .
			They are _____ – there is something that makes them _____.
<b>The Big Ideas:</b>			
<b>Role of women:</b> Juliet is _____ to make her own decisions. She is _____ by her father who eventually decides to _____ her off to a _____ man. She breaks the _____ when she _____ her father and makes her own decisions.			
<b>Evolution of Juliet's character:</b> Juliet is a stereotypical _____ daughter at the _____, she is loyal and _____. She becomes _____ and independent through her romance with Romeo. She becomes a tragic hero by _____ in pursuit of her own desires.			
<b>Tragedy:</b> A Shakespearean tragedy is the story of one or two heroes of ' _____', such as Kings or Lords. They act in pursuit of one _____. The story leads up to and includes the _____ of the hero as a result of their _____.			
<b>Fate and destiny:</b> Fate is the idea that the _____ of a life are not in their control. The _____-crossed lovers suggests they were fated for _____. This leads to many questions: Is the tragic ending inevitable? Do they act _____?			
		<b>Structure of Shakespearean tragedy (Bradley)</b>	
		<b>Exposition</b>	
		_____	
		<b>Development/Rising Action:</b>	
		_____	
		<b>Catastrophe:</b>	
		_____	



<b>What we are learning this term:</b>
<ul style="list-style-type: none"> <li>A. Energy stores and transfer between energy stores</li> <li>B. Work done</li> <li>C. Gravitational potential energy</li> <li>D. Kinetic energy and elastic energy stores</li> <li>E. Wasted energy and Dissipation</li> <li>F. Energy efficiency</li> </ul>

<b>6. Key Words for this term</b>
<ul style="list-style-type: none"> <li>1. Dissipate</li> <li>2. Generation</li> <li>3. Efficiency</li> </ul>

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

<b>A.</b>	<b>What is a system?</b>
It is an object or group of objects	

<b>A.</b>	<b>What is the law of conservation of energy?</b>
Energy cannot be created or destroyed, just changed in form.	

<b>A.</b>	<b>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?</b>
20000 J, assuming non is lost by air resistance/friction	

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

<b>A.</b>	<b>What is the energy store of a person on a bungee jump?</b>
Whilst the rope is slack, energy is transferred from GPE to KE. As the rope tightens, the jumpers KE store decrease but the ropes elastic potential energy store increases. They stop when all the KE store is stored as elastic potential energy.	

<b>B.</b>	<b>What is work?</b>
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)	

<b>A.</b>	<b>What is the energy transfer from the sun, to solar panel to light bulb?</b>	
Sun → solar panel → lightbulb.		
<div style="border: 1px solid black; padding: 5px; display: inline-block;">store of nuclear energy in <u>sun</u></div> <span style="font-size: 2em; vertical-align: middle;">→</span>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">energy transferred to <u>light bulb</u> by electric current</div> <span style="font-size: 2em; vertical-align: middle;">→</span>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">energy transferred to <u>surroundings</u> by heating and light waves</div>

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

<b>B.</b>	<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?</b>
Work done = 800 x 50 = 4000 J or 4 kJ	

<b>B.</b>	<b>What is the equation for work done?</b>
<b>Work done = force x distance moved</b>	
Force is measured in newtons (N)	
Distance is measured in meters (m)	
Work done is measured in joules (J)	

<b>B.</b>	<b>A crane lifts 400 N crate full of coca cola 15 m. How much work was done by the crane?</b>
Work done = 400 x 15 = 6000 J or 6 kJ	



<b>What we are learning this term:</b>
<ul style="list-style-type: none"> <li>A. Energy stores and transfer between energy stores</li> <li>B. Work done</li> <li>C. Gravitational potential energy</li> <li>D. Kinetic energy and elastic energy stores</li> <li>E. Wasted energy and Dissipation</li> <li>F. Energy efficiency</li> </ul>

<b>6. Key Words for this term</b>
<ul style="list-style-type: none"> <li>1. Dissipate</li> <li>2. Generation</li> <li>3. Efficiency</li> </ul>

<b>A.</b>	<b>What are the changes in energy stores for the following objects?</b>
<b>An arrow being thrown directly up into the air</b>	
<b>A toy car (with battery) hitting a wall head on</b>	
<b>A car accelerating</b>	
<b>A bike slowing down</b>	
<b>Water boiling in an electric kettle</b>	

<b>A.</b>	<b>What is a system?</b>

<b>A.</b>	<b>What is the law of conservation of energy?</b>

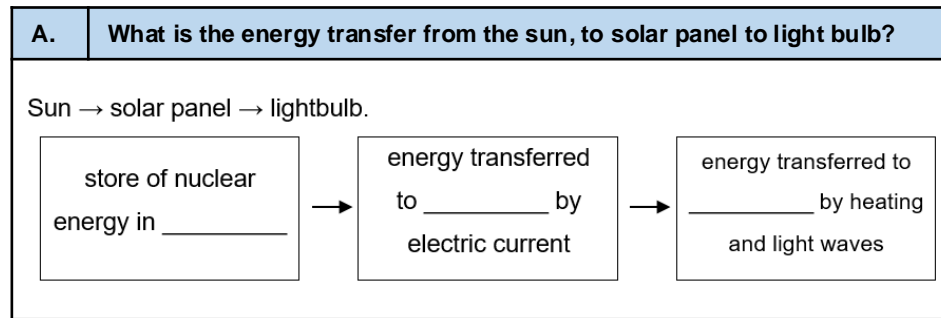
<b>A.</b>	<b>Theoretically, if a roller-coaster has 20000 J of GPE at the top of the slope, how much KE will it have gained when it reaches the bottom?</b>

<b>A.</b>	<b>What are the 8 energy stores?</b>
1.	5.
2.	6.
3.	7.
4.	8.

<b>A.</b>	<b>What is the energy store of a person on a bungee jump?</b>

<b>B.</b>	<b>What is work?</b>

**What is the link between work and energy?**



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

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

-joules (J)


<b>B.</b>	<b>What is the equation for work done?</b>
	_____ is measured in _____
	_____ is measured in _____
	_____ is measured in _____

<b>B.</b>	<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?</b>


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



**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 one 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 fireman 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 of 150 m about the ground, how much GPE does it have?**

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

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

**KE =  $\frac{1}{2} \times \text{mass} \times \text{velocity}^2$**   
 =  $\frac{1}{2}mv^2$   
 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?**

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

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

**EPE =  $\frac{1}{2} \text{ spring constant} \times \text{extension}^2$**   
 EPE is measured in joules (J)  
 Spring constant 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?**

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

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

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

**Are the following useful or wasteful; energy transfers:**  
 Heater: heat, car: sound, heater: light, television: light, car: heat, car: kinetic, television: sound, television: heat?

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

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

**F. What is energy efficiency?**

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

**Why is energy efficiency so important?**

It saves money on energy bills.

**How do you calculate energy efficiency?**

**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)**

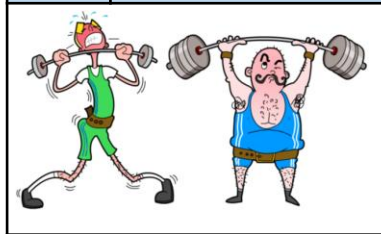
**If a student did 2000 J of work walking up the stairs and it took 10 seconds, what is the power?**

$P = 2000 \text{ J} / 10 \text{ s} = 200 \text{ W}$





**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 of 150 m about the ground, how much GPE 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?

**What we are learning this term:**

- A. Ionic Bonding
- B. Covalent Bonding
- C. Metallic Bonding
- D. States of matter
- E. Properties
- F. Carbon and Nanoparticles

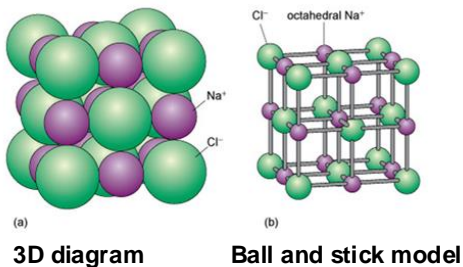
**6 Key Words for this term**

1. Delocalised
2. Electrostatic
3. Ionic
4. Covalent

**A. What is an ionic compound?**

A giant structure of ions held together by strong electrostatic forces of attractions between oppositely charged ions

**How can we represent Sodium Chloride?**



**A. What is ionic bonding?**

An electrostatic force of attraction between positively and negatively charged ions

**When do you get ionic bonding?**

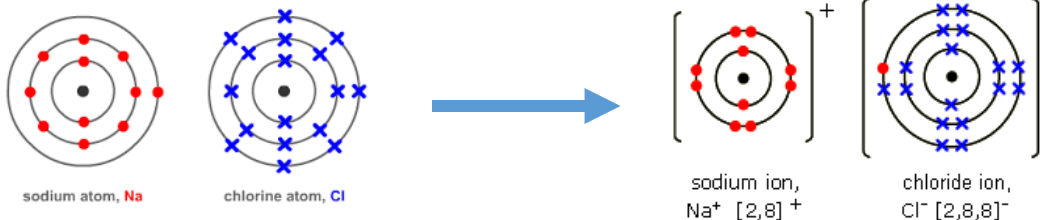
When metals react with non-metals

**What are dot and cross diagram?**

A way of showing electron transfers during reactions

**How is an ionic bond formed in Sodium Chloride? Draw a dot and cross diagram to show this**

- Sodium loses an electron to form a filled outer shell. A positive ion is formed
- Chlorine gains this electron to fill its outer shell. A negative ion is formed
- An electrostatic force of attraction is formed between these oppositely charged ions



