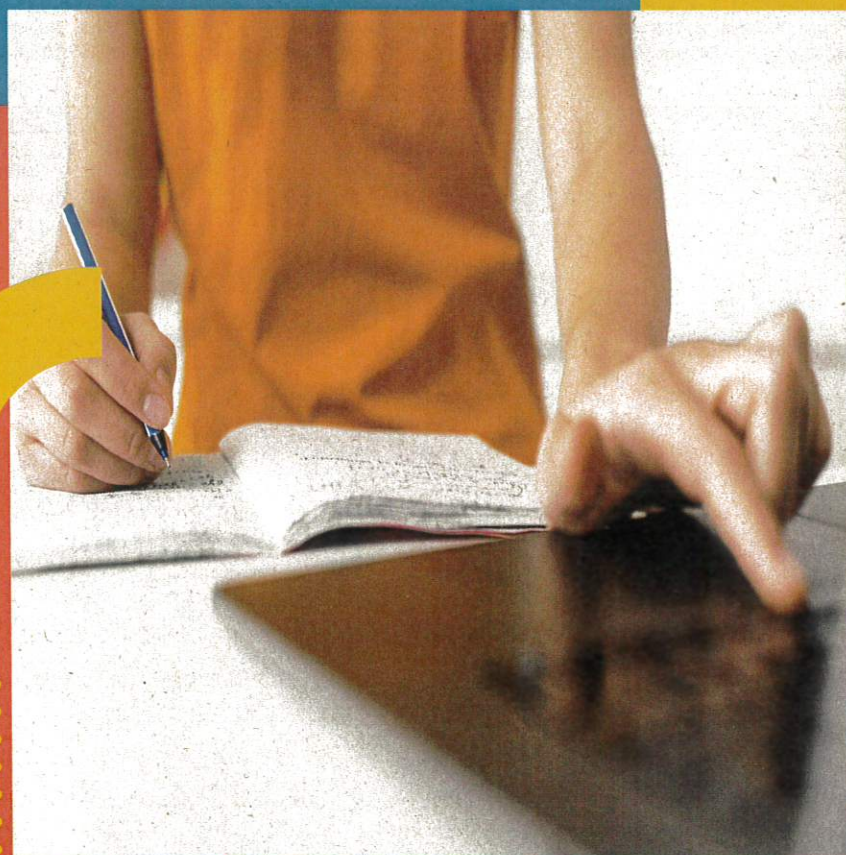




SMITHILLS SCHOOL
SUCCESS FOR ALL

HOMework BOOKLET



YEAR 9
AUTUMN TERM 1

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YEAR 9

Homework Timetable:

	Monday	Tuesday	Wednesday	Thursday	Friday
Green	English	Maths	Science	English	Maths
	Geography	History	MFL Spanish/ Urdu French	RE	
	Music	Dance	PE	Food	
	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader
Orange	Science	English	Maths	Science	English
	Geography	History	MFL Spanish/ Urdu French	RE	
	Art	Drama	Des Tech	Computing	
	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader

Instructions on how to complete your homework:

1. Write the subject and date in your homework exercise book.
2. If you have been given tasks to complete, please do this in your exercise book. If you have been asked to recall information from a knowledge organiser, please use the steps below.



- Look at box/es that your teacher has assigned to you. Repeatedly read the information until you are confident you can remember it. You might find saying them out loud helps you.



- Cover each box so that you cannot see the text.



- Next, in your homework exercise book, write down everything you can remember from each box.



- Uncover the box and check your answers, correct any you got wrong or missed.
- Repeat this one more time as you should be able to remember more from each box on the second round.

3. Rule a line under the homework you have completed.

4. Repeat the process for your next subject/s.

5. Use the QR link below if you would prefer a visual reminder of how to complete this.



Student Guide to Logging In

- 1 Go to **sparxmaths.com**
- 2 Select **Student Login**
- 3 Carefully select your school from the list
- 4 Select **New Sparx user**
- 5 Enter your:
 - First Name
 - Last Name
 - Date of Birth
- 6 Click **Submit**
- 7 You will be prompted to set your own password. The password must be at least 6 characters long and you will need to remember it
- 8 Confirm your username and password, then click **Check your details**
- 9 You can now log in to Sparx using your username and password
- 10 If a password is lost, you can select the option to request a new password from your teacher

Use your Sparx login

Username:

Password: [Show](#)

[Forgotten Sparx login details?](#)

New Sparx user?

Fill in your details below to create your account

Your first name:

Your last name:

Your date of birth:

Submit

Now set a password, make sure you choose one that you will remember

Choose your password: [Show](#)

Your password needs to:

- ✓ Be 6 or more characters

Back **Confirm your details >**

Let's check you have remembered your log in details

Enter your username:

Enter your password: [Show](#)

Back **Check your details >**

Year 9 – Autumn Term 1 – Art Nouveau & Art Deco

Overview: Art Nouveau & Art Deco

Art Nouveau and Art Deco were two influential art movements that emerged in the late 19th and early 20th centuries. Both had a significant impact on art, society, and culture during their respective time periods.

Art Nouveau and Art Deco had a profound impact on society and culture. They revolutionized the way art was perceived and appreciated, and influenced other artistic movements that came after them. These movements challenged traditional boundaries, celebrated innovation, and showcased individuality and self-expression. Today, the influence of Art Nouveau and Art Deco can still be seen in the architecture, design, and artworks of many cities around the world.

Artists links:

Art Nouveau J.Brey Beardsley, Gustav Klimt, Alphonse Mucha, Antoni Gaudi, Charles Rene Macintosh, Louis Comfort Tiffany	
Art Deco Amara de Lempicka, Sonia Delaunay, Rene Lalique, George Barbier, Georges Lepape	

Key Vocabulary

Organic forms	Organic forms look natural. They are irregular and may seem flowing and unpredictable. The most obvious example of organic forms are realistic representations of the natural world or living things.
Sinuous lines	Sinuous means having many curves and turns. The whiplash or whiplash line is a motif of decorative art and design that was particularly popular in Art Nouveau. It is an asymmetrical, sinuous line, often in an ornamental S curve, usually inspired by natural forms such as plants and flowers, which suggests dynamism and movement.
Geometric shapes	Geometric shapes are mathematical shapes. They are perfect and regular. They are characterised by straight lines, angles and points. Geometric shapes are precise and regular: like squares, rectangles, and triangles. They are often found in human-made things, like buildings and machines.
Streamlined	Also known as Streamline Moderne, Streamlining is the shaping of an object, such as an aircraft body or wing, to reduce the amount of drag or resistance to motion through a stream of air. A streamlined design or product has a smooth, attractive shape that allows it to move quickly or efficiently through air or water.
Symmetrical	If something is symmetrical, it has two halves which are exactly the same, except that one half is the mirror image of the other or when one part can take the place of another if it is turned 90° or 180°

Key concept 1

Art Nouveau
Art Nouveau, which means "new art" in French, was popular from the 1890s to around 1910. It was characterized by its flowing lines, organic forms inspired by nature, and intricate designs. The movement aimed to bring art into every aspect of life, from architecture and furniture to decorative arts and graphic design. Art Nouveau artists embraced new materials and techniques, often combining craftsmanship with industrial production.

The Art Nouveau movement sought to break away from the conservative artistic styles of the past and challenged traditional concepts of beauty. Its intricate patterns and use of vibrant colours were meant to evoke emotions and create a harmonious connection between art and life. Art Nouveau also reflected the changing social and cultural landscape of the time, with its focus on individualism, innovation, and artistic freedom.

Key concept 2

Art Deco
Art Deco, which means "decorative arts", emerged in the 1920s and became popular during the interwar period (1918-1939). It was characterized by its bold geometric shapes, streamlined forms, and symmetrical designs. Art Deco was influenced by various artistic styles, including Cubism, Futurism, and Egyptian art. The movement embraced modernity and the machine age, often incorporating elements of industrial design into artwork and architecture.

Art Deco was associated with a sense of luxury, glamour, and prosperity. It became synonymous with the roaring twenties and the optimism of the post-World War I era. The movement's sleek and stylized designs were seen as a symbol of progress and a celebration of new possibilities. Art Deco left its mark on various fields, such as architecture, interior design, fashion, and visual arts.

Key concept 3

Design Elements

The major characteristics of each art movement include;

Art Nouveau:	Art Deco:
• Floral motifs (often abstracted) • Delicate female forms • Peacocks • Insect wings • Bird feathers • Shells • Vines • Flowers, (Poppy, wisteria, water lilies, Japanese lotus) • 'S' curves • Whiplash lines	• Heavy geometric influences • Triangular shapes • Zigzags • Trapezoidal shapes • Straight and smooth lines • Loud, vibrant, and even kitschy colours • Streamlined and sleek forms • Sunburst or sunrise motifs

Big Picture: Programs use simple comparisons to help make decisions. Boolean logic is a form of algebra where all values are either True or False. These values of true and false are used to test the conditions that selection and iteration are based around.

Key Concepts:

1. Boolean Logic

- Boolean logic uses algebra and algebraic expressions. We use these expressions in algorithms and programs.

Expression	Boolean equivalent
Equals	=
Greater than	>
Less than	<
Greater than or equal to	>=
Less than or equal to	<=
Does not equal	<>
And	AND
Or	OR
Not	NOT

- Boolean logic is used in selection to test conditions.
- As well as using simple comparison, Boolean logic can also use the expressions **AND**, **OR** and **NOT**:
- AND considers two (or more) conditions. The result is **True** if the result of all comparisons is **True**.
- OR considers two (or more) conditions. The result is **True** if either comparison is **True**.
- NOT requires a condition to be False.

Boolean Algebra

- Boolean algebra is a notation used to represent logic. For example:
 - $Q = A \text{ AND } B$
 - $Q = A \text{ OR } B$
 - $Q = \text{NOT } A$
- This notation can also be represented using symbols:
 - $Q = A \wedge B$
 - $Q = A \vee B$
 - $Q = \neg A$

2. Why data is represented in binary form

- A computer is basically a collection of *transistors* (switches) and *circuits*. These components have two states:
 - on - a *current* is flowing through the component
 - off - a current is not flowing through the component
- These two states can easily be represented by using *binary*:
 - 1 = on (TRUE)
 - 0 = off (FALSE)

3. Logic Gates

- In its most basic form, a computer is a collection of powered and unpowered circuits and transistors. A logic gate is a series of transistors connected together to give one or more outputs, each output being based on the input or combination of inputs supplied to it. There are three types of gate to consider:
 - AND gate
 - OR gate
 - NOT gate
- Each type of gate can be represented either as a diagram, in algebraic form, or as a *truth tab*

4. AND Gates

- An AND gate uses two inputs to generate one output. The output is 1 (TRUE) only if both of the inputs are 1 (TRUE).



A	B	Q
0	0	0
0	1	0
1	0	0
1	1	1

6. NOT Gates

- A NOT gate uses one input to generate one output. A NOT gate inverts the input - the output is 1 (TRUE) if the input is 0 (FALSE), and the output is 0 (FALSE) if the input is 1 (TRUE).



A	Q
0	1
1	0

5. OR Gates

- An OR gate uses two inputs to generate one output. The output is 1 (TRUE) only if either or both of the inputs are 1 (TRUE).



