

YEAR 9

Knowledge

ORGANISER

2025 - 26
SEMESTER 2



WHO CAN I GET *support* FROM?

You can also speak to your check-in tutor, all your subject teachers, your PD teacher and all your pastoral staff: Miss Leonard, Miss Howe, Mr Sykes. If you are unable to speak to any member of staff, please contact: studentsupport@bentonpark.mlt.co.uk



My Year 9 Leader
Miss Charlton



KEY STAGE LEADER
Mrs Collins



MY SLT LINK
Mrs Howard

OTHER YEAR LEADERS



Year 7 – Miss Downing



Year 8 – Miss Bannister



Year 10 – Mrs Sykes



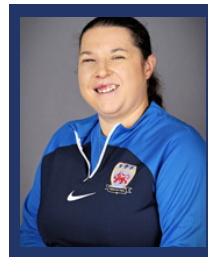
**Designated
Safeguarding Lead /
Assistant Headteacher**
Mrs Howard



**KS3 Safeguarding
Officer**
Miss Fox



**SENCo /
Assistant Headteacher**
Miss Tyldsley



Key Stage 4 Leader
Miss Dobby

HOME-SCHOOL *Communication* LOG

DATE	NOTE

MY *Attendance* RECORD

ATTENDANCE %

Year so far:

Attendance Targets:

DATE	WEEKLY %	YEAR TO DATE %
Week 1		
Week 2		
Week 3		
Week 4		
Week 5		
Week 6		
Week 7		
Week 8		
Week 9		
Week 10		
Week 11		
Week 12		
Week 13		
Week 14		
Week 15		
Week 16		
Week 17		
Week 18		
Week 19		

HOME *Learning*

In addition to your online home learning with SPARX and EDUCAKE, some subjects will give you homework based on your Knowledge Organiser. The next page gives you further information...

HOW DOES HOME LEARNING WORK?

The main way you will complete homework will be via 2 online platforms: SPARX and EDUCAKE. These online platforms will quiz you on your learning in lesson. It's a great way to test yourself and developing your memory retrieval and retention skills. As well as home learning quizzes, these platforms allow you to prepare for assessments and revise key content.

HOW DO I ACCESS THESE?

PLATFORM	WEB ADDRESS	SUBJECTS
SPARX	www.sparx.com	Maths and Science
EDUCAKE	www.educake.co.uk	English, Geography, History, Languages, and Computer Science

HOMEWORK PLAN

SUBJECT	FREQUENCY
English / Science / Maths	Weekly
Geography / History / Languages / Computer Science	Fortnightly

IN THE LIBRARY YOU CAN:

- Access books and resources
- Use the internet to complete any online home learning
- See staff who can give you any advice and guidance you may need
- Study independently in a quiet place

Organisation AND Planning SHEET

DATE SET	TASK	DUE DATE	TICK WHEN COMPLETE

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STUDENT *Loyalty* CARD

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

**COLLECT A STAMP EACH TIME YOU ATTEND A LUNCH AND AFTER SCHOOL
EXTRA-CURRICULAR ACTIVITY. WHEN YOU'VE REACHED 10, 20, 30 AND 40
STAMPS YOU WILL RECEIVE A REWARD!**

SUBJECT: English

YEAR: 9

TOPIC: Animal Farm

SEMESTER: 2



WORD REVOLUTION

Allegory	A story in which nearly all elements have a second, symbolic meaning, often to teach a moral lesson.
Connotation	An idea or feeling or association a word invokes in a person in addition to its literal meaning.
Corruption	Dishonest or illegal behaviour by people in power (politicians or leaders), usually for personal gain.
Dictatorship	A government where one person (a dictator) has absolute power, and citizens have no voice.
Exploitation	The act of treating someone unfairly to benefit from their work or resources; taking advantage.
Indoctrination	The process of teaching a person or group to accept a set of beliefs uncritically and without question.
Manipulation	Controlling a person in a dishonest way, so that they don't realize they are being guided.
Naive	Showing a lack of experience, wisdom, or judgement.
Privileged	Having special rights or advantages that others do not have (e.g. social status, wealth, or background).
Propaganda	Biased information used to promote a particular viewpoint, designed to influence how people feel.
Revolution	A relatively sudden change in political power and social organization.
Scapegoat	A person or group who is blamed for the mistakes, faults, or problems of others, as a distraction.
Symbol	A concrete object representing an abstract idea.
Tyrant	An oppressive, cruel, and unjust leader who often seizes power illegally and uses force to maintain it.

What will I study in this topic?

- The novel *Animal Farm*, written by George Orwell (1945).
- The representation of characters and dystopian societies.
- Explore how Orwell used allegory to convey his views and opinions.
- Orwell's historical, social and political context: the USSR, WWII.
- How to write creatively in character, and how to analyse linguistic and literary techniques.

What will I be able to do by the end of this topic?

- Analyse how Orwell uses language to create characters and relationships.
- Identify the differences in the representation of characters and how they are presented as a way of conveying political protest.
- Evaluate the importance of contextual knowledge, and its influence on text.
- Understand how to annotate and make clear and helpful notes on a text.
- Be more confident in exploring and evaluating the intentions of a writer.

UNDERSTANDING SOCIETY & ATTITUDES:

Oppressive governments and leaders: written during WWII, the novel reflects such issues of the time – for example how Germany and the USSR were organised, and how leaders wielded power.

Inequality and stratification: Orwell explores how inequality is used as a means of keeping control over people, and scapegoats and an 'enemy' can misdirect and appease citizens.

Political ideologies and conflict: Orwell shows how differing ideas on how society should be run impacts groups and individuals.

FORM, STRUCTURE & LANGUAGE

We recap some the features of a novel explored through class readers in Yr7 and Yr8, and more recently again in the short stories scheme, such as:

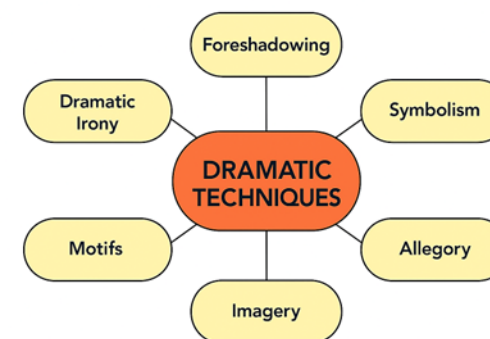
- Dramatic irony
- Foreshadowing
- Symbolism
- Allegory
- Motifs
- Imagery
- Rhetoric

PEOPLE & RELATIONSHIPS:

Tyranny and totalitarianism: Orwell explores the effect these political structures have on citizens, and how these power imbalances effect relationships.

Community and collectivism: the novel also explores how relationships within a community can create a sense of identity.

Rebellion and revolution: a key aspect of the novel is how and why rebellions happen, how they develop, and perhaps how they become the very problem they originally sought to eradicate...



SUBJECT: English

YEAR: 9

TOPIC: Animal Farm

SEMESTER: 2



Key Questions:

- How does an understanding of context enhance our understanding of a text?
- How can language be used as a method of persuasion and control?
- How can a writer use structure to create specific effects?
- How can a writer use characterisation to promote a viewpoint and evoke reader reaction?
- How effective is the use of allegory and genre elements in promoting a writer's viewpoint?
- How can a reader interpret the same text in different ways?

Curriculum Connections:

- **Dystopian fiction:** genre elements; reader contexts; writer contexts (George Orwell) (Yr9).
- **Short stories:** narrative elements; writer intent; influence of context; language and structural choices and their effects (Yr9).
- **Political Speeches:** use of rhetorical features; themes of justice and inequality (Yr9).
- **Protest Poetry:** relationships between the state and the individual; importance of dissent; voice and identity (Yr9).

KEY CHARACTERS:

Mr Jones	The drunk and neglectful owner of Manor Farm.	"He seized the gun which stood in a corner..."
Old Major	A wise respected boar who dreams of freedom.	"All men are enemies. All animals are comrades."
Snowball	An intelligent, innovative, and idealistic pig.	"The only good human being is a dead one."
Napoleon	A power-hungry and manipulative boar.	"Never mind the milk, comrades!"
Squealer	A persuasive pig who constantly twists the truth.	"Surely, comrades, you do not want Jones back?"
Boxer	A loyal, devoted, strong, and hardworking horse.	"I will work harder. Napoleon is always right."
Mollie	A vain and shallow mare who likes her comforts.	"Shall I still be allowed to wear ribbons?"
Benjamin	A cynical, sceptical and long-lived donkey.	"None of you has ever seen a dead donkey."

Animal Farm is set in the English countryside of the 1940s. Manor Farm is owned by Mr Jones, and is surrounded by other farms, most notably Foxwood, owned by Mr Pilkington, and Pinchfield, owned by Mr Frederick.

Although not mentioned in the novel, Orwell is very much influenced by his experiences of war – the Spanish civil war of the 1930s, in which he fought as a soldier, as well as WWII, whilst living back in England.

IMPORTANT HISTORICAL FIGURES:

Karl Marx: German philosopher whose theories on class struggle and capitalism provided the ideological foundation for modern communism.	Leon Trotsky: A brilliant strategist and intellectual, he co-led the Russian Revolution but was later exiled and assassinated after losing a power struggle to Stalin.
Tsar Nicholas II: The last Emperor of Russia whose ineffective leadership and resistance to reform led to the collapse of the monarchy during the Russian Revolution.	Joseph Stalin: Brutal dictator of the Soviet Union who transformed the country into a military superpower through industrialization and violent political purges.
Vladimir Lenin: He was the charismatic leader of the Bolsheviks who successfully seized power in 1917 and became the founding head of the Soviet state.	Vyacheslav Molotov: Soviet diplomat and leading politician under Stalin, best known for his role in disseminating USSR propaganda.



SUBJECT: English

YEAR: 9

TOPIC: Animal Farm

SEMESTER: 2



KEY THEMES:

The Power of Language

Orwell shows how language can be a powerful tool used to control and distort reality, and to therefore control the masses. Either through Old Major, and his rhetorical speech which demonises humans and inspires the animals with his idealistic dreams of a better future, or through the insidious propaganda of Squealer who uses the same rhetorical features, and flat-out lies, to justify the organisation of society. The most telling example of how powerful language can be is exhibited in the gradual alteration of the Seven Commandments, which clearly suggests that those who control the narrative, control the people.

The Power of Education (or Lack of Critical Thinking)

Another recurring theme is the naivety and illiteracy of the common animals, which allows the pigs to easily and effectively manipulate them. Because characters like Boxer or the sheep cannot read very well, or remember past events clearly, they cannot challenge the pigs' rewriting of history. Orwell argues that education is a vital tool for freedom; when the populace is unable to think critically or verify the truth, they inadvertently become complicit in their own oppression.

LITERARY TECHNIQUES:

Dramatic irony	When the reader knows something that the characters do not, creating tension or humour.
Foreshadowing	Hints or clues about events that will happen later in the story.
Symbolism	A concrete object representing an abstract idea.
Allegory	A story in which nearly all elements have a second, symbolic meaning, often to teach a moral lesson.
Motif	A repeated idea, image, or symbol that helps develop a theme.
Imagery	Descriptive language used to create mental pictures for the reader.

KEY CONTEXT ON THE GEORGE ORWELL:

Orwell served in the Indian Imperial Police in Burma (Myanmar). He saw firsthand the "dirty work of Empire." This gave him a **lifelong suspicion of any authority figure**—like Mr. Jones or Napoleon—who holds total power over others. Orwell chose to live in poverty in London and Paris, living in homeless shelters. He wanted to understand the "proletariat" (the working class). **He realized that the workers were the ones who did all the labour but received none of the rewards.** In 1936, Orwell went to Spain to fight against fascism; he joined a militia that was suddenly betrayed by the **Stalin-backed Communists. He watched his friends imprisoned or killed by their own "allies"**, and how the **Soviet-backed press told lies to justify these murders.**

WHY USE ALLEGORY?

To simplify: Transforms abstract concepts (like good vs. evil or totalitarianism) into relatable characters and events, making them easier to understand.

To offer social/political criticism: Provides a safe, indirect way to criticize authority or societal flaws, as seen in George Orwell's *Animal Farm* commenting on the Russian Revolution.

To explore morality & philosophy: Delivers moral lessons (like in Aesop's Fables) or deeper spiritual truths without being overly preachy.

To add layers of meaning: Creates deeper characters and settings that represent bigger ideas, engaging readers to find hidden messages.

To create timelessness: Universal themes in allegories ensure the work remains relevant and powerful across different generations and cultures.

To protect the author: Allows writers to explore sensitive or personal topics by creating distance, protecting the writer from attack.

To make it entertaining: Wraps potentially dry or unpleasant themes in an engaging narrative, like Disney Pixar's *Inside Out* exploring emotions through characters.

SUBJECT: English

YEAR: 9

TOPIC: Animal Farm

SEMESTER: 2



How will I be assessed?

READING:

Analysing the language use of Old Major's speech; analysing Orwell's structural choices in a key section of Chapter 9.

WRITING:

Writing in character: diary entry as one of the animals after the rebellion; Boxer's eulogy.

KEY TERMS – RHETORICAL DEVICES:

Direct Address	The writer speaks directly to the audience, or a specific person.	<i>Now, comrades, what is the nature of this life of ours?</i>
Alliteration	The repetition of initial consonant sounds in words close together.	<i>...the fruitful fields of England / prevented from producing...</i>
Facts	Information that is objectively true and can be proven.	<i>He does not give milk, he does not lay eggs, he is too weak to plough...</i>
Opinion	A personal belief, viewpoint, or judgment that cannot be proven.	<i>The life of an animal is misery and slavery: that is the plain truth.</i>
Rhetorical Question	A question asked for effect, not requiring an answer.	<i>Why then do we continue in this miserable condition?</i>
Emotive Language	Words chosen to evoke a strong emotional reaction in the audience.	<i>Every animal here will scream his life out at the block within a year.</i>
Simile	A comparison of two separate but similar things using "like" or "as."	<i>I know, as surely as I see this straw beneath my feet, justice will be</i>

SOME SENTENCE TYPES FOR EULOGY WRITING:

- We are gathered here today to honour the life of _____, someone who...
- _____ was a pillar of our community, known for their unwavering...
- When I think of _____, the first memory that comes to mind is..."
- The greatest lesson _____ ever taught me was...
- Though _____ is no longer with us, their spirit lives on in the way we...
- Rest in peace, _____; you have earned it...

STRUCTURE ANALYSIS SENTENCE STARTERS:

Orwell structures the chapter by beginning with...
This causes the reader to feel tension as they...
Orwell then changes focus to... to create a sense of...
Foreshadowing is used to affect the reader...
Orwell's use of dramatic irony will frustrate the reader / create a sense of foreboding...
By the end of the chapter, Orwell's intention is clear...

Further Reading and Other Resources

Books:

Animal Farm: The Graphic Novel (Illustrated version)

Nineteen Eighty-four by George Orwell (Liked Animal Farm? You'll love this!)

The Handmaid's Tale by Margaret Atwood (Feminist spin; scarily prescient...)

Web Resources:

BBC Bitesize - <https://www.bbc.co.uk/bitesize/articles/zw2r96f#zw9nydm>

Spark Notes - <https://www.sparknotes.com/lit/animalfarm/>

Audio Book - <https://www.youtube.com/watch?v=kc78arfcRo>

Recall Questions

1. How does Old Major convince the animals they need to work together?
2. What happens to the milk and the windfall apples at the beginning of the story?
3. What are the commandments used for?
4. How does Napoleon eventually get rid of Snowball?
5. Which character is used as a constant scapegoat for every failure on the farm?
6. What are the two mottoes that Boxer the horse lives by?
7. Why does Napoleon change the name back to "Manor Farm" after the rebellion?
8. Who do Frederick and Pilkington represent, and why?
9. What happens to Boxer, and what is Orwell saying with this event?
10. What is the moral, or lesson, Orwell wants the reader to consider after reading?



WORD REVOLUTION	
Tragedy	A genre of literature involving death and catastrophe.
Foreshadowing	Hints or clues about events that will happen later in the story.
Soliloquy	A speech in which a character speaks their thoughts aloud, alone on stage.
Monologue	A long speech by one character to others.
Aside	A brief remark by a character intended for the audience, not heard
Dramatic Irony	When the audience knows something the characters do not.
Oxymoron	A figure of speech combining contradictory terms (eg. "loving hate")
motif	A recurring image or symbol used throughout a text.
Simile	A comparison using "like" or "as."
Pun	A play on words with multiple meanings, often humorous.
Prologue	An introductory section of a play, often in verse, setting the scene.
Iambic Pentameter	A rhythmic pattern of five pairs of unstressed and stressed syllables.
Sonnet	A 14-line poem with a strict rhyme scheme, often about love.
Theme	The central idea or message explored in the play (e.g., love vs. fate)

What will I study in this topic?

Plot and characters in one of Shakespeare's most famous plays.
Shakespeare's use of language and dramatic techniques.
Conventions of the tragedy genre in literature.
How the play reflects social attitudes and concerns in the time it was written.
Shakespeare's ideas and messages in the play

What will I be able to do by the end of this topic?

Develop a critical personal response to a Shakespeare text.
Comment on the effect of Shakespeare's use of language and dramatic techniques.
Understand how a text reflects ideas and concerns in the time it was written.

UNDERSTANDING SOCIETY AND ATTITUDES

- Understanding of Elizabethan England
- Attitudes toward women and men, young and old, higher and lower classes
- Exploration of attitudes towards love
- Understanding honour between men, women and families
- Renaissance tragedy, and how a modern audience responds to the genre.

PEOPLE AND RELATIONSHIPS

- Marriage, courtship and love
- Generational conflict
- Honour and rivalry
- Development of relationships
- Power dynamics and hierarchy
- Parents and children

FORM, STRUCTURE AND LANGUAGE

- Tragic structure
- Foreshadowing
- Character development
- Dramatic techniques
- Building tension
- Shakespearean language
- Poetic devices



SUBJECT: ENGLISH

YEAR: 9

TOPIC: ROMEO & JULIET

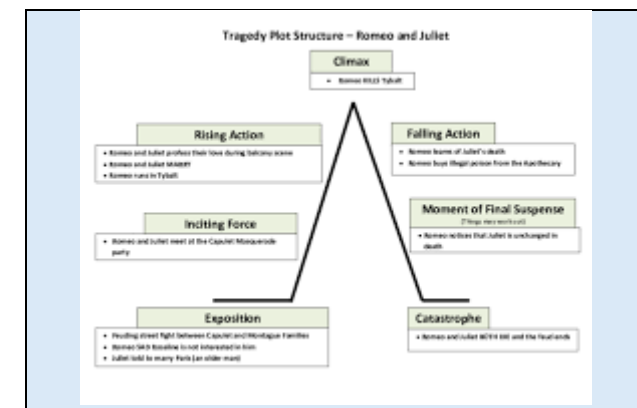
SEMESTER: 2



Key Questions:	• How are key characters presented in the play and what is their function? • How does Shakespeare use language and dramatic techniques to present ideas? • How does the play reflect its social and historical context? • How does Shakespeare use aspects of the tragedy genre in the play? • What are the key ideas and messages Shakespeare communicates to the audience?
Curriculum Connections:	• You are introduced to Shakespeare with 'The Tempest' in Year 7 and 'Much Ado about Nothing' in Year 8. • Shakespeare's language is very poetic, so all your study of poetry in Y7, 8 & 9 is good preparation for tackling R&J. • We develop an appreciation of how context is reflected in literary texts in our study of 'A Christmas Carol' in Year 7 and Protest Poetry in Year 9. • Power is a key theme in 'Romeo and Juliet' and this is a thread that runs throughout our literary study in Year 7-11.

POETIC TECHNIQUES

TECHNIQUE	DEFINITION	EXAMPLE
metaphor	<u>Describing one thing as though it is something else</u>	'Juliet is the sun'
simile	Comparing using "like" or "as"	'like a rich jewel...'
personification	Giving human qualities to non-human things	'I am Fortune's fool'
oxymoron	A phrase combining contradictory words.	'loving hate'
Imagery	Vivid descriptions appealing to senses	'So shows a snowy dove trooping with crows'
alliteration	Repetition of consonant sounds	'From forth the fatal loins...'



THEMES

- **Love** – Powerful, passionate, and impulsive - drives the plot but leads to tragedy.
- **Conflict** – Family feud between Montagues and Capulets causes violence and tension.
- **Fate** – Characters believe destiny controls their lives - "star-crossed lovers" suggests inevitability.
- **Youth vs Age** – Young characters act quickly and emotionally, while older characters are cautious.
- **Violence and Death** – Linked to honour, revenge, and family pride - tragedy results from aggression.
- **Individual vs Society** – Romeo and Juliet fight against family expectations and social rules for love.
- **Family** – The families are depicted as equally powerful, wealthy and deeply entrenched in a violent feud.