**A. What is covalent bonding?**

Covalent bonding is where atoms share pairs of electrons

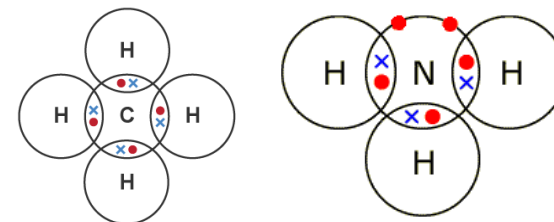
**Sketch a dot and cross diagram to show the bonding in Methane (CH<sub>4</sub>) and Ammonia (NH<sub>3</sub>)**

**When do you get Covalent bonding?**

Non metallic elements and compounds

**What covalent structures are there?**

Simple molecules and giant covalent structures



**C. What is Metallic Bonding?**

Outer electrons are delocalised and free to move through the whole structure. This gives rise to metallic bonds

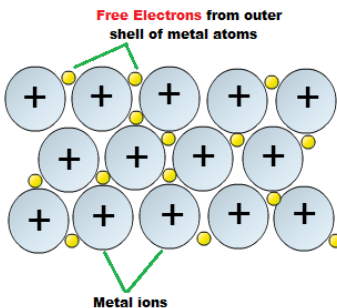
**What does delocalised mean?**

Where electrons are shared between 2 or more atoms

**When do you get Metallic bonding?**

Metallic elements and alloys

**Draw a sketch of metallic bonding**



**D. What are the three states of matter?**

State	Solid	Liquid	Gas
Diagram			

**The amount of energy required to change state is dependent on what?**

The strength of the forces between the particles



What we are learning this term:
<ul style="list-style-type: none"> <li>A. Ionic Bonding</li> <li>B. Covalent Bonding</li> <li>C. Metallic Bonding</li> <li>D. States of matter</li> <li>E. Properties</li> <li>F. Carbon and Nanoparticles</li> </ul>

6 Key Words for this term
<ul style="list-style-type: none"> <li>1. Delocalised</li> <li>2. Electrostatic</li> <li>3. Ionic</li> <li>4. Covalent</li> </ul>

A. What is an ionic compound?

How can we represent Sodium Chloride?

3D diagram	Ball and stick model

A. What is ionic bonding?	When do you get ionic bonding?

What are dot and cross diagram?

--

How is an ionic bond formed in Sodium Chloride? Draw a dot and cross diagram to show this

--

A. What is covalent bonding?	Sketch a dot and cross diagram to show the bonding in Methane (CH <sub>4</sub> ) and Ammonia (NH <sub>3</sub> )

--

When do you get Covalent bonding?

--

What covalent structures are there?

--

C. What is Metallic Bonding?

--

What does delocalised mean?

--

When do you get Metallic bonding?

--

Draw a sketch of metallic bonding

--

D. What are the three states of matter?

State			
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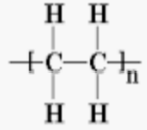
Diagram			
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The amount of energy required to change state is dependent on what?	
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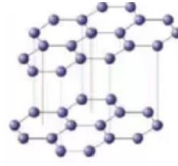
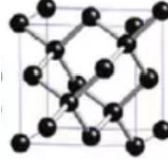
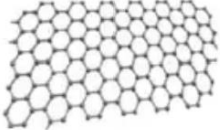



D.	What are state symbols?
These are used in chemical equations to show what state of matter things are in a reaction	
Solid	(s)
Liquid	(l)
Gas	(g)
Aqueous (in solution)	(aq)

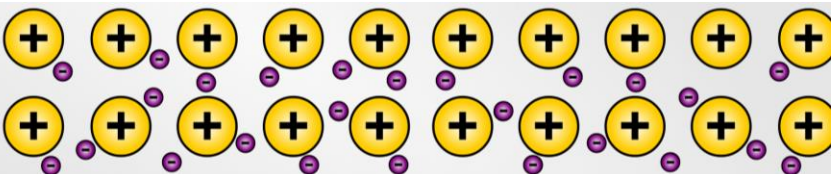
E.	What properties do Giant ionic structures have?
Melting points/boiling points	High
Does it conduct electricity?	
Ionic solid	No
Molten ionic solid	Yes
Ionic compound in solution	Yes

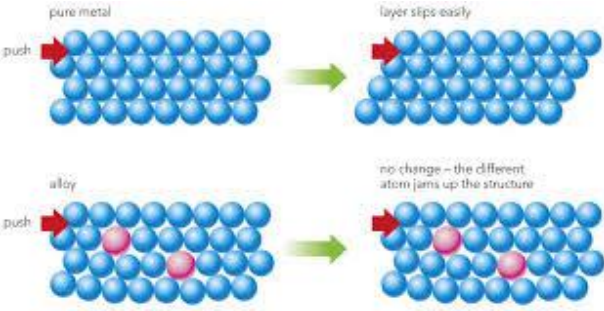
E.	What are polymers?
Large long chain molecules	
Are the ionic or covalent?	

E.	What properties do simple small covalent molecules have?
Melting point	Lower melting points – because of weak intermolecular forces (not the covalent bonds)
Conduct electricity?	No – no overall charge

F.	What different forms of carbon are there?			
	Graphite	Diamond	Graphene	Fullerenes
Structure	Hexagonal rings	Giant covalent	1 sheet of graphite	Giant covalent
Melting point	high	Very high	Very High	Very High
Conducts electricity?	Yes	No	Yes	No
Properties	soft	Very hard	hard	hard
Uses	Pencils, electrodes	Cutters, jewellery	Electronics, composites	Nanotechnology, electronics, medicine
Diagram				

E.	What properties do giant covalent structures have?
Melting point	High
Solubility	Insoluble due to strong covalent bonds

E.	Why are metals good conductors?
The delocalised electrons are free to move throughout the giant metallic structure.	
	

E.	What are alloys?
Mixtures of metals	
What properties do they have	
Harder than pure metals	

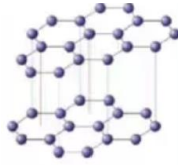
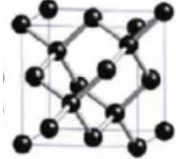
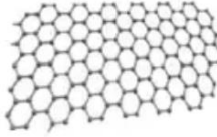



D.	What are state symbols?
These are used in chemical equations to show what state of matter things are in a reaction	
Solid	
Liquid	
Gas	
Aqueous (in solution)	

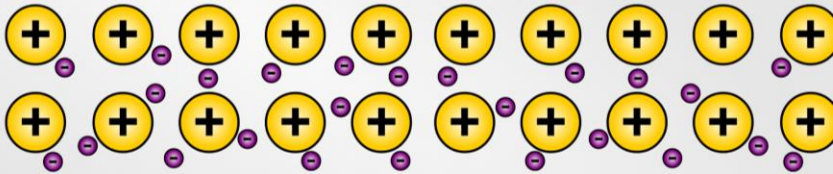
E.	What properties do Giant ionic structures have?
Melting points/boiling points	
Does it conduct electricity?	
Ionic solid	
Molten ionic solid	
Ionic compound in solution	

E.	What are polymers?
Are the ionic or covalent?	

E.	What properties do simple small covalent molecules have?
Melting point	
Conduct electricity?	

F.	What different forms of carbon are there?			
	Graphite	Diamond	Graphene	Fullerenes
Structure				
Melting point				
Conducts electricity?				
Properties				
Uses				
Diagram				

E.	What properties do giant covalent structures have?
Melting point	
Solubility	

E.	Why are metals good conductors?
	

E.	What are alloys?
What properties do they have	

# Y9- T2 -

**A. Background:**

- Natural Hazard is a threat to people and property**
- Hazard risk** is the **probability (chance)** that a natural hazard occurs.
- Earthquakes and **volcanoes** are **distributed** in narrow belts across the world. They are mostly found along **plate margins**, for example the **Pacific ring of fire** is a circle of volcanoes and earthquakes that surrounds the Pacific ocean.
- Volcanoes** are also found in **hotspots** across the world. These are areas where the crust of the earth is slightly thinner, allowing **magma** to rise to the surface.
- People live in areas at risk of **tectonic hazards** as they hold benefits such as **geothermal power** and **fertile soils** around volcanoes, examples of this are **Iceland**. People in poverty also live in **hazardous areas** as they cannot afford to move out

**B. What happens at plate margins?**

<b>Destructive plate margin</b>	At <b>destructive plate boundaries</b> , two plates move towards each other, the denser oceanic plate is forced under the less dense continental plate in a process called subduction
<b>Constructive plate margin</b>	At <b>constructive plate boundaries</b> , two plates are moving away from each other..
<b>Conservative plate margin</b>	At conservative plate margins, two plates are <b>moving past each other</b> . The plates get stuck which builds up pressure. The sudden release of this <b>pressure</b> causes <b>violent</b> earthquakes.
<b>Subduction/ Subduction Zone</b>	To go underneath. / the point at which the oceanic plate sinks beneath the continental one at a destructive/ subductive plate margin.

