



# Trinity Academy Grammar

Year 9 (R)  
Knowledge Organiser  
Term 4

*Your subjects are in alphabetical order.*

## 1 – Greek Tragedy

All Greek tragedies must end with the downfall of the tragic hero (the protagonist). The tragic hero must always have a tragic flaw, which brings out their downfall, ending the performance in a catastrophe

### Key Vocabulary

**Tragedy** – a drama which depicts the downfall of a good person (protagonist) through some fatal error or misjudgement

**Protagonist** – the hero of the story

**Antagonist** – the villain of the story

**Tragic Hero (protagonist)** – must be at the center of the tragedy, they must be a high ranking character and accept their downfall with dignity

**Tragic flaw** - error in judgement; weakness; brings about the hero's downfall

## 2 – Greek Chorus

- A typical Greek chorus consisted of a group of 12 to 50 players who spoke or sang their lines in unison, wore masks, and functioned as one actor rather than a large group of individual performers
- The purpose of the Greek chorus was to provide background and summary information to the audience to help them understand what was going on in the performance
- They commented on themes, expressed what the main characters couldn't say (like secrets, thoughts, and fears) and provided other characters with information and insights
- Because Amphitheaters theatres were so large, the members of the chorus had to work hard to look and sound like one person

## 3 – Characterisation Skills

### Key Vocabulary

**Non Verbal Communication (NVC)** - the way we use our bodies to communicate our character to the audience

**facial expression:** the appearance, mood or feeling conveyed by a person's face

**posture:** the position a character holds themselves in when sitting or standing

**gesture:** a movement made by part of the body (e.g. arms, head) to convey a character's emotions

**gait:** a person's manner of walking

## 4 – Evaluation

### Evaluate your performance:

- Describe how you have used a range of performance skills and techniques in your performance.  
*In my performance I have used the skill/s of...  
I chose to use these skills because...*
- Identify one strength of your performance and give a reason why.  
*One strength of my performance was... because...*
- Identify one area for improvement in your performance and give a reason why.  
*I would like to improve my use of... because ...  
I will do this in my next performance by...*

## English

## Shakespearean Tragedy

## Year 9

## Term 4

### 1 – Terminology

#### 2 – Vocabulary

**dramatic irony:** when the audience knows something the characters do not

**blank verse:** non-rhyming poetry

**prose:** non-poetic writing e.g. a storybook

**machiavellian:** someone who is manipulative and always wants their own way

**conspiratorial:** a secret plan to do something bad (immoral), illegal, or against someone's wishes

**exploit:** to use someone or take advantage of them for one's own benefit

**downfall:** when a character dies or fails usually because of their fatal flaw (hamartia)

**hubris:** when a character is too confident

**peripeteia:** when a character's luck changes

**soliloquy:** a long speech made only to the audience

**catharsis:** a release of emotions at the end of a tragedy

**verbs:** action words (*run, work, study, sing, laugh, etc.*)  
e.g. *The boy began to laugh*

**nouns:** words used to identify things (*book, table, chair, etc.*)  
e.g. *The lady sat in her garden*

**adjectives:** describing words (*bright, kind, expensive, etc.*)  
e.g. *The children were kind to each other*

**adverbs:** words to describe an action (*quickly, quietly, etc.*)  
e.g. *The girl ran quickly for the bus*

**prepositions:** a word that connects a noun to another word (*after, down, near, of, to, etc.*)  
e.g. *The family sat in the living room after dinner*

**pronouns:** a word that replaces a noun (*I, me, you, we, etc.*)  
e.g. *I went to the park*

### 4 – Characterisation

When writing creatively, you must try to **show** rather than tell your readers what you are writing about through detailed description

**telling the reader:** *the boy was disappointed with the news*

**showing the reader:** *a single tear rolled down the boy's cheek as he clutched the letter*

**microcosm:** something small that represents something larger e.g one character representing a social class/a sector of society

**antithesis:** a person or thing that is the direct opposite of someone or something else.

**construct:** a character being used deliberately to present a particular idea

### 5 – Structure

**in medias res:** where a text begins in the middle of the action

**exposition:** the opening - setting the scene and introducing characters

**rising action:** prompted by a key trigger, circumstances begin to build and the plot becomes more complex

**climax:** the highest point of tension and drama in a plot

**falling action:** resolutions begin to emerge and plot twists are revealed and wrapped up

**resolution:** the part of the story where everything is resolved

**denouement:** the ending and final outcome of the drama

### 3 – Word Class

1 – School Vocabulary

2 – Education Systems

3 – Near Future Tense

<b>Around School:</b>	building	languages
le bâtiment	noise	maths
le bruit	book	science
le cahier	corridor	
le couloir	lesson	
le cours	subject	
le sujet	subject	
la matière	break	
la récré	detention	
la retenue	homework	
les devoirs (m)		