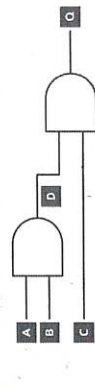
A	B	Q
0	0	0
0	1	1
1	0	1
1	1	1

7. Logic Circuits

- Logic gates can be combined to form more complex inputs and outputs. These combinations are known as logic circuits. AND, OR and NOT gates can be used in any combination to generate the desired output.



A	B	C	Q
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0



A	B	C	D = A / B	Q
0	0	0	0	0
0	0	1	0	0
0	1	0	0	0
0	1	1	0	0
1	0	0	0	0
1	0	1	0	0
1	1	0	1	0
1	1	1	1	1

Big Picture: This year you will begin to learn about key practitioners of dance who have influenced the dance world. You will develop an understanding of their key skills and techniques and how these are demonstrated within their dance works. The dance practitioner that you will study and explore this term is Richard Alston and his professional dance piece Overdrive.

1. Key concept – Richard Alston	2. Key concept – Richard Alston Techniques	3. Key concept – Professional Dance work – Overdrive
- Sir Richard Alston is a British Choreographer - He was a resident choreographer and artistic director for Ballet Rambert Company. - Currently artistic director at The Place, London. - Alston liked to study more 'alternative' styles such as Tai Chi and developed further interest in the Cunningham and Graham technique. - His focus was more towards choreography rather than being a dance performer. His first choreography worked was called Transit in 1968.	- Creating and demonstrating precise body shapes. - Creating and demonstrating detailed travelling pathways and patterns. - Creating and demonstrating body actions with different facings. - Creating and demonstrating curves and tilts in the body. - Creating and demonstrating detailed steps.	- Response to rhythm. - How dancers move in formations and pathways. - Use of gliding and the dance space. - The dance piece is about demonstrating different leans, tilts, twists, curves and arches of the torso in different rhythmic form.



4. Key Vocabulary

Lean – the body leans in a direction aware from the body’s central line.	Pathway – design traced in the dance space
Tilt – performing a vertical standing split by tilting the upper body to the side while maintaining balance. This is called a transverse plane, dividing the body in upper and lower.	Formation – shapes or patterns created in space by dancers.
Twist – to turn or rotate. The dancer may twist on the spot or twist to face another direction. The dancer could twist their body into a spiral shape.	Travel – movement of a person or group from one area to another.
Curve – the dancer bends their upper torso or their arms to create a curve like shape	Body contact – dancers lift, touch, lean on or support each other.
Arches of the torso – the dancer engages their core and bends the upper body into an arch shape.	Stillness – the dancer pauses or remains still.
Reach – the dancer uses and extends their arms to reach in different directions	Entrance – where the dancer enters the space.
Facing – the dancer can face different directions, for example, forwards, backwards, sideways, diagonal, downwards and upwards.	Exit – where the dancer exits the space.

Teechers (Godber)

Too Much Punch (Wheeler)

Devising

Big Picture: Having studied the most influential practitioners of Drama in Year 8, you will now look at applying these different techniques and styles to plays. The first play you will study is Teechers by John Godber. Having a clear understanding of a range of styles and how you can use them to create different meanings in a piece of text can help you to demonstrate a clear message to your audience.

1. Key concept - Plot	2. Key concept - Context
- Teechers is a play within a play. - Three year 11 students put on a performance for their teachers. - School leavers, Salty, Hobby and Gail Saunders perform an account of their time in High School (given the name 'Whitewall' for their performance). - They were particularly inspired by their time with Mr. Jeff Nixon, the new drama teacher who ignited their passion for the stage with his idealism and belief that all children should be treated equally. - At the end of the play 'Mr. Nixon' leaves Whitewall High School to teach at St George's, another school with a much better reputation.	- Written in 1980's and it retains political and social relevance. Mainly concerning educational issues linked to Margaret Thatcher's years of power. - Education changed control for LEAs to government and Whitehall - hence the name of the school as Whitehall; thus, a pun on the changes within education. - National Curriculum was introduced in 1988 Education Reform Act. - League tables introduced. - Many teachers opposed the changes, and campaigned against the low pay, working conditions, and lack of morale within the industry. Over the past few years there have also been a significant number of changes to the education system resulting in similar problems. - In Teechers Mr. Nixon argues with Mr. Basford (The Deputy Head) about the fairness of private education. - Mr. Nixon believes that all children should have access to the best possible education, and that this should not be reserved for those who can afford it.
3. Processes - Characters	4. Key Vocabulary
Gail Saunders Loud mouthed, bossy and full of enthusiasm Lilian "Hobby" Hobson - always caught eating and missing PE Ian "Salty" Salt A school-leaver, bright and fresh-faced, rather dirty in appearance Mr Nixon - The drama teacher, socialist and idealistic Mrs Parry - The Headteacher loves all students and is wanting the best from them. Ms Maureen Whitham - A fussy teacher, desperate to leave. Bobby "Oggy" Moxon - The school bully in a modern age Peter "Pete" Saxon - A large, frightening youth with tattoos, appears foolish. Mr Derek Basford - The Deputy Head Miss Jackie Prime (later Short) - PE Teacher	Multi role-play is used in some Godber plays and so actors need to use precise vocal and physical skills to portray distinctive characters that the audience can easily recognise. Direct address is used to engage the audience and involve them in the action of the play. Many conventions of Brecht can be seen in 'Teechers' -mult role-play, direct address, music, minimal set and props, changing characters on stage. These are designed to keep an active audience. Episodic structure is used so that each scene would make sense if it was performed on its own. Music is used to add atmosphere to a particular moment or to enhance the meaning of a scene.



Year 9 Graphics: Knowledge Organiser - Autumn 1

Key Outcome 1	
What is Graphic Design?	Visual communication using images, symbols and text to convey information and ideas across different media like print, digital and multimedia platforms.
Where can graphics be found?	- Identity: Logos, branded materials - Print: Magazines, books, posters, packaging - Digital: Websites, mobile apps, video games - Public spaces: Signage, shop fronts, displays
The function of graphics	Graphics communicates information visually, making it easier to understand and engage with. It sends messages quickly, persuades viewers, and creates visual identities for brands and products.



Key Outcome 2	
What is a Design Brief?	A design brief is a document that outlines the requirements and constraints of a project, providing the designer with clear goals and objectives.
What is the design process?	The design process refers to the order in which the project should be completed.



Keywords	
Visual Communication	How we communicate information
Logo	A graphic mark or symbol used to identify a company or brand
Brand Materials	Items designed with a company's logo on for example a t-shirt
Symbols	A visual mark that represents an object without using words
Text	Written or printed words
Mind Map	An organisational tool to explore ideas on a theme

Key Outcome 3	
The importance of research	Research is important in graphic design because: - It helps designers understand who they're designing for and what those people like. - It gives designers ideas and inspiration for their work. - It makes sure designs work well for the client and don't accidentally copy others.
Brainstorming ideas in graphic design	Using mind maps or word associations to explore connections on a project theme, is a creative technique where designers produce many different solutions or ideas.



Career Links	
Brand Identity Designer:	Creates logos and visual branding for companies
Packaging Designer:	Develops product packaging and labels
Editorial Designer:	Layouts magazines, books, and other publications
Motion Graphics Designer:	Creates animated graphics for video and film



Did you know? The original Apple logo was designed in 1976 and featured Sir Isaac Newton sitting under an apple tree before being changed to the bitten apple we all know today.



Y9

**Julius
Caesar**

**Homework
Booklet**

Activity One

Read the context about Shakespeare and Julius Caesar and summarise either a mind map or bullet points in your book.

Likely the most influential writer in all of English literature and certainly the most important playwright of the English Renaissance, William Shakespeare was born in 1564 in the town of Stratford-upon-Avon in Warwickshire, England. The son of a successful middle-class glove-maker, Shakespeare attended grammar school, but his formal education proceeded no further. In 1582, he married an older woman, Anne Hathaway, and had three children with her. Around 1590, he left his family behind and travelled to London to work as an actor and playwright. Public and critical acclaim quickly followed, and Shakespeare eventually became the most popular playwright in England and part owner of the Globe Theatre. His career bridged the reigns of Elizabeth I (ruled 1558–1603) and James I (ruled 1603–1625); he was a favourite of both monarchs. Indeed, King James paid Shakespeare's theatre company the greatest possible compliment by endowing its members with the status of king's players. Wealthy and renowned, Shakespeare retired to Stratford, and died in 1616 at the age of fifty-two. At the time of Shakespeare's death, such luminaries as Ben Jonson hailed him as the apogee of Renaissance theatre.

Shakespeare's works were collected and printed in various editions in the century following his death, and by the early eighteenth century his reputation as the greatest poet ever to write in English was well established. The unprecedented admiration garnered by his works led to a fierce curiosity about Shakespeare's life, but the dearth of biographical information has left many details of Shakespeare's personal history shrouded in mystery. Some scholars have concluded from this lack and from Shakespeare's modest education that his plays were actually written by someone else—Francis Bacon and the Earl of Oxford are the two most popular candidates. The evidence for this claim, however, is overwhelmingly circumstantial, and few take the theory very seriously. In the absence of definitive proof to the contrary, Shakespeare must be viewed as the author of the thirty-seven plays and 154 sonnets that bear his name. The legacy of this body of work is immense. A number of Shakespeare's plays seem to have transcended even the category of brilliance, becoming so influential as to affect profoundly the course of Western literature and culture ever after.

Julius Caesar takes place in ancient Rome in 44 b.c., when Rome was the centre of an empire stretching from Britain to North Africa and from Persia to Spain. Yet even as the empire grew stronger, so, too, did the force of the dangers threatening its existence: Rome suffered from constant infighting between ambitious military leaders and the far weaker senators to whom they supposedly owed allegiance. The empire also suffered from a sharp division between citizens,

who were represented in the senate, and the increasingly underrepresented plebeian masses. A succession of men aspired to become the absolute ruler of Rome, but only Julius Caesar seemed likely to achieve this status. Those citizens who favoured more democratic rule feared that Caesar's power would lead to the enslavement of Roman citizens by one of their own. Therefore, a group of conspirators came together and assassinated Caesar. The assassination, however, failed to put an end to the power struggles dividing the empire, and civil war erupted shortly thereafter. The plot of Shakespeare's play includes the events leading up to the assassination of Caesar as well as much of the subsequent war, in which the deaths of the leading conspirators constituted a sort of revenge for the assassination.

Activity 2: complete the tasks below in your books

hubristic (adjective) excessively proud or self-confident	
TASK ONE: READ IT	TASK TWO: TRANSFORM IT
Read about the etymology (where a word originates from) of 'hubristic'.	Transform the adjective 'hubristic' into an image to help you remember it.
also hybristic, 1831, from Greek hybristikos "given to wantonness, insolent," from hybrizein "to wax wanton, run riot," related to hybris (see hubris). ² .	
TASK THREE: DEBATE IT	
'The tragic hero's downfall is a product of their hubris.' Answer in full sentences.	
TASK FOUR: USE IT	TASK FIVE: LINK IT
Can you use the following word in a sentence? <i>hubristic, hubris</i>	Explain in full sentences how the adjective 'hubristic' links to <i>Julius Caesar</i> . Discuss characters and events in your explanation.