PLOT SUMMARY

Romeo and Juliet is a tragic play set in Verona, where two noble families, the Montagues and Capulets, are locked in a bitter feud. Romeo Montague crashes a Capulet party and meets Juliet, the daughter of his family's enemy. They instantly fall in love and, despite knowing their families' hatred, decide to marry in secret. With the help of Friar Lawrence and Juliet's Nurse, they wed the next day, hoping their union will end the feud.

Soon after, Tybalt, Juliet's cousin, kills Romeo's friend Mercutio in a street fight. In revenge, Romeo kills Tybalt and is banished from Verona. Before leaving, Romeo spends one night with Juliet. Meanwhile, Juliet's parents arrange for her to marry Paris, unaware she is already married. Desperate, Juliet seeks Friar Lawrence's help. He gives her a potion that makes her appear dead for 42 hours. The plan is for Romeo to rescue her when she wakes.

However, Romeo never receives the message explaining the plan. Believing Juliet is truly dead, he returns to Verona, buys poison, and dies beside her. When Juliet wakes and finds Romeo dead, she kills herself with his dagger. Their deaths finally reconcile the two families, but only after tragedy strikes.

KEY QUOTES – Act 1 & 2

'Star-crossed lovers...death-marked love' (Prologue)
 'O brawling love, O loving hate' (Romeo)
 'My only love, sprung from my only hate!' (Juliet)
 'My life is my foe's debt' (Romeo)
 'To strike him dead I hold it not a sin' (Tybalt)
 'Romeo, Romeo, wherefore art thou Romeo?' (Juliet)
 'Violent delights have violent ends' (Friar Lawrence)

KEY QUOTES – Act 3-5

A plague on both your houses!' (Mercutio Act 3)
 'I am Fortune's fool!' (Romeo Act 3)
 'This day's black fate on more days doth depend' (Romeo Act 3)
 'O serpent heart, hid with a flowering face!' (Juliet Act 3)
 'Hang thee baggage...disobedient wretch!' (Capulet, Act 3)
 'Death lies on her like an untimely frost' (Capulet Act 4)
 'I defy you stars!' (Romeo Act 5)
 'O happy dagger!' (Juliet Act 5)
 'All are punished!' (Prince Escalus Act 5)

DESCRIBING CHARACTERS

ROMEO – Passionate, impulsive, reckless, loyal, romantic, conflicted.
JULIET – Innocent, intelligent, determined, courageous, devoted, rebellious.
CAPULET – Authoritative, patriarchal, proud, controlling, traditional, volatile.
TYBALT – Aggressive, hot-headed, prideful, loyal, vengeful, violent.
MERCUTIO – Witty, provocative, loyal, energetic, reckless.
BENVOLIO – Peace-loving, level-headed, loyal, honest, observant, calm.
FRIAR LAWRENCE – Wise, benevolent, secretive, naïve, devious.
NURSE – Affectionate, comic, talkative, protective, practical, loyal (?)



'Gentlemen, for shame forbear this outrage! Tybalt! Mercutio! The Prince expressly hath Forbid this bandying in Verona streets.'
 (Romeo 3.1)

SUBJECT: ENGLISH

YEAR: 9

TOPIC: ROMEO AND JULIET

SEMESTER: 2



How will I be assessed?

You will complete an 'extract to whole' question, where you have to explore the way a character is presented in a key extract from the play and also consider how they are presented in the rest of the play.

eg. *Starting with this extract, explore how Shakespeare presents _____ as a _____ character.*

CONTEXTUAL INFORMATION

TRAGEDY - Romeo and Juliet is one of Shakespeare's tragedies - a dramatic genre involving pain and suffering of the protagonists. Tragedies often involve high status characters who suffer a dramatic fall due to a fatal flaw in their character. Something good is supposed to come out of the tragic events – the audience should learn something from the misery!

GENDER & MARRIAGE - Gender roles in Romeo and Juliet reflect attitudes at the time it was written. Men are expected to be strong and control family decisions, while women are expected to obey and marry for family advantage. Juliet challenges this by wanting to marry for love, not duty. The play shows conflict between tradition and personal choice.

FATE - In Shakespeare's time, fate and destiny were seen as powerful forces controlling human life. People believed events were guided by God or the stars, and individuals had little control over their future. Tragedies often showed characters struggling against fate, highlighting themes of inevitability and human vulnerability.

Analytical Writing

Writer – What is Shakespeare doing?

Quotation – Which quotations from the text show this?

Significance - Why is the quotation important? What language features help to convey ideas?

Furthermore – What are the big ideas and messages? What is Shakespeare saying?

Big Ideas – Useful phrases

Shakespeare could be suggesting that...

This relates to society at the time because...

This continues the key theme of...

Shakespeare encourages us to think about...

The tragic ending to the play shows that...

Shakespeare's view of _____ seems to be...



Further Reading and Other Resources

There are many re-workings of the 'Romeo and Juliet' story in books and film. Here are a few:

- *These Violent Delights* by Chloe Gong: Set in 1920s Shanghai
- *Noughts & Crosses* by Malorie Blackman: An alternate world where racial segregation mirrors the Capulet/Montague feud.
- *When You Were Mine* by Rebecca Serle: From the perspective of Rosaline.
- *West Side Story*: A musical set amidst gang warfare in New York.

Recall Questions

- Who is Romeo in love with at the start of the play?
- What does Prince Escalus threaten the warring families with in Act 1?
- Where do Romeo and Juliet first meet?
- Why does Friar Lawrence help Romeo and Juliet to marry in secret?
- Why is Tybalt out to get Romeo in Act 3 and why does Romeo refuse to fight him?
- What is Romeo's punishment for killing Tybalt?
- Who is Juliet supposed to be marrying? Why do her parents want this?
- What plan does Friar Lawrence come up with to reunite Romeo and Juliet?
- Why does the plan fail and what is the consequence?



WORD REVOLUTION

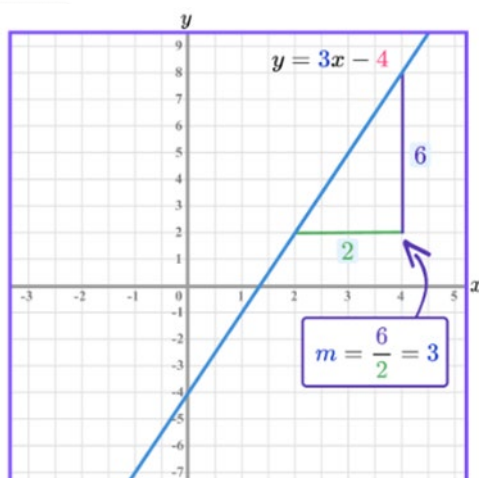
Gradient	The steepness of the graph
Intercept	Where the graph crosses a given axis
Horizontal	Parallel to the plane of the horizon. A line going from left to right.
Vertical	Perpendicular to the horizontal. A line going from bottom to top.
Plot	Mark a coordinate correctly on a grid using (x,y)

A **straight line graph** is a visual representation of a linear function.

A straight line has a general equation of

$$y = mx + c$$

↙ gradient ↘ y-intercept



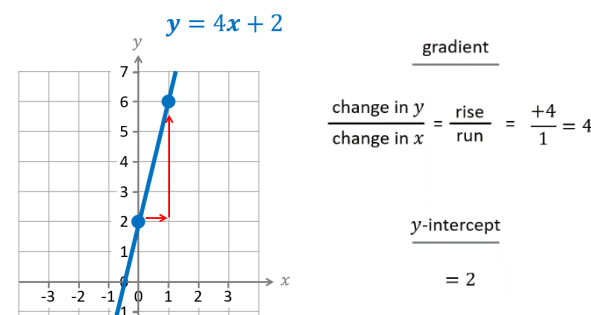
What will I study in this topic?

- You will study the equation of the line and the meaning of its variables
- You will study various plotting techniques of different graphs
- You will study how to use the equation of a line to identify a graph

What will I be able to do by the end of this topic?

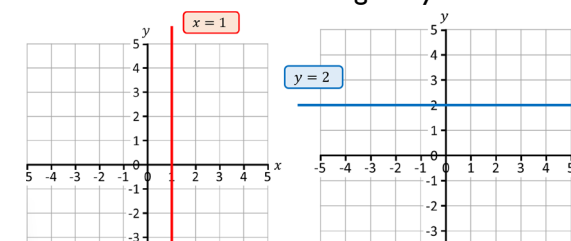
- Work out the equation of a line of the form $y = mx + c$, where m and c are integers and fractions
- When given the equation of a line you will be able to interpret the variables and plot the graph

Calculating gradient from two points

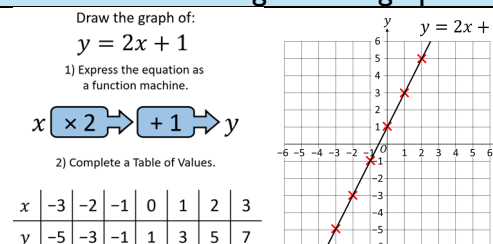


$x = a$ $y = b$

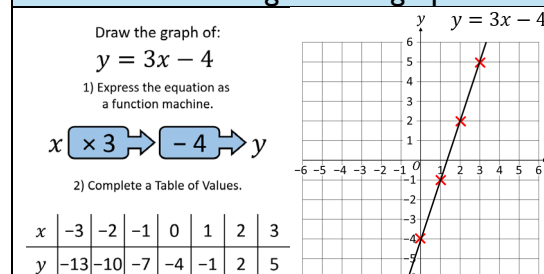
All graphs of the form $x = a$ are vertical lines crossing the x -axis. All graphs of the form $y = b$ are horizontal lines crossing the y -axis



Plotting a linear graph



Plotting a linear graph





WORD REVOLUTION

Distance	The total length covered by an object.
Time	The duration of the journey, usually plotted on the horizontal (x) axis.
Speed	The rate at which an object covers distance; calculated as distance
Stationary	Not moving; indicated by a flat horizontal line on a distance-time graph (distance does not change).
Average Speed	Total distance travelled divided by the total time taken.

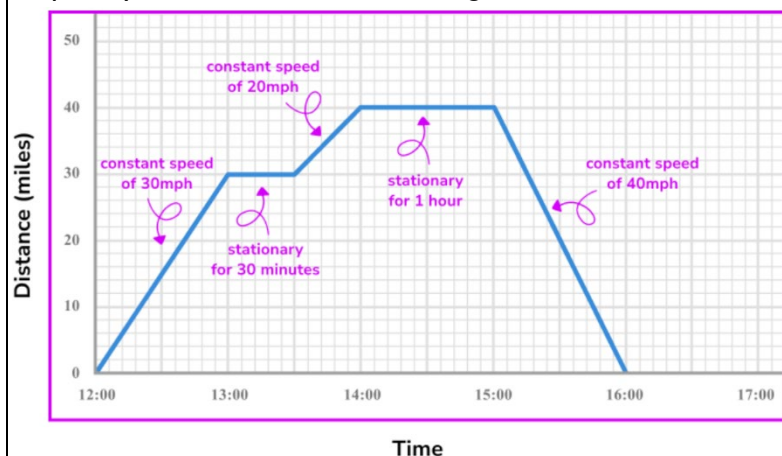
What will I study in this topic?

Calculating with speed
Calculating with rates
Plotting distance-time graphs
Interpreting distance-time graphs
Calculating speed from distance-time graphs
Plotting distance-time graphs using speeds

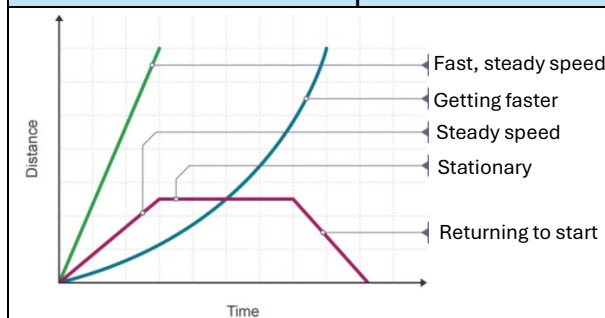
What will I be able to do by the end of this topic?

- Plot a graph showing the time and distance travelled on a single or multi-stage journey
- Interpret a speed, distance, time graph fully, including distance and time travelled as well as the duration of any stops
- Calculating speed from a graph showing a single or multi-stage journey

Distance-Time graphs show the distance an object or person has travelled against time. The graph will show the distance (in m, km, miles etc) on the vertical or y-axis and the time (in secs, mins, hrs etc) on the horizontal or x-axis. To find the Speed, you must be able to find the gradient.



DST Graphs

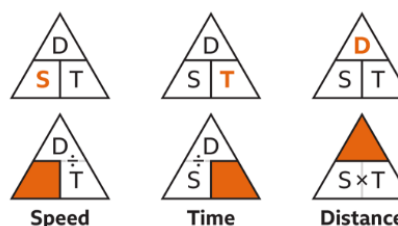


Drawing DST Graphs

How to draw a distance time graph:

- 1 Draw/label the horizontal axis for the time and a vertical axis for the distance.
- 2 Use the information about the distance or speed of the object to plot points on the graph.
- 3 Join the points with straight line segments.

DST Triangles



Formulae

Speed = Distance ÷ Time

Time = Distance ÷ Speed

Distance = Speed × Time



WORD REVOLUTION

Quadratic	An expression containing x^2 and no higher power
Intercept	Where the graph crosses the y axis
Roots	Where the graph crosses the x axis
Turning Point	The minimum or maximum point of the graph where it turns (vertex)
Plot	Mark a coordinate correctly on a grid using (x,y)

What will I study in this topic?

- Substitution into advanced expressions
- Plotting parabolas
- Interpreting roots and intercepts

What will I be able to do by the end of this topic?

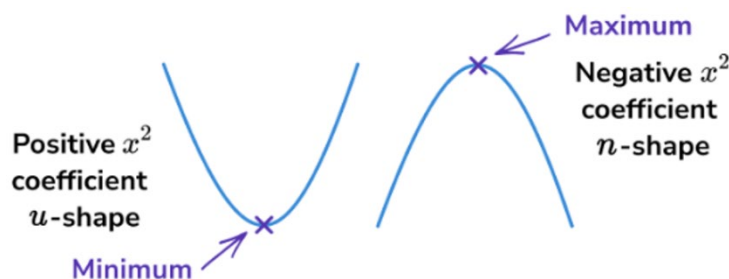
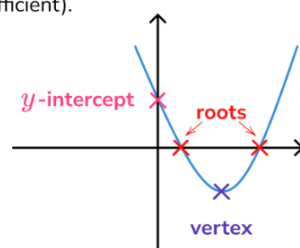
- Plot quadratic graphs
- Interpret quadratic graphs
- Find key points on a quadratic graph

Quadratic graphs are graphs of quadratic functions and are u -shaped (positive x^2 coefficient) or n -shaped (negative x^2 coefficient).

The shape of the graph is called a parabola.

The key points are:

- The roots (where the graph touches or crosses the x -axis)
- The y -intercept
- The vertex (also called the turning point)



Plotting a Quadratic Graph

Plotting quadratic graphs is drawing up a table of values for the x and y coordinates, and then plotting these on a set of axes.

$y = x^2 + 2x + 5$ is a quadratic function. In order to complete a table of values, we **substitute** each x value into the quadratic

Table of Values

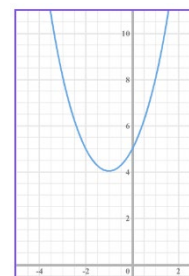
Each one of these is a coordinate pair. For the function $y = x^2 + 2x + 5$ the table of function to obtain the matching y value. values from $x = -3$ to $x = 2$ would look like this:

x	-3	-2	-1	0	1	2
y	8	5	4	5	8	13

Each pair represents a coordinate pair, for example the last pair represents the coordinate $(2,13)$

Plotted graph

This is the graph of $y = x^2 + 2x + 5$



Key Points

- To plot a quadratic graph
1. Draw a table of values and substitute x and y values
 2. Plot these coordinate pairs on a graph
 3. Join the points with a smooth curve

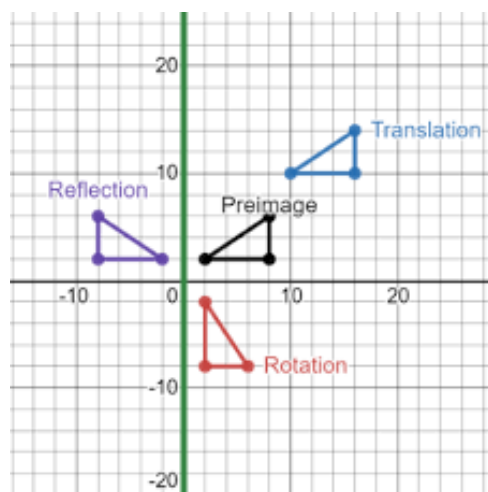


WORD REVOLUTION

Translation	A change in the position of an object by movement along, up or diagonally on a coordinate grid.
Reflection	The image formed when a shape is reflected in a mirror line.
Rotation	Turning an object, through a given angle at a given point.
Vector	This describes how far a shape moves left or right and up or down.
Quadrant	The region/part of a cartesian plane that is obtained when the two axes intersect each other.

Transformation

A transformation is a change to a geometric 2D shape, such as a translation, rotation, reflection or enlargement.



What will I study in this topic?

You will learn about the different ways in which a shape can be transformed to produce a congruent shape. You will investigate positive enlargement of shapes.

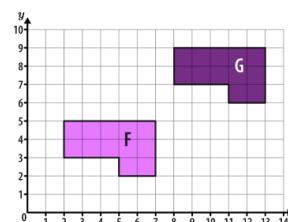
What will I be able to do by the end of this topic?

- Identifying which image of the shape is a translation
- Working out the vector that translates a shape horizontally or vertically
- Describing translations using a vector with positive values
- Translating a shape using vectors with positive and negative values
- Describing translations using a vector on a coordinate grid with two quadrants
- Translating a shape on a coordinate grid with four quadrants

Translation

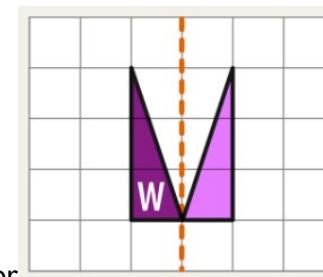
To describe a translation, say how many squares each vertex moves right or left and then up or down.

Eg here, F moves to 6 squares to the right and 4 squares up. You can describe this using vector notation $\begin{pmatrix} 6 \\ 4 \end{pmatrix}$



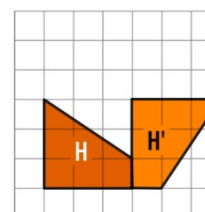
Reflection

A reflection is a mirror image. You reflect a shape through a given mirror line, or line of symmetry. Each vertex is the same number of squares away from the mirror line on either side of it.



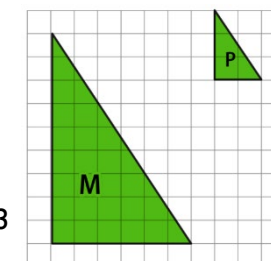
Rotation

You can describe a rotation by the number of degrees it has turned through, the direction of the turn and if you can, the centre of rotation. Here H, has rotated to H' through 90 degrees clockwise (the direction the hands of a clock turn). We would describe the opposite direction as anti-clockwise.



Enlargement

An Enlargement is described using a scale factor (the number the shapes side lengths are multiplied by to give the new side lengths). Here shape P has been enlarged by scale factor 3 to give shape M





WORD REVOLUTION

Corresponding Angles	Corresponding angles in parallel lines are equal
Alternate Angles	Alternate angles in parallel lines are equal
Co-Interior Angles	Co-Interior angles add to 180°
Polygon	A many-sided shape
Bearings	A 3 digit number, measured clockwise from North

Shape	Sides	Sum of Interior Angles	Shape	Each Angle
Triangle	3	180°		60°
Quadrilateral	4	360°		90°
Pentagon	5	540°		108°
Hexagon	6	720°		120°
Heptagon (also called Septagon)	7	900°		$128.57...^\circ$
Octagon	8	1080°		135°

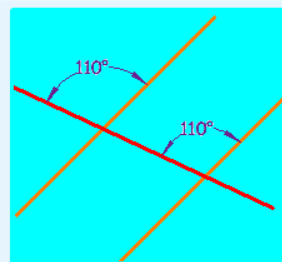
What will I study in this topic?