D.	Example of Tectonic Hazard HIC: Chile
<b>Date</b>	27 February 2010
<b>Magnitude</b>	8.8
<b>No. Dead</b>	521
<b>Epicentre</b>	Off the coast of Chile
<b>Causes</b>	Destructive plate: South American (continental) & Nazca Plate (oceanic)
<b>Primary effects</b>	<ul style="list-style-type: none"> <li>- 500 dead</li> <li>- 12,000 injured</li> <li>- 500,000 homes damaged</li> <li>- Santiago airport slightly damaged</li> <li>- Several bridges and roads damaged and a hospital</li> </ul>
<b>Secondary effects</b>	<ul style="list-style-type: none"> <li>- Much of Chile lost power, water supplies and communication cut off</li> <li>- Tsunami warning</li> <li>- A fire in a chemical plant &gt; evacuation</li> <li>- Copper mines suffered damage (Copper crucial to economy)</li> </ul>
<b>Short term responses</b>	<ul style="list-style-type: none"> <li>- After day Ten 90% houses had power back, roads quickly fixed</li> <li>- Temporary repairs to main roads</li> </ul>
<b>Long-term responses</b>	<ul style="list-style-type: none"> <li>- One month later houses rebuilding plan, due to the strong economy, it recovered and rebuilt without aid.</li> </ul>

E.	Example of Tectonic Hazard LIC: Nepal
<b>Date</b>	25 April 2015
<b>Magnitude</b>	7.9
<b>No. Dead</b>	521
<b>Epicentre</b>	80km from the capital city Kathmandu
<b>Causes</b>	Destructive plate: Indo-Australian plate colliding with the Eurasian plate
<b>Primary effects</b>	<ul style="list-style-type: none"> <li>- 9000 dead</li> <li>- 20,000 injured</li> <li>- 3 million made homeless</li> <li>- Electricity, water supplies and communications affected</li> <li>- 7000 schools destroyed, 50% of shops destroyed</li> </ul>
<b>Secondary effects</b>	<ul style="list-style-type: none"> <li>- Landslides and avalanches that blocked roads</li> <li>- Avalanches on Mount Everest killed at least 19 people</li> <li>- Landslides blocked the Kali Gandaki River causing flooding North of Kathmandu</li> </ul>
<b>Short term responses</b>	<ul style="list-style-type: none"> <li>- Search and rescue teams</li> <li>- Emergency food and water/ aid from the UK</li> </ul>
<b>Long-term responses</b>	<ul style="list-style-type: none"> <li>- 7000 schools to be rebuilt or repaired</li> <li>- Stricter controls on building codes</li> </ul>

**C. What happens at plate margins?**

<b>Hazard risk</b>	How likely you are to be harmed
<b>Hazardous</b>	Dangerous or a risk to life.

F.	How do we manage tectonic hazards?	
<b>Monitoring</b>	Warning signs: gases, sides of volcanoes swell, change shape and size, heat melts snow, rocks fracture, earthquakes. Monitored through seismographs, and tiltmeters (shape).	
<b>Prediction</b>	Based on scientific monitoring as above.	
<b>Protection</b>	Little can be done. However, you can create earth embankments or explosives to divert lava away from property.	
<b>Planning</b>	When machines begin to do the work which humans once completed.	
<b>Preparedness</b>	How ready you are for a situation	

# Y9- T2 -

**A. Background:**

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- Earthquakes and **volcanoes** are **distributed** in narrow belts across the world. They are mostly found along **plate margins**, for example the **Pacific ring of fire** is a circle of volcanoes and earthquakes that surrounds the Pacific ocean.
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**B. What happens at plate margins?**

Destructive plate margin	
Constructive plate margin	
Conservative plate margin	
Subduction/ Subduction Zone	

D.	Example of Tectonic Hazard HIC: Chile
Date	
Magnitude	
No. Dead	
Epicentre	
Causes	
Primary effects	
Secondary effects	
Short term responses	
Long-term responses	

E.	Example of Tectonic Hazard LIC: Nepal
Date	
Magnitude	
No. Dead	
Epicentre	
Causes	
Primary effects	
Secondary effects	
Short term responses	
Long-term responses	

**C. What happens at plate margins?**

<b>Hazard risk</b>	
<b>Hazardous</b>	

F.	How do we manage tectonic hazards?
Monitoring	
Prediction	
Protection	
Planning	
Preparedness	



What we are learning this term:		B. Key People			
1.1 Ideas about the cause of disease and illness 1.2 Approaches to treatment and prevention 1.3 Dealing with the Black Death 1348-49		<b>Hippocrates</b>	<b>Galen</b>	<b>Physicians, apothecaries and surgeons</b>	<b>Hospitals</b>
<b>A.</b>	<b>Can you define these key words?</b>	<p>'Father of Medicine' – 4 humours, clinical observation (watch and record details, use this to help with future cases), importance of exercise, Hippocratic Oath for doctors (to preserve life)</p>	<p>Built on Hippocrates' ideas – theory of opposites (if cold, give something hot), also dissected animals to find out about anatomy (structure of body). Proved brain, not the heart, controls the body</p>	<ul style="list-style-type: none"> <li>• <b>Physicians</b> – diagnosed + recommended treatment, trained at university for around 7 years. Did not get to see dissections so new little about body. Learned everything from Galen's books. Only for super rich</li> <li>• <b>Apothecaries</b> – mixed herbal remedies (joined a guild, worked for master to train).</li> <li>• <b>Surgeons</b> – least qualified, also cut hair. Learned on job and only performed minor, on-invasive surgeries</li> <li>• <b>Monks and nuns</b> – worked in hospitals mostly prayed for patients and gave comfort. Not allowed to cut or bleed patients so could not do surgery</li> <li>• <b>Housewives and mothers</b> – treated most people. Mixed herbal remedies and treated minor wounds</li> </ul>	<ul style="list-style-type: none"> <li>• Ran by monks and nuns</li> <li>• Offered patients shelter, beds, food and very limited treatment.</li> <li>• Treatments mostly religious based – praying</li> <li>• Patients would offer share beds which led to all of diseases spreading around the hospitals</li> </ul>
Miasma	Bad air that was believed to be filled with harmful fumes.				
Quarantine	Separating the sick from the healthy to stop the spread of a disease.				
Humours	The humours were four fluids that were thought to spread throughout the body and influence its health.				
Purging	To get rid of anything unwanted.				
Phlebotomy	The drawing of blood by opening a vein.				
Leprosy	a painful skin disease				
Prevention	To stop something from happening				
Treatment	giving medicine or using other means to help a person get better when sick or hurt	<b>C. What were the causes of disease in Medieval England?</b>			
Apothecary	A person who mixes herbal remedies and treated patients as an alternative to a doctor as they were cheaper.	<b>Causes</b>	<b>Prevention</b>	<b>Treatments</b>	
Barber surgeon	barbers and surgeons who also performed minor operations such as removal of warts .	<b>Religious – Punishment from God</b> God has sent an illness as punishment for sins. Especially true at times of panic such as the Black Death.	<b>Religious - Church</b> – Lead a life free of sin.  Regular prayers and confessions.  Offering tithes to the church to make sure sins were forgiven quickly.	<b>Religious – Healing prayers and incantations</b>  Paying for a special mass to be said  Fasting  Pilgrimages	
<b>D.</b>	<b>Dealing with the Black Death</b>	<b>Rational - Miasma</b> – You had breathed in bad air. This was thought to come from swamps or rubbish. During this period there was allot of animal much in towns and often open sewers in the streets meaning the whole place stank. In these filthy places disease was more common seemingly proving this theory	<b>Rational and religious - Regimen Sanitatis</b> – A set of instructions provided by physicians to maintain good health.  Bathing was also used to prevent miasma.	<b>Supernatural - Astrology</b> – Treatments varied according the the horoscope of the patient. The alignment of the planets was checked at every stage of the treatment prescribed eg herb gathering.	
What is the Black Death?	<ul style="list-style-type: none"> <li>• Bubonic plague – outbreak in 1348-9 – 1/3<sup>rd</sup> to 1/ 2 of the population died in England. Caused by bacteria Yersinia pestis that was thought to have originated in China and came to Britain on fleas, on rats on ships.</li> </ul>	<b>Rational - The Theory of the Four Humors</b> – The 4 liquids in your body (blood, yellow bile, black bile, phlegm) were seen to be out of balance making you ill. Recovery came from getting them back in to balance through the theory of opposites Created in ancient Greece by Hippocrates.	<b>Rational - Diet</b> – Eating to much was strongly discouraged. What and when you ate were considered to be important in preventing a humoral imbalance.	<b>Rational - Humoral Treatments</b> – Blood letting – Bad humours could be removed from the body by removing some of the blood. Purging – Purging the digestive system to remove any leftover food. Eg using a laxative.	
Causes	<p>Miasma – bad air from the filthy conditions making you ill.</p> <p>Astrology – there was a weird alinement of Jupiter, mars and Saturn the previous year which was blamed for the plague</p> <p>Punishment from God- = People thought that society had become wicked so God had sent the plague to punish them.</p>	<b>Supernatural - Astrology</b> – Impact of the stars and planets on health. Physicians would use star charts to examine a patient and work out what was wrong with them.	<b>Rational - Purifying the air</b> –This was achieved by spreading sweet herbs.	<b>Rational - Herbal remedies</b> – Using herbal infusions to drink, sniff or bathe in.	
Treatments	Confesses sins and pray, bleeding and purging (but seemed to make worse), sweet herbs or fire to clean air.				
Prevention	Pray and fast, leave the area, carry sweet herbs, quarantine (new people stay away for 40 days), clean streets (or don't, maybe bad smell will drive out miasma)				