Activity 3: Guess who?

In your books write out which character says what and what it suggests about them.

The characters you can choose are: Anthony, Portia, Cassius, Caesar, Calpurnia and Brutus

Description	Quote
A great Roman general and senator, returned to Rome in triumph after a successful war. Some worry that he may want dictatorship over the Roman republic, but he refuses the crown several times. He has many faults: he can't separate public life from private life and can be vain. He ignores bad omens and thinking he's as immortal as the North Star.	"Caesar shall forth. The things that threatened me Ne'er looked but on my back. When they shall see The face of Caesar, they are vanished."

A senator and soldier who is loyal to Caesar. A manipulative man, he support Brutus and the conspirators after Caesar's death to save his own life. But later, at Caesar's funeral, he brilliantly persuades the crowd to turn against Brutus and the conspirators.	"I am no orator, as Brutus is, But, as you know me all, a plain blunt man That love my friend"
Caesar's wife believes deeply in omens and signs. After having terrible nightmares and reports of bad omens, she warns Caesar against going to the senate on the Ides of March. When Caesar ignores her advice, she begs him and is still not listened to.	"Caesar, I never stood on ceremonies, Yet now they fright me."
A senator and republican, who loves Caesar as a friend but is worried he is becoming too popular and might seize power for himself. He is manipulated by his friend, Cassius, to lead a plot to kill Caesar and preserve the republic. While the other conspirators act out of envy and rivalry, Brutus truly believes that Caesar's death will help Rome. Torn between his loyalty to Caesar and his duty to the state, Brutus becomes the tragic hero of the play.	"I love The name of honour more than I fear death."
A manipulative and talented general, he thinks Caesar has become godlike to the Romans. He persuades Brutus into thinking Caesar must die, sending him forged letters claiming that the Roman people support this. Impulsive and devious, he knows how the political world works. He is a clever opportunist but doesn't have the honour of Brutus.	"O, coward that I am to live so long To see my best friend ta'en before my face!"
Loyal, loving and trustworthy wife of Brutus. The daughter of a noble Roman who took sides against Caesar. She is used to talking openly in her marriage and is upset to find Brutus keeping secrets from her. Worried for him, she tries everything to make him share his troubles. She later takes her own life out of grief when Brutus loses.	"O constancy, be strong upon my side; Set a huge mountain 'tween my heart and tongue. I have a man's mind but a woman's might."

Task 4 –Analysis

Below are phrases linked to certain characters. Give me 3 reasons PER quotation in your book as to why Shakespeare has used that phrase.

Julius Caesar	
'Caesar shall go forth'	'therefore think him as a serpent's egg Which hatched, would as his kind grow mischievous'
'No, my Brutus, / You have some sick offense within your mind'	What mean you, Caesar? Think you to walk forth? You shall not stir out of your house today.

Task 5 – Vocabulary Task

Look at the vocabulary below. Write the correct definition for the word and explain which character or plot it links to.

Key Vocabulary	Incorrect Definition
Augment	At a high or powerful
Conspiracy	Conspiracy
Exalted	A fatal flaw in one's character
Hamartia	At a high or powerful level
Hubris	Made greater
Mutiny	The act of killing a tyrant
Hubris	A formal speech given at a state occasion
Oration	Open rebellion against authority
Regicide	Excessive pride or self confidence
Tyrannicide	Someone who rules through fear
Tyrant	Extreme anger
Wrath	A secret plan to do something harmful

Task 6 -Read and summarise the information about women in Ancient Rome. In your book use the subheadings: Appearance, socialising, household, clothing production, daughters, school, land owners and upper classes.

1. Women in ancient Rome took great care in their appearance, though extravagance was frowned upon. They wore cosmetics and made different concoctions for their skin. Women used white chalk or arsenic to whiten their faces, or rouge made of lead or carmine to add color to their cheeks as well as using lead to highlight their eyes. They spent much time arranging their hair and often dyed it black, red, or blonde. They also wore wigs regularly.
2. Wealthy women travelled around the city carried by slaves. Women gathered in the streets on a daily basis to meet with friends, attend religious rites at temples, or to visit the baths. The wealthiest families had private baths at home, but most people went to bath houses not only to

wash but to socialize, as the larger facilities offered a range of services and recreational activities.

3. Aristocratic women managed a large and complex household. Since wealthy couples often owned multiple homes and country estates with dozens or even hundreds of slaves, some of whom were educated and highly skilled, this responsibility was the equivalent of running a small corporation. The home was also the center of the family's social identity, with ancestral portraits displayed in the entrance hall (*atrium*).
4. One of the most important tasks for women to oversee in a large household was clothing production. In the early Roman period, the spinning of wool was a central domestic occupation, and indicated a family's self-sufficiency, since the wool would be produced on their estates.
5. In the late republic a daughter's legal relationship to her father remained unchanged when she married, even though she moved into her husband's home. This arrangement was one of the factors in the degree of independence Roman women enjoyed relative to those of many other ancient cultures and up to the early modern period: although she had to answer to her father legally, she didn't conduct her daily life under his direct scrutiny, and her husband had no legal power over her.
6. Some and perhaps many girls went to a public primary school. Boys and girls were educated either together or similarly. It was taken for granted that the daughter of a centurion would be in school. Children of the elite were taught Greek as well as Latin from an early age. Children of both genders learned to behave socially by attending dinner parties and other events. Girls as well as boys participated in religious festivals; both girls and boys sang formal compositions in choirs, for instance, at the Secular Games in 17 BC.
7. As early as the 5th century BCE, Roman women could own land, write their own wills, and appear in court. The historian Valerius Maximus devotes a section of his work *On Memorable Deeds and Speeches* to women who conducted cases on their own behalf, or on behalf of others. These women showed ability as speakers in the courtroom, even though the art of

speaking was considered a defining pursuit of the most ambitious Roman men.

8. Among the upper classes, women seem to have been well-educated, some highly so, and were sometimes praised by the male historians for their learning and cultivation. This level of learning indicates formal preparation. But because women took no official part in public life, the lives of boys and girls began to diverge dramatically after they formally came of age, and memorials to women recognize their domestic qualities far more often than intellectual achievements.

Task 7 – Mid unit test. Answer the questions below in your book.

1. Who was Julius Caesar?
2. What did the soothsayer say to Caesar when he arrived in Rome?
3. Who wanted Caesar to be Emperor?
4. Who is the chief conspirator against Caesar?
5. Why does Cassius want Caesar to die?
6. Casca describes what happens overnight in Rome, name 2 of the omens that he mentions.
7. Brutus is also not happy with Casear becoming Emperor why?
8. What animal does Brutus compare Caesar to in act 2, scene 1?
9. What is a soliloquy?
10. What is hubris? How does this relate to Caesar?
11. 11. What does the poem The Tyger explore?
12. 12. What does Portia do in Act 2 Scene 1 to show her loyalty to Brutus?
13. 13. What happens in Calphurnia's dream?
14. 14. What does Decius do to persuade Caesar?
15. 15. What does Hamartia mean?
16. 16. Who is Artemidorous?

17. 17. What is rhetoric?
18. 18. What is ethos, pathos & logos?
19. 19. How is the soothsayer used in Act 2 Scene 4?
20. 20. How is Portia power restricted?

Where food comes from

- Food is sourced, processed and sold in different ways.
- Geography, seasonality, weather and climate influence the availability of food and drink.

All food must be grown, reared or caught

In the past food was grown, prepared and cooked at home or sold by small-scale producers or merchants.

Some people still grow food at home or on allotments. Food can also be bought from a wide range of sources, including:

- cafes/coffee shops;
- convenience stores;
- farmers markets;
- farm shops;
- markets;
- on-line retailers;
- restaurants;
- supermarkets;
- takeaway outlets.

Food Processing

Food processing is any deliberate change to food that happens to a food before it is available to eat. Processing makes food safer to eat by killing existing bacteria and slowing bacterial growth.

Food is processed for a number of reasons:

- to extend shelf life;
- to add variety;
- for convenience;
- for consumer's health.

Innovations in food processing have led to the development of functional foods; these provide benefits over and above the basic nutritional value, e.g. dairy products containing probiotic bacteria.

Food provenance

Food provenance is about where food is grown, caught or reared, and how it was produced. Food certification and assurance schemes guarantee defined standards of food safety or animal welfare. There are many in the UK, including:



World food

A number of ingredients and foods that are now readily available have been introduced to the UK over a long period of time. Many are imported from other countries giving access to ingredients and foods that would not normally grow in the UK.

The availability of these ingredients and foods gives a wide choice throughout the year.

Food availability

Some ingredients or foods are available throughout the year because they have been imported from other countries where they are in season at different times of the year.

Climate and terrain are two key factors that affect food availability and where food is grown, reared and caught.

There is a great variety of food grown all over Europe. The type of farming is partly determined by the climate and the geography of the country or region. The terrain or landscape determines which crops are grown or animals reared. Cereal crops are grown in flat plains, whereas sheep can be reared in hilly terrain.

Seasonality

Fruit and vegetables naturally grow in cycles and ripen during a certain season each year. Some meat and fish can also be seasonal. Advantages of buying food in season include:

- it is fresh;
- best flavour, colour and texture;
- optimal nutritional value;
- supports local growers;
- lower cost;
- reduced energy needed to transport.

Food security

Food security exists when everyone has access to enough affordable, safe and nutritious food to keep them healthy, in ways the planet can sustain in the future.



Climate change

There is worldwide concern about climate change and the increased number of extreme or unusual weather conditions.

Changes in temperature can affect plant growing seasons and livestock conditions. It is very likely to affect food security at a global, regional and local level.



To find out more, go to: <https://bit.ly/3riJo6S>

Key terms

Food processing: Any deliberate change to food that happens to a food before it is available to eat.

Seasonality: Food grown at a particular time of year.

Food certification and assurance schemes: Defined standards of food safety, quality or animal welfare.

Food security: Having access to sufficient quantity of affordable, nutritious food.

Food provenance: Knowing where food was grown, caught or raised and how it was produced.

Map showing key growing areas in the UK – some parts of the UK have excellent soil for crops, while others are used for cattle, sheep, pigs and poultry.

Many plant crops are grown in the UK, including:

- wheat, barley & oats;
- oil seed rape;
- potatoes;
- sugar beet;
- fruit & vegetables.

In the north-west of England, Wales and Scotland, farmers keep cattle and sheep. Sheep can survive the cold winters on the hills and moors.

Cattle, sheep, pigs and dairy are the largest commodity sectors in Northern Ireland.

In the south-west of England, the rich grass is ideal for feeding dairy cows.

In the east of England, wheat, barley and vegetables grow in large fields.

In the south-east of England and the lowlands of Scotland, grain, potatoes and sugar beet are grown. Most UK cauliflowers are grown in the south-east.

Tasks

- Choose a food commodity and research how it is produced and processed. Create farm to fork food chain cards to illustrate what you have found out.
- Research the following ingredients and state where in the world they are traditionally grown, reared or caught: avocado, lamb, nutmeg, oats, olive oil, spinach, squid, sugar beet.