You will learn about angles in quadrilaterals, solving angle problems combining angle facts, finding angles on parallel lines, using quadrilateral properties to find angles and finding angles in polygons and using bearings in real life situations

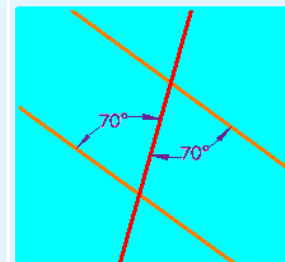
What will I be able to do by the end of this topic?

- Finding angles in quadrilaterals
- Combining angle facts
- Finding angles on parallel lines
- Using properties of quadrilaterals to find missing angles
- Finding angles in polygons
- Measuring and calculating bearings problems

Corresponding Angles



Alternate Angles



Formula for total angles

Co-interior Angles

To calculate the sum of angles in a polygon with n sides, use this formula:

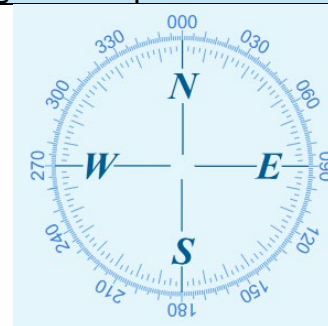
$$S = 180(n-2)$$

You can then divide this by n to find the size of each angle in a regular polygon.



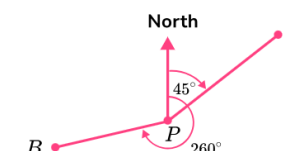
Bearings – a compass

A bearing is a 3-digit number, measuring the size of the angle, clockwise, from the North line. So due East, would be 090° , South 180° and West 270° .



Bearings

The diagram shows three points A, B and P.



The bearing of A from P is 045° .

The bearing of B from P is 260° .



WORD REVOLUTION

Similar shapes	Similar shapes are the same shape, but they have different sizes. Corresponding sides are in the same ratio and the corresponding angles are the same
Congruent shapes	Congruent shapes are exactly the same shape and the same size. Corresponding sides and corresponding angles are the same.
Scale Factor	A scale factor is a ratio between two corresponding sides of similar shapes. A scale factor describes how much a shape has been scaled up or down.

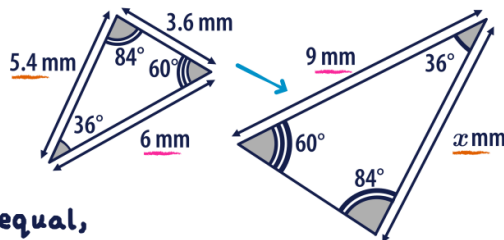
What will I study in this topic?

You will learn about similar and congruent shapes in maths, including what they are and how to identify them. You will also solve problems involving similar shapes where the scale factor is known or can be found. You will go on to learn the conditions for triangles to be congruent.

What will I be able to do by the end of this topic?

- Identifying similar shapes regardless of their orientation
- Find the length of an unknown side given the scale factor
- Identify congruent shapes regardless of their orientation
- Identify corresponding angles and sides on congruent triangles
- Recognise when two triangles are congruent by the SSS, SAS, ASA or RHS condition
- Construct triangles from a sketch given the condition for congruency

Finding the scale factor and an unknown side



All angles are equal,
triangles are similar

$$6 \times \text{scale factor} = 9$$

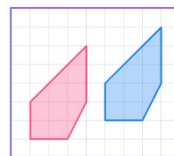
$$\text{scale factor} = 1.5$$

$$x = 5.4 \times 1.5$$

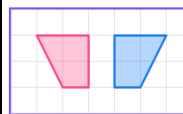
$$= 8.1$$

Congruent or Similar

To identify if shapes are congruent or similar you need to check all the angles and all the sides of the shapes. If two shapes are congruent, they will fit exactly on top of one another.



These two polygons are congruent. The red shape has been translated to give the blue shape.



These two quadrilaterals are congruent. The red shape has been reflected to give the blue shape.



These two polygons are NOT congruent. They are similar. The red shape has been enlarged by multiplying by a scale factor of 2 to give the blue shape.

Congruent Triangles

There are four conditions to be able to prove if a pair of triangles are congruent.

Reasons for congruency:

SSS



SSS (three sides the same)

RHS



RHS (right-angled triangle, hypotenuse and a side the same),

ASA



ASA or AAS (two angles and one side the same),

SAS



SAS (side-angle-side, two sides and the included angle the same).



WORD REVOLUTION

Scatter-Graph	A graph that shows if there is a relationship between two variables. This is shown by crosses or dots that are scattered across the graph
Frequency Polygon	A graph showing data distributions and trends. Crosses are joined together so we can easily see the trends in the data.
Frequency Table	A table showing the number of people or objects for each of the variables. We can find averages from them

Averages from a Frequency Table

Time, t (minutes)	Frequency
$0 < t \leq 10$	4
$10 < t \leq 20$	2
$20 < t \leq 30$	3
$30 < t \leq 40$	11

The frequency table above shows the times in minutes that 20 pupils take to get to school. To find the mean time you assume (for example) that the 4 pupils in the first group take 5 mins. (The midpoint of the time). Then these pupils take a total of 20 mins to get to school. If you do it for all the groups you would get $5 \times 4 + 15 \times 2 + 25 \times 3 + 35 \times 11 = 510$

Then divide this by how many pupils there are (20 – sum of the frequencies) to give:

$$\frac{510}{20} = \underline{25.5 \text{ mins per pupil}}$$

What will I study in this topic?

You will learn how to draw and interpret a scatter graph and how you can use a line of best fit to make predictions. You will find averages from frequency tables and be able to draw and interpret a frequency polygon.

What will I be able to do by the end of this topic?

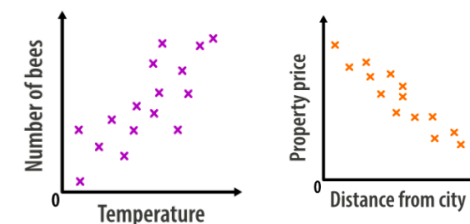
- Draw and read information from a scatter graph
- Draw a line of best fit that can be used to make predictions
- Draw a frequency table and find averages and range from it
- Draw and read information from a frequency polygon

Scatter Graph

A scatter graph is used to see if there is a relationship between two things. Here we can see a scatter graph showing the scores of 12 pupils in two tests. Each cross represents a different pupil.



Correlation

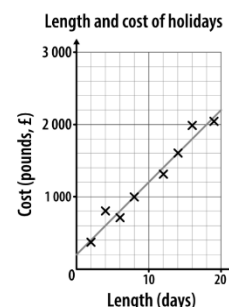


Positive Correlation

Negative Correlation

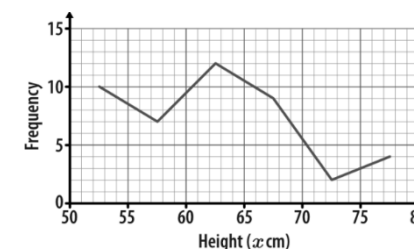
Line of Best Fit

A Line of Best Fit, is a straight line following the direction of the trend of the data. You can use it to make predictions. You must get roughly the same number of Crosses above the line as there are below it



Frequency Polygons

In a Frequency Polygon, plot the frequency against the mid-point of the data.





WORD REVOLUTION

Abiotic Factor	A non-living factor of the environment.
Biotic Factor	A living factor of the environment.
Community	The populations of different species living in a habitat.
Ecosystem	The interaction of a community of living organisms with the abiotic parts of their environment.
Habitat	The place where an organism lives.
Population	The number of the same species living in an ecosystem.
Consumer	An organism that eats another organism.
Producer	An organism (usually a plant) that can produce it's own food through photosynthesis. Starts off the food chain.
Predator	An animal that eats another animal.
Prey	An animal that gets eaten by another animal.

What will I study in this topic?

You will study how to interpret food webs, suggest how changes in the environment can lead to changes in the population of an organism. We will look at how plants and animals are adapted to suit their environment and explain the conflicting pressures on maintaining biodiversity.

What will I be able to do by the end of this topic?

By the end of this unit, you will be able to:

- Explain how adaptations in plants and animals increase their chances of survival.
- Describe how a change in the environment can affect the food chain.
- Explain how biotic and abiotic factors affect the organism's survival.

Abiotic and Biotic Factors

Abiotic Factors are the non-living factors of an environment. E.g. Moisture, light, temperature, pH.

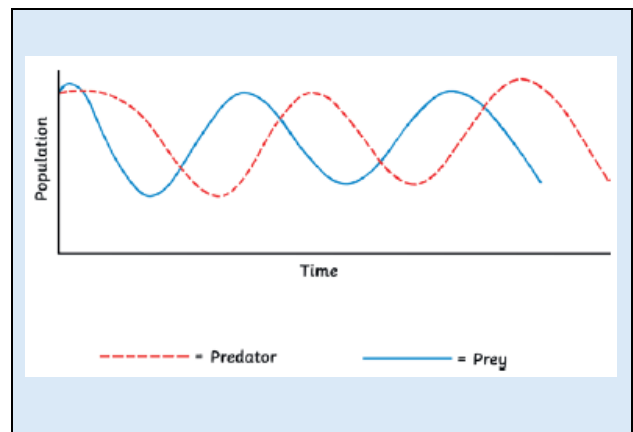
Biotic Factors are the living factors of an environment. E.g. predators, competition, pathogens and availability of food.

Predator/Prey Cycles

Populations of predator and prey increase and decrease in cycles. The size of the predator population depends on the size of the prey population and vice versa. Overall, there is a stable community.

Food Chains

The source of all energy in a food chain is the Sun. It is made useful by plants through photosynthesis where glucose is produced. When an organism is consumed, some of the energy is lost.
Remember: the arrow in a food chain indicates the direction of the flow of energy



SUBJECT: Science

TOPIC: Ecology

YEAR: 9

SEMESTER: 2



Key Questions:	How do biotic and abiotic factors affect where organisms live? Can you identify the producer, consumers, predators and prey in a food chain? How are organisms such as the polar bear, camel and cactus adapted to survive?	
Curriculum Connections:	Previous (Yr 7): • Revisit food chains and webs. • Revisit adaptations of plants and animals	Future: • How humans are changing environments of organisms through global warming, deforestation and land use. • Maintaining ecosystems and biodiversity.

Adaptations

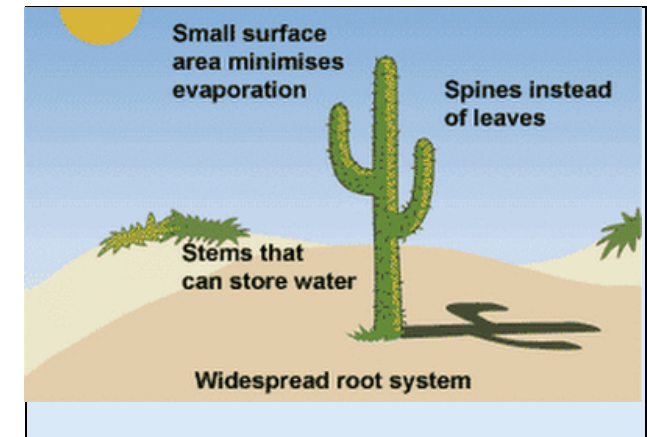
Adaptations are specific features of an organism which enable them to survive in the conditions of their habitat.

Structural Adaptations- features of the organisms body e.g. colour for camouflage.

Behavioural Adaptations- how the organism behaves e.g. migration to a warmer climate during colder seasons.

Functional Adaptations- the ways the physiological processes work in the organism e.g. lower metabolism during hibernation to preserve energy.

A plant or animal will not physically change to adapt to its environment during in its lifetime. Instead there is natural variation where some features will favour the organisms chance of survival.



Competition

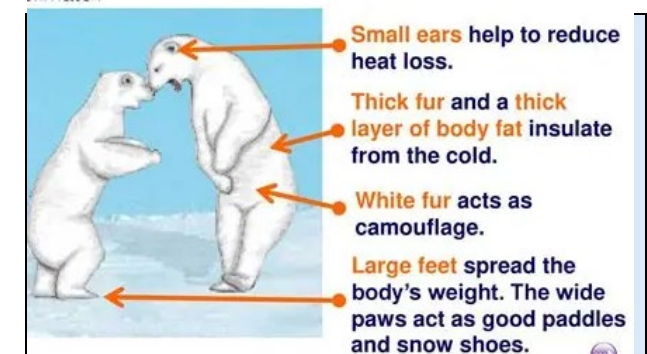
Species will compete with one another and also within their own species to survive and reproduce.

Mutualism occurs when both species benefit from a relationship.

Parasitism occurs when a parasite only benefits from living on the host.

Animals compete for resources such as food, water and shelter. They may also compete within their own species for mates.

Plants compete for resources including light, water, space and minerals. All resources are needed for photosynthesis so the plants can make their own food.





WORD REVOLUTION

Central Nervous System (CNS)	The brain and spinal cord. It's where reflexes and actions are coordinated.
Effector	A muscle or gland which responds to a hormone or nervous impulses.
Motor Neurone	A nerve cell that carries electrical impulses from the CNS to effectors.
Relay Neurone	A nerve cell that carries electrical impulses from sensory neurones to motor neurones.
Sensory Neurone	A nerve cell that carries electrical impulses from a receptor in a sense organ to the CNS.
Reflex	A fast, automatic response.
Receptor	A group of cells that are sensitive to a stimulus (e.g. receptor cells in the eye detect light)
Electrical Impulse	How messages travel through the neurones.
Co-ordination Centre	An organ (e.g. the brain, spinal cord or pancreas) that processes information from receptors and organises a response from the effectors.
Synapse	The connection between two neurones.

What will I study in this topic?

You will study the components of the nervous system and how electrical impulses are transmitted through the body. You will carry out the Reaction Time Required Practical, suggest improvements to the method and explain how caffeine, sugar and alcohol will affect reaction time.

What will I be able to do by the end of this topic?

- By the end of this unit, you will be able to:
- Describe how a reflex action occurs.
 - Describe the components of the nervous system.
 - Explain the role of synapses.
 - Describe how a nerve cell is adapted for its function.

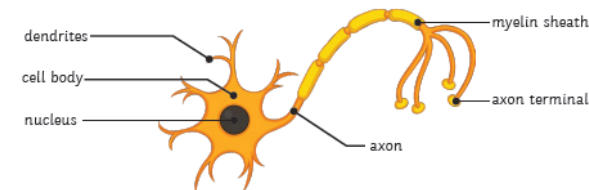
The Human Nervous System

The nervous system allows a fast response to a stimulus in the environment. The information is received by a receptor, passed along the neurones as an electrical impulse and results in a response.

The nervous pathway

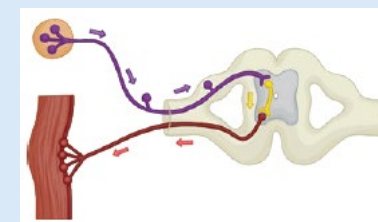
A stimulus is a change in the environment. This information is received by the receptor and sent as an electrical impulse along a sensory neurone towards the central nervous system. Here the information is processed and an impulse is sent down a motor neurone. The effector receives the impulse and carries out a response.

The Neurone



Reflex Arc

A reflex is a fast and automatic response to a particular stimulus which may be harmful to the organism. The impulse bypasses the brain through relay neurones in the spinal cord.



SUBJECT: Science

YEAR: 9

TOPIC: Homeostasis and Response

SEMESTER: 2



Key Questions:	How do messages move around the body? What is the reflex arc and how does it protect us from dangerous stimuli? How does caffeine and alcohol affect our reaction times?	
Curriculum Connections:	Previous (Yr 8): - Adaptations of the nerve cell. - Reaction time project	Future: - Explain how an electrical impulse moves across a synapse. - Compare the nervous and endocrine systems.

Reaction Time Practical

The aim of the investigation is to investigate whether reaction times can be reduced with practice.

Method

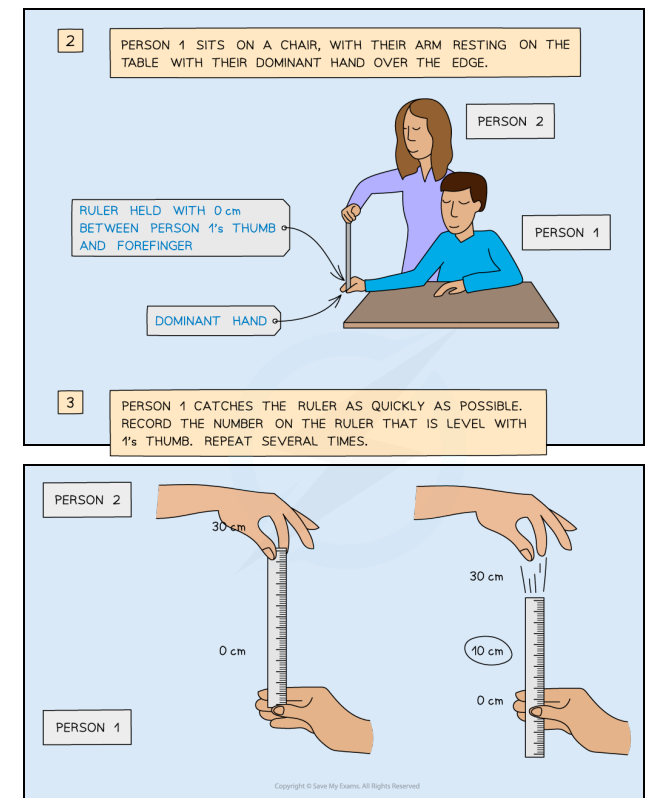
- One person sits upright on a chair and places the arm on the table so their hand is hanging over the edge.
- Place a ruler between the thumb and index finger. Ensure the 0cm mark is level with the top of the thumb.
- Drop the ruler without telling your partner.
- Record how many centimetres it took to catch.
- Repeat nine more times.
- Repeat the experiment with your other hand.

Variables

The independent variable is the left and right hand.

The dependent variable is the reaction time in seconds (converted from the distance taken to catch the ruler).

The control variables are the distance between your thumb and index finger, the amount of caffeine or glucose the person intakes during the practical and the time of day (as this can affect tiredness)





WORD REVOLUTION

DNA	Deoxyribonucleic acid. The molecule in cells that stores genetic information.
Variation	The differences that exist between individuals.
Natural Selection	The process by which species evolve.
Selective Breeding	When humans artificially select the plants or animals that are going to breed, so that the genes for particular characteristics remain in the population.
Fossil	The remains of an organism from many years ago, which is found in rock.
Binomial System	The system used in classification for naming organisms using a two-part Latin
Extinction	When no living individuals of a species remain.
Mutation	A random change in an organism's DNA.
Species	A group of similar organisms that can reproduce to give fertile offspring.
Classification	Organising living organisms into groups based on their characteristics.

What will I study in this topic?

You will study how fossils give humans evidence for evolution. We will look in detail at the stages of Darwin's theory of natural selection and how genetic and environmental factors affect how organisms compete in their environment. We will study how organisms are related and how Scientist's classify organisms through the system of classification. Finally we will look at how humans selectively breed animals and plants in the farming industry.

What will I be able to do by the end of this topic?

By the end of this unit, you will be able to:

- Describe the stages of natural selection.
- Describe how genetic and environmental factors affect variation.
- Describe the ways in which fossils are formed.
- Use pedigree charts to classify organisms.

Variation

Variation may be due to differences in-

- The genes that have been inherited.
- The conditions in which they have developed.
- A combination of genes and the environment.

Classification

Linnaeus classified living things into kingdom, phylum, class, order, family, genus and species. Organisms are named by the binomial system of genus and species.

Due to evidence from chemical analysis, there is now a 'three-domain system' developed by Carl Woese.

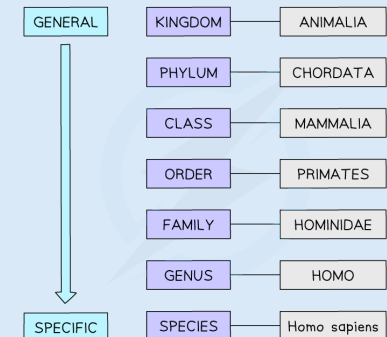
Fossils

Fossils could be

- The actual remains of an organism that has not decayed.
- Mineralised forms of the harder parts of an organism (e.g. bones)
- Traces of organisms such as footprints or burrows.

Fossils help us to understand how much or little organisms have changed as life developed on Earth.