What we are learning this term:		B. Key People			
1.1 Ideas about the cause of disease and illness 1.2 Approaches to treatment and prevention 1.3 Dealing with the Black Death 1348-49		Hippocrates	Galen	Physicians, apothecaries and surgeons	Hospitals
<b>A.</b>	<b>Can you define these key words?</b>				
Miasma					
Quarantine					
Humours					
Purging					
Phlebotomy					
Leprosy					
Prevention		C. What were the causes of disease in Medieval England?			
Treatment		Causes	Prevention	Treatments	
Apothecary					
Barber surgeon					
<b>D.</b>	<b>Dealing with the Black Death</b>				
What is the Black Death?					
Causes					
Treatments					
Prevention					

Year 9 Religious Education: Buddhism		B.	<u><i>The Buddha and Enlightenment</i></u>		
A.	<i>Can you define these key words?</i>		Religion in India	Hinduism was the most common religion – Hinduism and Buddhism have common origins and have lots of similarities. Hinduism, Buddhism and Sikhism are known as Dharmic religions	
Key word	Key definition		Caste system	Determined at birth and channels them into the caste’s occupation, their place in society, who they can marry People don’t do jobs which don’t fit their caste and the lowest caste is treated badly by others	
Ascetic	Characterized by severe self-discipline and avoiding all forms of indulgence, typically for religious reasons		The Buddha’s early childhood	Born as a prince and lived in a palace - family belonged to the Kshatriya caste which was associated with rulers and leaders He was expected to follow his father as a local ruler but a seer predicted he would become a great ruler	
Enlightenment	Understanding and accepting the truth about life and suffering and entering the state of pure happiness		Religious quest	Siddhartha saw 4 things which changed his perspective - old man, a sick person, a corpse, a holy man He realised that he no longer needed to live a luxury life but wanted to live a life on “The Middle Way”	
Caste	A Hindu social order of higher and lower class		The middle way	The Buddha experienced wealth and poverty but didn’t get satisfaction so he meditated until he achieved enlightenment	
Impermanence	The state of fact of lasting for only a limited period of time		C. <u><i>Three Marks of Existence (Universal Truths)</i></u>		
Craving	A powerful desire for something		Anicca (Impermanence)	All things are constantly changing – nothing is fixed & Everything depends on conditions which can also change - Even stars and galaxies are changing	
Karma	The force produced by a person’s actions in one life that influences what happens to them in future lives		Anatta (No soul)	No permanent identity/no separate self As conditions change, people change too e.g. our personality and the way that we act - Nothing has a fixed or permanent nature so there is no soul which is eternal	
Samsara	The cycle of birth, death and rebirth to which life in the material world is bound		Dukkha (dissatisfaction)	If life is always changing, all that we know will eventually stop existing -Even if we escape illness, we will one day face death The world is unsatisfactory because every time you gain happiness, things change again	
Cessation	Ending something or being brought to an end		D.	<u><i>Karma and rebirth</i></u>	
Puja	Ceremonies that involve meditation, prayer and offerings		Karma	If someone does a good action, they will get good karma - You can be free from the negative effects of negative karma if you forgive what happened in the past, accept it and understand it	
Meditation	Thinking quietly as a way to calm the mind		Samsara	When someone dies, their energy passes into another form which depends on their actions in their past life The cycle ends when they achieve enlightenment	
			F. <u><i>Puja and meditation</i></u>		
E.	<u><i>Four noble truths</i></u>		Samatha meditation	Used to try and focus the mind by concentrating on breathing and to concentrate at a deeper level Might use visual objects to aid meditation e.g. a coloured desk	
Dukkha	There is suffering as a part of life because of sickness or frustration and unhappiness with life		Vipassana meditation	Helps Buddhists to seek truth about reality and develop wisdom so they can reach enlightenment Gaining insight into true reality by reflecting on the teachings of the Buddha Usually practised in a sitting position with legs crossed	
Tanha	Craving for more because everything is constantly changing		G. <u><i>Ethical way of living</i></u>		
Niroda	Cessation – to stop suffering you need to stop craving more and more things		Abstain from taking life (don’t harm or kill living things)	Abstain from misusing senses (no over indulgence)	Abstain from taking drugs and alcohol which cloud the mind and could also include not playing video games or forms of work which numb the mind
Magga	The Middle Way – set out in the form of a path of eight steps – these are 8 features of Buddhist life		Abstain from taking what is not freely given (against stealing and exploiting people)	Abstain from wrong speech (lying, slander, gossip, harsh speech and idle chatter)	

Year 9 Religious Education: Buddhism		B.	<i>The Buddha and Enlightenment</i>	
A.	<i>Can you define these key words?</i>		Religion in India	
Key word	Key definition		Caste system	
Ascetic			The Buddha's early childhood	
Enlightenment			Religious quest	
Caste			The middle way	
Impermanence			<b>C.</b> <i>Three Marks of Existence (Universal Truths)</i>	
Craving			Annica (Impermanence)	
Karma			Anatta (No soul)	
Samsara			Dukkha (dissatisfaction)	
Cessation			<b>D.</b> <i>Karma and rebirth</i>	
Puja			Karma	
Meditation			Samsara	
			<b>F.</b> <i>Puja and meditation</i>	
<b>E.</b>	<i>Four noble truths</i>		Samatha meditation	
Dukkha			Vipassana meditation	
Tanha			<b>G.</b> <i>Ethical way of living</i>	
Niroda			Abstain from taking life (don't harm or kill living things)	
Magga			Abstain from taking what is not freely given (against stealing and exploiting people)	

**What we are learning this term:**

- A. Learning about Spanish life and routines
- B. Learning about local customs
- C. Talking about a Spanish festival
- D. Learning about Latin American culture
- E. Skim reading for key information
- F. Using past expressions of time

**6 Key Words for this term**

- |               |                    |
|---------------|--------------------|
| 1. divertirse | 4. el desfile      |
| 2. hispánico  | 5. celebrarse      |
| 3. el turismo | 6. los antepasados |

**4.1G La vida en familia**

a media mañana	at mid-morning
acostarse	to go to bed
el bollo	bun
la cena	evening meal
coger	to catch
la comida	food, meal, lunch
el desayuno	breakfast
la dieta	diet
la leche	milk
levantarse	to get up
ligero/a	light
participar	to participate, to take part
probar	to try, to try out
el recreo	break
saludable	healthy
la sobremesa	sitting chatting at the table
after a meal	
el trabajador	worker
la tradición	tradition
traer	to bring
tranquilamente	calmly
el vaso	glass

**4.1H ¿Cambian las costumbres?**

acostarse	to go to bed
cerrarse	to close
coger	to catch
corto/a	short
empezar	to start
hace calor	it is hot
levantarse	to get up
el marido	husband
la mayoría	majority
el ordenador	computer

**4.1F Algunas costumbres regionales**

la actuación	performance
agradable	pleasant
el ambiente	atmosphere
antiguo/a	old
la batalla	battle
el caballo	horse
la camisa	shirt
el concurso	competition
conmemorar	to commemorate
correr	to run
la costumbre	custom
demasiado	too much, too many
el desfile	parade, procession
el diablo	devil
divertirse	to enjoy oneself
emocionante	exciting
el encierro	bull run
encontrar	to find
enorme	enormous
entender	to understand
entrenarse	to train
el espectáculo	show, display
extraño/a	strange
fatal	awful
formar	to form
histórico	historic
humano	human
impresionante	impressive
incómodo/a	uncomfortable
llevar	to wear, take, carry
el Mediterráneo	Mediterranean
el/la moro/a	Moor (historically a person from North Africa)
nadie	no one
natural	natural
el origen	origin
pasarlo bien	to have a good time
el peligro	danger
peligroso/a	dangerous
por encima de	over
precioso/a	beautiful
el producto	product
saltar	to jump
la seguridad	safety, security
la suerte	luck
el toro	bull
la torre	tower
el traje	suit, costume
único/a	only, unique
varios/as	several
vestirse (de)	to dress (in)