**Adjectiv**

**aller** (in the present tense) + **inf.**

<b>Adjectives:</b>	
court/ <b>e</b>	short
difficile	difficult
facile	easy
injuste	unfair
juste	fair
<b>long/ue</b>	long
sévère	strict
plus	more
moins	less
assez	quite
très	very
le baccalauréat	A levels
le collège	high school
l'enseignement	education
le lycée	sixth form
le règlement	rules
le trajet	journey
<b>l'intimidation</b>	bullying
<b>l'université</b>	university
les élèves (f)	students
les examens (m)	exams
les notes (f)	grades
les profs (m/f)	teachers
les vacances (f)	holidays
	year 9
quatrième	

4 – Jobs Vocabulary

avocate	lawyer	l'apprentissage	apprenticeship
coiffeur/euse	hairdresser	l'argent	money
infirmier/ière	nurse	le boulot	job
ingénieur/e	engineer	l'employé	employee
journaliste	journalist	le patron	boss
maçon	builder	part-time job	part-time job
médecin	doctor	work/job	work/job
policier/ière	police officer	business	business
professeur	teacher	training	training
secrétaire	secretary	to become	to become
serveur/euse	waiter	gagner	to earn
soldat	soldier	travailler	to work
vétérinaire	vet		
vendeur/euse	salesperson		
je voudrais	I would like	être	to be
I aimerais	I would like	préférerais	I would prefer

5 – Justifying Opinions

ce sera	it will be	bien payé	well-paid
ce serait	it would be	créatif/ <i>ive</i>	creative
je suis	I am	curieux/ <i>euse</i>	curious
assez	quite	désorganisé/ <i>e</i>	unorganised
beaucoup	a lot	difficile	difficult
tellement	really	ennuyeux/ <i>euse</i>	boring
rès	very	énervant( <i>e</i> )	annoying
rop	too	facile	easy
un peu	a bit	fatigant( <i>e</i> )	tiring
vraiment	really	mal payé	badly-paid
		organisé/ <i>e</i>	organised
		pénible	annoying
		serviable	helpful
		travailleur/ <i>euse</i>	hardworking
in my opinion			
a mon avis	in my opinion		
selon moi	in my opinion		
quant à moi	in my opinion		
je pense que	I think that		
je le trouve	I find it		

6 - Si Clauses

**6 – Si Clauses**

We can use a **si clause** to talk about what might happen in the future. The structure is:

**si + present + future**      (if + present + future)

This is used for events that are *likely* to occur. It is what **will happen**, if a certain condition **is met**. e.g.

**Si j'ai** des bonnes notes, **j'irai** à l'université  
**If I get** good grades, **I will go** to university

**Si elle révise** beaucoup, **elle réussira** ses examens  
**If she revises** a lot, **she will pass** her exams

**Si je travaille** dur, **je deviendrai** avocat  
**If I work hard, I will become** a lawyer

# Geography

## Term 4

### Year 9

#### 1 – What is Extreme Weather?

##### Key Vocabulary

**extreme:** is where something is **greater** than the usual  
**abnormal:** where something is **different** than normal

##### Key Vocabulary

**flood:** when the amount of water in a river exceeds the total channel capacity

#### 2 – Flooding in Calderdale

##### Key Vocabulary

**cause:** is something which starts an event  
**prolonged:** is something that lasts longer than it should

- Extreme weather is weather events that threaten the **economic** and **social** lives of humans and impacts the **environment**

- Examples of extreme weather are: Extreme heat (heatwaves), extreme cold, flash flooding, droughts, strong winds and snow storms
- Extreme weather is being made more frequent because of climate change

- The River Calder starts near Burnley and finishes at the North Sea
- Flooding of the River Calder is caused by heavy rainfall, saturated ground and deforestation

- The River Calder burst its banks and flooded the towns of Hebden Bridge and Sowerby Bridge
- 80% of businesses were forced to close
- UK Government spent £30m on new defences

- The 2019-2020 Australian Bushfire season was called the **Black Summer**
- The Bushfire season peaks in December and January in Australia

- The causes of the Bushfires were exceptionally dry soils and a prolonged drought
- \$103 Billion damage to Australia. 34 Deaths. 3,500 homes were lost in the fires

#### 4 – The Development Gap

##### Key Vocabulary

**development gap:** the difference between the world's richest and poorest countries

##### Key Vocabulary

**demographic:** the types of people in a place

- The demographic transition model shows the change in the population of a country as it develops
- In places like the Amazon (Brazil) (stage 1), birth rate and death rate is high because they do not have access to healthcare

#### 5 – Demographic Transition Model

##### Key Vocabulary

**Uneven development:** the difference rates of development in a country

##### Key Vocabulary

- Social indicators of development include literacy rate, life expectancy, birth rate and death rate
- The economic indicator of wealth is the GNI (Gross National Income). This is the amount of money a country earns
- The HDI (Human Development Index) is considered the best measure of development because it looks at health, wealth and education, not just wealth

#### 3 – Bushfires in Australia

##### Key Vocabulary

**cause:** is something which starts an event  
**prolonged:** is something that lasts longer than it should

- Physical causes include extreme weather, disease, being landlocked (surrounded by land). We can not control these
- Economic causes include trade. HICs take advantage of LICs and offer them less money when trading, and then sell it for a higher profit
- Historical causes include colonialism and war
- Counties were damaged and had to pay to be rebuilt

