

Knowledge Organiser

Year 9 Autumn 2 2025

Create Your Future



"I am proud to represent my country, and it shows that hard work pays off."

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Team GB Inline Skating Development Squad

Name:

Tutor Group:

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Science, PE and Technology are on a rotation so have multiple pages in this booklet.
Your teacher will direct you to the appropriate pages when setting work.

Timetable

Week 1	1	2	3	Lunch extra-curricular club	4	5	After school extra-curricular club
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							

Week 2	1	2	3	Lunch extra-curricular club	4	5	After school extra-curricular club
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							

In Class Expectations



Out of Class Expectations



Attendance and Punctuality

Being in school and being on time is crucial for success and preparing for the future.

Lost learning can lead to additional anxiety and pressure to catch up work and risks the student falling even further behind.

Create Your Future



BE PRESENT
BE PUNCTUAL

THERE ARE 175 NON-SCHOOL DAYS DURING THE YEAR TO SPEND ON FAMILY TIME, VISITS, HOLIDAYS, SHOPPING, HOUSEHOLD JOBS AND OTHER APPOINTMENTS

DAYS OFF SCHOOL ADD UP TO LOST LEARNING

BE BELPER

100%
OUR TARGET FOR ALL STUDENTS

97%
6 DAYS ABSENCE
30 HOURS LOST LEARNING
EXCELLENT OR GOOD ATTENDANCE
BEST CHANCE OF ACADEMIC SUCCESS

95%
10 DAYS ABSENCE
50 HOURS LOST LEARNING
WORRYING
AT RISK OF MAKING IT HARDER TO PROGRESS

90%
19 DAYS ABSENCE
95 HOURS LOST LEARNING
CONCERN
LESS CHANCE OF SUCCESS
AND SIGNIFICANTLY REDUCES LEARNING

Attendance

- 90% attendance is half a day missed every week
- 90% attendance in one school year is 4 whole weeks of lessons (100 lessons) missed in that year.
- 90% attendance over 5 years of secondary school is half a year of school missed.
- Evidence suggests that, on average, every 17 days of school missed by a student equates to a drop of 1 GCSE grade.

Punctuality

- 10 minutes late each day = 50 minutes of lessons missed each week
- 10 minutes late each day = 2000 minutes (33.3 hours, 5.5 days) every academic year
- 10000 minutes (166.5 hours, 27.5 days) of missed learning from year 7 to year 11.

“Everyday you show up, you’re investing in your future self. Don’t underestimate the power of attendance.”

Attendance this half term

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

Guided Reading Tracker

Date	Title and author	Summary of reading (+interesting or new vocabulary learned)	Signed:	

As part of your library lessons, you are expected to complete **at least 20 minutes** of reading once a fortnight.

To track your reading, you need to complete a row of the table before each library lesson to show details of the book you have read.

Your table also needs to be signed by someone who has witnessed you reading. This will most likely be a parent/guardian but it can alternatively be signed by your tutor, classroom teacher, buddy reader, TA or Sarah in the library.



Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Anaphora	Repetition of a phrase at the start of a line or sentence
Assonance	Words that share the same vowel sound
Caesura	A pause in a line of poetry
Enjambment	Where a line has no punctuation at the end and goes onto a new line, but carries on an idea
Motif	A repeated idea or theme throughout the poem
Sibilance	Making a 's' or 'sh' sounds
Plosive	Making a 'p' or 'b' sound

Tier 2 vocabulary

Tier 2 vocabulary	Definition
Stanza	A section of a poem sometimes referred to as a verse.
Rhyme scheme	What type of pattern the rhyme follows e.g abbbca
Rhythm	The beat or pace of the words. It can be regular or irregular, slow or fast
Poetic persona	When the poet takes on a voice in the poem.
Repetition	Repeating the same word or phrase

Section 2: Comparing poems

Compare the poet's use of language and structure in *Hurricane Hits England* and *Blessing*.