LINNAEUS'S SYSTEM OF CLASSIFICATION



SUBJECT: Science

YEAR: 9

TOPIC: Variation, Inheritance and Evolution

SEMESTER: 2



Key Questions:	How do mutations in our DNA cause variation? Describe the stages of Darwin's theory of Natural Selection. Describe how humans selectively breed animals. Describe how fossils give us evidence for evolution.	
Curriculum Connections:	Previous (Yr 8): • Continuous and discontinuous variation in humans • Stages of natural selection. • Extinction and preserving species.	Future: • Resistant bacteria- how bacteria become resistant to antibiotics. • Genetic engineering- using technology to produce desired cells. • Using Punnett squares to calculate the probability of inheriting genes.

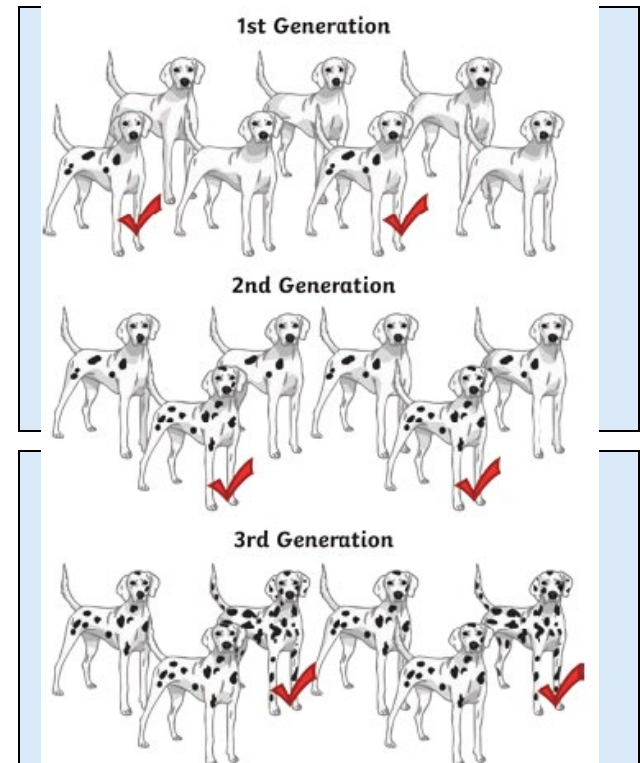
Natural Selection

Charles Darwin developed the theory of natural selection. All species of living things have evolved from simple life forms by natural selection.

1. There is variation in the population due to genetic mutations.
2. Organisms compete for food, mates and territory in order to survive.
3. The organisms who are better adapted to the environment (due to genetic and environmental variation) will survive. The others will die.
4. The surviving organisms reproduce and pass on their successful genes to the next generation.

Selective Breeding

1. Choose parents who have the desired characteristic.
2. Select the best offspring and breed these to make the next generation.
3. These offspring are then bred again and again, over many generations, until a desired result is achieved.





WORD REVOLUTION

Speed	Distance travelled in a certain time
Velocity	Speed and direction of an object
Distance	How far something has travelled
Acceleration	The rate of change of velocity
Scalar	A quantity with magnitude and no direction
Vector	A quantity with magnitude and direction
Deceleration	A reduction in the rate of change of velocity.
Braking Distance	The distance a vehicle travels after the brakes are applied until it comes to a complete stop.
Thinking Distance	The distance a vehicle travels during the driver's reaction time.
Stopping Distance	The distance covered by a vehicle in the time the driver spotting the hazard and the vehicle coming to a stop.
Reaction Time	The time taken for a person to react after an event

What will I study in these topics?

Use forces to be able to describe and calculate the change in shape and motion of objects

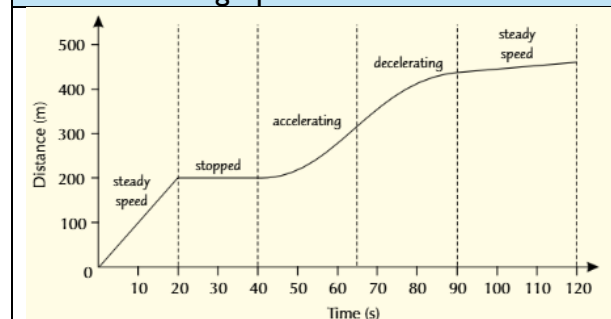
What will I be able to do by the end of this topic?

- Classify quantities into scalar and vector quantities.
- Calculate speed and velocity.
- Describe a journey using a d-t graph and a v-t graph.
- Linking reaction times to stopping distances

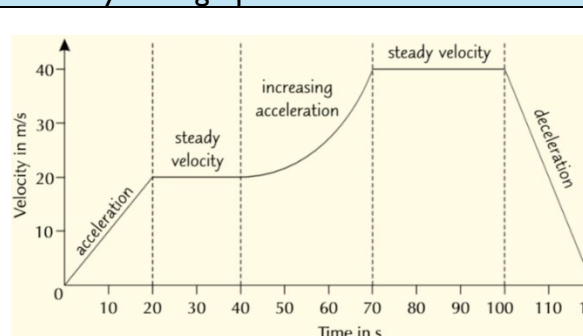
Scalars and Vectors.

Scalars	Vectors
Time	Acceleration
Distance	Displacement
Speed	Velocity
mass	Force

Distance-time graphs



Velocity-time graphs



Stopping Distance = Thinking distance + Braking distance

e.g. thinking distance = 12m and braking distance = 18m,
the stopping distance is 12m + 18m = 30 m



What will I study in these topics?	The properties of waves and how this can help to categorise them. How the force of magnetism works across a permanent magnet and electromagnet.
What will I be able to do by the end of this topic?	- Define and compare longitudinal and transverse waves - Label and describe different features of a wave - Investigate the speed of a wave in water and air. - Be able to draw a magnetic field - Describe how to find the shape of a magnetic field - Describe how a solenoid and electromagnet's magnetic field can be altered. - Describe the uses of electromagnets

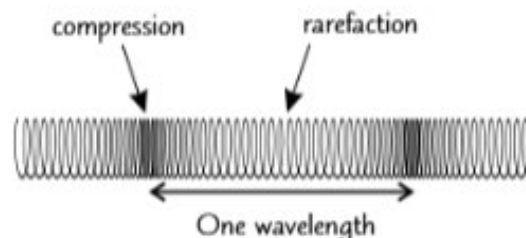
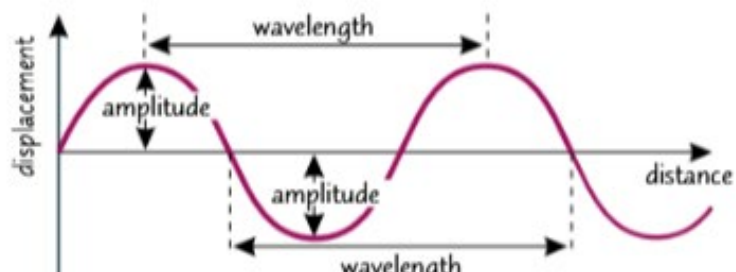
Transverse and Longitudinal Waves

Transverse wave – the oscillations are perpendicular to the direction of energy transfer.

Longitudinal Wave – the oscillations are parallel to the direction of energy transfer.

TRANSVERSE

LONGITUDINAL



The wave speed is the speed at which energy is being transferred

$$v = \text{speed (m/s)} \rightarrow v = f\lambda$$

$\lambda = \text{wavelength (m)}$
 $f = \text{frequency (Hz)}$

Magnetism

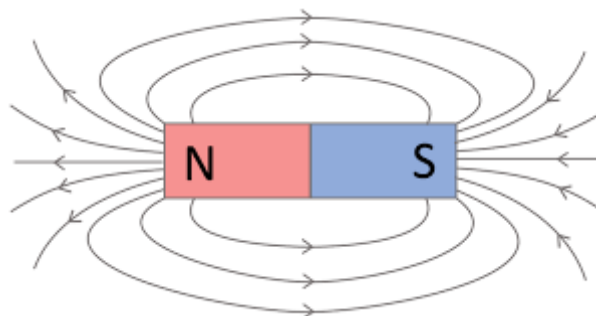
Magnetic field – a region where magnetic materials experience a force.

Magnets are strongest at the poles (North and South).

Like poles repel each other (N and N, S and S).

Opposite poles attract (N and S)

Magnetic Field lines go from N → S.



Electromagnets:

A current carrying wire generates a magnetic field around it.

If this is coiled up this becomes a solenoid.
If you place a magnetic material like iron in the coil it becomes an electromagnet. These can be strengthened by increasing the current and the number of coils.

SUBJECT: Chemistry

TOPICS: Chemical Changes, Bonding & Quantitative Chemistry

YEAR: 9

SEMESTER: 2



WORD REVOLUTION

Acid	Substances that produce hydrogen ions (H^+) in solution and have a pH below 7.
Alkali	Substances that produce hydroxide ions (OH^-) in solution and have a pH above 7.
Aqueous	Dissolved in water
pH scale	Measures acidity/alkalinity from 0 to 14 based on the concentration of H^+ ions
Salt	An ionic compound formed from the reaction of an acid and an alkali
Neutralisation	A reaction between an acid and an alkali that forms neutral products
Excess	More of a substance than is needed for a reaction; ensures the other reactant is
Relative Atomic Mass	The mass of an element (average of the masses of the element's isotopes)
Relative Formula Mass	The mass of a compound
Law of Conservation of mass	Atoms are not lost or made in a chemical reaction
Ion	An atom that has lost or gained electrons to achieve a full outer shell
Ionic Bonding	Transfer of electrons between metals and non-metals
Covalent Bonding	Sharing electrons between two non-metal atoms
Metallic Bonding	Electrostatic attraction between positive metal ions and a sea of delocalised electrons
Alloy	Mixtures of metals with other metals or elements

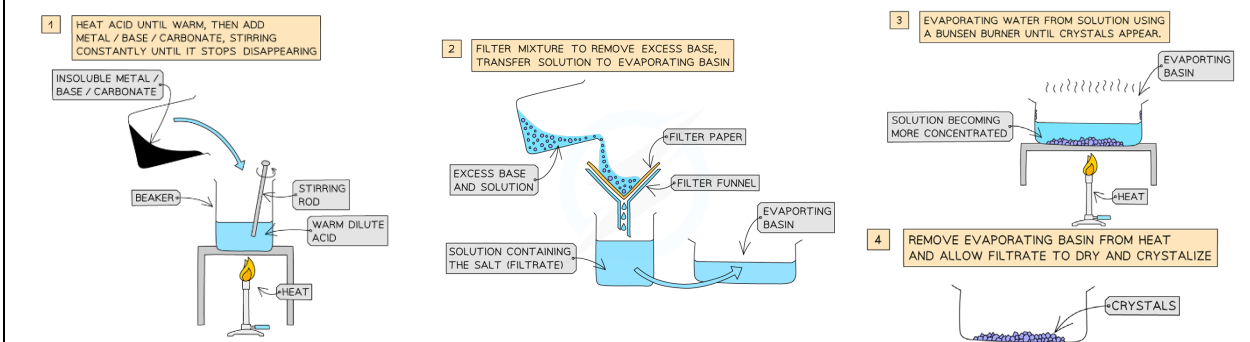
What will I study in these topics?

Acids and Alkali reactions (Neutralisation)
How metal compounds react with acids to form different products
How atoms form ionic, covalent and metallic bonds
The law of conservation of mass and how to apply it

What will I be able to do by the end of these topics?

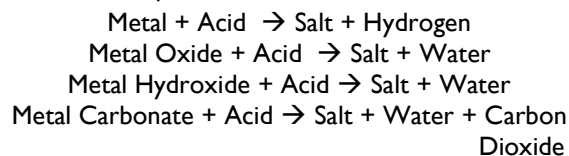
Predict products of different metal compounds reacting with acids
Describe a method for producing a pure dry sample of a soluble salt
Describe ionic, covalent and metallic bonds
Draw dot-cross diagrams for ionic and covalent compounds
Calculate masses using the law of conservation of mass

Required Practical: Soluble Salts

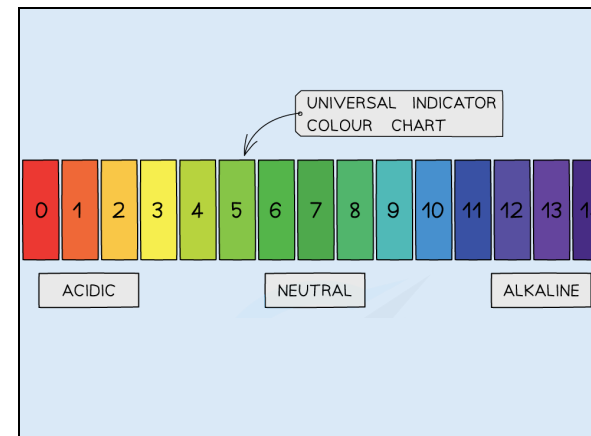


Metal & Acid Reactions

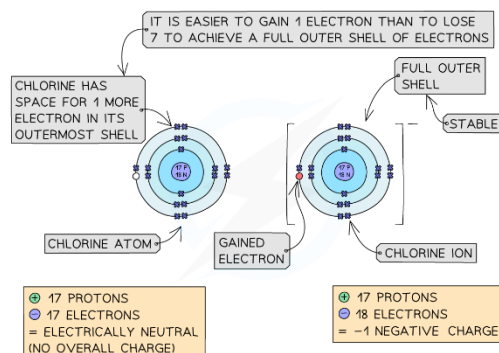
General word equations:



Acid used	Last name of the salt
Hydrochloric acid	Chloride
Sulphuric acid	Sulphate
Nitric acid	Nitrate



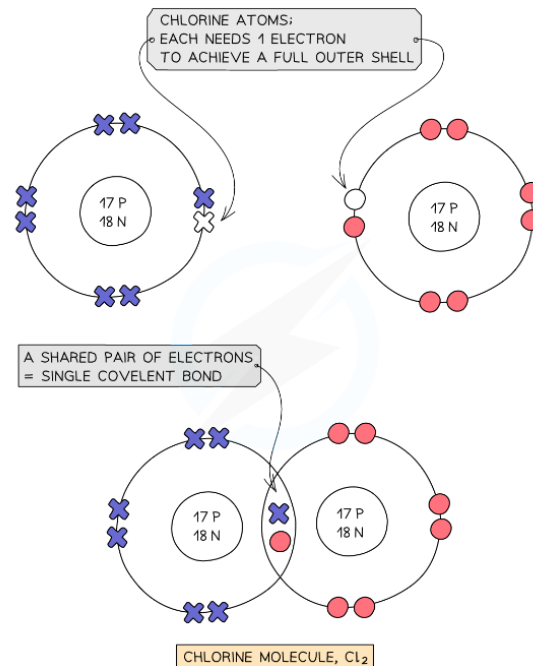
Ions & Ionic Bonding



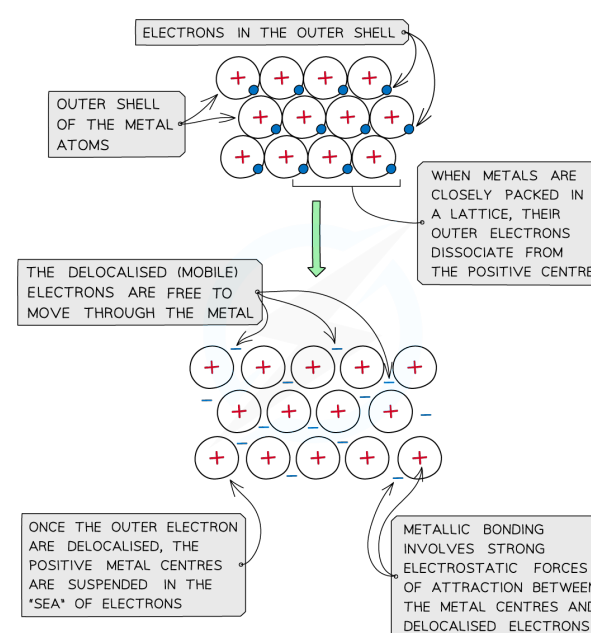
When a metal atom **transfers electrons** to a non-metal atom; an ionic bond is formed. The ions are attracted to each other because opposite charges attract (electrostatic attraction)

Ionic bonds form ionic compounds such as sodium chloride, iron oxide and copper sulphate.

Covalent Bonding



Metallic Bonding

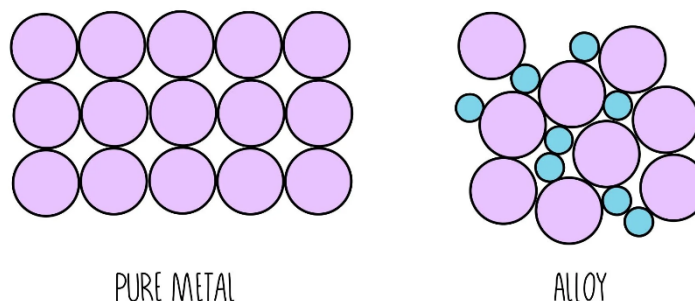


Alloys

By mixing two or more metals together, the lattice structure of metals is distorted due to the atoms being **different sizes**.

This **distorts the layers** meaning the **layers cannot slide** over each other.

This is why alloys are stronger and harder than pure metals.



Useful Hints:

Use the periodic table to:

- Work out the charge of ions. E.G. Group 2 forms 2+ charges

1+ 2+ 3+ 3- 2- 1- 0

- Tell if the substance is metallic, ionic or covalent.
 - Metallic = left side, Ionic = left & right, Covalent = right side

SUBJECT: Chemistry

YEAR: 9

TOPICS: Chemical Changes, Bonding & Quantitative Chemistry

SEMESTER: 2



Key Questions:	Explain why mass increases/decreases in an open system reaction? Describe a method for producing a pure dry sample of a soluble salt Explain why alloys are stronger than pure metals Why does hydrogen gas form in metals + acid but water when metal oxide + acid?
Curriculum Connections:	Year 7 – Atoms & Compounds, Acids and Alkalis. Year 8 – Introduction to Chemical Reactants, Metals and their Reactions. Year 9 – Atomic Structure

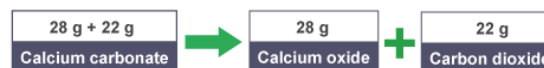
Law of Conservation of Mass

The law of conservation of mass states that **"Atoms are not lost or made in a chemical reaction so that the mass of the products equals the mass of the reactants"**.

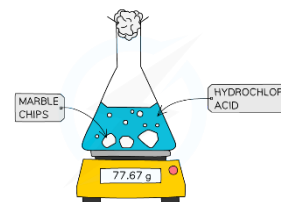


$$80 \text{ g} - 48 \text{ g} = 32 \text{ g of oxygen}$$

We can calculate an unknown substance's mass when we know the other masses.



In open systems (where substances can enter or leave the container) we **appear** to observe mass changes as gases either add to the reaction or escape. The overall mass of reactants and products is still the same.



Percentage Composition

O in $\text{KNO}_3 \rightarrow 3 \text{ atoms of O in } \text{KNO}_3$

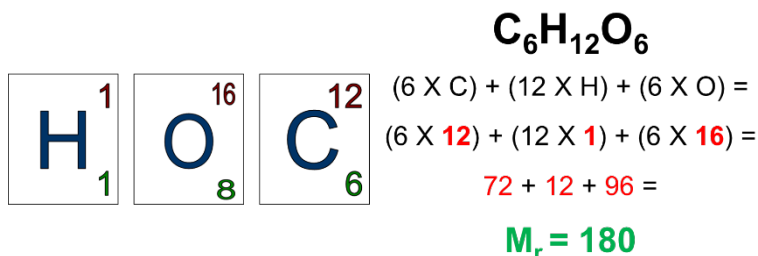
Mass of O = 16

Mass of $\text{KNO}_3 = 39 + 14 + (16 \times 3) = 101$

$$= \frac{3 \times 16}{101} \times 100 = 47.5\%$$

Relative Formula Mass (M_r)

M_r is calculated by adding together the masses of elements in the compound. The relative atomic mass (A_r) of each element is used (the big number).



Useful Hints:

A **small** number just talks about the element it is behind.