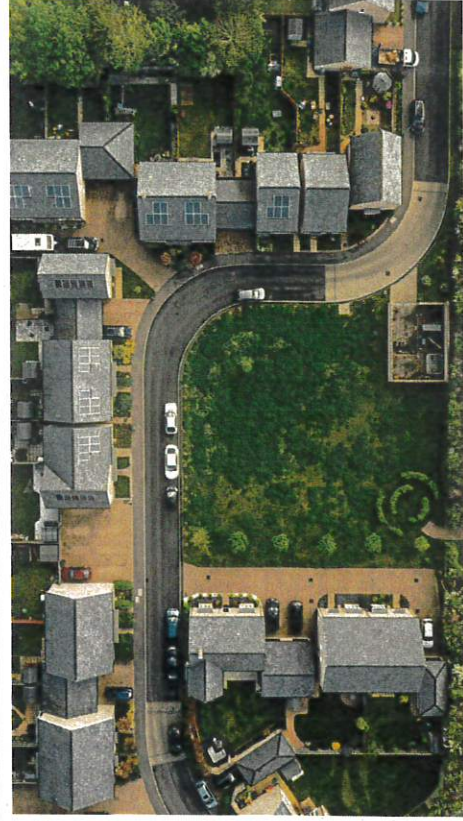
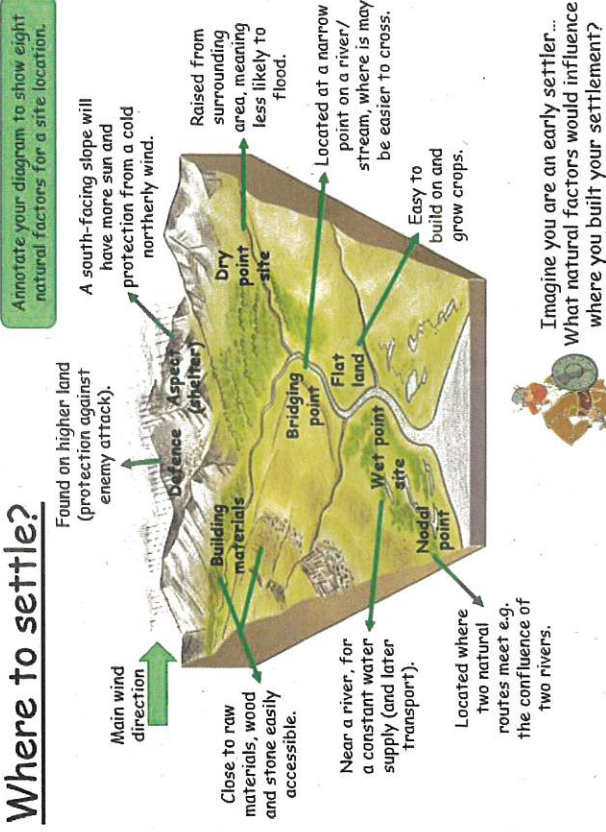
SUSTAINABILITY KNOWLEDGE ORGANISER YR9 : SETTLEMENTS



1. COMPONENT KNOWLEDGE

- Know that a settlement is a place where people live
- Know that settlements differ in size, and can be classified into isolated houses, hamlets, villages, towns and cities
- Know that settlements can be in either a rural or urban setting.
- Know how rural settlements can change over time which might be reflected in the land-use found there
- Know that the employment structure may change over time, for example the reasons why agricultural employment may decline to be replaced by tourism as the main form of employment
- Know how improvements in transport mean villages may become commuter settlements
- Know how the function of a settlement may change over time, such as the loss of traditional industries leading to the development of the tourism industry in redeveloped docklands
- Know that there are distinct categories of land use such as retail, industry, housing, transport and leisure
- Know how land use has developed due to a number of factors such as availability of land, accessibility, changes in car ownership and land or property values
- Know that counter-urbanisation is the movement of people from urban areas to rural areas
- Know that this is the opposite of urbanisation
- Know how both push factors and pull factors combine to create the desire for some people to leave urban areas to living in more desirable rural areas at the edge of cities
- Know how this process is mainly only available to people who are socially mobile (more affluent, well educated) compared with people who are socially inert (less affluent, fewer qualifications)
- Know how counter-urbanisation can increase some of the issues experienced in both urban (increased crime, housing issues, pollution due to commuting) and rural areas (reduction in services, rising house prices, increased congestion on rural roads)

Where to settle?



2. KEY VOCABULARY

- Rural** - an area of countryside characterised by wide open spaces.
- Urban** - a built up environment where a lot of people live.
- Population density** - the average number of people per square kilometre. Usually expressed as densely or sparsely populated.
- Location** - a particular place or position.
- Settlement** - a place where people live.
- Function** - the reason why a town was first built.
- Linear** - houses or buildings built in straight lines.
- Site** - the place where a settlement first begins.
- Nucleated** - clustered around a central point dispersed spread out from other buildings.
- Counter urbanisation** - the movement of people out of towns and cities to rural areas.
- Commuter belt** - the area around a town or city where people travel to work in the urban area.
- Deprivation** - the lack of key features that are regarded as necessary for a reasonable standard of living.
- Cycle of deprivation** - the cycle where a family living in poverty is unable to improve its lifestyle due to the negative factors of low income, poor housing and education, which keeps it in a state of poverty.

1. Key content	2. Vocab								
- Tsar Nicholas II was the Tsar (King) of Russia from 1894 to 1917 - Most Russians were poor peasant farmers, and the cost of the war made them poorer. Most people lived in poverty. - In 1917 there were two revolutions in Russia – the February Revolution and the October Revolution. - During the October Revolution the Bolsheviks, a communist group led by Vladimir Lenin, overthrew the Tsar and removed the Russian Imperial family - Lenin became a dictator and banned all other political parties in Russia - Russia became known as the Soviet Union from 1922 - After Lenin died Joseph Stalin became leader of the Soviet Union, using terror to control the population through fear.	<table> <tr> <td>Communism</td><td>An idea in politics that removes class levels and everyone is equal</td></tr> <tr> <td>Bolshevik</td><td>A member of the communist party that seized power in Russia</td></tr> <tr> <td>Revolution</td><td>An overthrow an established government</td></tr> <tr> <td>Dictatorship</td><td>A government where one person makes all the rules and decisions</td></tr> </table>	Communism	An idea in politics that removes class levels and everyone is equal	Bolshevik	A member of the communist party that seized power in Russia	Revolution	An overthrow an established government	Dictatorship	A government where one person makes all the rules and decisions
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3. People Tsar Nicholas II – Tsar (King) of Russia from 1894 to 1917. From the royal imperial Romanov family Grigori Rasputin – A religious healer who helped the Tsar's son with an illness. Became very influential in the Russian royal family Vladimir Lenin – Became the first communist Russian leader in 1917, founder of the Soviet Union Joseph Stalin – Became leader of the Soviet Union after Lenin, ruled through propaganda and terror									



Early 19th Century

Many Russians live in poverty and cannot afford to eat



1917

The Bolsheviks overthrow Tsar Nicholas II in the October Revolution, Lenin becomes leader of Russia

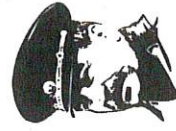


1922

Russia becomes known as the Soviet Union

1924

Lenin died and Joseph Stalin becomes the new leader of the Soviet Union



1924 - 1991

Soviet Union rules over Eastern Europe using terror and persuasion

YEAR 9 — REASONING WITH ALGEBRA...

Forming and Solving Equations

@whisto_maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Solve inequalities with negative numbers
- Solve equations with unknowns on both sides
- Solve inequalities with unknowns on both sides
- Substitute into formulae and equations
- Rearrange formulae

Keywords

Inequality: an inequality compares two values showing if one is greater than, less than or equal to another

Variable: a quantity that may change within the context of the problem

Rearrange: Change the order

Inverse operation: the operation that reverses the action

Substitute: replace a variable with a numerical value

Solve: find a numerical value that satisfies an equation

Solve equations with brackets

$$3(2x + 4) = 30$$

Expand the brackets

$$6x + 12 = 30$$

$$-12 \quad -12$$

$$6x = 18$$

$$\div 6 \quad \div 6$$

$$x = 3$$

Form and solve inequalities

Two more than treble my number is greater than 11

Find the possible range of values

$$3x + 2 > 11$$

Solve

$$x \leftarrow -3 \leftarrow -2 \leftarrow 11$$

$$x > 3$$

Inequalities with negatives

Method 1 Make x positive first

$$2 - 3x > 17$$

$$+3x \quad +3x$$

$$2 > 17 + 3x$$

$$-17 \quad -17$$

$$-15 > 3x$$

$$\div 3 \quad \div 3$$

$$-5 > x$$

x is true for any value smaller than -5

✓ **CHECK IT!**
 $2 - 3(-6) = 20$
TRUE/ CORRECT

Equations with unknown on both sides

$$4x + 5 = 3x + 24$$

$$-3x \quad -3x$$

$$x + 5 = 24$$

$$-5 \quad -5$$

$$x = 19$$

Inequalities with unknown on both sides

Solving inequalities has the same method as equations

$$5(x + 4) < 3(x + 2)$$

$$5x + 20 < 3x + 6$$

$$2x + 20 < 6$$

$$2x < -14$$

$$x < -7$$

Check it!

$$5(-8 + 4) < 3(-8 + 2)$$

$$5(-4) < 3(-6)$$

$$-20 < -18$$

✓ -20 IS smaller than -18

Method 2 Keep the negative x

$$2 - 3x > 17$$

$$-2 \quad -2$$

$$-3x > 15$$

$$\div -3 \quad \div -3$$

$$x > -5$$

x is true for any value bigger than -5

This cannot be true...

When you multiply or divide x by a negative you need to reverse the inequality

$$x < -5$$

Formulae and Equations

Formulae — all expressed in symbols

Substitute in values

Equations — include numbers and can be solved

Rearranging Formulae (one step)

$$x = y + z$$

$$x = y + z$$

Rearrange to make y the subject

$$y = x - z$$

$$y \rightarrow +z \rightarrow x$$

$$y \leftarrow -z \leftarrow x$$

Using inverse operations or fact families will guide you through rearranging formulae

Rearranging can also be checked by substitution

Language of rearranging...

Make XXX the subject

Change the subject

Rearrange

Rearranging Formulae (two step)

In an equation (find x)

$$4x - 3 = 9$$

$$+3 \quad +3$$

$$4x = 12$$

$$\div 4 \quad \div 4$$

$$x = 3$$

In a formula (make x the subject)

$$xy - s = a$$

$$+s \quad +s$$

$$xy = a + s$$

$$\div y \quad \div y$$

$$x = \frac{a + s}{y}$$

The steps are the same for solving and rearranging

Rearranging is often needed when using $y = mx + c$

e.g Find the gradient of the line $2y - 4x = 9$

Make y the subject first $y = \frac{4x + 9}{2}$

Gradient = $\frac{4}{2} = 2$

YEAR 9 — REASONING WITH ALGEBRA...