Comparing poetic techniques

Hurricane	Blessing
Simile to depict the weather e.g. 'trees falling heavy as whales'	Simile to depict the weather e.g. 'skin cracks like a pod'
Semantic field of nature	Semantic field of poverty
No structured rhyme scheme	No structured rhyme scheme

Comparative connectives to use in your writing

Similarities	Differences
Likewise	However
Similarly	On the other hand
Equally	In contrast

Section 3: Information about some of the poets

Grace Nichols is a poet whose work has been central to our understanding of the important cultural Caribbean-British connection for nearly 3 decades. Nichols was born in Guyana in 1950, and moved to live in the UK in 1977. Her work is influenced by the history and culture of her homeland, in particular the oral story-telling tradition with its fantastic folk tales, the landscape and its rural tasks and the history of enslavement.



Kamu Braithwaite was born in Barbados, an island in the Caribbean. Braithwaite's ambition was to create a distinctively Caribbean form of poetry, which would celebrate Caribbean voices and language, as well as African and Caribbean rhythms evoking Ghanaian talking drums, calypso, reggae, jazz and blues.

English: Romeo and Juliet by William Shakespeare

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Patriarchy	A system of society or government in which men hold the power and women are largely excluded from it
Symbolism	The idea that words, phrases and images can represent other things
Authority	The power or right to give orders, make decisions, and enforce obedience
Maternal	Having the stereotypical characteristics of a mother
Determinism	The theory that everything in life is pre-decided and pre-planned.
Unrequited Love	Unrequited love or one-sided love is love that is not openly reciprocated or understood as such by the beloved
Elizabethan Era	The time in the Tudor period of the history of England during the reign of Queen Elizabeth I

Tier 2 vocabulary	Definition
Foreshadowing	To hint at something that will happen later in the play
Stage Directions	An instruction in the text of a play indicating the movement, position, or tone of an actor
Sonnet	A poem of 14 lines, in English typically having ten syllables per line
Prologue	An opening speech that introduces key themes within the play
Soliloquy	A speech delivered by a character that the other characters do not hear

Section 2: Key Skills/Strategies

Use the CPEAT format to write analytically about Shakespeare's play.

C	CONNECTIVE	Firstly, moreover, furthermore, in conclusion.
P	POINT	Use the wording of the question and identify what your paragraph will explore.
E	EVIDENCE	Find a relevant quotation and identify a language or structural device in it...
A	ANALYSIS	... and then explore the deeper meaning of this quote/technique and how it links to the question.
T	THINK INTENTION AND IMPACT	Explore the intentions of the author and the effect/impact of this on the reader.

FEATURES OF A TRAGEDY

Tragedy: A play dealing with tragic events and having an unhappy ending, especially one concerning the downfall of the main character/s.

The Tragic Hero:

The tragic hero describes a virtuous character who must face adversity, either caused by their flawed persona or sealed by fate. Ultimately, they pay the price with their lives, but after recognising their mistake.

The Fatal Flaw: *Hamartia*

The tragic hero's flaw, that leaves them vulnerable and causes their disastrous end.

Tragic Waste:

Often the inevitable deaths of pivotal characters in the play.

Catharsis:

The audience's immersion in the play leads to an emotional roller coaster, with mixed feelings for the hero and their antagonists. The ending of the play leads to a release of often very conflicting emotions for the audience.

Section 3: Context and Themes

VERONA

R&J is set in Verona, Italy in the fourteenth century. Verona was a rich, lively, cultured city but it had been affected by violence for centuries. Political and religious leaders clashed over power, wealth and status and often the citizens had to take sides.

WOMEN & GENDER ROLES

Society was patriarchal: men were dominant and women were seen as inferior and expected to marry as young as twelve years old. Noblewomen like Juliet would have received some education but there was little freedom of choice in life for most women.

QUEEN ELIZABETH I

The Queen while Shakespeare was writing. Elizabeth I made Protestantism the official religion of England, which angered many Catholics, and led to much conflict. Shakespeare may be referencing this in 'Romeo and Juliet', with the two warring families.

NURSES

Nurses were employed by wealthy families to feed and care for their children.

FATE

The belief that your life is mapped out for you, or 'written in the stars'. Many Elizabethans believed God decided your fate, and that astrology could help you identify your course in life.