**Key Verbs**

<u>Celebrar</u> To celebrate	<u>Ir</u> To go	<u>Disfrutar</u> To enjoy	<u>Hacer –</u> to do/make	<u>Disfrazar</u> To dress up
Celebro I celebrate	Voy I go	Disfruto I enjoy	Hago I do	Disfrazo I dress up
Celebras You celebrate	Vas You go	Disfrutas You enjoy	Haces You do	Disfrazas You dress up
Celebra – he/she celebrates	Va s/he goes	Disfruta He/she enjoys	Hace s/he does	Disfraza He/she dresses up
Celebramos We celebrate	Vamos They go	Disfrutamos We enjoy	Hacemos We do	Disfrizamos We dress up
Celebran They celebrate	Van They go	Disfrutan They enjoy	Hacen They do	Disfrazan They dress up

**4.2G Las fiestas de España – la Tomatina**

al final	at the end
americano/a	American
australiano/a	Australian
británico/a	British
el camión	lorry
la camiseta	T-shirt
el camaval	carnival
divertirse	to enjoy oneself
duchar	to shower
empezar	to start
la entrada	(entry) ticket
la foto	photo
la gente	people
hace (+ tiempo)	(time) ago
japonés/esa	Japanese
limitar	to limit
limpiar	to clean
llegar	to arrive
la manguera	hose, hosepipe
mojado/a	wet, soaked
el montón	heap, pile
la plaza mayor	the main square
primero/a	first
pronto	soon
rojo/a	red
sucio/a	dirty
típico/a	typical
tirar	to throw
todo el mundo	everyone, everybody
el tomate	tomato
el turismo	tourism
varios/as	several
el/la visitante	visitor
el/la voluntario/a	volunteer
volver	to return, to go back

**4.2F Las fiestas del mundo hispano**

el altar	altar, shrine
los antepasados	ancestors
aparecer	to appear
el azúcar	sugar
la calavera	skull
celebrarse	to be held
el cementerio	cemetery
cerca de	close to, near to
la ciudad	city, town
comenzar	to start
completamente	completely
describir	to describe
el desfile	parade
el diablo	devil
disfrazado	dressed up, disguised
en honor a	in honour of
encendido/a	lit
el esqueleto	skeleton
el estaño	tin
los familiares	family members
famoso/a	famous
la flor	flower
hispánico	Hispanic (i.e. of the Spanish speaking world)
la mina	mine
el/la minero/a	miner
el mole	'mole' sauce / Mexican chocolate sauce
la montaña	mountain
muerto	dead
la normalidad	normality
el número	number
la plata	silver
proteger	to protect
el pueblo	village, (small) town

**What we are learning this term:**

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 E. Skim reading for key information  
 F. Using past expressions of time

**6 Key Words for this term**

1. divertirse	4. el desfile
2. hispánico	5. celebrarse
3. el turismo	6. los antepasados

**4.1G La vida en familia**

a media mañana \_\_\_\_\_  
 acostarse \_\_\_\_\_  
 el bollo \_\_\_\_\_  
 la cena \_\_\_\_\_  
 \_\_\_\_\_ to catch  
 \_\_\_\_\_ food, meal, lunch  
 \_\_\_\_\_ breakfast  
 la dieta \_\_\_\_\_  
 la leche \_\_\_\_\_  
 \_\_\_\_\_ to get up  
 \_\_\_\_\_ light  
 \_\_\_\_\_ to participate, to take part  
 \_\_\_\_\_ to try, to try out  
 el recreo \_\_\_\_\_  
 saludable \_\_\_\_\_  
 la sobremesa sitting chatting at the table  
 after a meal \_\_\_\_\_  
 el trabajador \_\_\_\_\_  
 la tradición \_\_\_\_\_  
 \_\_\_\_\_ to bring  
 \_\_\_\_\_ calmly  
 \_\_\_\_\_ glass

**4.1H ¿Cambian las costumbres?**

\_\_\_\_\_ to go to bed  
 \_\_\_\_\_ to close  
 coger \_\_\_\_\_  
 corto/a \_\_\_\_\_  
 empezar \_\_\_\_\_  
 \_\_\_\_\_ it is hot  
 \_\_\_\_\_ to get up  
 el marido \_\_\_\_\_  
 la mayoría \_\_\_\_\_  
 \_\_\_\_\_ computer

**4.1F Algunas costumbres regionales**

\_\_\_\_\_ performance  
 \_\_\_\_\_ pleasant  
 el ambiente \_\_\_\_\_  
 antiguo/a \_\_\_\_\_  
 \_\_\_\_\_ battle  
 el \_\_\_\_\_ horse  
 la camisa \_\_\_\_\_  
 el \_\_\_\_\_ competition  
 conmemorar to \_\_\_\_\_  
 correr \_\_\_\_\_  
 la \_\_\_\_\_ custom  
 \_\_\_\_\_ too much, too many  
 \_\_\_\_\_ parade, procession  
 el diablo \_\_\_\_\_  
 divertirse to \_\_\_\_\_  
 emocionante \_\_\_\_\_  
 el encierro \_\_\_\_\_  
 \_\_\_\_\_ to find  
 \_\_\_\_\_ enormous  
 \_\_\_\_\_ to understand  
 entrenarse \_\_\_\_\_  
 el espectáculo \_\_\_\_\_  
 extraño/a \_\_\_\_\_  
 \_\_\_\_\_ awful  
 \_\_\_\_\_ to form  
 histórico \_\_\_\_\_  
 humano \_\_\_\_\_  
 \_\_\_\_\_ impressive  
 \_\_\_\_\_ uncomfortable  
 \_\_\_\_\_ to \_\_\_\_\_  
 llevar \_\_\_\_\_  
 el Mediterráneo \_\_\_\_\_  
 el/la moro/a Moor (historically a  
 person from North Africa)  
 nadie \_\_\_\_\_  
 \_\_\_\_\_ natural  
 \_\_\_\_\_ origin  
 pasarlo bien \_\_\_\_\_  
 el peligro \_\_\_\_\_  
 peligros/a \_\_\_\_\_  
 \_\_\_\_\_ over  
 \_\_\_\_\_ beautiful  
 \_\_\_\_\_ product  
 \_\_\_\_\_ to jump  
 la \_\_\_\_\_ safety, security  
 la suerte \_\_\_\_\_  
 el toro \_\_\_\_\_  
 la torre \_\_\_\_\_  
 \_\_\_\_\_ suit, costume  
 \_\_\_\_\_ only, unique  
 varios/as \_\_\_\_\_  
 vestirse (de) \_\_\_\_\_

**Key Verbs**

To celebrate	To go	To enjoy	Hacer – to do/make	Disfrazar To dress up
I celebrate	Voy I go	Disfruto	Hago	Disfrazo
Celebras You _____	You go	You enjoy	You do	You dress up
Celebra – he/she celebrates	s/he goes	Disfruta He/she enjoys	Hace	Disfraza He/she dresses up
We celebrate	Vamos	Disfrutamos We enjoy	We do	Disfrazamos
Celebran	They go	They enjoy	They do	They dress up

**4.2G Las fiestas de España – la Tomatina**

al final \_\_\_\_\_  
 \_\_\_\_\_ American  
 australiano/a \_\_\_\_\_  
 \_\_\_\_\_ British  
 \_\_\_\_\_ lorry  
 la camiseta \_\_\_\_\_  
 el camaval \_\_\_\_\_  
 \_\_\_\_\_ to enjoy oneself  
 \_\_\_\_\_ to shower  
 \_\_\_\_\_ to \_\_\_\_\_  
 \_\_\_\_\_ (entry) ticket  
 la \_\_\_\_\_ photo  
 la gente \_\_\_\_\_  
 hace (+ tiempo) \_\_\_\_\_  
 \_\_\_\_\_ Japanese  
 \_\_\_\_\_ to limit  
 \_\_\_\_\_ to clean  
 llegar \_\_\_\_\_  
 la manguera \_\_\_\_\_  
 mojado/a \_\_\_\_\_  
 \_\_\_\_\_ heap, pile  
 \_\_\_\_\_ the main square  
 \_\_\_\_\_ first  
 pronto \_\_\_\_\_  
 rojo/a \_\_\_\_\_  
 sucio/a \_\_\_\_\_  
 \_\_\_\_\_ typical  
 \_\_\_\_\_ to throw  
 todo el mundo \_\_\_\_\_  
 el tomate \_\_\_\_\_  
 el turismo \_\_\_\_\_  
 \_\_\_\_\_ several  
 el/la visitante \_\_\_\_\_  
 \_\_\_\_\_ volunteer  
 \_\_\_\_\_ to return, to go back, to  
 come back