Straight Line Graphs

@whisto_maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Compare gradients
- Compare intercepts
- Understand and use $y = mx + c$
- Find the equation of a line from a graph
- Interpret gradient and intercepts of real-life graphs

Keywords

Gradient: the steepness of a line

Intercept: where two lines cross. The y-intercept: where the line meets the y-axis

Parallel: two lines that never meet with the same gradient

Co-ordinate: a set of values that show an exact position on a graph

Linear: linear graphs (straight line) — linear common difference by addition/ subtraction

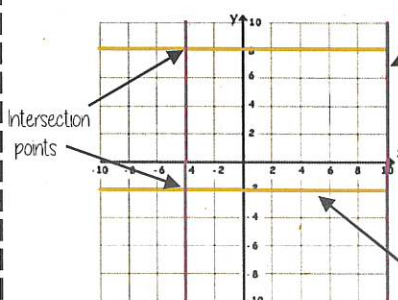
Asymptote: a straight line that a graph will never meet

Reciprocal: a pair of numbers that multiply together to give 1

Perpendicular: two lines that meet at a right angle

Lines parallel to the axes

R



All the points on this line have a x coordinate of 10

Lines parallel to the y axis take the form $x = a$ and are vertical

Lines parallel to the x axis take the form $y = a$ and are horizontal

All the points on this line have a y coordinate of -2
eg (3, -2) (7, -2) (-2, -2)
all lay on this line because the y coordinate is -2

'a' can be ANY positive or negative value including 0

Plotting $y = mx + c$ graphs

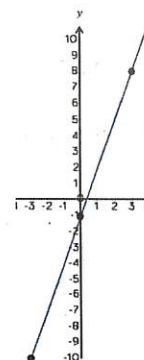
R

$y = 3x - 1$ → 3 x the x coordinate then - 1

x	-3	0	3
y	-10	-1	8

Draw a table to display this information

This represents a coordinate pair (-3, -10)



You only need two points to form a straight line

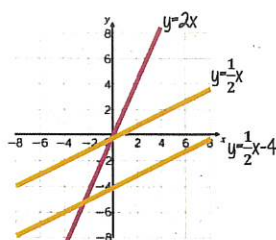
Plotting more points helps you decide if your calculations are correct (if they do make a straight line)

Remember to join the points to make a line

Compare Gradients

$$y = mx + c$$

The coefficient of x (the number in front of x) tells us the gradient of the line



The greater the gradient — the steeper the line

Parallel lines have the same gradient

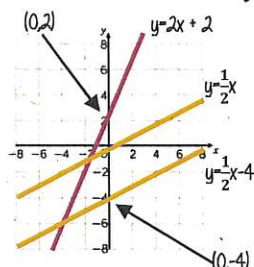
Positive gradients

Negative gradients

Compare Intercepts

$$y = mx + c$$

The value of c is the point at which the line crosses the y-axis Y intercept



The coordinate of a y intercept will always be (0,c)

Lines with the same y-intercept cross in the same place

$$y = mx + c$$

The coefficient of x (the number in front of x) tells us the gradient of the line

$$y = mx + c$$

The value of c is the point at which the line crosses the y-axis Y intercept

y and x are coordinates

The equation of a line can be rearranged. Eg

$$y = c + mx$$

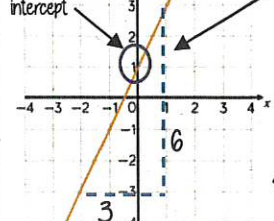
$$c = y - mx$$

Identify which coefficient you are identifying or comparing

Find the equation from a graph

(0,1)

The y-intercept



The Gradient $\frac{6}{3} = 2$

$$y = 2x + 1$$

The direction of the line indicates a positive gradient

Positive gradients

Negative gradients

Real life graphs

A plumber charges a £25 callout fee, and then £12.50 for every hour. Complete the table of values to show the cost of hiring the plumber.

Time (h)	0	1	2	3	8
Cost (£)	£25				£125

In real life graphs like this values will always be positive because they measure distances or objects which cannot be negative

Direct Proportion graphs

To represent direct proportion the graph must start at the origin

A box of pens costs £2.30

Complete the table of values to show the cost of buying boxes of pens.

Boxes	0	1	2	3	8
Cost (£)		£2.30			

When you have 0 pens this has 0 cost
The gradient shows the price per pen

The y-intercept shows the minimum charge
The gradient represents the price per mile

YEAR 9 — REASONING WITH ALGEBRA...

Testing conjectures

@whisto_maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Use factors, multiples and primes
- Reason True or False
- Reason Always, sometimes never true
- Show that reasoning
- Make conjectures about number
- Expand binomials
- Make conjectures with algebra
- Explore the 100 grid

Keywords

Multiples: found by multiplying any number by positive integers

Factor: integers that multiply together to get another number.

Prime: an integer with only 2 factors.

HCF: highest common factor (biggest factor two or more numbers share)

LCM: lowest common multiple (the first time the times table of two or more numbers match)

Verify: the process of making sure a solution is correct

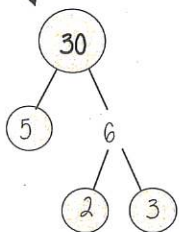
Proof: logical mathematical arguments used to show the truth of a statement

Binomial: a polynomial with two terms

Quadratic: a polynomial with four terms (often simplified to three terms)

Factors, Multiples and Primes

Multiplication part-whole models



All three prime factor trees represent the same decomposition

HCF — Highest common factor

HCF of 18 and 30

18: 1, 2, 3, 6, 9, 18

30: 1, 2, 3, 5, 6, 10, 15, 30

Common factors are factors two or more numbers share

LCM — Lowest common multiple

LCM of 9 and 12

9: 9, 18, 27, 36, 45, 54

12: 12, 24, 36, 48, 60

Common multiples are multiples two or more numbers share

R

True or False?

Conjecture

A pattern that is noticed for many cases

1, 2, 4, ...
The numbers in the sequence are doubling each time.

Counterexamples



This sequence isn't doubling it is adding 2 each time

Only **one** counterexample is needed to disprove a conjecture

Always, Sometimes, Never true.

Always Every value always supports the statement

Sometimes Examples show the statement being true and counter examples to show when it is false

Never No example supports the statement

Examples to try

- 0 and 1
- Fractions
- Negative numbers

Show that

Numerical verification

Show the stages to a solution with numerical values

Algebraic verification

Show algebraic properties of the solution
You may want to use pictorial images to support this

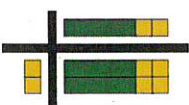
Proof

Simple proofs using algebra

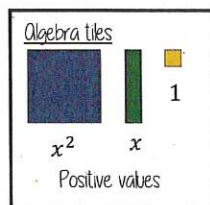
Compare the left hand side of an equation with the right hand side — are they the same or different?

Expanding binomials

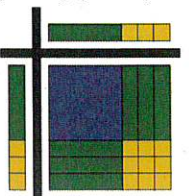
$$2(x + 2) \equiv 2x + 4$$



Algebra tiles can represent a binomial expansion
Has two terms



$$(x + 3)(x + 3) \equiv x^2 + 6x + 9$$



This is a quadratic
It has four terms which simplified to three terms

The order of the binomial has no impact on the outcome
eg $(x + 3)(3 + x)$

Conjectures



Even
 $(2n)$

Multiples of 2



Odd
 $(2n + 1)$

One more than any even

Use numerical verification first
Use pictorial verification — the representations of numbers of odd and even

Exploring the 100 square

In terms of 'n' is used to make generalisations about relationships between numbers

Positions of numbers in relation to n form expressions

Eg one space to the right of n
 $n + 1$

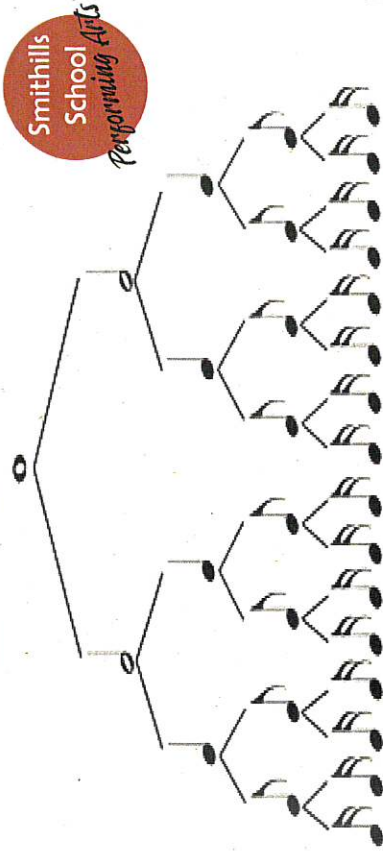
Eg One row below n
 $n + 10$

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
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

The size of the grid for generalisation changes the relationship statements

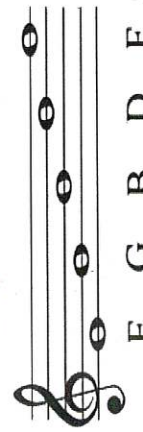
Big Picture: This year, you will begin by learning about the key musical devices used within classical music and how they are used to create a piece of music. You will develop an understanding of how music creation developed during each era and the key musical features of each era. Alongside this, you will continue to develop and apply your skills on the keyboard, your knowledge of the note names on the treble and bass clef and the note values from your work in Year 7.

1. Key concept - Basic note values

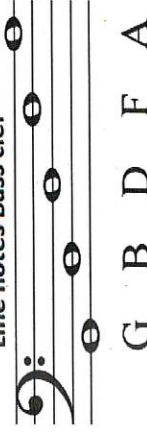


3. Key concept - Notes on the treble and bass clef

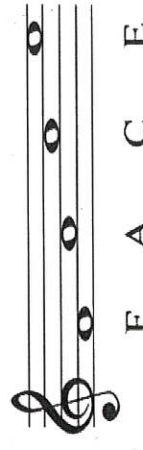
Line Notes



Space Notes



Space Notes



Line Notes



2. Key Concept - Classical Music Eras

Baroque era (1600-1750)	Classical era (1750-1810)	Romantic era (1810-1910)
Harpichord Ornaments Terraced dynamics Basso continuo Small orchestra (mostly strings, plus some wind) Suite, sonata, oratorio, chorales, trio sonata Composers: Bach, Handel, Vivaldi	Slightly larger orchestra Piano introduced Alberti bass String quartets Symphony, solo sonata, solo concerto Balanced, regular phrases Composers: Haydn, Mozart, Beethoven	Lyrical, expressive melodies Large orchestra Wider range of dynamics Richer harmonies and use of chromatic chords Programme music Opera symphony Composers: Tchaikovsky, Grieg, Schumann, Dvorak, Brahms, Verdi, Wagner

4. Key Vocabulary - Classical Music Devices

Counter melody	A secondary melody that accompanies the main melody	Major	The tonality of the music sounds brighter and more positive
Retrograde	Writing or playing the theme backwards	Minor	The tonality of the music sounds more darker and depressing/mysterious
Diminution	Halving the note values of the theme	Passing notes	Extra notes added between the notes of the melody
Augmentation	Doubling the note values of the theme	Ostinato	A short-repeated pattern
Canon/Round	A piece of music which different performers sing or play the same theme starting one after the other	Ground bass	A repeated musical pattern in the bass part over which chords and melodies can be varied
Variation	Altering the theme but keeping some of the notes and structure of the original theme	Sequence	A melodic phrase repeated at a higher or lower pitch

M	A	D	T	R	T
melody	articulation	dynamics	texture	instruments	rhythm
				harmony	tempo
				structure	

Big Picture: Do we treat creation correctly?