#### 6 – Uneven Development

##### Key Vocabulary

- In Places like Nigeria, Jamaica and Brazil (stage 3), there is better healthcare so less people die
- In places like Germany, healthcare is so good that people live a long time, meaning death rate is lower

# Early-Modern History

Term 4

Year 9

The Holocaust

## 1 – The Final Solution

### Key Vocabulary

**Final solution** – the decision to systematically murder the Jewish population of Europe

- The final solution was planned at the Wannsee Conference on 20th January 1942 in Berlin
- Prior to this, mass murder was carried out by the Einsatzgruppen - these were firing squads who operated in Eastern Europe
- The first purpose-built death camp was Chelmno.
- Gas vans were used here
- Some concentration camps would use Jewish people as free labour, and had a policy of extermination through work

## 2 – Resistance

### Key Vocabulary

**Resistance:** the movement of Jewish children

- Kindertransport:** the movement of Jewish children out of German occupied lands
- Resistance to the Nazi regime was done both overtly, and covertly
  - Punishment for resisting the Nazi regime was often death for those who resisted in the camps
  - Jewish partisans formed resistance groups that fought the Nazis in events like the Warsaw Uprising
  - Some forms of resistance were more covert, like continuing to pray whilst in the ghettos and concentration camps

## 3 – Britain's Role

### Key Vocabulary

**Resistance:** the fear or hatred of Jews

- Resistance to the Nazi regime was done both overtly, and covertly
- Reports from the British media showed that the British government were aware of what was happening to the Jewish population in Europe
- The British government did not investigate the reports of the death camps, and ignored cries for help
- British individuals did offer help at the start of the war e.g. Kindertransport organised the removal of Jewish children from German occupied areas

## 4 – Liberation

### Key Vocabulary

**liberate:** to free someone/something

- As the Russians came from the East, prisoners were walked hundreds of miles back towards Germany. During these 'death marches' hundreds of thousands died
- In January 1945, Auschwitz-Birkenau was liberated. Only a few thousand of the 1.2 to 1.5 million prisoners were left
- In April 1945, Bergen-Belsen was liberated. Most prisoners' bodies were too ill starved to digest the food given to them by their liberators

## 5 – Who was Responsible?

### Key Vocabulary

**perpetrator:** someone who carried out the act

- collaborator:** someone who helped to carry out an event
- bystander:** someone who stands by and watches things happen
- resister:** someone who tries to stop something happening

- however, since the Holocaust there have been around 18 other instances of genocide
- examples are Bosnia, Rwanda, Cambodia and Darfur
- an estimated 800,000 people were killed in the Rwandan genocide of 1994

## 6 – The end of Genocide?

### Key Vocabulary

**genocide:** the deliberate killing of an ethnic group

- after the horrors of the Holocaust, people thought that the world would never allow another genocide to take place
- however, since the Holocaust there have been around 18 other instances of genocide
- examples are Bosnia, Rwanda, Cambodia and Darfur
- an estimated 800,000 people were killed in the Rwandan genocide of 1994

## Literacy – R Band

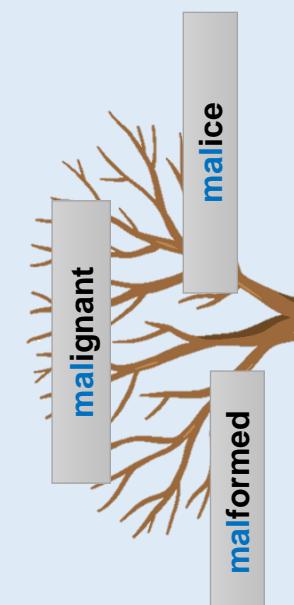
## Prefixes and Suffixes

Term 4

Year 9

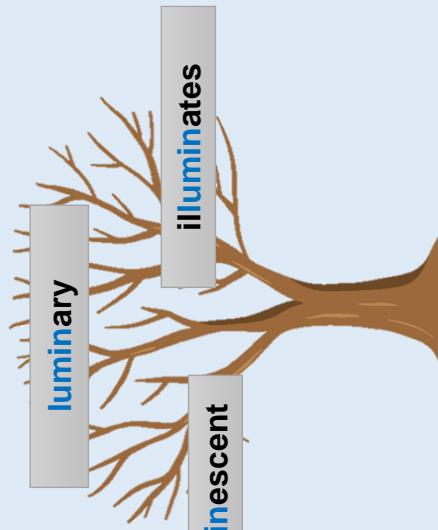
Week 1 – ‘mal-’

'mal-' means 'bad'



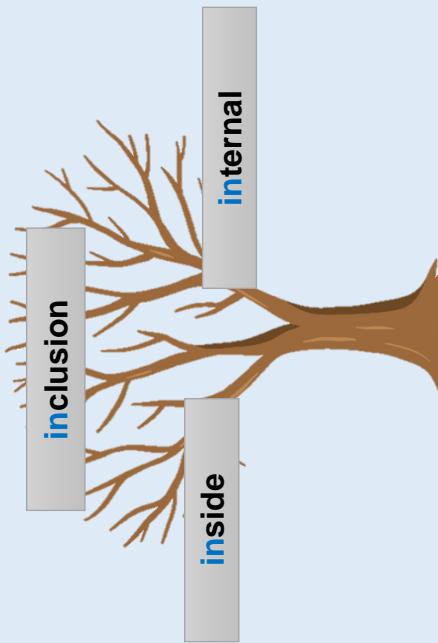
## Week 2 – ‘lumin-’