**4.2F Las fiestas del mundo hispano**

\_\_\_\_\_ altar, shrine  
 los antepasados \_\_\_\_\_  
 aparecer \_\_\_\_\_  
 el azúcar \_\_\_\_\_  
 la \_\_\_\_\_ skull  
 \_\_\_\_\_ to be held  
 el \_\_\_\_\_ cemetery  
 \_\_\_\_\_ close to, near to  
 la ciudad \_\_\_\_\_  
 comenzar \_\_\_\_\_  
 completamente \_\_\_\_\_  
 \_\_\_\_\_ to describe  
 el \_\_\_\_\_ parade  
 el \_\_\_\_\_ devil  
 \_\_\_\_\_ dressed up, disguised  
 en honor a \_\_\_\_\_  
 encendido/a \_\_\_\_\_  
 el esqueleto \_\_\_\_\_  
 el estaño \_\_\_\_\_  
 los familiares \_\_\_\_\_  
 \_\_\_\_\_ famous  
 la flor \_\_\_\_\_  
 \_\_\_\_\_ Hispanic (i.e. of the  
 Spanish speaking world)  
 la mina \_\_\_\_\_  
 el/la minero/a \_\_\_\_\_  
 \_\_\_\_\_ 'mole' sauce /  
 Mexican chocolate sauce  
 la montaña \_\_\_\_\_  
 muerto \_\_\_\_\_  
 la normalidad \_\_\_\_\_  
 el \_\_\_\_\_ number  
 la \_\_\_\_\_ silver  
 \_\_\_\_\_ to protect  
 el pueblo \_\_\_\_\_



Translation Practice. G – blue F – orange H - Green	
Normalmente _____ cereals	Normally <b>for breakfast we have...</b>
Ayer _____ una manzana	Yesterday I <b>ate</b> an apple
Carmen _____ de casa a las ocho	Carmen <b>leaves</b> the house at 8.00
Esta tarde _____ con la familia de mi amigo	This afternoon I <b>chatted</b> with my friend's family
Muchas veces no _____ nada	Many times <b>they don't drink</b> anything
No hablamos _____	We don't speak <b>a lot</b>
El año pasado _____ Pamplona	Last year I <b>visited</b> Pamplona
El _____ es una tradición extraña	The <b>bull run</b> is a strange tradition
Fue muy _____	It was very <b>exciting</b>
_____ dos años fuimos a Burgos	2 years <b>ago</b> we went to Burgos
Ayer fuimos a ver el _____	Yesterday we went to see the <b>procession</b>
El pueblo _____ interesante	The town <b>was</b> interesting
Vimos un _____ muy interesante	We saw a very interesting <b>competition</b>
¿Qué _____?	What <b>did you do?</b>
Hoy me _____ muy temprano	Today I <b>got up</b> very early
Compré _____ para mi familia.	I bought <b>presents</b> for my family
La _____ fue que..	The <b>disadvantage</b> was that..
_____ mucha basura.	<b>There was</b> a lot of rubbish.

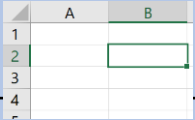
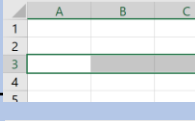
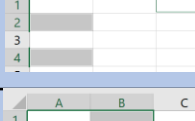
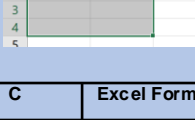
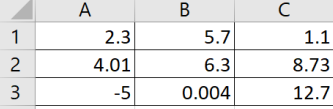
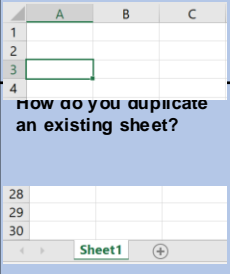






Key Questions: Answer the following in your own words. Use these model answers	
Describe una fiesta popular en España	Una fiesta muy popular en España es la Tomatina. La gente celebra la Tomatina en Agosto en Buñol cerca de Valencia. Durante la fiesta, la gente tira tomates, hay desfiles y bailes, se puede comer comida tradicional, la gente lleva disfraces. Después de la fiesta las calles están llenas de tomates. Es mi fiesta española favorita porque es muy entretenida y cómica.
Describe una fiesta popular en tu país	En Inglaterra celebramos la fiesta de Fuegos artificiales. Cada 5 de noviembre, celebramos el día de Guy Fawkes. Durante la noche, la gente va a parques o el centro de la ciudad y hay muchos fuegos artificiales. Celebra la noche cuando Guy Fawkes intentó poner fuego al gobierno de Inglaterra. Es muy entretenida y cómica.
Describe tu experiencia la última vez que fuiste a una fiesta en tu país	La última vez que fui a una fiesta en Inglaterra fue muy entretenida y cómica. Fue en Noviembre cuando celebramos la fiesta de Guy Fawkes. Fuimos en el centro de la ciudad o el parque para ver muchos fuegos artificiales. Fue muy entretenido, porque comí algodón de azúcar y pasé la noche con mis amigos.
¿Qué diferencias notas entre la vida española y la vida de tu propio país?	La vida en España y en Inglaterra es un poco diferente. En España se come una dieta mediterránea, la gente come muchas frutas, verduras, mucho pescado y aceite de oliva. En Inglaterra comemos más patatas fritas y más carne y menos frutas y verduras. En Inglaterra los jóvenes suelen llevar uniforme para ir al colegio pero en España los jóvenes no llevan uniforme. ¡Qué bueno! También, en España los jóvenes de 17 o 18 años no suelen emborracharse durante el fin de semana pero en Inglaterra hay más problemas con los jóvenes y el alcohol.

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
<b>Imperfect Tense</b> ( <i>Past, ongoing actions, descriptions, 'used to' or 'was doing'</i> )	<b>-ar</b> -aba, -abas, -aba, -ábamos, -abais, -aban <b>-er and -ir</b> -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 COMPUTER SCIENCE Term 5 – Digital Literacy

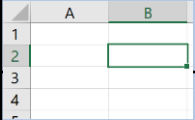
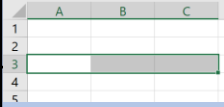
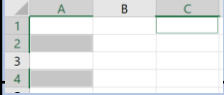
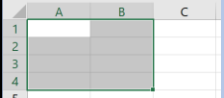
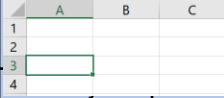
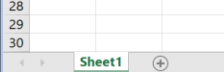





A	Passwords and Shortcuts	B	Excel Cell References	D	Excel Absolute Cell References
A feature of a strong password has...		What is the cell reference for the following...			
1	<b>10 to 15 characters</b>			<b>B2</b>	
2	<b>Special characters</b>				
3	<b>Upper- and lower-case letters</b>			<b>A3:C3</b>	
4	<b>Numbers</b>				
5	<b>NO patterns or sequences</b>			<b>A2,A4,C1</b>	
6	<b>Only been used for one website/account</b>				
7	<b>NO obvious letter substitutions (for example, 'E' replaced by 3)</b>			<b>A1:B4</b>	
8	<b>NO personal information</b>				
9	<b>To be memorable</b>				
What do the following shortcuts do?					
<b>Ctrl-C</b>	<b>Copy</b>	<b>C</b> <b>Excel Formulae</b>			
<b>Ctrl-V</b>	<b>Paste</b>	What is the Excel formula for...			
<b>Ctrl-X</b>	<b>Cut</b>			Adding cells B1 and C2 <b>=B1+C2</b>	
<b>Ctrl-Z</b>	<b>Undo</b>			Subtracting cell A1 from cell A3 <b>=A3-A1</b>	
<b>Ctrl-A</b>	<b>Select all</b>	Finding the mean of cells: A1, A2, A3, B1, B2 and B3 <b>=AVERAGE(A1: B3)</b>		Multiplying cells B3 and C1 <b>=B3*C1</b>	
<b>Ctrl-S</b>	<b>Save</b>	Finding the maximum of cells: A1, A2, A3, B1, B2, B3, C1, C2 and C3 <b>=MAX(A1:C3)</b>		Dividing cell A2 by cell B2 <b>=A2*B2</b>	
<b>F2</b>	<b>Rename (file/folder)</b>	Finding the product of cells: A1, A2, A3, C1, C2 and C3 <b>=PRODUCT(A1: A3,C1:C3)</b>		Raising A1 to the power of 7 <b>=A1^7</b>	
<b>Ctrl-Shift-N</b>	<b>Create a new folder</b>				
<b>Ctrl-P</b>	<b>Print</b>				
<b>Ctrl-B</b>	<b>Bold text</b>				
<b>Ctrl-U</b>	<b>Underline text</b>				
Why are absolute cell references used?		<b>To stop a cell reference from being modified automatically</b>			
What is the absolute cell reference for the following		<b>=\$A\$3</b>			
How do you duplicate an existing sheet?		 <ol style="list-style-type: none"> <li>1. Right click the sheet we want to copy.</li> <li>2. Select 'move or copy'.</li> <li>3. Select 'create a copy'.</li> <li>4. Choose where you want the copy to be placed.</li> <li>5. Press 'OK'.</li> </ol>			
How do you reference a cell in a different sheet		<b>=Sheet Name!Cell Reference</b>  <b>For example, cell H3 in Sheet5 Would be referenced as</b>  <b>=Sheet5!H3</b>			
<b>E</b> <b>Excel Tools</b>		What do the following buttons in Excel do?			
		 <b>Accounting Number Format (format the cell in a currency, £, \$, and so on)</b>			
		 <b>Bold (make text bold)</b>			
		 <b>Fill Colour (change the colour of selected cells)</b>			
		 <b>Borders (put an outline around selected cells)</b>			
		 <b>Merge &amp; Center (combine multiple cells into one)</b>			
		 <b>Wrap Text (make the selected text fit in one cell)</b>			