KEY THEMES IN THE PLAY

Conflict, Power, Fate, Loyalty, Family, Religion, Love, Hatred, Violence, Death

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Autobiography	A self-written account of one's life
Bias	A disproportionate weight in favour of or against an idea or thing
Emotive language	Word choices that are intended to get an emotional reaction
Exposure	The state of having no protection from something harmful
Graphology	The visual appearance of a text
Survival	The state of continuing to live or to exist, especially after a dangerous event
Tabloid	A newspaper which uses informal language and many pictures

Tier 2 vocabulary	Definition
Alliteration	Using the same letter at the start of closely connected words
Hyperbole	Language used to exaggerate information
Metaphor	A comparison where something is described to be something it is not
Secondary story	A less important story featured on the front cover of a newspaper
Sensationalism	The presentation of stories in a way that is intended to provoke the reader

Section 2: New Key Skills/Strategies

This will help you understand and explore key questions.

P	Purpose	Is the writer trying to inform, entertain, explain, persuade or argue?
A	Audience	Who is the target audience? Who would this text appeal to?
F	Format	What are the key conventions of the text?
T	Tone	What is the general attitude or mood of the writing?

When comparing the similarities and differences of non-fiction texts, you will need to use comparative phrases to structure your response:

Similarities	Differences
Similarly In addition to Furthermore Moreover This is mirrored in Likewise A common feature is	Alternatively However Nevertheless In contrast to Conversely On the contrary On the other hand

TOP TIP: Use a table format to plan your comparison of two non-fiction texts and consider the following features:

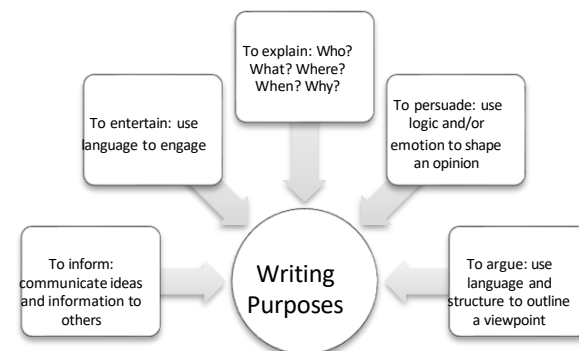
Text A	Text B

Language
Audience
Graphology
Tone
Structure
Purpose

Section 3: Reading and Analysing Non-Fiction Texts

Writing Purposes

When reading and analysing non-fiction texts, you will need to consider the purpose in which they are written.



Newspaper Report Layout

Newspaper Reports

Newspapers may include some or all of these features.

Name of Newspaper → THE NEWS TODAY

Headline → HOW MUCH IS THAT DOGGY IN THE WINDOW?

Reporter's Name → EXCLUSIVE STORY by Andy Hall

Opening → The star of the evening... it's a dog in a life and death struggle...

Article → Barney had been missing for two weeks and the owners were worried for his welfare. It is thought that the golden retriever had been visiting the building and got stuck when the door closed behind him.

Sub-heading → Barney was missing for two weeks and the owners were worried for his welfare. It is thought that the golden retriever had been visiting the building and got stuck when the door closed behind him.

Picture → A photograph of a golden retriever dog.

Caption → Barney the dog was missing for two weeks and the owners were worried for his welfare. It is thought that the golden retriever had been visiting the building and got stuck when the door closed behind him.

Advert → WORKING ABOUT LOHAS: OUR PETTY... Full's Beach Petrol are your only source and track how you are about... www.lohas.co.uk

Extra Information → Barney facts: Barney was spotted in the morning and the... he was the dog of the... he was the dog of the...

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Subordinate	To treat someone as less important than someone else.
Patriarchy	A system of society or government in which men hold the power.
Satire	The use of humour, irony, exaggeration or ridicule to expose and criticise people.
Inferior	Lower in rank, status or quality
Antagonistic	Showing or feeling active opposition or hostility towards someone or something.
Tier 2 vocabulary	Definition
Comedy	fiction that is light, funny and generally has a happy ending.
Tragedy	Based on human suffering, and the terrible or sorrowful events that befall a main character. Usually, the protagonist is brought down by his/her own flaws.
Conflict	A struggle between two opposing forces – two characters, a character and nature or even an internal struggle.
Dramatic Irony	A situation in which the audience or reader has a better understanding of events than the characters do.
Antagonist	The principle opponent or foil of the main character.
Dynamic Character	A character who undergoes some important change in the course of the story.