'lumin-' links with the idea of 'light/glow'



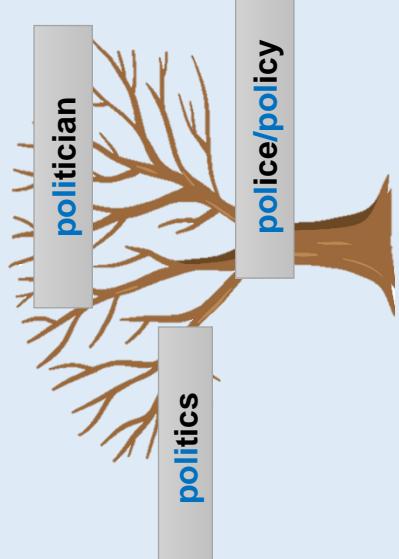
## Week 3 – ‘in-’

'in' means to 'within'



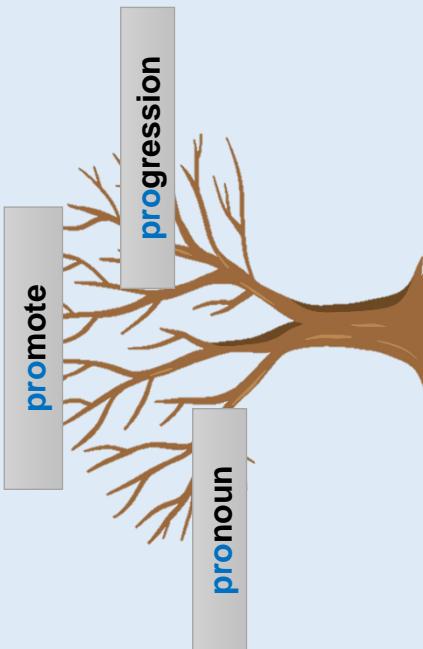
## Week 4: ‘poli’

'poli' links with 'society/people'



## Week 5: ‘pro’

'pro' means 'forward or self'. Look at the context of the word to decide which



## Week 6: ‘-ex’

'ex' links with the idea of 'outside'



# Mathematics

## Year 9

## Term 4

Those topics highlighted in yellow also appear in Science, Geography or Technology

### 1 – Financial Maths

#### 2 – Angle Facts

##### Key Vocabulary

**credit:** money going into a bank account



**debit:** money going out of a bank account



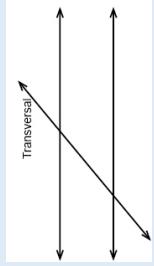
**profit:** make money



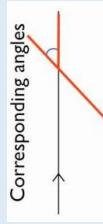
**loss:** losing money



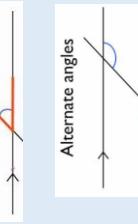
**parallel lines:** lines that always stay the same distance apart