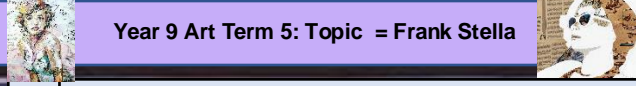


# Year 9 COMPUTER SCIENCE Term 5 – Digital Literacy



A	B	D																
<b>Passwords and Shortcuts</b>	<b>Excel Cell References</b>	<b>Excel Absolute Cell References</b>																
A feature of a strong password has...	What is the cell reference for the following...	Why are absolute cell references used?																
1	   	What is the absolute cell reference for the following																
2		 an existing sheet?																
3			 Sheet1															
4				How do you reference a cell in a different sheet														
5					<b>E</b> <b>Excel Tools</b>													
6		What do the following buttons in Excel do?																
7																		
8																		
9																		
What do the following shortcuts do?	<b>Excel Formulae</b>																	
Ctrl-C	What is the Excel formula for...																	
Ctrl-V	<table border="1" style="display: inline-table; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2.3</td> <td>5.7</td> <td>1.1</td> </tr> <tr> <td>2</td> <td>4.01</td> <td>6.3</td> <td>8.73</td> </tr> <tr> <td>3</td> <td>-5</td> <td>0.004</td> <td>12.7</td> </tr> </tbody> </table>		A	B	C	1	2.3	5.7	1.1	2	4.01	6.3	8.73	3	-5	0.004	12.7	Adding cells B1 and C2
	A	B	C															
1	2.3	5.7	1.1															
2	4.01	6.3	8.73															
3	-5	0.004	12.7															
Ctrl-X		Subtracting cell A1 from cell A3																
Ctrl-Z	Finding the mean of cells: A1, A2, A3, B1, B2 and B3	Multiplying cells B3 and C1																
Ctrl-A	Finding the maximum of cells: A1, A2, A3, B1, B2, B3, C1, C2 and C3	Dividing cell A2 by cell B2																
Ctrl-S	Finding the product of cells: A1, A2, A3, C1, C2 and C3	Raising A1 to the power of 7																
F2																		
Ctrl-Shift-N																		
Ctrl-P																		
Ctrl-B																		
Ctrl-U																		





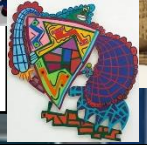
**What we are learning this term:**

- Cubism
- Frank Stella
- Segments and Templates
- Relief Sculpture
- Clay, Score & Slip



**B Answer the questions about Frank Stella**

- What type of sculptures does Frank make? Relief Sculptures
- What materials does he use? Frank uses a range of metal and Cardboard to create skeleton of the sculpture
- How big are his sculptures? His sculptures can fill a whole room and usually fill up a whole wall.



**C. Segments & Templates- Looking at the image below, what describing words could you use to describe this artwork by Frank Stella. Use your formal elements to guide you.**

1. Organic, natural, colourful, curvy, bright, bold, pattern, skewed, misshaped, mixed, disconnected, random, thought provoking

**A. Cubism- List 3 facts about Cubism.** What does it look like? Who created it? What different types of cubism are there?

- Cubism can be described as angular and a smashed mirror effect
- Cubism was created by Georges Braque and Pablo Picasso in 1907
- There are two types of Cubism; Analytical and Synthetic. Analytical is sharp and dull colours, Synthetic is bright and organic

Using the grid method technique, draw this Frank Stella image into 'Your response' box.



Example

Your response

**D This is a relief sculpture; how has it been made and what materials have been used?**



To create a relief sculpture you will need Cardboard or a strong yet easily cut material. Start by having an image to create from. The image on the left has been created by many layers of cut Cardboard. As more layers are added they create a 3-dimensional illusion.

**Write a step by step guide to making a cardboard template for relief sculpture**

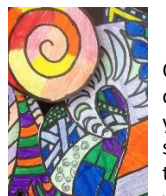
Firstly cut out individual sections and shapes from your chosen image. use scissors



Lay your section that you have cut out onto Cardboard and glue it down. Using a sharp pair of scissors cut this out of Cardboard staying very close to the edge



Once you have cut out all of your shapes and sections from the Cardboard you can arrange them and layer them onto



Finally seal all of your relief sculpture together with PVA glue .this will help to secure it, give it extra



**E Write a step- by- step guide to slab method & score and slip.**

**Slab**



Firstly, start off by having your wooden board your wooden slats and your rolling pin With your ball of clay in the middle. Make sure the slats are the same thickness. Start off by gently rolling out your ball of clay in a rectangle, lifting up the clay every so often to rotate it so that you create a square. The slats will prevent the Play from going too thin. The rolling pin should now be rested on the slats as you roll, therefore the clay cannot go any thinner.

**Score& Slip**



Score and slip enables you to join 2 pieces of clay together. The scoring on each side of the clay will create a rough surface for attachment. The slip is watered down clay to create a paste. Using the slip like glue, add

	Keywords
Abstract	Abstract art is art that does not attempt to represent an accurate depiction of a visual reality but instead use shapes, colours, forms and gestural marks to achieve its effect
Geometric	Is something associated with geometry, or the use of straight lines and shapes. An example of geometric is an art piece made from rectangles, squares and circles
Sculpture	The art of processing by carving, modeling with plastic or hard materials into works of art. A three-dimensional work of art such as a statue
Formal Elements	are line, shape, form, tone, texture, pattern, colour and composition
Ines Kouidis	A collage artist who collages famous people
Collage	A piece of art made by sticking various materials such as photographs and pieces of paper or fabric on to a backing.



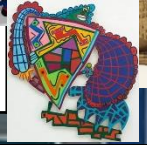
**What we are learning this term:**

- A. Cubism
- B. Frank Stella
- C. Segments and Templates
- D. Relief Sculpture
- E. Clay, Score & Slip



**B Answer the questions about Frank Stella**

- 1. What type of sculptures does Frank make?.....
- 2. What materials does he use?.....
- 3. How big are his sculptures?.....



**C. Segments & Templates- Looking at the image below, what describing words could you use to describe this artwork by Frank Stella. Use your formal elements to guide you.**

- 1. ....
- 2. ....
- 3. ....

**A. Cubism- List 3 facts about Cubism.** What does it look like? Who created it? What different types of cubism are there?

- 1.
- 2.
- 3.

Using the grid method technique, draw this Frank Stella image into 'Your response' box.



Example

Your response

**D This is a relief sculpture; how has it been made and what materials have been used?**



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**Write a step by step guide to making a cardboard template for relief sculpture**



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**E Write a step-by-step guide to slab method & score and slip.**

**Slab**



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**Score & Slip**



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	Keywords
Abstract	
Geometric	
Sculpture	
Formal Elements	
Ines Kouidis	
Collage	



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

B. Materials	
<b>Timbers</b> come from trees	
	<p><b>Scots pine</b> – which you used for your box walls – is a <b>softwood</b></p> <p><b>Softwoods</b> come in planks and boards</p>
<b>Manufactured Boards</b> come from <b>wood pulp</b>	
	<p><b>Plywood</b> – which you used as your base and Lid– is a <b>manufactured board</b></p> <p><b>Manufactured Boards</b> come in sheets</p>

<b>Polymers</b> come from <b>crude oil</b>	
	<p><b>Acrylic</b> – which you used as your lid decoration for your trinket box – is a <b>polymer</b></p> <p><b>Polymers</b> come in sheets, graduals and filament</p>

C. Key concepts	
Designers research and investigate resources and materials to help inspire ideas.	
<b>Computer-aided design (CAD)</b> is the process of using <b>computer software</b> to create <b>2D or 3D designs</b> .	
Advantages	Disadvantages
Designs can be <b>created, saved and edited</b> quickly, saving time	CAD takes a <b>long time to learn</b>
Designs or parts of design can be easily viewed from <b>different angles, copied or repeated</b>	Software can be <b>very expensive</b>
CAD is <b>very accurate</b>	CAD files can become <b>corrupted or lost</b>
<p><b>Hazards</b> – these are something that could potentially harm you. There are many such as:</p> <ul style="list-style-type: none"> <li>• Bags and chairs acting as a trip hazard</li> <li>• Untucked shirts, baggy clothes and untied hair are common things to get caught on tools and machines.</li> <li>• Drinks and liquids, if spilled can become slip hazards</li> </ul>	
<p><b>Preventative measures</b> – rules put in place to minimize the likelihood of a hazard occurring.</p> <ul style="list-style-type: none"> <li>• No food and drink in workshops</li> <li>• Bags and chairs stored neatly in designated areas</li> <li>• Long hair must be tied up and correct uniform worn.</li> </ul>	
<p><b>Personal protective equipment (PPE)</b></p> <p>The three used most often are aprons, safety goggles and ear defenders.</p>	