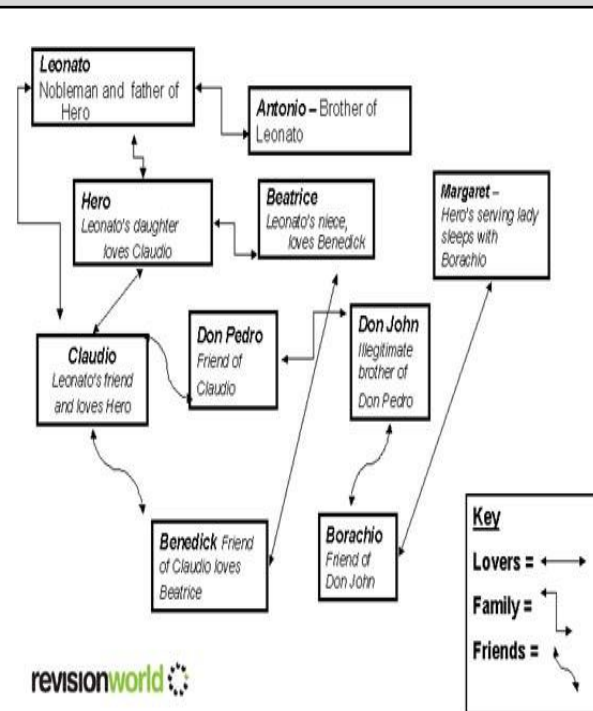
Section 2: New Key Skills/Strategies

CPEAT writing skills

What are Beatrice's attitudes towards Benedict at the start of the play?

Initially, Beatrice shows a dislike towards Benedick in her statement: "he is no less than a stuffed man" The noun 'stuffed man' has negative **connotations** of him being worthless and **infers** that he is of no importance. Beatrice's attitude defies gender expectations of the time; women were expected to be submissive to men, yet here she is shown to stand up to him in a very assertive way.

Section 2: New Skills/Strategies



Section 3: Shakespeare's Life and Times

Key Themes**Appearance and reality**

Shakespeare uses this play to show how appearance and reality are not always the same thing.

Love

Love is the main idea in this play and is shown through the partnerships between Claudio and Hero, Benedick and Beatrice and also through the paternal love that Leonato shows for his daughter and niece.

Nothing and 'noting'

The title of the play refers to one of its main themes. 'Nothing' implies that the concerns of the play are trivial. The word 'nothing' in Shakespearean times was pronounced 'noting' and so the title itself is a pun.

Context.**Gender**

Women had little power in Elizabethan society. They lived in a patriarchal society and life was controlled by men. Women had a strict expectation to follow and were expected to remain 'pure' and virgins until marriage.

Comedy

The play is considered one of Shakespeare's best comedies. In a comedy, there's normally a problem at the beginning of the play that is solved by the end of it – the audience are confident that everything will end well. The play contains a lot of features commonly used in his comedies, including: A happy ending, disguises, music and dancing, young lovers, marriage and puns and wordplay.

Marriage

Marriages were rarely about love and were often arranged to bring financial or social benefit to both families. People were expected to get married, the characters are very concerned with finding partners for themselves and others.