**transversal:** a line that cuts through parallel lines

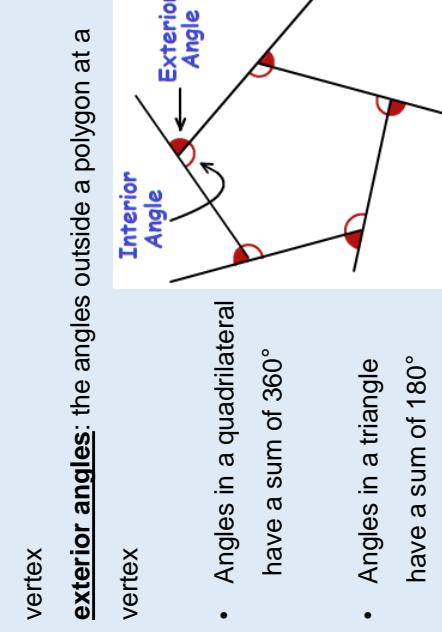


**corresponding angles:** angles of equal size and are on the same side of the transversal



**alternate angles:** angles of equal size and are on different sides of the transversal, and the parallel lines

**interior angles:** the angles inside a polygon at a vertex



**exterior angles:** the angles outside a polygon at a vertex

### 5 – Translation

##### Key Vocabulary

**rotation:** an object is turned

**centre of rotation:** the point that a shape is rotated around

**clockwise:** the direction the hands of a clock turn

**anti clockwise:** the opposite direction of clockwise

**translate:** to move or slide a shape

**vectors:** are used to describe the movement of a translation

**1 × 12 = 12**

**2 × 12 = 24**

**3 × 12 = 36**

**4 × 12 = 48**

**5 × 12 = 60**

**6 × 12 = 72**

**7 × 12 = 84**

**8 × 12 = 96**

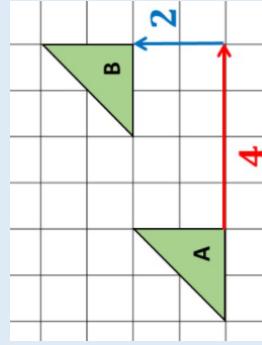
**9 × 12 = 108**

**10 × 12 = 120**

**11 × 12 = 132**

**12 × 12 = 144**

### 6 – 12 Times Table



### 4 – Rotation

**1 × 12 = 12**

**2 × 12 = 24**

**3 × 12 = 36**

**4 × 12 = 48**

**5 × 12 = 60**

**6 × 12 = 72**

**7 × 12 = 84**

**8 × 12 = 96**

**9 × 12 = 108**

**10 × 12 = 120**

**11 × 12 = 132**

**12 × 12 = 144**

### 3 – Angles in Polygons

## 1 – The Elements

### Key Vocabulary

**Dynamics:** the term used for the volume

**Rhythm:** a group of different note lengths

**Texture:** the different layers of sound

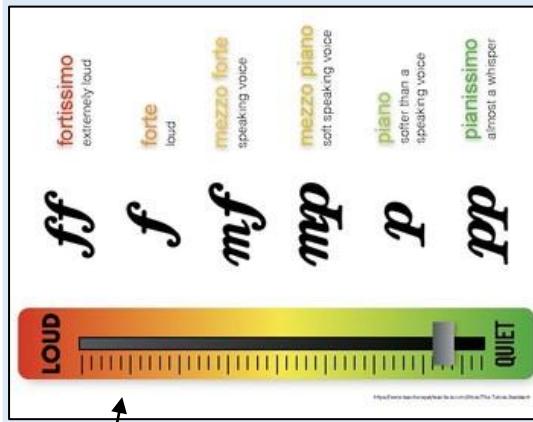
**Structure:** how music is put together

**Melody:** the main tune

**Instrumentation:** the instruments used

**Tempo:** the speed

**Harmony:** several notes played together



## 2 – Reggae Music

### Key Vocabulary

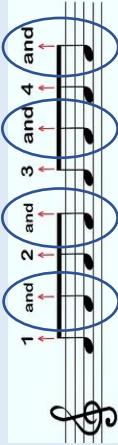
**Reggae:** Music originated in Jamaica in the 1960s, and quickly became the country's leading music genre

**Genre:** a style of music

**Syncopation:** a disturbance or interruption of the regular flow of rhythm

**Chord:** two or more notes played at the same time

**Off-Beat:** playing notes or chords on 'and' beats of the bar, rather than on the numbered beats



## 3 – Cover Songs

### Key Vocabulary

**Cover Song:** a version of an original song that has been changed or rearranged in a different way

**Lyrics:** the words in a song

**Backline:** the line up of instruments that you would find on stage or in the studio, such as a drum kit, bass guitar, electric guitar and piano

**Live Lounge:** a Radio 1 studio that is available for artists to record cover songs and experiment with different sounds in

## 4 – Changing the 'Feel' of Music

### Key Vocabulary

**Feel:** the way the music sounds when the backbeat is moved around

**Backbeat:** the beat that is emphasised by the snare drum

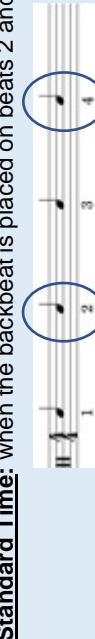
**Half Time:** when the backbeat is placed on beat 3 of the bar

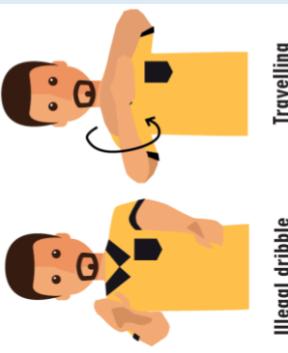


**Double Time:** when the backbeat is placed on beats 1, 2, 3 and 4 of the bar



**Standard Time:** when the backbeat is placed on beats 2 and 4 of the bar



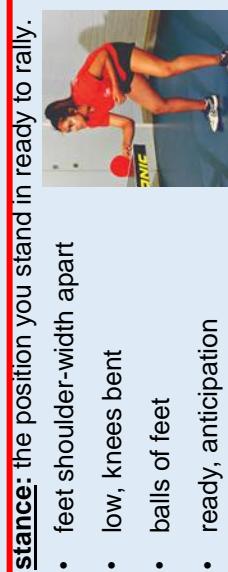
PE	Handball	Year 9	Term 4
1 – Dribbling	2 – Passing & Receiving	3 – Shooting	
<b>Key Vocabulary</b> <u>co-ordination</u> : the ability to use two or more body parts at the same time <u>agility</u> : the ability to change direction quickly	<b>Key Vocabulary</b> <u>Power</u> :	<b>Key Vocabulary</b> <u>feint</u> : a pretend movement to trick the defender	
Referee hand signals Illegal dribbling- wave of the hands up, down Travelling- rotating arms in a circular motion	 <b>Illegal dribble</b>	 <b>Components of fitness required:</b> - Power - Co-ordination - Speed	
4 – Defending	5 – Attacking Phase of Play	6 – Defensive Phase of Play	
<b>Key Vocabulary</b> <u>inside defender</u> : defensive position located in front of the goal, outside of the crease <u>outside defender</u> : defensive position located in the corners of the court	<b>Key Vocabulary</b> <u>overload</u> : to have a numerical advantage over the opponents <u>counter-attack</u> : a fast and direct attack that occurs from a moment of transition	<b>Key Vocabulary</b> <u>compact</u> : being tight and together leaving no gaps <u>formations used to defend</u> :	