Example: $\text{O}_2 = \text{O}, \text{O}$

$\text{Li}_2\text{O} = \text{Li}, \text{Li}, \text{O}$

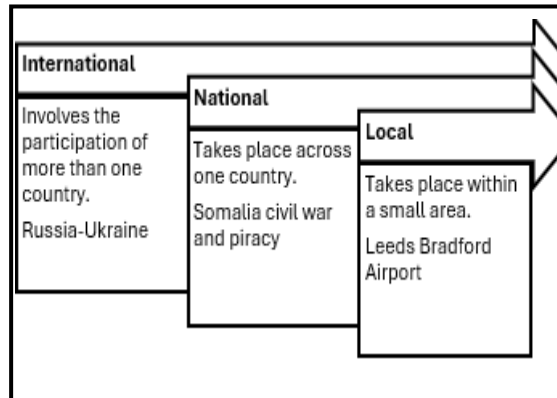
$\text{MgBr}_2 = \text{Mg}, \text{Br}, \text{Br}$



1. WORD REVOLUTION

Conflict	A serious disagreement or struggle
War	Violent conflict between countries.
Civil war	A war that takes place between two or more groups within one country.
Peace	Freedom from conflict or war.
Resources	Materials or things essential for human survival; for example food,
Government	The group of people or person in charge of running a country.
Revolution	A forceful overthrow of the government.
Separatism	A movement where one group tries to leave a country.
Poverty	The state of being extremely poor.
Inequality	The state of one group having more of a resource compared to another
Identity	Beliefs, history and personality that defines a person or group.
Treaty	An agreement between countries to end conflict.

2. Examples of conflict

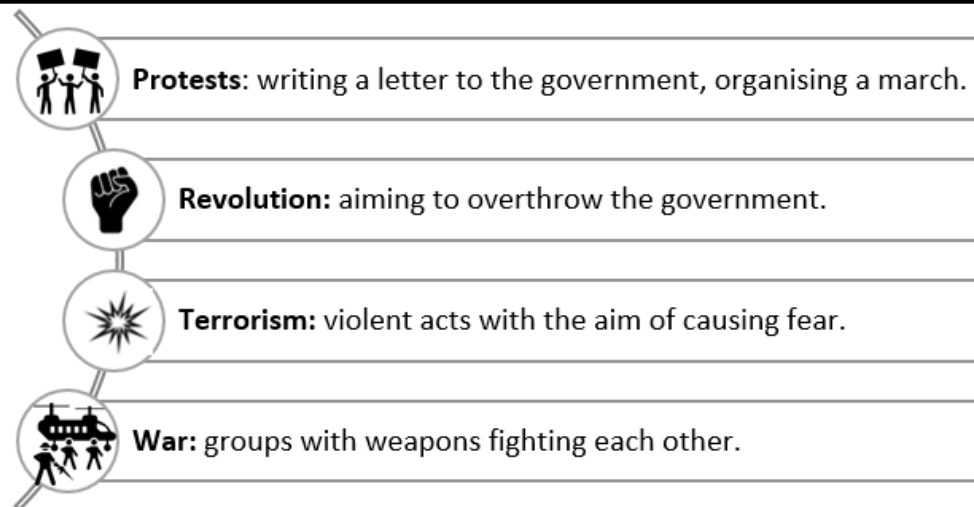


3. Causes of conflict

- **Identity:** Conflict can happen because of how a group views itself as separate or in opposition to another group.
- **Resources:** Multiple groups want to use the same resource, e.g. a water source. Climate change means there are less resources. Population growth means there are more people to use the same resources.
- **Poverty:** Poverty means people have less resources. When people are extremely poor, they often do not have time or energy to fight. However, when groups feel like they are unequal, frustration and anger can build, leading to conflict.

Conflict

4. How is conflict shown?



SUBJECT: Geography

YEAR: 9

TOPIC: Weather and climate

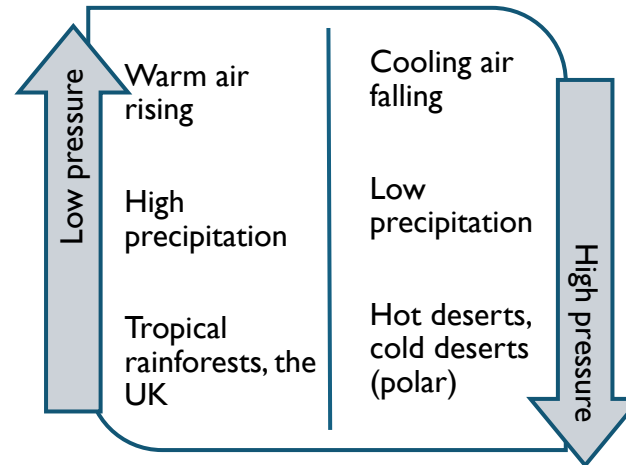
SEMESTER: 2



1. WORD REVOLUTION

Atmosphere	The layer of gas that surrounds the earth
Weather	Day-to-day changes in the atmosphere
Climate	Average weather conditions in an area
Precipitation	Water falling from the sky
Forecast	Prediction of future weather conditions
Drought	A long period with little or no rainfall
Tornado	A fast-spinning column of air that touches the ground

2. HIGH and LOW PRESSURE



3. GLOBAL CLIMATE

Latitude: distance from the Equator	Further from the Equator = generally cooler
Altitude: height above sea level	Higher above sea level = cooler
Distance from the sea	Closer to the sea = milder (less extreme)

4. WEATHER FORECAST

	Sunshine
	Rainfall
	Snow
	Thunderstorms

5. UK EXTREME WEATHER

Type	Cause	Effect
Heatwave	High pressure traps hot air	Health risks, water shortages, wildfires
Flood	Heavy rainfall or storms	Roads, homes, fields damaged or underwater
Snow	Cold air meets moist air	Travel disruption, schools closed

6. TORNADOES

Formation: Warm, moist air meets cold, dry air, causing strong rotating winds under a thunderstorm

Location: Central USA – ‘Tornado Alley’

Effects:

- Destroys buildings and trees
- Flips cars and damages power lines
- Kills people and animals

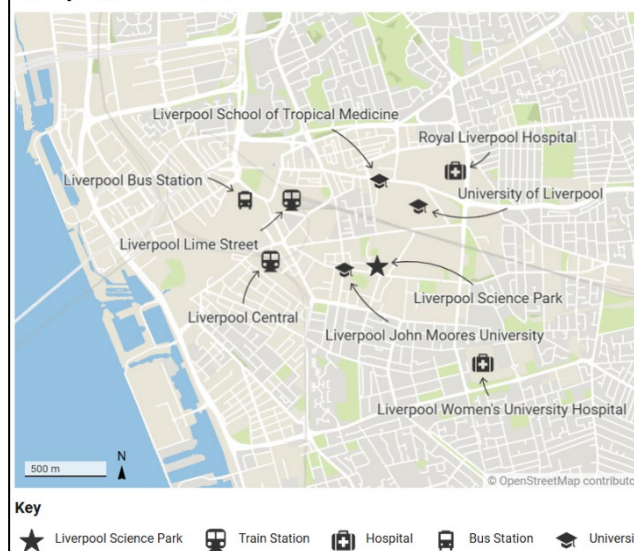


1. WORD REVOLUTION

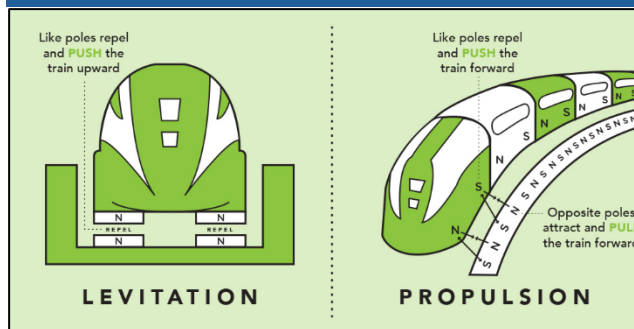
Quaternary	The quaternary sector consists of those industries providing information services e.g. IT, finance and scientific research.
Career	The job a person chooses to do through their life.
Science Park	A science park is a group of scientific and technical knowledge-based businesses located on a single site.
Sustainable	Meeting the needs of the current population without preventing future generations from meeting their needs.
Transport	A way of moving people or goods from place to place.
Maglev	Maglev (magnetic levitation) uses powerful magnets to move vehicles, getting rid of wheels and friction for super-fast travel.
Self-driving car	A self-driving/driverless car, uses sensors and AI to operate without human input.
Diet	The kind of food people eat
Vertical farming	Growing crops in vertically and horizontally stacked layers.
Lab-grown	Products, like diamonds or meat, created artificially in a laboratory by mimicking
Necessities	Goods and services that are essential to a persons life e.g. food, healthcare, education.
15-minute city	An idea to create a city where everything a resident needs can be reached 15 minutes by foot or bike.

2. SCIENCE PARKS

Liverpool Science Park

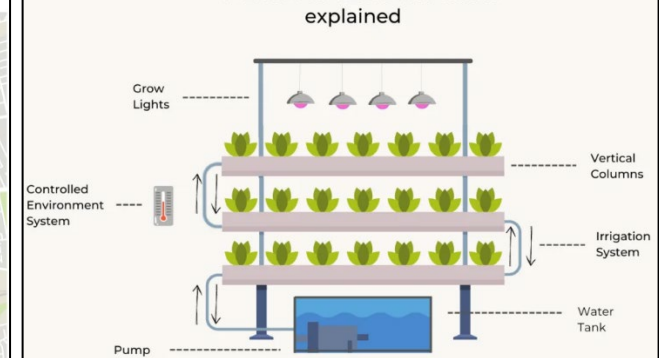


3. MAGLEV TRAINS

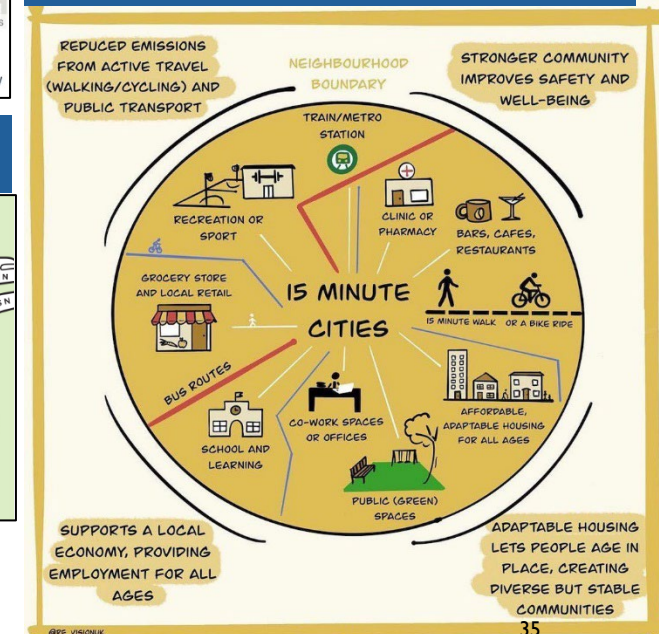


4. VERTICAL FARMING

VERTICAL FARMING explained



5. 15 MINUTES CITIES

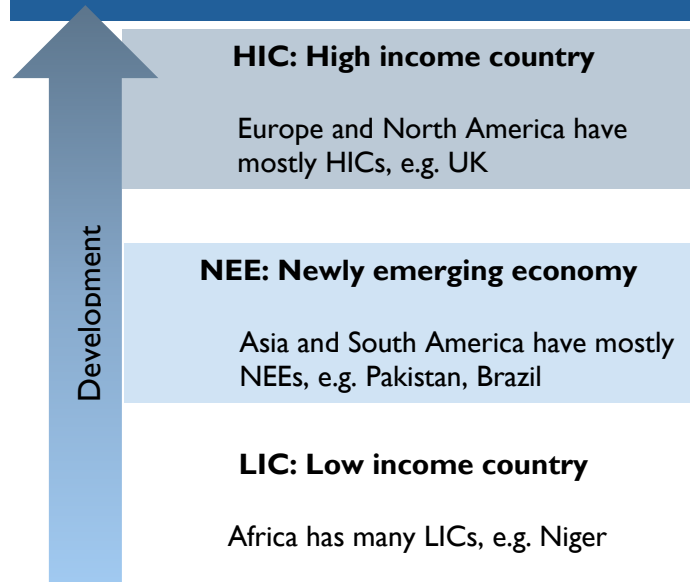




1. WORD REVOLUTION

Development	Process of a country or area improving
Life expectancy	Average age people live to in an area.
Literacy rate	Amount of people who can read and write in an area
Erosion	Wearing away of rock
Weathering	Weakening of rock where it is
Weather	Day to day changes in the atmosphere
Climate	Long term average weather conditions

2. DEVELOPMENT AROUND THE WORLD



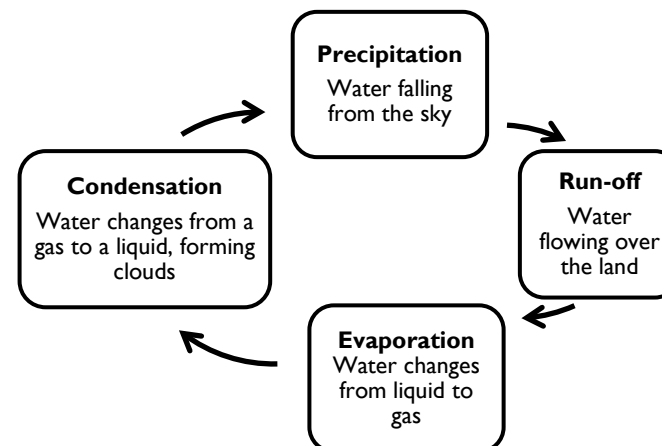
3. JOB TYPES

Tertiary jobs 	Providing a service, e.g. doctor, shop assistant, taxi driver
Secondary jobs 	Making raw materials into a product, e.g. in a factory
Primary jobs 	Extracting raw materials from nature, e.g. farmer, fisher, miner

3. RURAL and URBAN AREAS

Rural	Urban
Countryside E.g. Yorkshire Dales	City or town E.g. Leeds
Sparsely populated: not many people in a certain area.	Densely populated: lots of people in a certain area
	

4. THE WATER CYCLE



5. WEATHERING

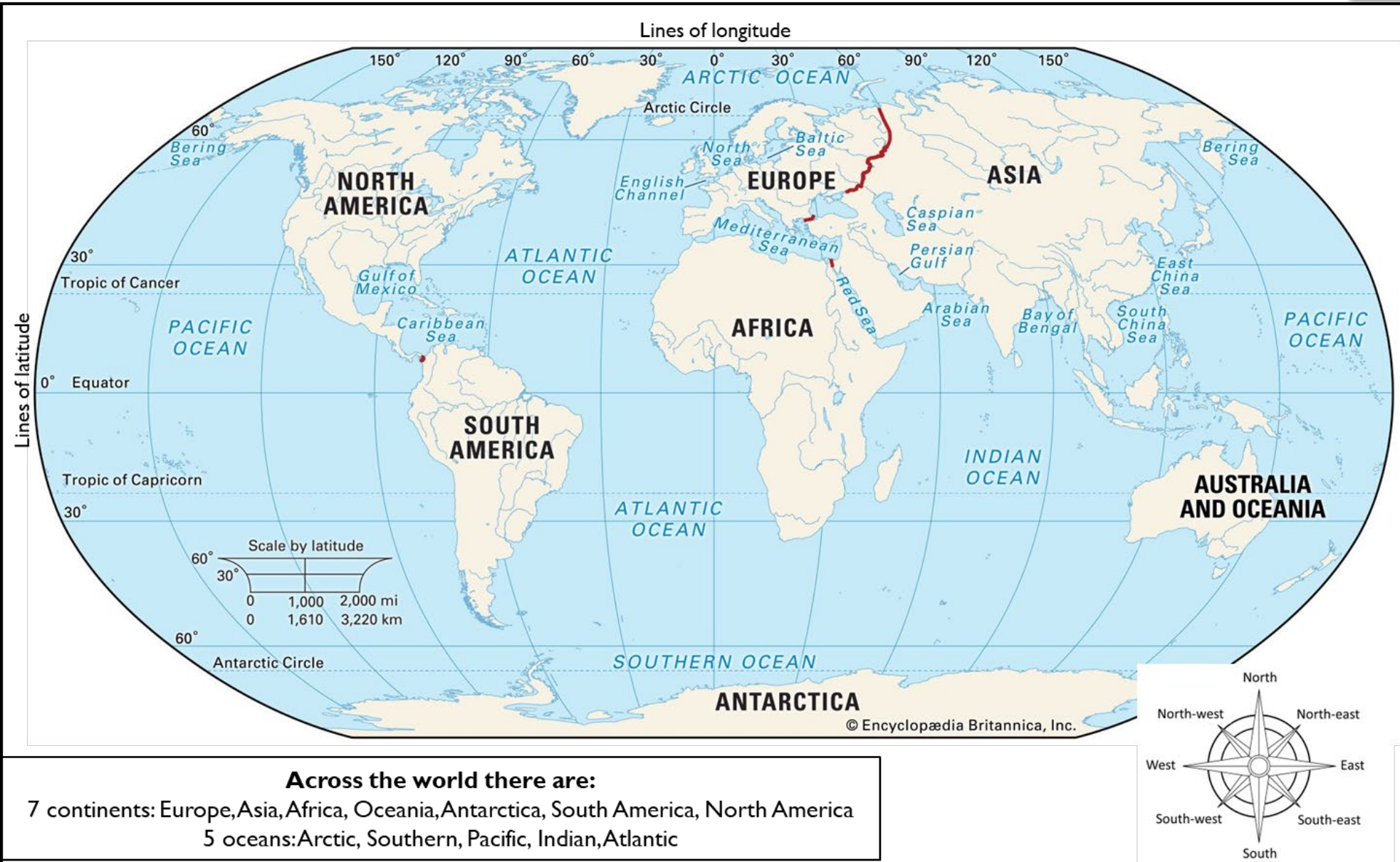
- Biological:** tree roots grow into rock, animals burrow into rock
- Chemical:** slightly acidic rainwater dissolves certain types of rock (e.g. limestone)
- Freeze-thaw:** water freezes and melts inside rock, expanding cracks

SUBJECT: Geography

YEAR: 9

TOPIC: Locational basics

SEMESTER: 2



Across the world there are:

7 continents: Europe, Asia, Africa, Oceania, Antarctica, South America, North America

5 oceans: Arctic, Southern, Pacific, Indian, Atlantic

SUBJECT: History

YEAR: 9

TOPIC: World War II

SEMESTER: 2



Word Revolution

Victory	an occasion when you win a game, competition, election, war, etc. or the fact that you have won:
Disaster	An event that results in extreme damage or loss of life
D Day	The day (6 June 1944) in the Second World War on which Allied forces landed on the beaches in Normandy, northern France to push back the Nazis.
V J Day	Victory in Japan: 15 August 1945 the day Japan surrendered to the Allies, ending World War II.
Luftwaffe	The German airforce.
Operation Sealion	Hitler's plan to invade Britain in September 1940.
Battle of Britain	The air battle which took place after Operation Sealion between the Royal Air Force (Britain) and the German Luftwaffe airplanes.
Allies	Britain, France, Russia, USA
Axis	Germany, Italy, Japan



Medieval period					Renaissance		Industrial Period		Modern Period
1000-1100	1100-1200	1200-1300	Sing 1300-1400	1400-1500	1500-1600	1600-1750	1750-1800	1800-1900	1900-present

SUBJECT: History

YEAR: 9

TOPIC: Cold War

SEMESTER: 2



Capitalism	A political belief and system of government where people can vote, own businesses and property and make profit
Communism	A political belief that society should have no social classes, everyone works as much as they can and receives what they need.
Ideology	A set of political or religious beliefs and principles.
Iron Curtain	The border between Western Europe and the communist countries of Eastern Europe. The Iron Curtain made it very difficult to travel into or out of Eastern Europe.
Nuclear	Relating to weapons, or the use of weapons, which use the power produced when the nucleus of an atom is divided or joined to another nucleus:
Refugee	A person who has escaped from their country for political, religious or economic reasons or because of war.
Blockade	Sealing off a place to prevent people or goods entering or leaving.
Space race	A 20th-century competition between the United States and the Soviet Union to achieve superior spaceflight capabilities.
Arms race	A period of intense military buildup and technological competition between the United States and the Soviet Union involving the development and stockpiling of weapons, particularly nuclear weapons,



Communism and capitalism are opposite political ideologies. This causes conflict.

When World War Two ended in 1945, there was hope that the wartime allies - the UK, America and Soviet Union - could work together to build a peaceful future. However, relations between the capitalist US and the communist Soviet Union quickly deteriorated, leading to 45 years of tension, a space race, nuclear arms race and a constant threat of nuclear war.