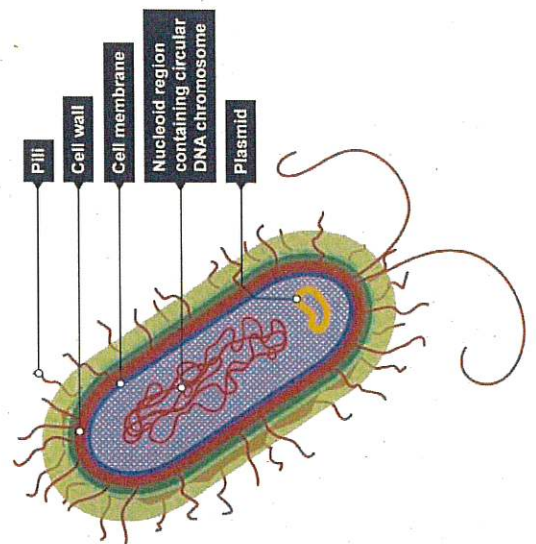
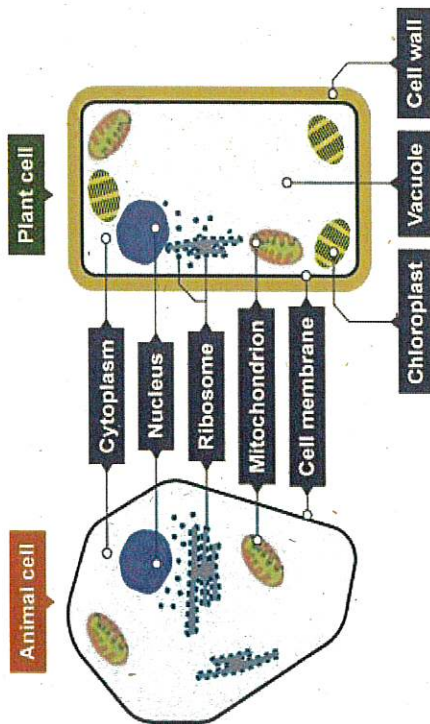
1. Key Concepts

How can we be sure we make good choices? 1.1 Morality is your sense of right and wrong and moral decisions are based on right or wrong actions. Our sense of morality is linked to our upbringing, faith (if we have one) education and experience. Combined, these help us form our conscience. This guides us when making moral choices. Christians look to God as the ultimate source of authority to decide what is right and what is wrong. Many people believe they know automatically when something is right or wrong because their conscience tells them. Christians think this voice is God. Some Christians try and work out what the right thing to do is by imagining what Jesus would do in the same situation. The Church will often make a statement about what it considers to be right on a particular issue such as abortion or war.	Origins of the universe 1.2 Science argues a Big Bang occurred and this was the start of space and time from this moment the explosion led to dust and particles slowly forming planets leading slowly to the formation of our solar system. That this may be one of many such 'bangs' Hindus –believe that this world is one of succession of worlds Brahma has created for Vishnu to look after and Shiva to eventually destroy. Vishnu was asleep in the ocean and awoke to the Om for our world and a lotus flower sprang out of his belly leaving Brahma alone to create the Earth. Islam has God summoning the world into existence with the commandment “be” and creating the species upon it and sending angels to collect the day that formed man.	Threats to the Natural World 1.3 What harm have climate change and acts such as deforestation done to our natural world? Our seas have been damaged, our sea shores are covered in pollution, animal life is harmed or killed by plastic floating in the seas. As a result of this harm the planet's natural environment and its living things. What actions can you take to prevent this?	Christian and Muslim Responses to issues in the Natural World. 1.4 Both religions teach that whoever works to protect the planet is taking care of God's creation and that we have been appointed during our time on earth as stewards of the earth and lands.																				
Animal Treatment 1.5 We use animals in many ways as pets, for clothing, for food but, is it right that they should suffer for our needs? Hunting with foxes was banned but people still argue about this and it still causes controversy when even the modernised version of The Hunt is run with views on either side still very divided on whether the ban should be overturned. Animal experimentation for medicines, perfumes and make-up is another very controversial area of how humans use animals. Some think it is ok to use animals to test medicines as this may save lives but others argue as they are different to us, they do not have the same reactions.	Space for your own notes	Space for your own notes	<table><tr><th colspan="2">2. Vocabulary</th></tr><tr><td>Big Bang</td><td>The universe developed a pproximately 13.7 billion years ago following a single event.</td></tr><tr><td>Deforestation</td><td>The action of clearing a wide area of trees</td></tr><tr><td>Vivisection</td><td>The practice of performing operations on live animals for experimentation or research</td></tr></table>	2. Vocabulary		Big Bang	The universe developed a pproximately 13.7 billion years ago following a single event.	Deforestation	The action of clearing a wide area of trees	Vivisection	The practice of performing operations on live animals for experimentation or research												
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3. Skills Discuss differing types of punishment and their causes and consequences. Evaluate whether the death penalty is the right form of punishment. Explain why Justice is important in Islam. Explain why laws are important. Interpret SOWA and consider their application for and against one of the concepts	4. Key SOWA (Sources of wisdom and authority) It is easier for a camel to go through the eye of a needle than for a rich man to enter the Kingdom of God. <i>Luke 18:25</i> The righteous care for the needs of their animals. [Proverbs 12:10] ‘The love of money is the root of all evil’ (Timothy 6:10)	<table><tr><th colspan="2">5. Key Figures</th></tr><tr><td>Gretta Thunberg</td><td>Climate activist</td></tr><tr><td>Boris Johnson</td><td>Prime Minister during Covid 19 crisis</td></tr><tr><td>Guru Nanak</td><td>Founder Sikhism first of Sisk Guru's</td></tr><tr><td>Jesus</td><td>Christians believe to be the Son of God Muslims believe to be a Prophet of God teachings about how to live life and follow God very influential.</td></tr></table>	5. Key Figures		Gretta Thunberg	Climate activist	Boris Johnson	Prime Minister during Covid 19 crisis	Guru Nanak	Founder Sikhism first of Sisk Guru's	Jesus	Christians believe to be the Son of God Muslims believe to be a Prophet of God teachings about how to live life and follow God very influential.	<table><tr><th colspan="2">6. Assessment Criteria</th></tr><tr><td>State/Outline</td><td>Give 3 examples in 3 different sentences</td></tr><tr><td>Explain</td><td>2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation)</td></tr><tr><td>Explain and SOWA</td><td>2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation) and link in a SOWA to support the points.</td></tr><tr><td>Evaluate</td><td>Higher level answers will state which is</td></tr></table>	6. Assessment Criteria		State/Outline	Give 3 examples in 3 different sentences	Explain	2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation)	Explain and SOWA	2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation) and link in a SOWA to support the points.	Evaluate	Higher level answers will state which is
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Year 9 Science Cell Biology

Big Question: Why are we studying this now? The fundamental units of living organisms are cells, this topic builds on KS3 Cells
Further development of microscope skills, cell division and Stem cells and exchange of substances

1. Cell Structure



Keywords	
1. Eukaryotic	A complex cell with a nucleus (e.g. animal or plant cells).
2. Prokaryotic	A smaller cell without a nucleus (e.g. bacterial cell).
3. Nucleus	Contains genetic material.
4. Cytoplasm	Where a cells chemical reactions happen.
5. Cell membrane	Controls what goes into and out of a cell.
6. Ribosome	Part of a cell where proteins are made.
7. Mitochondria	Where aerobic respiration takes place.
8. Cell wall	Only found in plant cells. Made of cellulose and supports the cell.
9. Vacuole	Only found in plant cells. Contains cell sap.
10. Chloroplasts	Only found in plant cells. Where photosynthesis takes place.
11. Plasmid	Only found in bacterial cells. A small loop of DNA.
12. Genetic material	Long strands of genes not tightly pack in a nucleus.

2. Specialised Cells

Sperm cells	- Take male DNA to the egg - Tail to help it swim - Lots of mitochondria for energy
Nerve cells	- Carry electrical signals around the body - Long to cover long distances - Branches to connect to other cells
Muscle Cells	- Muscle cells contract - Long so have space to contract - Lots of mitochondria for energy
Root hair cells	- Root hair cells absorb water and minerals - Long hairs - Large surface area for absorption
Phloem Cells	- Phloem cells transport sugars (plants) - Long tube joined end to end
Xylem cells	- Xylem cells transport water (plants) - Long tubes joined end to end - Hollow so water can flow through

Year 9 Science Cell Biology

Big Question: Why are we studying this now? The fundamental units of living organisms are cells, this topic builds on KS3 Cells. Further development of microscope skills, cell division and exchange of substances.

3.	cell	The smallest structural and functional unit of an organism.
	nucleus	A structure that contains genetic material and controls the activities of the cell.
	chromosome	A thread like structure of coiled DNA found in the nucleus of eukaryotic cells.
	DNA	A polymer made up of two strands forming a double helix.
	gene	A section of DNA that codes for a specific protein or characteristic.

largest



smallest

4. Transport in cells		
Diffusion <u>No</u> energy required	Movement of particles in a solution or gas from a higher to a lower concentration	E.g. O ₂ and CO ₂ in gas exchange, urea in kidneys. Factors that affect the rate are concentration, temperature and surface area.
Osmosis <u>No</u> energy required	Movement of water from a dilute solution to a more concentrated solution	E.g. Plants absorb water from the soil by osmosis through their root hair cells. Plants use water for several vital processes including photosynthesis and transporting minerals.
Active Transport Energy Required from respiration	Movement of particles in a solution or gas from a lower to a higher concentration	Eg Plant minerals entering root hair cells

5. Osmosis

1 Extract five potato cores with cork borer

2 Trim cores to remove skin and make the same length

3 Accurately measure mass and length of each core

4 Add sugar solution (measuring cylinder)
A – 10 cm³
B – 7.5 cm³
C – 5 cm³
D – 2.5 cm³
E – 0 cm³

5 Add water (measuring cylinder)
A – 0 cm³
B – 2.5 cm³
C – 5 cm³
D – 7.5 cm³
E – 10 cm³

6 Add potato core to each tube

7 Leave for required time

8 Remove and blot dry cores

9 Accurately measure mass and length of each core

GCSE Biology: Osmosis designed in line with practicals in AQA GCSE Biology / Combined Science Handbooks
http://www.aqa.org.uk/resources/biology/gcse/biology-practicals

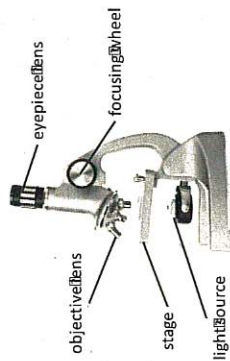
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6.	Small intestines	Villi – increase surface area, Good blood supply – to maintain concentration gradient, Thin membranes – short diffusion distance.
	Lungs	Alveoli – increase surface area, Good blood supply – to maintain concentration gradient, Thin membranes – short diffusion distance.
	Gills in fish	Gill filaments and lamella – increase surface area, Good blood supply – to maintain concentration gradient, Thin membranes – short diffusion distance.
	Roots	Root hair cells – increase surface area.
	Leaves	Large surface area, thin leaves for short diffusion path, stomata on the lower surface to let O ₂ and CO ₂ in and out.