## 1 – Set up, Grip, Stance and Rally

### Key Vocabulary

**reaction time:** the length of time a person takes to respond

Having the wrong stance to lead to slower reaction times.



## 2 – Backhand

### Key Vocabulary

Adding spin to the shot:

**top spin:** hitting back and upper part of the ball, causing it to move faster through the air

**stance:** the position you stand in ready to rally.

- feet shoulder-width apart
- low, knees bent
- balls of feet
- ready, anticipation

- backspin:** hitting the back and underneath of the ball, causing the ball to slow down and not reach your opponent as quick
- sidespin:** hitting around the side of the ball, causing deception and altered flight pathway.

## 3 – Serve

### Key Vocabulary

#### backhand serve:

- stand with knees slightly bent
- slightly side on to the table (to allow for backswing)
- as the ball drops strike the ball with the bat angled towards the table

#### forehand serve:

- face sideways with shoulder pointing towards target
- as the ball drops strike the ball with the bat angled towards the table
- finish with bat pointed towards opponent

## Term 4

## 4 – Forehand

### Key Vocabulary

**top spin:** hitting back and upper part of the ball, causing it to move faster through the air

**to generate topspin on a forehand shot:** skim the ball upwards, pocket to chin



## 5 – Tactics to Overcome an Opponent

### Key Vocabulary

**chop:** playing a backspin shot into the middle of the table to prevent your opponent attacking, as the ball slows down

**crossover:** playing the ball into the point where your opponent has to decide to play either a backhand or forehand shot

**amalgamating:** combining different shots together within a rally to overcome an opponent

## 6 – Rules and Regulations

### Key Vocabulary

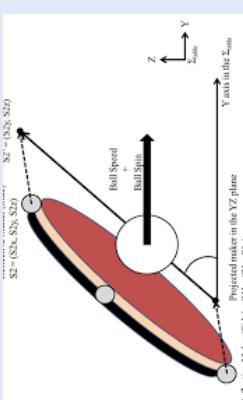
**let:** when serving, if the ball hits the net and goes over, hitting the opponents side, the serve must be repeated

#### volley rule:

The ball cannot be hit before it has bounced, would result in a point lost

**If the game is 10-10:** win by 2 clear points i.e. 13-11

**If the game is 20-20:** next point wins



## 1 – Safety and Warm up

## 2 – Bounce

## 3 – Basic Shapes

## 4 – Turns/Twists

## 5 – Basic Landings

## 6 – Routine/Performance

**spotting** - when you are not on the trampoline, you must ensure that you are tracking the performer on the trampoline at all times. If the performer is not central on the trampoline, put your arms out to support the performer if required

How to get on and off the trampoline:

- on – two hands on trampoline, put weight onto it, lift one leg up then the other
- off – sit on bum, legs off trampoline twist and bend knees on landing

- Make sure you always jump from two feet
- Use your arms to gain more height on your jump
- Bend from the knees to gain power
- Make a stretched shape in the air extending both the arms and the legs
- Keep toes pointed to make the more aesthetically pleasing
- Keep focus on one area of the wall to spot whilst jumping



Aim to execute the shape at the highest point of the bounce

## 4 – Turns/Twists

## 5 – Basic Landings

## 6 – Routine/Performance

**half twist:**

- head turns over the shoulder to spot
- 80 degrees

**full twist**

- head turns over the shoulder to spot
- 360 degrees

twists should always be completed in the **same** direction.

**seat landing**



**front landing**



**back landing**



**trampolining routines-** to create an aesthetically pleasing trampolining routine you must include

- elements of all the different skills. Keep your body tight and make sure all moves are fluent from one to the next. Ensure arms and legs are straight and toes are always pointed

**aesthetically pleasing** – beautiful to watch

e routine by holding a shape

**1 – Life after death**

**resurrection:** coming back from the dead  
**ascension:** when Jesus went up to heaven 40 days after his resurrection  
**Judgement Day:** when everyone will be judged based on their good and bad actions

**heaven:** Heaven is described as eternity in the presence of God, as Heaven is a state of being rather than a physical place. Heaven is the ultimate aim for all Christians, for their soul to be reunited with God and united with Christ  
**hell:** Hell has traditionally been depicted as a place of eternal fire that symbolises pain and suffering. Hell is eternity in the absence of God.