Medieval period					Renaissance		Industrial Period		Modern Period
1000-1100	1100-1200	1200-1300	Sing 1300-1400	1400-1500	1500-1600	1600-1750	1750-1800	1800-1900	1900-present

SUBJECT: History

TOPIC: Holocaust

YEAR: 9

SEMESTER: 2



WORD REVOLUTION

Antisemitism	Hatred of Jewish people/Judaism
Persecution	Consistent cruelty and mistreatment of a person or group of people
Pogrom	The persecution of Jewish people on a mass scale.
Ghetto	A place within a city where people live in poverty with poor housing conditions, disease and not enough food.
Orthodox	Following a religion/faith in a very traditional/strict way.
Fascism	Political far right. Anti-immigration, believe that a country is the greatest and
Genocide	The mass killing/extermination of a population.
Resistance	Fighting against something that is attacking you or refusing to accept something.
Assimilate	To become part of a society, group or country.



- Greater Germany
- Axis powers
- Occupied by Nazi Germany
- Extent of German expansion in World War Two
- Allied powers
- Neutral nations
- Ghettos

The Holocaust was the murder of approximately six million Jewish men, women and children by Nazi Germany and its collaborators during World War Two. It is called 'Shoah' by the Jewish community.

Antisemitism did not emerge for the first time when Hitler and the Nazis took power in Germany in 1933. Prejudice and hostility towards Jewish people had existed for centuries throughout Europe and beyond. When Hitler came to power in 1933, he acted on this antisemitic prejudice, which had existed for a very long time, and underpinned his ideas.



Medieval period					Renaissance		Industrial Period		Modern Period
1000-1100	1100-1200	1200-1300	1300-1400	1400-1500	1500-1600	1600-1750	1750-1800	1800-1900	1900-present



WORD REVOLUTION

Abortion	The deliberate ending of a pregnancy so that it does not result in the birth of a baby.
Conception	The moment when a sperm fertilises an egg, marking the beginning of pregnancy.
Ensoulement	The belief about when the soul enters the body of a developing baby.
Foetus	The developing baby in the womb from around 8 weeks after conception until birth.
Miracle of life	The idea that life is special, amazing, and possibly a gift from God.
Pro choice	The belief that a woman should have the right to choose whether or not to have an abortion.
Pro life	The belief that abortion is wrong because life begins at conception and should be protected.
Quality of life	A measure of how good or comfortable someone's life is, including their physical and emotional well-being.
Sanctity of life	The belief that life is holy, sacred, and given by God, so only God should decide when it ends.
Viability	When a baby could survive outside the womb with medical help. (24 weeks)

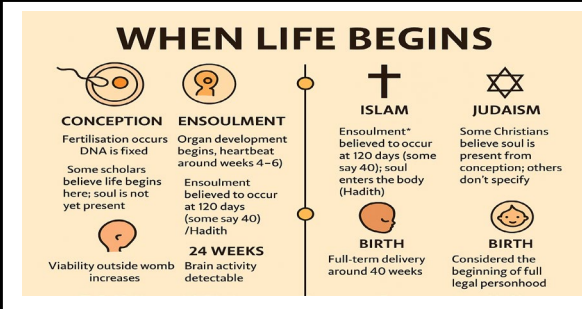
What will I study in this topic?

You will gain a well-rounded understanding of the key ethical questions and religious and non-religious perspectives surrounding abortion, approaching the topic with sensitivity and an appreciation for its complexity as an ethical, legal, and religious issue.

Curriculum Connections:

During this topic you will learn about the foetal development and the different views on when life begins. This will link to your Science lessons and also allow you to develop a basic understanding of the different religious views towards abortion. This will lay the foundations for GCSE study where this topic is covered in detail from a Christian and Buddhist perspective.

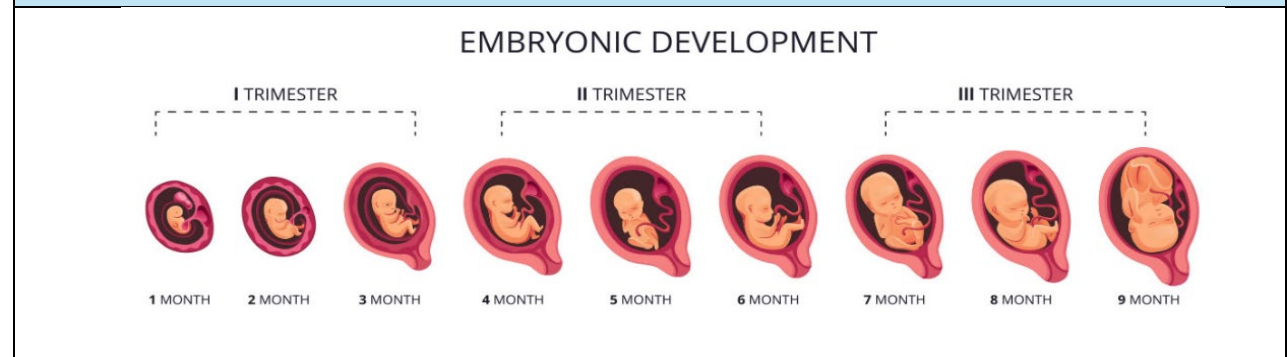
Different ideas on when life begins



Current law on abortion in the UK

ABORTION LAWS IN UK AND IRELAND	
UK	IRELAND
Law Introduced: 1967 Abortion Act Legal up to 24 weeks Requires approval from two doctors Permitted after 24 weeks only if: - risk to woman's life - severe fetal abnormality - grave physical/mental injury	Law Introduced: 2018 (Post-referendum) Mandatory 3-day waiting period Permitted after 12 weeks only if - risk to mother's life - fetus not expected to survive

Stages of foetal development





RELIGIOUS ATTITUDES TOWARD ABORTION

			
CHRISTIANITY	ISLAM	JUDAISM	BUDDHISM
• Generally opposes abortion, especially among Catholics. • Life is sacred from conception <i>"Before I formed you in the womb I knew you"</i> Jeremiah 1:5	• Abortion generally discouraged but allowed in some cases (e.g, before 120 days, to save the mother's life) <i>"Do not kill your children for fear of poverty"</i> Quran 17:31	• Permits abortion to protect the mother's life and health • The fetus is not considered a full person until birth <i>"If her life is in danger, the fetus may be destroyed"</i> Mishnah Ohalot 7:5	• Generally opposes abortion due to belief in non-harm (ahimsa) • Views vary by tradition and context <i>"The taking of life is to be avoided."</i> First Precept

Arguments for and against Abortion

ARGUMENTS FOR ABORTION	ARGUMENTS AGAINST ABORTION
Women's right to choose (non-religious) Prevents suffering in cases of severe fetal abnormalities (non-religious)  Permitted in Judaism to protect the mother's life (religious) Islam allows abortion before 120 days in some cases (religious) Reduces illegal and unsafe abortions (non-religious)	 Life begins at conception (Christian belief)  Sanctity of life (Islamic and Christian belief)  Abortion is considered killing (Buddhist and Catholic view)  Fetus has a right to life (non-religious ethical argument)  Can cause emotional and psychological harm (non-religious)



WORD REVOLUTION

Cannabis	A class B drug that comes from the cannabis plant. It is illegal in many countries.
Chemical Weapons	Weapons that use harmful chemicals to kill or injure people.
Civil War	A war between groups within the same country.
Drugs	Substances that affect the body or mind.
Euthanasia	The act of deliberately ending someone's life to relieve suffering.
Materialism	The belief that money and possessions are the most important things in life.
Pacifism	The belief that violence and war are always wrong.
Prejudice	Judging someone unfairly before knowing them
Refugee	A person who has had to leave their home country because of war.
Vegetarian	Someone who does not eat meat or fish.
Vegan	Someone who avoids all animal products, including dairy and eggs.
Voluntary Euthanasia	When a person suffering from a terminal illness ask to end their life.

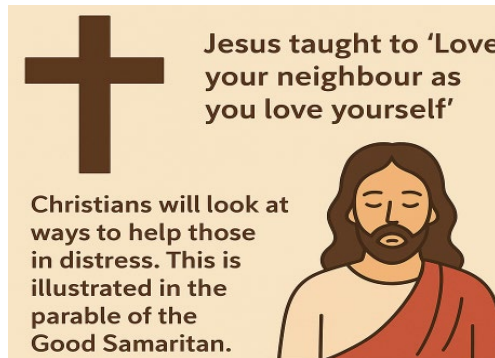
What will I study in this topic?

You will explore a wide range of ethical and philosophical questions and learn how both religious and non-religious people respond to them. You'll also develop skills in analysing religious teachings and understanding the different ways these teachings can be interpreted and applied to real-life issues

Curriculum Connections:

You will build on what you've already learned in Years 7 and 8 about religious beliefs and teachings and start to see how these can be applied to more complex ethical issues. You'll also revisit some of the ethical and philosophical topics you studied before, developing a deeper understanding of them. This will give you a strong foundation for the ethical issues studied in GCSE R.S.

Loving your neighbour



Christians will look at ways to help those in distress. This is illustrated in the parable of the Good Samaritan.

The Golden Rule teaches 'To do unto others what you want others to do to you'

Drugs and Alcohol

CANNABIS: LAW, LEGALITY & PERSPECTIVES



WHERE IS CANNABIS LEGAL

CANNABIS IN THE UK

- Class B Drug under the Misuse of Drugs Act 1971
- Illegal to possess, grow, or supply without Home Office licence
- Medical cannabis is legal but only under strict prescription for specific conditions

WHERE IS CANNABIS LEGAL?

✓ FOR	✗ AGAINST
• Medical benefits (e.g. pain relief, epilepsy) • Economic gain through taxation • Reduces criminal gang activity • Comparable or less harmful than alcohol /tobacco	• Risk of addiction and mental health issues • Gateway to harder drugs • Impaired judgment and driving risks • Long-term health effects still debated



CHRISTIAN VIEWS ON INTOXICATION

Ephesians 5:18 - "Do not get drunk on wine, which leads to debauchery. Instead, be filled with the Spirit."

Proverbs 20:1 "Wine is a mocker, strong drink is raging; and whosoever is deceived thereby is not wise."

Buddhism 'Abstain from intoxicants that cloud the mind' (The Five Moral Precepts)

Islam 'Intoxicants are tools of affliction used by the Devil' (The Quran)



RELIGIOUS QUOTES

TOPIC	ISLAM	CHRISTIANITY	JUDAISM
LIFE AFTER DEATH	"Every soul shall taste death Then to Us will you be returned." (Qur'an 29:57)	"I am the resurrection and the life. The one who believes in me will live, even though they die."	"Many of those who sleep in the dust of the earth shall awake." (Daniel 12:2)
ANIMAL TESTING	"Whoever kills anything bigger than a sparrow without just cause will be accountable."	"The righteous care for the needs of their animals." Proverbs 12:10 "A righteous man regards the life of his animal." (Dhammapada)	"A righteous man regards the life of his animal." "All beings tremble before danger, All fear death." (Dhammapada)
CAUSES OF WAR	"And if anyone seeks your protection, then grant him protection."	"Blessed are the peacemakers, for they will be called children of God." Matthew 5:9	"Seek peace and pursue it." Seek peace and pursue it."



Different Religious and Non-Religious beliefs about Life after death



Christianity	Belief in Heaven and Hell; immortality of the soul; resurrection of the body; final judgement before God
Islam	Belief in Paradise and Hell; resurrection of the body; final judgment before Allah
Humanism	Focus on making the most of this life; no belief in an afterlife
Paranormal	Spirits of the deceased may linger on Earth; Ghosts
Mediums	Individuals who claim to communicate with the spirits of the dead
Near-Death Experiences	Accounts of visions or experiences while close to death



Animal Testing

Advantages	- Medical Advancements: Leads to life-saving treatments and vaccines (e.g., insulin, cancer drugs). - Biological Similarity: Animals like mice share much DNA with humans, aiding disease research.
Disadvantages	- Ethical Concerns: Seen as cruel and inhumane by many due to animal suffering. - Limited Applicability: Animal results don't always predict human outcomes accurately.

Religious Views

Judaism	Permits testing if it benefits humans, but stresses compassion. <i>"A righteous man regards the life of his animal." — Proverbs 12:10</i>
Christianity	Allows it if it helps humanity and avoids cruelty. <i>"Are not five sparrows sold for two pennies? Yet not one of them is forgotten by God." — Luke 12:6</i>
Islam	Permissible when necessary, but cruelty is forbidden. <i>"Whoever is kind to the creatures of God is kind to himself." — Prophet Muhammad (Hadith)</i>



KEY VOCABULARY

modal verbs	
man muss (nicht) – one must (not)	gut frühstücken – eat a good breakfast
man darf – one may	weniger Fleisch essen – eat less meat
man soll – one should	
health strategies	
Sport treiben – do sport	sich gesund ernähren – eat healthily
mindestens acht Stunden pro Nacht schlafen – sleep at least 8 hours a night	keine Drogen nehmen – take no drugs
Bonbons vermeiden – avoid sweets	vapen - vape
acht Gläser Wasser pro Tag trinken – drink 8 glasses of water per day	spät ins Bett gehen – go late to bed
mehr Gemüse essen – eat more vegetables	future health
nicht rauchen – not smoke	nächstes Jahr – next year
keine Mahlzeiten auslassen – not skip any meals	in Zukunft – in the future
mehr Zeit in der frischen Luft genießen – to spend more time in the fresh air	Wenn ich älter bin – when I am older
zu Fuß in die Schule kommen – to come by foot to school	einen Fitnessplan machen – to make a fitness plan
(keine) Kekse naschen – (not) to snack on biscuits	mehr Obst essen – eat more fruit
	öfter – more often
	mehr Zeit draußen verbringen – spend more time outside

What will I study in this topic?

- ☐ 1: Discussing aspects of physical and mental health
- ☐ 2: Discussing whether I was healthy in the last year
- ☐ 3: Discussing the advantages and disadvantages of foods
- ☐ 4: Discussing my plans to be healthy in the future

What will I be able to do by the end of this topic?

- ✓ Explain how to stay healthy
- ✓ Use the perfect and imperfect tenses to discuss recent healthy and unhealthy activities
- ✓ Use the future tense to discuss my plans to maintain good physical and mental wellbeing

Grammar: The Future Tense

To form the future tense in German:

- ✓ Choose the pronoun from the correct part of "werden" eg ich werde
- ✓ Add the correct **infinitive at the end of the clause**

Ich **werde** Fußball **spielen** = I will play football
 Ich **werde** mehr Wasser **trinken** = I will drink more water

Die Zukunft (the future)

Pronom	Verbform
ich	werde
du	wirst
er / sie / man	wird
wir	werden
ihr	werdet
Sie /sie	werden

Warmduscher



Frühaufsteher





Key Questions:	Was muss man machen, um gesund zu bleiben? What must one do to stay healthy? Bist du normalerweise gesund? Are you normally healthy? Was hast du neulich gemacht, um fit zu bleiben? What have you done recently to stay fit? Was wirst du in Zukunft machen, um gesund zu bleiben (oder nicht)? What will you do in the future to stay healthy (or not)?
Cultural links:	Figurative language to discuss people's fitness, health and activity levels: • Warmduscher: "wimp" ("warm-showerer") – somebody who can't manage a cold shower! • kerngesund: "as fit as a fiddle" / perfectly fit • eine Naschkatze: "a snacky-cat" – somebody with a sweet tooth / who likes eating sweet things • ein Morgenmuffel: somebody who is grumpy in the mornings ("morning-grump") • ein Frühaufsteher: somebody who likes to get up early ("early-getter-upper")

Perfect Tense (past tense) verbs

The perfect tense is used to describe completed actions in the past, for example if you watched a film. Remember that for **verbs of movement**, we use **sein** rather than **haben** as the auxiliary verb.

I saw	ich habe...gespielt	I went	ich bin...gegangen
you (inf, sing) saw	du hast...gespielt	you (inf, sing) went	du bist...gegangen
s/he saw	er/sie hat...gespielt	s/he went	er/sie ist...gegangen
we saw	wir haben...gespielt	we went	wir sind...gegangen
you (inf, pl.) saw	ihr habt...gespielt	you (inf, pl.) went	ihr seid...gegangen
you (form.)they saw	Sie/sie haben...gespielt	you (form.)they went	Sie/sie sind...gegangen

Curriculum Connections:

- ☐ Opinions
- ☐ Comparative
- ☐ Reference to others
- ☐ Describing
- ☐ **Narration:** used to sequence what we did for our health last year
- ☐ **Figurative language:** used to discuss your health habits

German in context

Um gesund zu bleiben muss man mehr Zeit in der frischen Luft genießen.

To stay healthy, one must spend more time in the fresh air.

Ich verbringe zu viel Zeit vor einem Bildschirm.

I spend too much time in front of a screen.

Ich habe neulich zu viel Pizza gegessen. Es war ungesund, aber lecker!

Recently I have eaten too much pizza. It was unhealthy, but tasty!

In Zukunft werde ich acht Stunden pro Nacht schlafen und mehr Gemüse essen.

In the future I will sleep eight hours a night and eat more vegetables.

Imperfect Tense

We can use the **imperfect tense** to describe how things were in the past.

I was	ich war
you (inf, sing) were	du warst
s/he/it was	er/sie/es war
we were	wir waren
you (inf, pl.) were	ihr wart
you (form.)they were	Sie/sie waren



KEY VOCABULARY

places in town	adjectives
Es gibt = there is / there are	schön - beautiful, nice
einen Flughafen - an airport	häßlich - ugly
einen Hafen - a port	sauber - clean
einen Dom - a cathedral	schmutzig - dirty
einen Strand - a beach	groß - big
eine Moschee - a mosque	klein - small
eine Polizeiwache - a police station	grün - green grau - grey
eine Kirche - a church	voller Leben - full of life
eine Sporthalle - a gym	verschmutzt - polluted
ein Parkhaus - a carpark	hübsch - pretty
ein Schloss - a castle	langweilig - boring
ein Rathaus - a town hall	interessant - interesting
ein Kino - a cinema	future plans
ein Schwimmbad - a swimming pool	ich werde - I am going to
ein Einkaufszentrum - a shopping centre	nach Berlin fahren - go to Berlin
Denkmaler - monuments	viel schlafen - sleep lots
Geschäfte - shops	Videospiele spielen - play videogames
Gebäude - buildings	
ideal town	schwimmen - to swim
es gäbe - there would be	Filme anschauen - watch movies
es wäre - it would be	
wir hätten - we would have	faulenzten - laze around

What will I study in this topic?

- ☐ 1: Discussing what is in my local area
- ☐ 2: Using complex sentences to describe my area
- ☐ 3: Creating a dream town
- ☐ 4: Discussing our plans for Summer in the local area

What will I be able to do by the end of this topic?

Describe what is in my local area, using "es gibt"
Compare our local area with other towns and cities
Use the conditional tense to describe our dream town
Use the future tense to discuss our future plans

Es gibt...

- Masculine** → • **Ein** Flughafen
• **Ein** Hafen
• **Ein** Dom
- Feminine** → • **Eine** Moschee
• **Eine** Polizeiwache
• **Eine** Kirche
- Neuter** → • **Ein** Schloss
• **Ein** Rathaus
• **Ein** Kino
- Plural** → • **Denkmaler**
• **Geschäfte**

Grammar: Key verbs in the conditional

- ✓ The **conditional tense** is used to describe what things "**would**" be like. These high-frequency verbs come from the German subjunctive and are very useful in lots of situations:

es gäbe	there would be
es wäre	it would be
wir hätten	we would have
ich möchte	I would like

Grammar: comparative adjectives

In German, we add "**er**" to most adjectives to form the **comparative** form

klein small	kleiner smaller
modern modern	moderner more modern

For single syllable adjectives, we also add an umlaut if appropriate.

warm warm	wärmer warmer
kalt cold	kälter colder

☺Advantages

☹Disadvantages

Es gibt... there is/are

viel zu tun lots to do	zu viel Verkehr too much traffic
Bäume trees	nichts zu tun nothing to do
Blumen flowers	Müll auf den Straßen rubbish on the streets
frische Luft fresh air	Möwen seagulls
Radwege cyclepaths	Kriminalität crime
historische Gebäude historical buildings	
freundliche Leute friendly people	



Key Questions:	Was gibt es in deiner Stadt ? What is there in your town? Welche Stadt ist besser, Berlin oder Leeds? Which town is better, Leeds or Berlin? Beschreib deine Traumstadt Describe your dream town. Was wirst du in den Sommerferien machen ? What will you do in the Summer holidays?
Cultural links:	Berlin is the capital city of Germany and offers an enticing mix of history, modern architecture and cultural monuments. On the GCSE German Trip to Berlin next year: - Explore these iconic monuments - Taste "Currywurst" in the town that invented it - shop in the Mall of Berlin   

Forming the Conditional Tense in German

The **conditional tense** is used to describe what we "**would**" do. It is a hypothetical tense, in this sense.