Year 9 Cell Biology

Big Question: why are we studying this now The fundamental units of living organisms are cells, this topic builds on KS3 Cells
Further development of microscope skills, cell division and Stem cells and exchange of substances

Microscopy Skills



3. Magnification

$$\text{magnification} = \frac{\text{size of image}}{\text{actual size of object}}$$

$$\text{magnification} = \frac{\text{size of image}}{\text{actual size of object}}$$

2. Types of microscope

Feature	Light (optical) microscope	Electron microscope
Radiation used	Light rays	Electron beams
Max magnification	~ 1500 times	~ 2 000 000 times
Resolution	200nm	0.2nm
Size of microscope	Small and portable	Very large and not portable
Cost	~£100 for a school one	Several £100,000 to £1 million plus

Prefixes

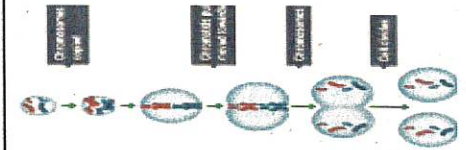
Prefix	Multiple	Standard form
centi (cm)	1 cm = 0.01 m	$\times 10^{-2}$
milli (mm)	1 mm = 0.001 m	$\times 10^{-3}$
micro (µm)	1 µm = 0.000 001 m	$\times 10^{-6}$
nano (nm)	1 nm = 0.000 000 001 m	$\times 10^{-9}$

3. MITOSIS AND THE CELL CYCLE

Cells divide in a series of stages. The genetic material is doubled and then divided into two identical cells.

Stage	1	2	3
Growth	Increase the number of sub-cellular structures e.g. ribosomes and mitochondria.	DNA replicates to form two copies of each chromosome.	One set of chromosomes is pulled to each end of the cell and the nucleus divides. Then the cytoplasm and cell membranes divide to form two cells that are identical to the parent cell.

Mitosis occurs during growth, repair, replacement of cells. Asexual reproduction occurs by mitosis in both plants & simple animals.



4. STEM CELLS

Undifferentiated cell of an organism

Divides to form more cells of the same type, and can differentiate to form many other cell types.

Human Embryonic stem cells	Can be cloned and made to differentiate into most cell types	Therapeutic cloning uses same genes so the body does not reject the tissue. Can be a risk of infection
Adult bone marrow stem cells	Can form many types of human cells e.g. blood cells	Tissue is matched to avoid rejection, risk of infection. Only a few types of cells can be formed.
Meristems (plants)	Can differentiate into any plant cell type throughout the life of the plant.	Used to produce clones quickly and economically, e.g. rare species, crop plants with pest/disease resistance

Treatment with stem cells may be able to help conditions such as diabetes and paralysis. Some people object to the use of stem cells on ethical or religious grounds

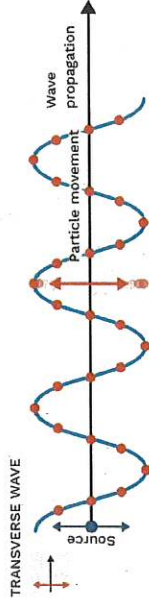
Light and Sound 1

1. Types of waves

Waves transfer energy without transferring matter.

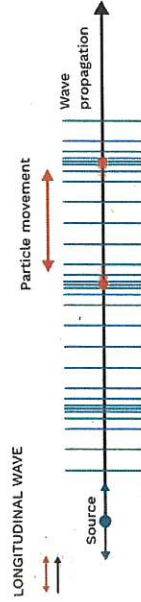
Transverse

In transverse waves the oscillation of the particle is perpendicular to the direction of energy transfer.

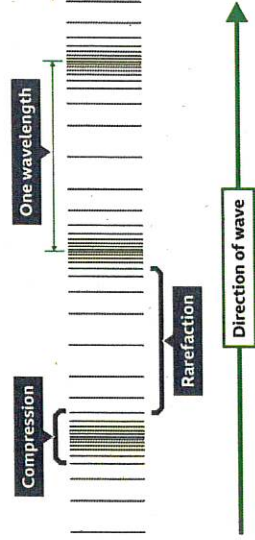


Longitudinal

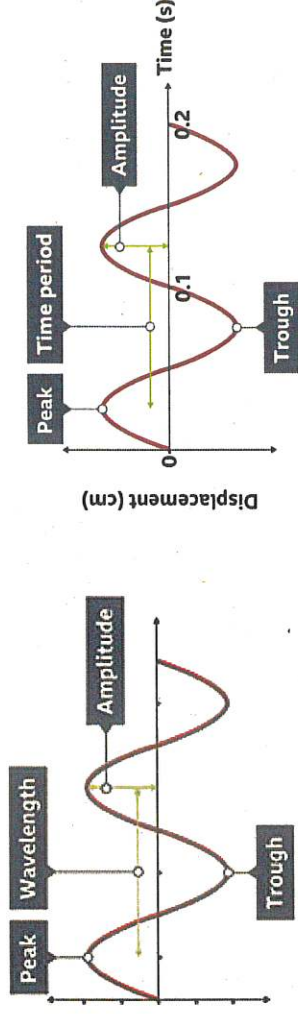
In longitudinal waves the particles oscillate parallel to the direction of energy transfer.



Describing longitudinal waves



Describing transverse waves



Peak – the highest point. **Trough** – the lowest point.

Amplitude – the distance from a peak or a trough to the rest position.

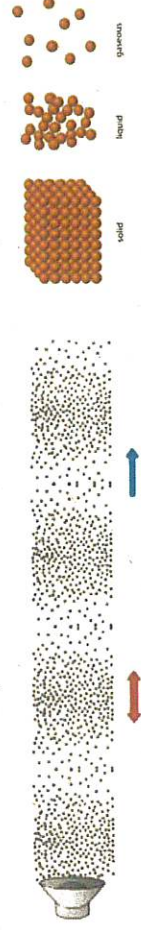
Wavelength – The distance from one peak to the next peak.

Frequency – the number of complete vibrations in one second. It is measured in hertz (Hz).

Time period – the time taken for one complete cycle of the wave.

2. What is sound

Sound is produced when air particles vibrate backwards and forwards which causes the particles next to them to vibrate backwards and forwards. Energy is carried along in the direction of the vibrations.



Sound needs a medium to travel through because something must pass on vibrations. Sound travels faster in a solid than it does in air. Sound cannot travel in space because it's mostly a vacuum.

An echo is a sound being reflected from a smooth surface.

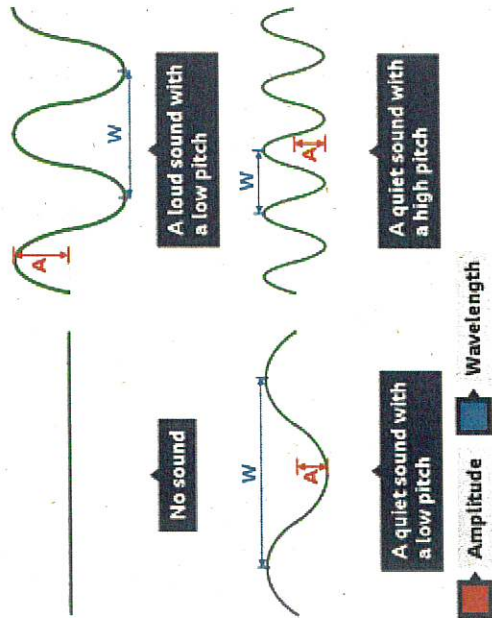
Sound travels at 330 m/s in air. To calculate speed, use the equation $\text{Speed} = \text{distance} \div \text{time}$

Light and Sound 2

3. Pitch and volume

The pitch of a note depends on the frequency. A pitched sound has a high frequency, and low-pitched sounds have a low frequency.

A loud sound has a higher amplitude; a quiet sound has a small amplitude.



4. Properties of waves

Wave Speed equation: $v = f \lambda$

v = wave speed (m/s) f = frequency (Hz) and λ = wavelength (m)

Time Period equation:

Time period (s) = $1 / \text{Frequency (Hz)}$

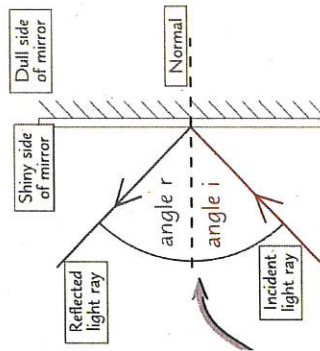
5. Light



Light is produced by luminous objects such as the Sun. Light is a wave which always travels in a straight line. When you look at a non-luminous object like a book, light is reflected off the object into your eye.

Light waves do not need particle to travel. Light waves are slowed down by particles. Light travels faster when there are fewer particles to get in the way. Light always travels fastest in a vacuum. The speed of light in a vacuum is always 300,000,000 meters per second.

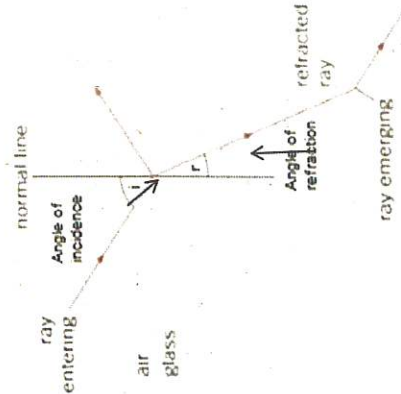
6. Reflection



When a light ray hits the surface an object (for example a mirror), the light ray is reflected. The angle at which the light ray hits the mirror is known as the angle of incidence. The angle of the reflected light ray is the angle of reflection.

Law of reflection: Angle of incidence = Angle of reflection.

7. Refraction



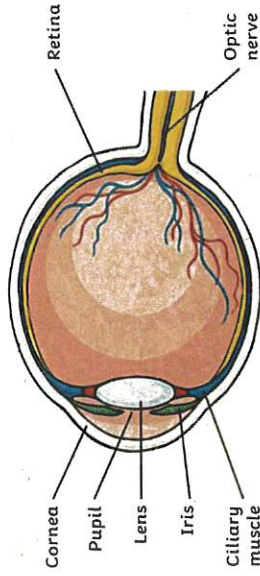
Light waves change speed when they pass across the boundary between two substances with a different *density*, such as air and glass. This causes them to change direction, an effect called refraction.

At the boundary between two transparent substances:

- the light slows down going into a denser substance, and the ray bends towards the normal
- the light speeds up going into a less dense substance, and the ray bends away from the normal.

Light and Sound 3

The eye



The cornea - helps your eye focus as light passes through.

The iris – it can contract and relax to change in size of the pupil to control how much light goes through the pupil to the retina.

The pupil - lets light enter the eye.

The lens - focuses the light rays, changing their direction to produce a clear image on the retina.

Ciliary muscle - can change the shape and thickness of the lens to help you focus on objects that are up close or far away.