**2 – Sin and Salvation**

**sin:** an act of disobeying or rebellion against God  
**salvation:** to be saved from sin  
**Original Sin:** the original sin is the first sin that is committed in the Bible

Adam and Eve disobey God and eat fruit from the tree of knowledge. As a result of this they are thrown out of the Garden of Eden

Salvation can be achieved in one of two ways:

- God's grace: this is freely given through God's love for humanity and does not have to be earned.
- good works: this is achieved through following God's laws (the 10 Commandments), believing in Jesus and following Jesus' teachings

**3 – Creation**

**creation:** to bring something into being  
**Genesis:** the Greek word for origin. This is the first book in the Bible  
 The creation story takes place over 7 days with specific events happening on each day:

1. Light and dark
  2. Sky and the sea
  3. Land and plants
  4. Sun, moon and stars
  5. Fish and birds
  6. Animals and humans (Adam and Eve)
  7. God rests.
- God creates environments first and then fills them. Humans are created last as this shows that they are special and are put on the earth to look after it

**4 – Origins of Islam**

**Makkah/Mecca:** holiest city in Islam  
**Saudi Arabia:** country in the Middle East, where Islam originates from  
**origin:** where something begins/comes from  
**monotheistic:** belief in only one God  
**polytheistic:** belief in more than one God

Islam is an Abrahamic religion- this means that they can trace their roots back to Abraham/Ibrahim.

Islam originates in Makkah, Saudi Arabia approximately 600 years after Jesus' death.

Islam has a shared history with Judaism and Christianity, they all share the same key prophets for example: Abraham, Moses, David, Isaac, Noah.

**5 – Denominations of Islam**

**Sunni:** the majority denomination of Islam who believe Abu Bakr was named as the Prophet Muhammad's successor  
**Shia:** the minority denomination in Islam who believe that Ali the Prophet Muhammad's son in law and cousin was named as his successor  
**denomination:** a branch of a religion  
**successor:** a person who has a job or title after someone else

Sunni Muslims follow the 6 articles of faith which help guide them in their daily lives

Shia Muslims follow the 5 roots of Usl- adin

Both denominations follow and believe in monotheism and the 5 pillars of Islam

**6 – Nature of Allah**

**Merciful**  
**just:** fair  
**transcendent:** above and beyond human understanding  
**monotheistic:** belief in only one God  
**Allah:** the Arabic word for God

As a result of Islam and Christianity having a shared origin, they believe in the same God. Therefore the way that they describe God is similar

In Islam there are 99 names which Muslims use to describe God. They do this to help gain a better understanding of what God is like. These names also help them to understand how they should act

## B1 – DNA

### Key Vocabulary

**double helix:** the structure of DNA

**nucleotide:** monomers of DNA (made up of a sugar, phosphate and base)

**complementary base pairs:** A - T, C - G

**chromosome:** long coiled molecule of DNA

**gene:** short section of DNA that codes for a protein

**nucleus:** an organelle in eukaryotic cells that contains the DNA

**monomer:** a single, repeating unit that makes up polymers

**polymer:** a long chain molecule made up of monomers

## B3 – Factors Affecting Enzyme Action

**optimum temperature:** the best temperature for a process to be carried out

**increased temperature:** the active site of the enzyme changes shape, preventing the binding of the substrate

**decreased temperature:** limited kinetic energy reducing the successful collisions between substrate and active site

**high and low pH:** the active site of the enzyme changes shape, preventing the binding of the substrate

**substrate concentration:** the concentration of the substrate available to the active sites of the enzyme

## C2 – History of the Atom

Scientist	Discovery	Atomic Model
<u>Dalton</u>	atoms of the same type are elements	Solid Sphere
<u>Thomson</u>	positive mass with negative electrons spaced evenly	Plum Pudding
<u>Rutherford</u>	mostly empty space, positive nucleus	Nuclear
<u>Bohr</u>	electron shells	Planetary

## B2 – Enzymes

### Key Vocabulary

**enzyme:** a biological catalyst that speeds up chemical reactions

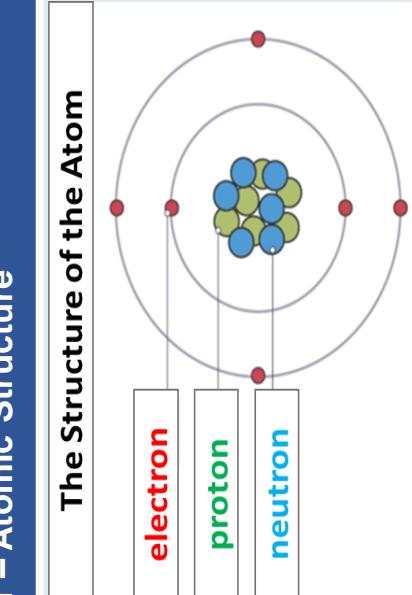
**active site:** the specific part of an enzyme to which a specific substrate binds