To form the conditional tense:

- ✓ Choose the pronoun and correct part of werden
eg ich **würde**
- ✓ Add the correct **infinitive at the end of the clause.**
eg ich **würde** mit einem Privatjet **fahren.**
= I would travel by private plane

Deutsch	English
ich würde	I would...
du würdest	you sing.inf. would...
er/sie/man würde	s/he/we would...
wir würden	we would...
ihr würdet	you inf.pl. would...
Sie/sie würden	you form. / they would...

🧐 😊 🐘 ❌ 🗺️ Curriculum Connections:

- ☐ **Opinions: of your town**
- ☐ **Comparing: different cities**
- ☐ Reference to others
- ☐ **Describing: your local area**
- ☐ **Narrating: events in the future tense**
- ☐ **Figurative Language**

German in context

In meiner Stadt gibt es eine Schule, ein großes Einkaufszentrum, und einen Park.

In my town there is a school, a large shopping centre and a park.

Berlin ist größer als Leeds, aber Leeds ist ruhiger.

Berlin is bigger than Leeds, but Leeds is quieter.

In meiner Traumstadt gäbe es ein Hallenbad, einen Flughafen und viele Geschäfte.

In my dream town there would be an indoor swimming pool, an airport and lots of shops.

In den Sommerferien werde ich viel schlafen und Videospiele spielen.

In the Summer holidays I will sleep a lot and play video games.

In Berlin kann man...In Berlin one can...

einkaufen gehen	go shopping
viele Fotos machen	take lots of photos
Kunst genießen	enjoy art
eine neue Kultur entdecken	discover a new culture
Museen besuchen	visit museums
Currywurst essen	eat "currywurst"
Deutsch üben	practise German
mit der U-Bahn fahren	go on the underground

SUBJECT: Computer Science

YEAR: 9

TOPIC: Machine learning and web security

SEMESTER: 2



WORD REVOLUTION

Artificial Intelligence (AI)	Technology that enables machines to mimic human intelligence.
Machine Learning	A type of AI where systems learn from data to improve performance.
Neural Network	A model inspired by the human brain, used in deep learning.
Automation	The use of technology to perform tasks without human input.
Ethics	Moral principles that govern the use and impact of technology.
Digital Artifact	A digital product created for a specific purpose (e.g., website, video).
Design Specification	A detailed plan outlining the purpose and features of a product.
User Interface (UI)	The part of a system users interact with.
Multimedia	The use of text, images, sound, and video in digital content.
Evaluation	Assessing how well a product meets its intended goals.
Phishing	A scam where attackers trick users into revealing personal information.
Scamming	Fraudulent schemes to deceive and exploit users online.
Data Protection	Measures to safeguard personal and sensitive information.
Firewall	A security system that controls incoming and outgoing network traffic.

What will I study in this topic?

In this topic, you will explore how artificial intelligence is used in the real world and consider the ethical questions it raises. You will learn how to plan, design, and create digital artifacts for a specific purpose, using a range of tools and media. You will also take part in a group project on web security, where you will investigate online risks such as phishing, scams, and data breaches. You will develop your understanding of online safety. These topics will help you build confidence in using technology creatively and responsibly, while preparing you for more advanced computing and IT work in Key Stage 4.

What will I be able to do by the end of this topic?

By the end of this topic, you will be able to explain how artificial intelligence is used in different industries and discuss its ethical implications. You will have planned and created a digital artifact that meets a specific need, using appropriate tools and techniques. You will also have worked as part of a team to research and present findings on web security threats, including how to recognise and protect against scams and phishing. You will be able to apply your knowledge to stay safe online and make informed decisions about your digital footprint.

Who will be affected by AI?

AI will change almost every type of job. Repetitive tasks (e.g., data entry, customer service, factory work) may be automated. AI will support complex jobs like medicine, law, and finance. Creative jobs (design, writing, music) will use AI as a tool, not a replacement. Driving and delivery may change with self-driving vehicles. AI will also create new jobs we don't yet know about.

My email address: _____@bentonpark.net

My computer log in: _____

My EduCake user name: _____

What is Artificial intelligence?

Artificial Intelligence (AI) is the ability of a computer or machine to perform tasks that typically require human intelligence. These tasks include recognising speech, making decisions, solving problems, and understanding language. A key part of AI is **machine learning**, where computers learn from data and improve their performance without being explicitly programmed. For example, a machine learning system can learn to recognise images of animals by analysing thousands of examples. A more advanced form of AI is the **Large Language Model (LLM)**, like ChatGPT. LLMs are trained on vast amounts of text and can understand and generate human-like language. They are used in chatbots, translation tools, and writing assistants. AI is already part of everyday life—from voice assistants to recommendation systems—and is shaping the future of work, communication, and technology.

SUBJECT: Computer Science

YEAR: 9

TOPIC: Machine learning and web security

SEMESTER: 2



Key Questions:	1. How is artificial intelligence used in everyday life, and what are its benefits and limitations? 2. What ethical issues arise from the use of AI, and how can we address them responsibly? 3. What steps are involved in planning, designing, and creating a digital artifact? 4. How can we evaluate whether a digital artifact meets its intended purpose effectively? 5. What are the most common online threats to personal data, and how can we protect ourselves from them? 6. How do scams like phishing work, and what strategies can we use to avoid falling victim to them?
Curriculum Connections:	This semester builds on key skills from Years 7–9, such as AI awareness, digital design, and online safety. You explore how AI is applied in real-world contexts, preparing you for topics like data use and ethical computing in both OCR J277 and BTEC Digital IT. The creation of digital artifacts develops planning and design skills introduced in earlier multimedia units, linking directly to BTEC coursework. The web security project deepens understanding of online risks, reinforcing e-safety knowledge and introducing cybersecurity threats and protections—core to OCR J277's Unit 6. These topics strengthen digital literacy, problem-solving, and collaboration, bridging KS3 learning with the technical and analytical demands of KS4 Computing and IT.

Top Tips for this semester

- **Be curious about AI** – Explore how it's used in apps, games, and websites you already use.
- **Think ethically** – Ask yourself how AI decisions might affect people differently.
- **Plan before you create** – Sketch or outline your digital artifact before starting.
- **Use the right tools** – Choose software that suits your project's purpose and audience.
- **Stay alert online** – Don't click on suspicious links or share personal info with strangers.
- **Use strong passwords** – Combine letters, numbers, and symbols, and don't reuse them.
- **Work as a team** – Share ideas and divide tasks fairly in your web security project.
- **Ask for help** – If something doesn't make sense, talk to your teacher or classmates.
- **Keep learning** – Technology changes fast—stay updated and keep experimenting!

Where can this take me?

The skills you develop can lead to exciting careers in technology. Understanding **AI** could lead to roles like *Machine Learning Engineer* or *Data Scientist*, with starting salaries around **£35,000**, rising to over **£70,000** with experience.

Creating **digital artifacts** builds skills for careers in *Web Design*, *App Development*, or *Digital Marketing*, where salaries typically range from **£25,000 to £50,000**.

Your work on **web security** connects to careers in *Cybersecurity*, such as *Security Analyst* or *Ethical Hacker*, with starting salaries around **£30,000**, and experienced professionals earning **£60,000+**. These roles are in high demand and offer opportunities to work in many industries—from gaming and healthcare to finance and education.

To get the best answers from Copilot, it helps to be clear, specific, and polite. Here are some tips:



- **Be specific** – Instead of asking “Tell me about AI,” try “Can you explain how AI is used in healthcare?”
- **Give context** – If you're working on a project or homework, say so. For example: “I'm doing a project on cybersecurity—can you help me explain phishing?”
- **Ask one thing at a time** – If you have lots of questions, break them into smaller parts.
- **Use full sentences** – It helps Copilot understand exactly what you need.
- **Be curious!** – Copilot works best when you explore ideas, ask follow-up questions, and think critically.

SUBJECT: Computer Science

YEAR: 9

TOPIC: Machine learning and web security

SEMESTER: 2



How will I be assessed?

At the end of each unit of work you will have an end of unit assessment on the computer. You will also have assessed homework through Educake. As the “Web Security” project is completed in small groups, you will be assessed on the visual, factual, and functional quality of the finished product, as well as the suitability for the target audience. You will receive an ATL grade for each unit of work that reflects your attitude and effort for the topic.

Setting out a group project.

- **Plan together** – Start by agreeing on your goals, deadlines, and who will do what. As an example, please agree what the end product is you’re going to make, then plan how you’re going to get there. Everyone should have a part to play in the “shared vision”.
- **Communicate clearly** – Use respectful language and listen to everyone’s ideas. Often, the team members with the loudest voices have the most say, but everyone has great ideas, so make sure they are all listened to.
- **Stay organised** – Keep track of tasks and check in regularly to stay on schedule. Agree how long a task will take and *stick to the timescales!*
- **Be flexible** – If someone is struggling, help out and adjust plans if needed. Being in a team is all about collaborative working.
- **Reflect as a team** – After the project, discuss what went well and what could improve. Knowing the best way to approach a similar project if you were to do it again is great learning.

Using the technology

- **OneDrive** – Store and share files securely with your group. You can share these so that others in the group can access them even when you’re not there. 
- **Word Online / PowerPoint Online** – Work on the same document or presentation at the same time. This can really speed up the delivery of your project.
- **Teams** – You can use this to have calls with your teams or share documents. You will need to hand in your work through Teams when completed.

Refecation questions

1. Can you explain how AI is used in something you’ve interacted with recently (e.g., a phone app or website)?
2. What are some of the benefits and risks of using AI in everyday life?
3. What steps did you take to plan and create your products?
4. How did you make sure your product met its intended purpose?
5. What are some common online threats, and how can you protect yourself from them?
6. What did you learn from working in a group on the web security project?
7. Which topic this semester did you find most interesting, and why?
8. How do you think the skills you’ve learned could help you in the future?

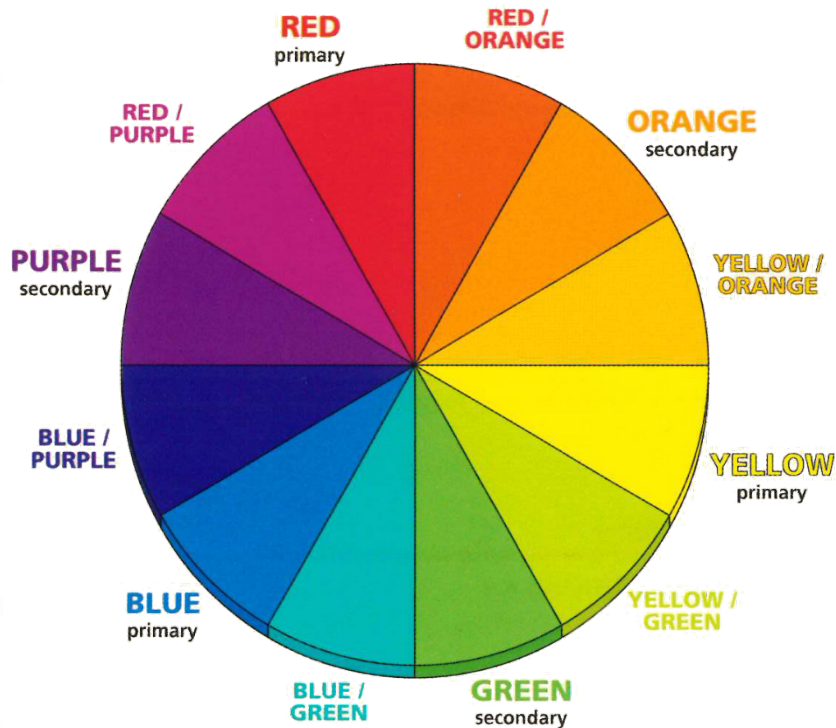
Further reading

1. **Hello World: How to Be Human in the Age of the Machine** by Hannah Fry
A brilliant introduction to how algorithms influence decisions in areas like healthcare, policing, and social media—written in a very readable style.
2. **You Are Not a Gadget** by Jaron Lanier
A thought-provoking look at how digital technology affects identity, creativity, and society. Some parts may be more advanced, but selected chapters are great for discussion.
3. **The Big Data Survival Guide** by David McCandless (visual content)
Infographics and short explanations about how data is collected and used—ideal for visual learners.
4. **AI for Kids** by Dale Lane
A hands-on, friendly introduction to artificial intelligence, with examples and activities that show how AI is already part of daily life.

SUBJECT: Art & Design

TOPIC: Formal Elements

THE COLOUR WHEEL



COMPLEMENTARY COLOURS

The colours opposite each other on the wheel are called complementary colours.

RED is opposite **GREEN**
BLUE is opposite **ORANGE**
YELLOW is opposite **PURPLE**

If a colour is surrounded by its complementary colour it will appear stronger and brighter.



PRIMARY COLOURS

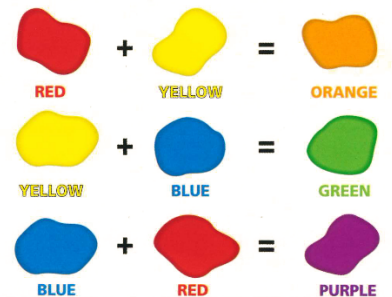
There are **THREE PRIMARY COLOURS**. These are pure colours which cannot be made by mixing other colours.



SECONDARY COLOURS

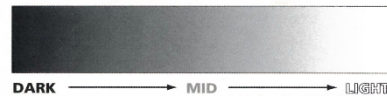
Secondary colours are made by mixing each primary colour with one other primary colour.

PRIMARY + PRIMARY = SECONDARY



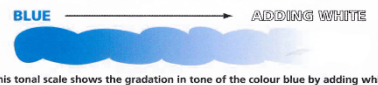
-tone

This tonal scale shows the gradation of dark tones, mid tones and light tones. It shows the passage from black through grey to white.



TINTING AND SHADING

Tinting and shading refer to making a colour lighter by adding white (tinting) or darker by adding black (shading).



This tonal scale shows the gradation in tone of the colour blue by adding white.



This tonal scale shows the gradation in tone of the colour red by adding black.

TINTING AND SHADING WITH COLOUR



This tonal scale shows the gradation in tone of the orange when mixing different quantities of red and yellow.

YEAR: KS3

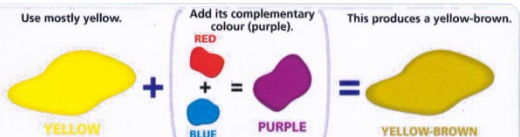
SEMESTER: 2



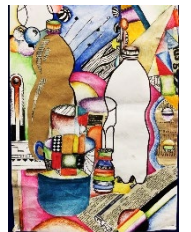
TERTIARY COLOURS

TERTIARY COLOURS CONTAIN A MIX OF ALL THREE PRIMARY COLOURS. A PRIMARY, MIXED WITH ITS COMPLEMENTARY COLOUR EQUALS A TERTIARY COLOUR

PRIMARY + COMPLEMENTARY = TERTIARY



By using varying amounts of each colour, an infinite number of shades are possible. The more colours are mixed on the palette, the less luminous the result.



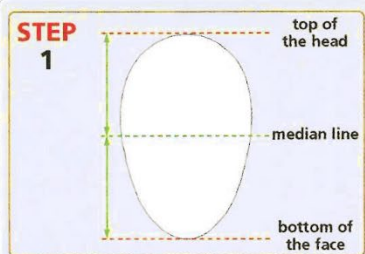
WORD REVOLUTION VOCABULARY

PORTRAIT OBSERVATION FACIAL - PROPORTION EXPRESSION tone TINT SHADE CUBISM CONTOUR DISTORTION GRADATION COMPLIMENTARY - COLOUR	VIEWPOINT SYMMETRICAL STILL-LIFE ELLIPSE VERTICAL DEPTH PROPORTION ACCURACY LIMITED PALETTE MONOCHROME COLLAGE DEFINE COMPOSITION DIAGONAL METHOD PERSPECTIVE	GRAPHIC ART ILLUSTRATION FINE ART ICONOGRAPHY SYMBOLISM ZENTANGLE MARK-MAKING HATCHING CROSS HATCHING STIPLING TONAL RANGE COMPOSITION CONTEXTUAL ANALYSIS PERSONAL LAYERING VISUAL IDENTITY
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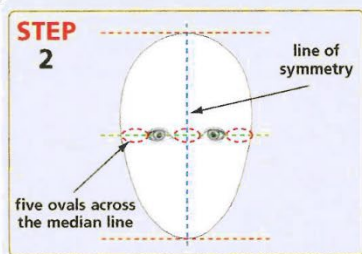


PORTRAIT

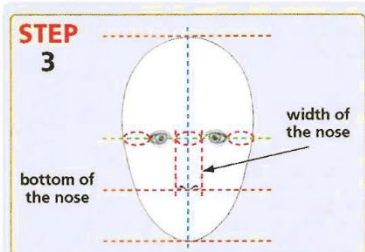
HOW TO DRAW A PORTRAIT - A STEP BY STEP GUIDE



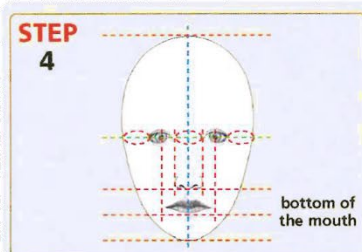
- Draw an egg-shaped oval.
- Split the oval in two halves with a horizontal line (median line).



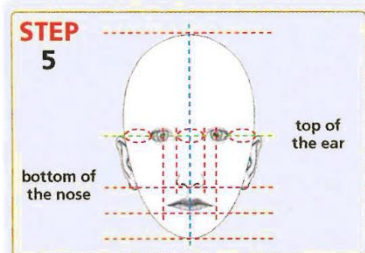
- Draw a vertical line of symmetry.
- Draw 5 ovals across the median line.
- Two of the ovals become the eyes.



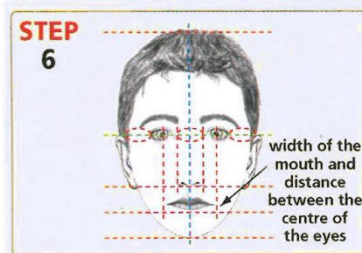
- The nose is the width of the centre oval.
- The base of the nose lies halfway between the median line and the bottom of the face.



- The mouth lies above a line halfway between the base of the nose and bottom of the face.
- The bottom lip is usually fuller than the top.



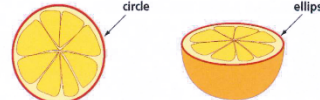
- The ears are bigger than you would imagine.
- They are drawn from the median line to just below the base of the nose line.



- Add the eyebrows which are thicker in the middle and thinner on the outside of the face.
- Add a hair style of your choice.

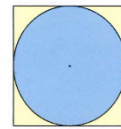
CIRCLES & ELLIPSES

An ellipse is a circle tilted away from you - a circle in perspective.



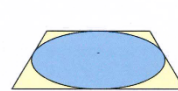
HOW A CIRCLE BECOMES AN ELLIPSE

A circle can be drawn in a square.



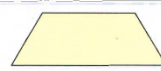
The centre of the square is also the centre of the circle.

By tilting the square, it is now in perspective.

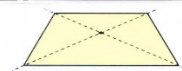


The circle has now become an ellipse.

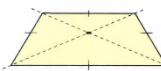
HOW TO DRAW AN ELLIPSE



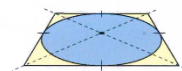
1. Draw a square in perspective.



2. Find the perspective centre of the square by drawing diagonal lines.

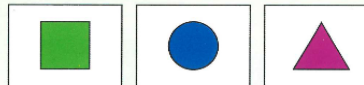


3. Mark the perspective centre of each side of the square.

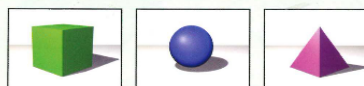
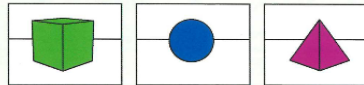


4. Now draw an ellipse so the curve touches each of the four sides.

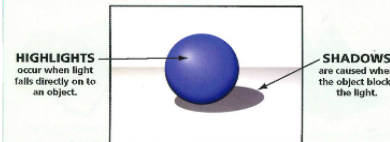
LIGHT AND SHADE



The above flat (2-dimensional) objects appear solid (3-dimensional) when drawn in perspective as shown below.



Light helps show the volume of an object. When light falls on an object, shadows and highlights occur.



ANALYSING IMAGES

CONTENT

- What is the image about?
- Is it a representational or an abstract piece of work?



- Are there any hidden meanings in the picture?

FORM

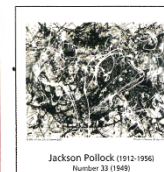
- What colours have been used?
- Is it realistic, harmonious or contrasting?