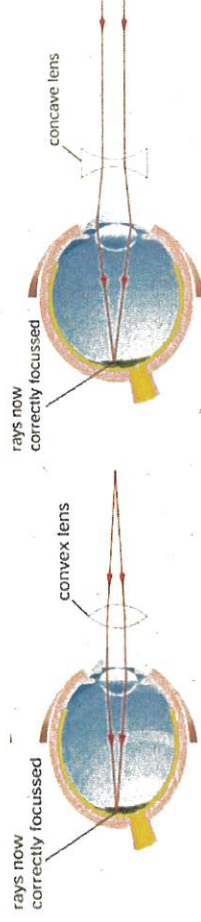
The vitreous body - the biggest part of the eye and gives the eye its shape.

The retina - contains cells that respond to light. • Rods are sensitive to movement and dim light. • Cones are sensitive to bright light and colour visual image.

When light hits the rods and cones, chemical reactions produce an electrical impulse that travels up the optic nerve to your brain. When the brain receives these electrical signals, it interprets them into a visual image. When the image on the retina is it inverted (upside down), the brain interprets the image as the right way up.

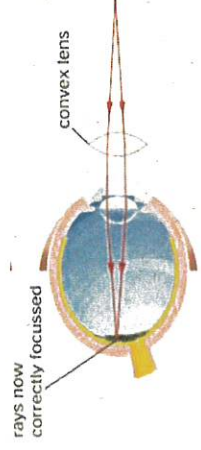
Correcting Vision: Short Sighted

If you are short sighted, you cannot see distant objects very clearly. Your eyeball may be too long, or your lens and cornea may refract the light too much. The image is formed in front of the retina. To correct this, you need to wear glass or contact lens that contain concave lenses.



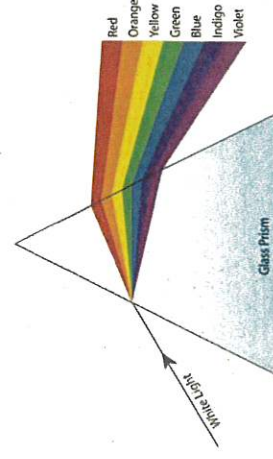
Correcting Vision: Long Sighted

If you are long sighted, you cannot see close object very clearly. Your eye small may be too short or your lens and cornea may not refract the light enough. The image is formed behind the retina. To correct this, you need to wear glasses or contact lenses that contain convex lenses.



Prisms and colour

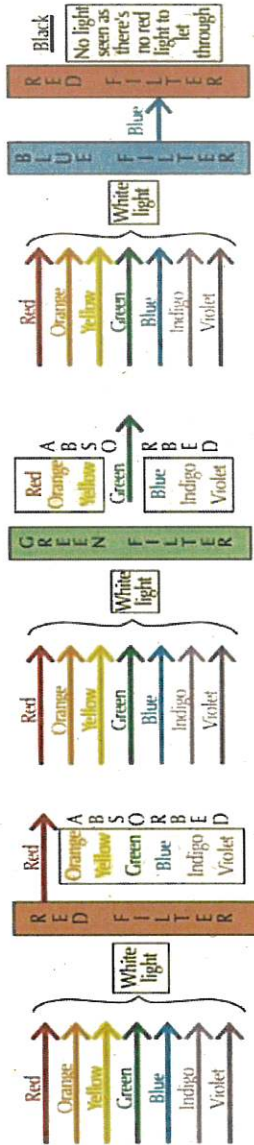
White light is not just a single colour; it is a mixture of different colours. A prism can be used to split white light into a spectrum of colours. This is known as dispersion. Dispersion happens because different colours of light are refracted by different amounts. Violet is refracted the most and red is refracted the least.



Light and Sound 4

Colour mixing

A filter is an object that is designed to absorb some light and transmit other light.



Different objects reflect different colours. Any coloured object reflects the colour that it is and absorbs the rest. For example, a red car reflects red light and absorbs other colours of light. Black objects absorb all the colours, reflecting no colours. White objects absorb no colours and reflect all the light.



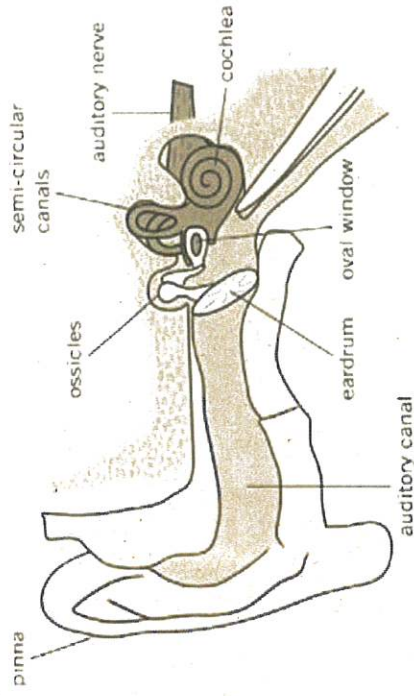
Hearing and the ear

You can measure sound intensity or volume in decibels (dB). The decibel scale is not like a ruler. Each increase of 10dB increase the sound intensity by 10 times.

0 dB	20 dB	40 dB	60 dB	80 dB	100 dB	120 dB	140 dB
cannot be heard	leaves rustling	talking quietly	normal speech	heavy traffic	jet taking off	pain threshold	gun shot

Lots of animals can hear frequencies that are much higher than the frequencies we hear. Your auditory range is the range of frequencies you can hear. Frequencies below 20Hz are called infrasound. Frequencies above 20,000Hz are called ultrasound.

Hearing and the ear



The part of your ear that you can see, called the pinna directs the sound wave into your auditory canal towards your ear drum. The pinna, auditory canal and ear drum make up your outer ear.

Your eardrum vibrates and passes the vibration on to the ossicles. The ossicles make up your middle ear.

They are tiny bones that amplify the sound. They make the oval window vibrate.

This passes the vibration on to liquid in the cochlea. This contains thousands of tiny hairs.

As the liquid moves, the hairs move. Specialised cells at the base of the hairs convert the movement to an electrical signal.

The signal travels down the auditory nerve to your brain.

You hear the music.

[illegible]

			
comedia	acción	fantasía	musical
			
ciencia ficción	romance	suspense	terror
			

3. Sentence starters

- En mi tiempo libre (no) me gusta + infinitive
- Creo que.../pienso que.../opino que...
- En mi opinion... 
- Por lo que yo sepa...

5. Vocabulary 2: TV programmes

los dibujos animados	Cartoons
las noticias	The news
las telenovelas	Soap operas
las comedias	Comedies
Las series policíacas	Police series
documentales	Documataries

6. Assessment

- ¿Qué te gusta hacer en tu tiempo libre?
- ¿Te gusta ver...?
- ¿Te gustaría hacer un deporte extremo/peligroso?
- ¿Qué vas a hacer la semana que viene?

1. In your homework book list 5 activities, in Spanish, that you might do in your free time.

2. Translate the sentences into English, write the sentences in your homework book

- | | |
|---|---|
| 1 | Siempre me gusta ver Netflix porque es relajante. |
| 2 | Normalmente me encanta ir de compras porque es divertido. |
| 3 | En mi tiempo libre me gusta tocar la guitarra porque es guay. |

3. Translate the sentences into Spanish, write the sentences in your homework book

- | | |
|---|---|
| 1 | Often I love to chat with friends because it is fun. |
| 2 | Sometimes I like to do sport because it is exciting. |
| 3 | In my free time I like to dance because it is entertaining. |

1. In your homework book list 3 sports that go with the infinitive "HACER" (to do) and 3 sports that go with the infinitive "JUGAR" (to play).

2. Translate the sentences into English, write the sentences in your homework book

- | | |
|---|------------------------------|
| 1 | A veces juego al baloncesto. |
| 2 | Nunca jugamos al golf. |
| 3 | Siempre hago la natación. |

3. Translate the sentences into Spanish, write the sentences in your homework book

- | | |
|---|----------------------------|
| 1 | Often I play tennis. |
| 2 | Normally they play rugby. |
| 3 | Usually they do athletics. |

1. In your homework book list 5 types of TV programmes (e.g. comedies, soaps...)

2. Translate the sentences into English, write the sentences in your homework book	
1	No aguanto las telenovelas dado que son aburridas.
2	Mi programa favorito es Married at First Sight ya que es entretenido.
3	Siempre veo las comedias puesto que son graciosas.

3. Translate the sentences into Spanish, write the sentences in your homework book	
1	I like documentaries because they are interesting.
2	My favourite programme is Friday Night Dinner because it is funny.
3	I never watch cartoons because they are childish.

Big Picture: Why are we learning this now?

We have two major topics in Key Stage 4 which both feature heavily on exam papers: technology and social issues. Technology is excellent for learning tenses; past tech, current tech and future ideas for development. We will be incorporating more exam style questions into lessons in order to prepare you for the final GCSE tests.

Advantages and Disadvantages of Social Media

سوشل میڈیا کے فائدے اور نقصانات



1. Key Concepts

There are 3 forms of the past tense. We have used the **preterite** (completed actions) and **imperfect** (description of something in the past/something you used to do). The **perfect tense** tells us what you HAVE done

e.g. I have stopped using Facebook, Mariah has lost her Wi-Fi connection.

2. Processes: forming the perfect tense

chuka tha chuki thi chukay thay	چکا تھا چکی تھی چکے تھے	Vo school jaa chukka tha Baarish tham chuki thi Vo khaana kha chukay thay
kar dia tha kar di thi kar di'ay thay	کر دیا تھا کر دی تھی کر دیے تھے	Maine ussay maaf kr dia tha Maine cheeni daalnee bandh kar di thi Usay paisay denay khatham kr di'ay thay
ho gaya tha ho gae thi ho ga'ay thay	ہو گیا تھا ہو گئی تھی ہو گئے تھے	Internet kharaab ho gaya tha Bijli bandh ho gae thi Mobile phone aljaad ho ga'ay thay

3. Sentence starters

Main ... isthemaal krtha hoon

Aaj technology jaded hai, maslan ...

Social media kay nuqsaanaath yeh hai kay...

Pehlay computer *adjective* hothay thay

Mujhay ... pasand/napasand hai kyunkay ...

4. Vocabulary 1: Keywords

Disadvantage	Nuqsaanaath	نقصانات
Advantage	Faaidhay	فائدے
Modern	Jadeed	جدید
Ancient	Qadeem	قدیم
Old	Puraana/i/ay	پرانا۔ پرانی۔ پرانے
New	Nya/naee/na'ay	نیا۔ نئی۔ نئے
Expensive	Mehnga/i/ay	مہنگا۔ مہنگی۔ مہنگے
Cheap	Sastha/i/ay	سستا۔ سستی۔ سستے
Fast	Thez	تیز

5. Vocabulary 2: Comparatives

say zyaada	سے زیادہ	More than
say kam	سے کم	Less than
kay muqablay main	کے مقابلہ میں	In comparison to...

6. Assessment

- Tasveer main kya nazar aa rha hai?
- Thum kaunsay social network isthemaal krthay ho?
- Social media kay kya faaidhay aur nuqsaanaath hain?
- Internet kay baghair zindagi kaisi hogi?