**substrate:** a substance on which enzymes act

**denature:** to change the shape of an enzyme's active site e.g., due to high temperature

## C1 – Atomic Structure

### The Structure of the Atom



## P1 – Static

**static:** remains in one area

**charge:** two types of charge: positive (+) or negative (-)

**attract:** to move towards one another (a pull)

**repel:** to move away from one another (a push)

**conductor:** a material that allows electrons to move freely within them (e.g., copper, silver, or iron)

**insulator:** a material that resists or blocks the movement of electrons (e.g., wood, glass, or plastic)

**static charge:** electrons are transferred between 2 insulators when they rub together

Sub-atomic Particle	Relative Charge	Relative Mass	Position in Atom
<b>electron</b>	-1	0.0005	shell
<b>proton</b>	+1	1	nucleus
<b>neutron</b>	0	1	nucleus

## Weekly Wellbeing

## Year 9

## Term 4

### 1 – Impact of Alcohol

- alcohol:** the intoxicating element of wine, beers or other alcoholic drinks
- alcohol misuse is when you drink in a way that's harmful, or when you're dependent on alcohol.
- to keep health risks from alcohol to a low level, both men and women are advised not to regularly drink more than 14 units a week
- a unit of alcohol is 8g or 10ml of pure alcohol, which is about:
  - half a pint of lager/beer/cider
  - a single small shot measure (25ml) of spirits
- Risks of Alcohol Misuse**
- violent behaviour and being a victim of violence
- accidents and injuries requiring hospital treatment
- serious health problems
- social problems for some people, such as unemployment, divorce and homelessness

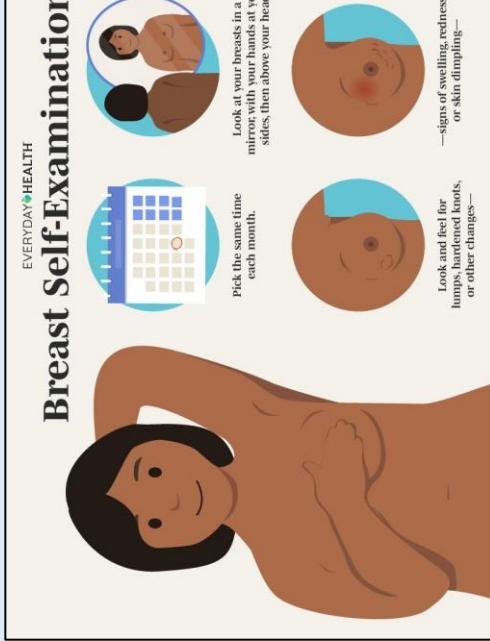
### 2 – Impact of Nicotine and E-Cigarettes

- smoking is one of the biggest causes of death and illness in the UK.
- every year around 78,000 people in the UK die from smoking
- smoking causes around 7 out of every 10 cases of lung cancer
- second-hand smoke comes from the smoke that the smoker breathes out
- breathing in second-hand smoke, also known as passive smoking, increases your risk of getting the same health conditions as smokers
- E-cigarettes are devices that allows you to inhale nicotine in a vapour rather than smoke
- E-cigarettes do not burn tobacco and do not produce tar or carbon monoxide
- using an e-cigarette is known as vaping
- they're not completely risk free, but they carry a small fraction of the risk of cigarettes

### 3 – Self-Examination: Breasts and Testicles

- self-examination is essential is catching potential health problems early

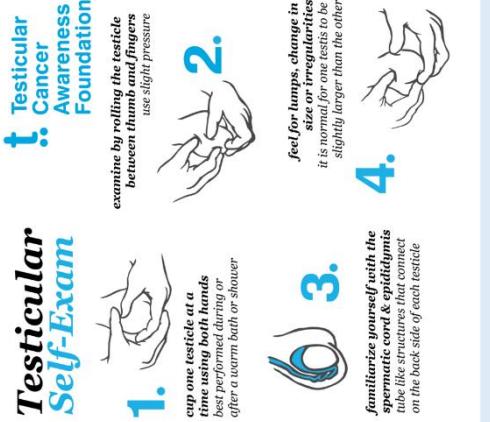
#### Breast Self-Examination



### 4 – Choices Affecting my Future

- making the right choices as a child/teenager can directly affect your health as an adult
  - This includes:**
- |                                 |                                |
|---------------------------------|--------------------------------|
| ➤ Eating healthily              | ➤ Drinking healthily           |
| ➤ Avoiding recreational drugs   | ➤ Exercising regularly         |
| ➤ Keeping good oral hygiene     | ➤ Maintaining a healthy weight |
| ➤ Wearing sun cream             | ➤ Getting enough sleep         |
| ➤ Caring for your mental health |                                |

#### Testicular Self-Exam



### Look

Look at the information carefully.

Read it three times.

It may help to say it as you read it.



### Cover

Cover it with your hand or a piece of paper.



### Write

Write it out, from memory.



### Check

Check what you have written matches the information exactly.  
Have you got it correct?  
If so, tick your work to show it is correct.



### Correct



If you choose to make flashcards to help you revise, don't forget our top tips.

1. On one side of the card, write the question clearly
2. On the other side of the card, write the answer you want to remember
3. Only put one question on each flashcard
4. Test yourself regularly, until you can't get the answers wrong



Scan the QR code to access a short video on how to use your flashcards more effectively.

If it doesn't match exactly, use your purple pen to correct it.

Repeat the steps above.

If you get 100% correct, move on to the next piece of information.