- Are there any recurrent shapes, lines, forms, patterns or textures?

PROCESS

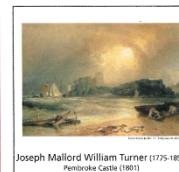
- How was the piece produced and of what was it made?



- What techniques and processes were used?

MOOD

- Does the work capture a mood, feeling or emotion?



- What techniques has the artist used to convey the mood?

FORMAL ELEMENTS

THE FORMAL ELEMENTS ARE THE BASIC COMPONENTS FROM WHICH TWO-DIMENSIONAL DESIGNS ARE COMPOSED

LINE



Connection between two points.

SHAPE



Created by a closed line or by a solid colour.

TEXTURE



Visual and tactile surface.

COLOUR



Primary, secondary, tertiary, complementary colours.

TONE

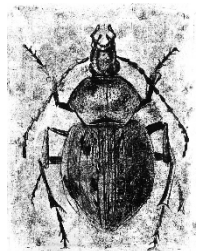
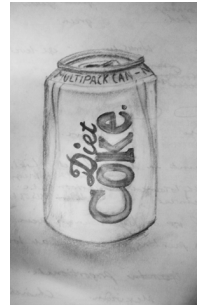


Shadows, mid-tones, highlights.

PATTERN



Natural, man-made, repeat or mirrored.



SUBJECT: Drama

TOPIC: Performance Skills



YEAR: 9

SEMESTER: 2



WORD REVOLUTION

Characterisation	The way an actor uses voice, body, and emotions to show what a character is like.
Subtext	The hidden meaning behind what a character says or does — what they really feel or think.
Naturalism	A style of acting and performance that tries to look and feel like real life.
Stylised Theatre	Theatre that uses exaggerated movement, voice, or design instead of trying to look real.
Ensemble Work	When a group of actors work closely as a team, with no one person being more important than the others.
Stimulus	Something that inspires an idea for a drama — like a picture, word, sound, or object.
Genre	A style of theatre, for example Musical Theatre
Emotional Truth	When an actor shows real, believable feelings that connect with the audience.
Practitioner	Someone who creates, performs, or teaches theatre using a specific approach or style.
Devising	Creating your own piece of drama from scratch, often in a group, instead of using a script.

Devising Challenge Task – The Ticking Clock: In a small group, create a short drama scene (2–3 minutes) using the idea of a ticking clock. The clock should represent something deeper, like pressure, fear, or time running out. Your scene should have a clear story, show strong emotions through movement and voice, and include everyone in the group. Try to show the meaning of the clock without using a real one and be ready to explain what your scene is about.

What will I study in this topic?

- I will develop deeper, more complex characters using emotion and backstory.
- I will learn to break down scripts and find hidden meanings (subtext).
- I will explore performance styles like naturalism and stylised theatre.
- I will work in groups to create original drama based on themes or issues.
- I will perform comedy scenes and monologues with emotional depth.

What will I be able to do by the end of this topic?

- I can perform believable characters with emotion and strong physical choices.
- I can analyse and perform scripts with clear understanding of subtext.
- I can switch between acting styles and adapt to different genres.
- I can collaborate in a group to create and perform original work.
- I can deliver monologues and comedy scenes with skill and confidence.

Naturalistic Theatre Performance

- Characters behave and speak like real people in believable, everyday situations.
- Dialogue is natural and realistic.
- Actors create detailed backstories to understand their character's thoughts and emotions.
- Performers react truthfully on stage, even when they aren't speaking.
- Sets, props, and costumes are realistic and match the real world of the play.

Brecht and Epic Theatre

- Bertolt Brecht was a German playwright and director.
- He created Epic Theatre, which aimed to make the audience think, not just feel.
- Brecht used the alienation effect to stop emotional immersion.
- Techniques include direct address, placards, songs, narration, and visible scene changes.
- His goal was to encourage audiences to question society and politics.

Devising and Using a Stimulus

- Start by discussing what the stimulus makes you think or feel.
- Brainstorm ideas as a group and decide on a clear theme or message.
- Create characters, settings, and scenes based on your chosen idea.
- Use improvisation to try out different moments and develop the story.
- Rehearse, and shape the performance to make it clear and engaging for an audience.

Stimulus for drama could be....

• Pictures



• Props



• Scripts



• Location





WORD REVOLUTION

The Elements of Music	Dynamics, Rhythm, Pitch, Structure, Metre, Instruments (sonority), Tonality, Texture, Tempo
Leit motif	A short piece of music that is linked to a character e.g. Hedwig's theme.
Underscore	The music in the background that supports the on screen action
Pedal Note	A long sustained low note that plays under the rest of the music
Britpop	Britpop was a music started in 1990s Britain where bands like Oasis made catchy rock songs that celebrated being British.
Pop song structure	Intro, verse, bridge, chorus, middle 8, instrumental, outro
Mickey-mousing	Where the music is perfectly in sync with the on-screen action.
Extension chord	A chord that uses 4 or more notes e.g. E7, G7
Harmony	Use of chords and accompaniment. Major, minor, dissonance.
Interval	The gap in pitch between two notes e.g. C-G is an interval of a 5th

What will I study this year?

What will I be able to do by the end of this year?

Performing: Keyboard, drums, guitar, bass and vocal skills.

Reading Music: Learn treble and bass clef notes, rhythms and chords

Composing: Make longer melodies and chord sequences to create emotions

Technology: Use GarageBand to make, edit and save and export music

Listening: Identify composing techniques and be able to describe the elements

Context: Understand music's origins and emotions

Compose: Create a descriptive piece of film music on GarageBand.

Understand: Treble clef notes, rhythms, and time values

Identify Composing Techniques: Pedal notes, tonality, use of elements

Perform: Use instruments or voice in time confidently in a variety of contexts

Dynamics

pp	Pianissimo
p	Piano
mp	Mezzo Piano
mf	Mezzo Forte
f	Forte
ff	Fortissimo
	Crescendo
	Diminuendo

Rhythm

Semibreve	
Minim	
Crotchet	
Quaver	
Semiquaver	

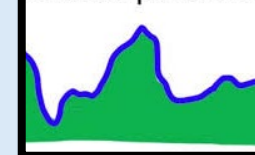
= tea
 = coffee
 = Coca-Cola

Film Music Overview

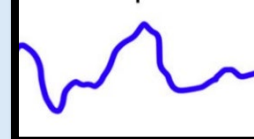
Film Music History	Film music began in the early 1900s with live piano during silent films and grew into full soundtracks with orchestras, electronic, and digital compositions.
Purpose	It helps tell the story.
Notable Composers	John Williams, Hans Zimmer
Why it Matters	Film music builds tension, enhances emotions, and helps you connect with the story.

Texture is the way the musical layers are combined. Basic texture can be described as 'thick' or 'thin'

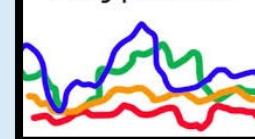
Homophonic



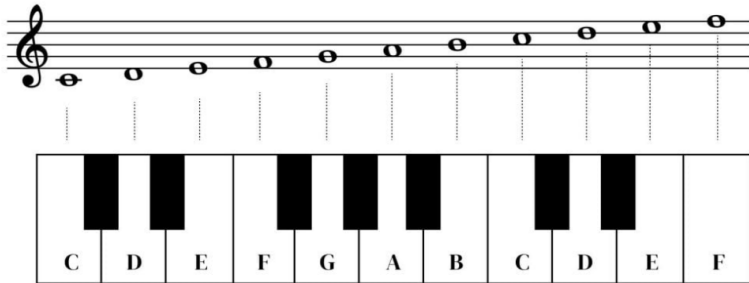
Monophonic



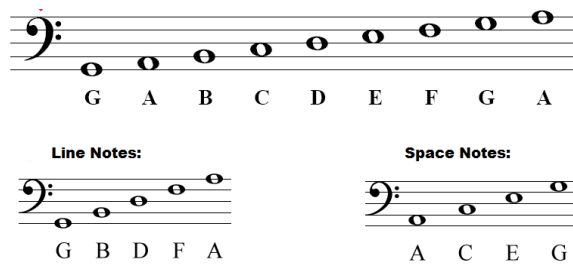
Polyphonic



Treble clef notes and keyboard



Bass Clef – for instruments like bass guitar, cello, trombone etc.



How to work out major and minor chords

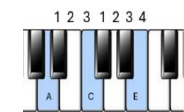
Major

4 steps then 3 steps

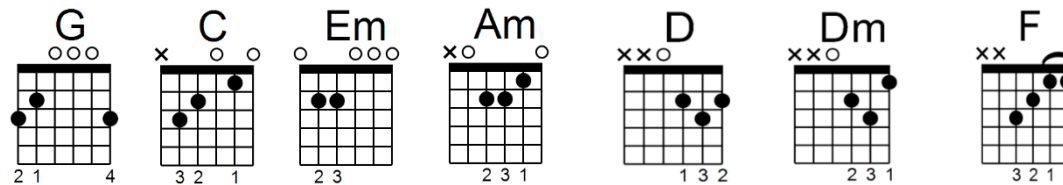


Minor

3 steps then 4 steps



Add 3 steps to either to create a 7th chord (4 notes) e.g. CEGb

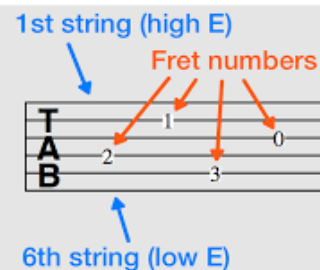
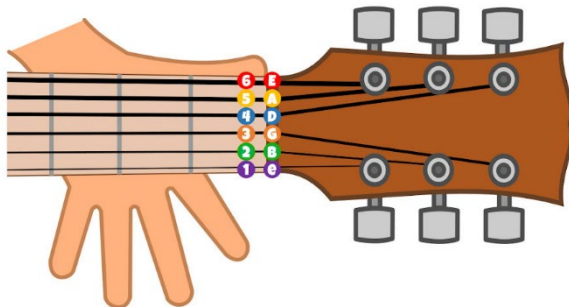
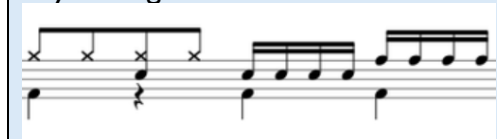


Guitar Chords

Drumbeat



Try adding this fill in b4



Bass Guitar strings

INSTRUMENTS

Strings	Woodwind	Brass	Percussion
Violin	Flute	Trumpet	Xylophone
Viola	Clarinet	French Horn	Glockenspiel
Cello	Oboe	Trombone	Timpani
Double Bass	Bassoon	Tuba	Triangle
Guitar	Saxophone	Cornet	Tambourine
Bass Guitar	Recorder		Drum Kit



WORD REVOLUTION

Agility	<i>The ability to change body position and direction quickly and effectively while maintain control.</i>
Cardiovascular Endurance	<i>The ability of the heart and lungs to supply oxygen to the muscles during sustained physical activity.</i>
Acceleration	<i>The rate at which an athlete changes their velocity over time.</i>
Baton exchange zone	<i>A specific area on the track where the baton must be passed from one runner to the next.</i>
Backstop	<i>In rounders, a specific fielding position that is responsible for fielding behind the batter.</i>
Donkey drop	<i>A high, looping ball delivery.</i>
Drive (A)	<i>A straight-batted shot played with a vertical bat, moving the front foot forward to meet the ball.</i>
Cut (B)	<i>A cross-batted, attacking shot played on the side of the batter's body away from their legs.</i>
Flick (C)	<i>A batting shot played on the leg side where the batter uses a strong, rapid movement of wrists.</i>
Reaction time	<i>the amount of time it takes for a person to respond to a stimulus.</i>
Articulating Movements	<i>Movement of joints in the body. These movements allow for actions such as bending, rotating, or extending limbs during physical activity</i>

PB Records

Event	Time/Distance
100m	
200m	
Relay	
Javelin (A)	
Javelin (B)	
Javelin (C)	
High jump	





WORD REVOLUTION

Sustainability	To reduce the harm products cause the environment by considering how they are made, what materials they are made from and how they can be disposed of after use.
Annotate	To add labels and comments explaining an idea in full.
Evaluate	To judge how well something meets its purpose & suggest improvements
Properties (of materials)	How a material behaves (eg: is it absorbant, stretchy, strong, malleable)
Decorative Technique	A way of adding decoration to the surface of a textile product realistic
Sample	A practice version to test out the idea before creating the final piece
Applique	A technique where layers of fabric are applied to a larger piece to form decorative patterns or pictures.
Embroidery	Decorative sewing stitch technique.
Embellishment	A technique where decorative details are added such as button & beads.
Template	A guide that is traced around on to fabric before cutting out the pieces
Seam Allowance	The extra fabric between the sewing line and the cut edge
Seam	The line where two or more pieces of material are joined together

What will I study in this topic?

- The relevance of sustainability in design and as consumers
- How to decorate fabric using a range of sewing techniques
- How to create a 3D textiles product by making a template and using safe and accurate construction techniques
- How fabrics are made (their construction) and how that effects how they behave (their properties)

What will I be able to do by the end of this topic?

- Follow the design process: research, design, make and evaluate
- Use a range of specialist equipment safely and effectively including the sewing machine and fabric shears

Key Tools:



Health & Safety



Take care with sharp objects.



Keep the room tidy to avoid trip hazards.



Tie back long hair.

Curriculum Connections:

Builds upon earlier making skills & specialist knowledge in readiness for study at GCSE

- Developing ideas through sampling
- Safe and effective use of the sewing machine
- Testing and evaluating decorative techniques
- Understanding that fabrics have different properties and this impacts their suitability
- Understand the environmental issues associated with Textiles

How will I be assessed?



Design Ideas



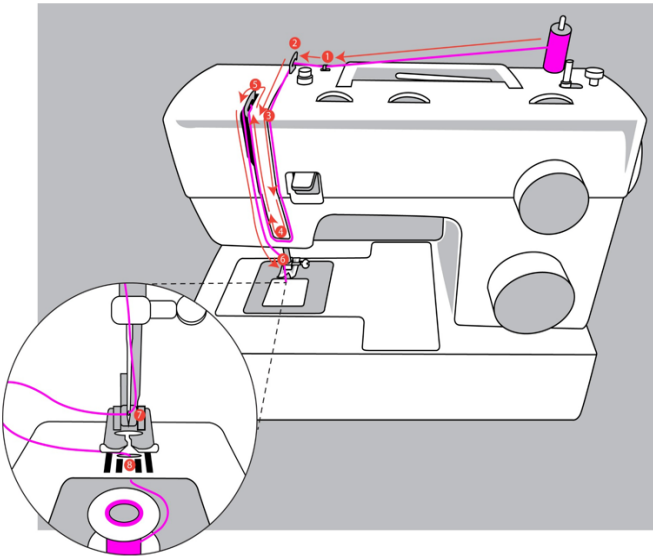
Practical outcomes



End of unit test



Key practical skill: Threading the Sewing Machine



Follow the numbers 1-7 printed on the sewing machine, ensuring the thread also goes through the hole at the pointed end of the needle (point 7). There should be a second thread that comes up from the panel below the needle. This comes from another, smaller spool of thread called the bobbin.

Decorative Techniques:



Applique: layer/s of fabric applied and stitched to base

Embellishment: adding buttons/sequins/beads

Embroidery: decorative stitch, eg: running, back, chain, cross-stitch

The 6Rs of Sustainability



RETHINK

Always thinking 'do I really need this?', 'is there another way this could be done?'



REDUCE

Reduce how much material we use, how much we buy & how much gets thrown away



REUSE

Don't just throw things away! Can you pass on to someone else or keep using in a different way?



RECYCLE

Choose recycled and recyclable products. Take time to sort the rubbish!



REPAIR

Before you throw away, can your product be fixed and it's life extended?



REFUSE

Change your habits! Check labels, refuse to buy products with poor sustainability. Refuse to just throw away and buy more.

QUICK 6 RESEARCH TASK: How are companies being more sustainable?

Which of the 6Rs are being demonstrated in the below examples?



Picture: 1



Picture: 2



Picture: 3



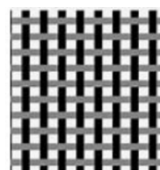
Picture: 4

Challenge: Can you find examples like these on any products you own?

Specialist Technical Knowledge: Fabric Construction

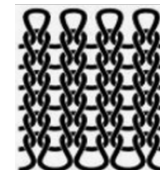
Fabrics behave differently (have different **properties**) depending on how they are made. Knowing the construction of a fabric will help you choose the right fabric for the product you want to make.

Woven



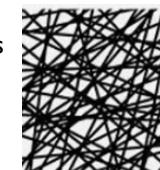
- Strong
- Smooth surface (good to print on)
- Rigid (no stretch)
- Fray when cut

Knitted



- Stretchy
- Warm
- Permanent patterns can be knitted into fabric
- Can ladder and edges curl when cut

Non/Woven



- Does not fray
- Can be permanently shaped using heat & pressure (eg: hat making)
- No stretch and least strong



WORD REVOLUTION

Sustainability	Using resources in a way that meets current needs without harming the environment or reducing resources for the future.
Eco-friendly	Not harmful to the environment; designed to reduce pollution and waste.
Client	The person or group you are designing a product for.
User needs	The requirements and preferences of the person who will use the product.
Container home	A house built using shipping containers, often adapted for comfort and sustainability.
Accessibility	Design features that make a product or space usable for people with different abilities or needs.
Insulation	Material used to keep heat in or out of a building, improving energy efficiency.
Perspective drawing	A way of drawing objects so they appear three-dimensional and realistic, showing depth.
Functionality	How well a product or design works to meet its intended purpose.
Iterative design	A process of constantly improving a design through testing, feedback, and refinement.
Recycled materials	Items that have been used before and processed to be reused in new products.
Design specification	A clear list of requirements that a product must meet, based on the user's needs.
Low-impact living	A lifestyle that tries to reduce damage to the environment through choices like saving energy and reducing waste.
Innovation	A new idea or method that improves how something works or looks.

What will I study in this topic?

- How eco-friendly and sustainable homes are designed and built
- The needs of different users and how design can meet those needs
- How to sketch and develop ideas using 1-point perspective drawing
- How to plan, make, and evaluate a model of an eco-container home

What will I be able to do by the end of this topic?

- Explain what makes a home sustainable and eco-friendly
- Create design ideas that respond to a specific client's needs
- Draw a container home in accurate 1-point perspective with annotations
- Build and evaluate a 3D model that reflects your design and client brief

Key Tools:



Try Square



Scroll Saw



Coping Saw



Tenon Saw

Health & Safety



Wear goggles when operating machinery



Tie back long hair



Wear an apron.

Curriculum Connections:

Builds on your practical and drawing skills from Year 7 and 8 to create more detailed designs.

Introduces sustainability and client needs – key ideas for GCSE projects.

Follows the same design process used in the GCSE NEA, helping you get ready for Year 10.

How will I be assessed?



Design Ideas



Practical outcomes



End of unit test

SUBJECT: Design & Technology

YEAR: 9

TOPIC: Product Design

SEMESTER: 1 & 2



Key drawing skill: 1 point perspective	Step 1 Draw the horizon and vanishing point Step 2 Draw the front of the shape Step 3 Draw lines to the vanishing point Step 4 Add lengths to show depth
Why is energy efficiency important for housing?	They help reduce energy bills – using less electricity and gas saves money. They are better for the environment – using less energy means less pollution and fewer greenhouse gases. They keep homes more comfortable – better insulation means homes stay warmer in winter and cooler in summer. They reduce demand on power stations – helping the country avoid blackouts and reduce fuel imports

The needs of the client



Accessibility – e.g. ramps, wide doorways, or step-free access for wheelchair users or people with mobility issues.



Comfort – spaces that are warm, well-lit, ventilated, and suitable for everyday living.



Privacy – areas for sleeping, relaxing, or working without being disturbed.



Storage – enough space to safely store personal belongings, tools, or equipment.



Personal lifestyle needs – e.g. a space for pets, hobbies, working from home, or family time.

Evaluation Tool - Pugh's Plates

Functionality – Does the design meet the client's needs and work well in daily use?

Cost – Is the design affordable and does it make good use of materials?

Aesthetics – Does the design look good and suit the client's style or preferences?

Sustainability – Does the design use eco-friendly materials and reduce environmental impact?

Ease of manufacture – Is the design easy to build using the tools and materials available?

Safety – Is the design safe for the user and safe to make in the workshop?

Space efficiency – Does the design make good use of space, especially in a small container home?

Innovation – Does the design include any creative or original ideas that make it stand out?

Moodboard - Ideas for inspiration!