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

D. Evaluation of Products	
<b>Evaluate</b>	To judge and give an opinion.
<p>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.</p> <p><b>When writing an evaluation it is important to include the following three things:</b></p> <ol style="list-style-type: none"> <li>1. Positives – what works well</li> <li>2. Negatives – what doesn't work well</li> <li>3. Possible improvements – how could you make it better?</li> </ol> <p><b>For example:</b></p> <p>My trinket box is well constructed and uses bright colours to look appealing. However, under closer inspection, the paint is messy and overlaps in some places. One improvement I could make is by applying the paint with a smaller brush so that it is easier to control and will make it look neater.</p>	



# 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**

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**B. Materials**

**Timbers** come from \_\_\_\_\_

	<p><b>Scots pine</b> – which you used for your box walls – is a <b>softwood</b></p> <p><b>Softwoods</b> come in _____</p>
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**Manufactured Boards** come \_\_\_\_\_

	<p><b>Plywood</b> – which you used as your base and Lid– is a <b>manufactured board</b></p> <p><b>Manufactured Boards</b> come in _____</p>
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**Polymers** come from \_\_\_\_\_

	<p><b>Acrylic</b> – which you used as your lid decoration for your trinket box – is a <b>polymer</b></p> <p><b>Polymers</b> come in _____</p>
--	---

**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 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**C. Key Words**

<p><b>Prototype</b> </p>	
<p><b>Tolerance</b> </p>	
<p><b>Depth stop</b> </p>	
<p><b>Assemble</b> </p>	

**E. Evaluation of Products**

Evaluate \_\_\_\_\_

**Think back to your completed Trinket box. Evaluate one positive aspect of it, one negative aspect of it and an improvement you would like to have made if you had time.**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Possible sentence starters:**

- One thing that was successful.....
- One thing that I had issues with was.....
- If I had more time, I could improve this by.....

## 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              | 4 Healthy             |
| 2 Dietary Requirements | 5 Teenager            |
| 3 Skills Test          | 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 portions 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.

**FOOD SAFETY CHOPPING BOARDS**  
If used correctly, colour coded chopping boards can eliminate or reduce the risk of cross contamination during food preparation

- RAW MEAT
- RAW FISH
- COOKED MEATS
- SALAD & FRUIT PRODUCTS
- VEGETABLE PRODUCTS
- BAKERY & DAIRY PRODUCTS

**!** Clean and store chopping boards correctly after use



### 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 is 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
  - 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              | 4 Healthy             |
| 2 Dietary Requirements | 5 Teenager            |
| 3 Skills Test          | 6 Cross Contamination |

**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	

**FOOD SAFETY CHOPPING BOARDS**  
 If used correctly, colour coded chopping boards can eliminate or reduce the risk of cross contamination during food preparation

- 
- 
- 
- 
- 
- BAKERY & DAIRY PRODUCTS

**!** Clean and store chopping boards correctly after use



**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?**

<u>Rule</u>	<u>Why it is important</u>
• 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 GRAPHIC COMMUNICATION

## What are we learning this term?

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

Ctrl + C

What is the shortcut for paste?

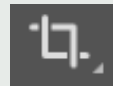
Ctrl + V

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

## D | Key words

Merchandise	
Combined Logo	
Photoshop	
Photo Editing	

## 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?



## E | Evaluation

Evaluation: To judge or give an opinion

**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?

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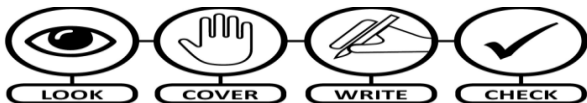
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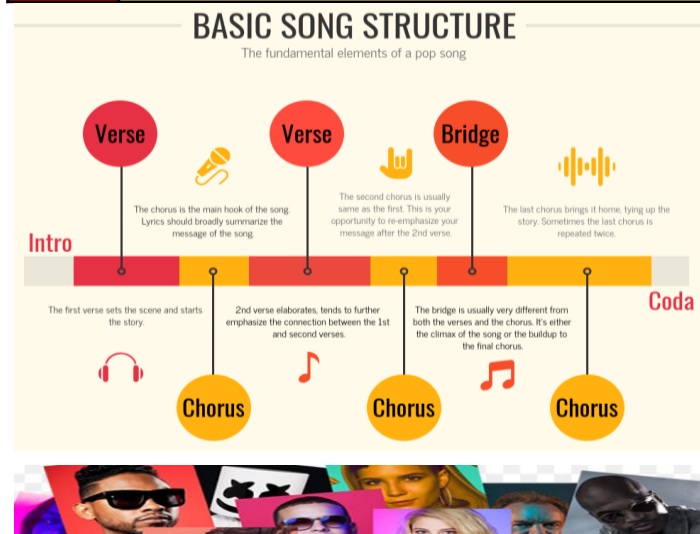


A	What we are learning about this term...
1	Basic Song Structure
2	How to write a perfect Evaluation
3	Playing an instrument / Chords / Melody
4	What are the music symbols – Note values
5	Keywords
6	How to read music - Treble clef and bass clef



B	Keywords
Instrumental Break	An <b>instrument section</b> during a song – no singing
Lyrics	The <b>words</b> of a song
Verse	A section of a song <b>telling the story</b> , followed by a chorus
Chorus	<b>Repeated idea</b> within a song, lyrics and music usually remain the same
Bridge / Middle 8	<b>Passage of music</b> that contrasts the <b>verse and chorus</b>
Outro / Coda	<b>Passage of music</b> that <b>brings the song to an end</b>
Album	A collection of <b>audio recordings</b>
Arrangement	<b>A rework of a musical composition</b> so that it can be played by different combinations of instruments
Genre	A <b>style</b> or category of <b>art, music, or literature</b>
Cover Song	<b>A performance of a song</b> by someone other than the original artist/band.

**C Instruments in popular music**



**D How to write a perfect Evaluation?**

1	Write a full sentence explaining what your musical performance or music composition was about
2	Explain what you were trying to communicate to an audience and how you did it
3	Pick out at least two moments that worked really well, using specific examples and say what you did that made them successful
4	Pick out one moment that you could make better. Explain why it needed improving and how you would make it better if you did your performance again
5	Sum up your evaluation and discuss one thing that you will take forward into your next work

**E Basic Note Values - Recap**

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	

**F How to read music – treble clef and Bass Clef**

**TREBLE LINES: E G B D F**      **TREBLE SPACES: F A C E**

**BASS LINES: G B D F A**      **BASS SPACES: A C E G**

**G Describing music – MAD T SHIRT**

M	A	D	T	S	H	I	R	T
<b>Melody</b>	<b>Articulation</b>	<b>Dynamics</b>	<b>Texture</b>	<b>Structure</b>	<b>Harmony/Tonality</b>	<b>Instruments</b>	<b>Rhythm</b>	<b>Tempo</b>
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



## 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.

## 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 your 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.

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



# Drama – Year 9 Improvisation

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Links to Comp 1 and 2

Spontaneous improvisation-

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S\_\_\_\_\_

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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-

- **Improvisational Theater (improv):** is a form of theater where most or all of what is performed is created at the moment it is performed.
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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?**



# SWINDON ACADEMY READING CANON

## Year 7



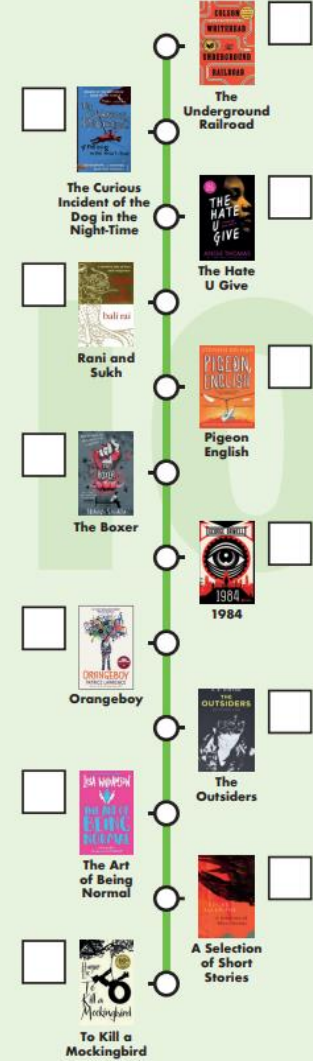
## Year 8



## Year 9



## Year 10



#ReadingisPower