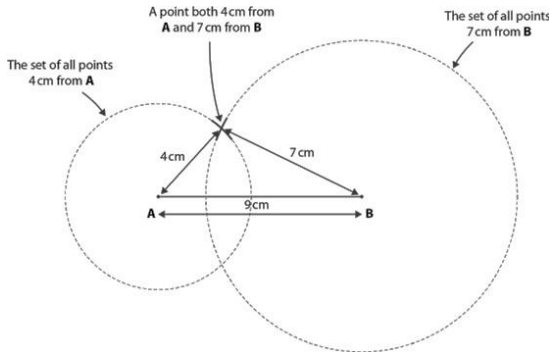
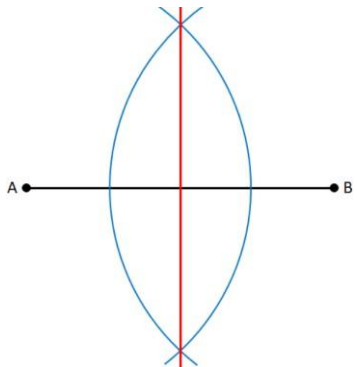
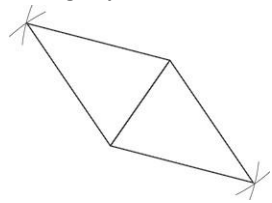
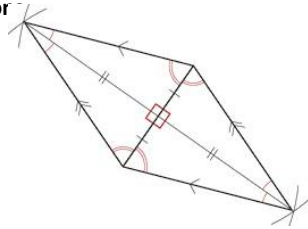
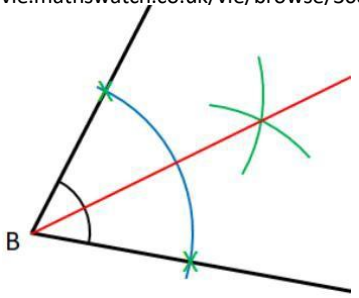
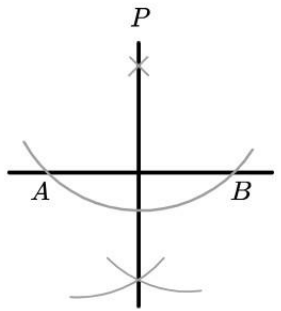
Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Prejudice	A liking or a dislike for someone or something, usually without good reason
Injustice	A lack of fairness
Exploitation	The action of treating someone unfairly in order to benefit from them
Vulnerability	Being exposed to the possibility of being attacked or harmed, either physically or emotionally
Thriller	Thriller is a genre of fiction which is characterised by giving readers heightened feelings of suspense, excitement, surprise, anticipation and anxiety.
Morality	The belief that some behaviour is right and acceptable and that other behaviour is wrong.
Trauma	A deeply distressing or disturbing experience

Tier 2 vocabulary	Definition
Dual Narrative	A story that is told from two different perspectives.
Colloquialisms	Colloquial language is casual, informal and conversational.
Morality Tale	A story or narrative from which one can derive a moral/lesson about right and wrong.
Protagonist	The leading character in a novel.
Antagonist	The opponent of the protagonist in a novel.

Section 2: Key Skills/Strategies		
Use the CPEAT format to write analytically about Shakespeare's play.		
C	CONNECTIVE	Firstly, moreover, furthermore, in conclusion.
P	POINT	Use the wording of the question and identify what your paragraph will explore.
E	EVIDENCE	Find a relevant quotation and identify a language or structural device in it...
A	ANALYSIS	... and then explore the deeper meaning of this quote/technique and how it links to the question.
T	THINK INTENTION AND IMPACT	Explore the intentions of the author and the effect/impact of this on the reader.

Features of Thriller Novels		
Suspense, Surprise and Anxiety	Climax	Plot Twists and Cliff-hangers
The two seemingly distinct narratives in <i>Stone Cold</i> draw closer together, making the reader feel anxiety for poor Link!	Thrillers generally build towards a key moment, in which all of the suspense built over the narrative are released in one scene. This is the case when Shelter attempts to murder Link.	A plot twist is when the narrative changes from what the reader would (e.g. Ginger's murder). Cliff-hangers are also used to keep the reader interested.

Section 3: Context and Themes
ROBERT SWINDELLS Robert Swindells is an English writer who was born in Bradford on March 20th 1939. He served in the Royal Air Force, before becoming a primary school teacher. It was at this time that he began writing novels, which he later took up full time. Swindells has stated that he feels 'constantly aware of the presence of injustice in the world', and that he tries to 'point out various manifestations of injustice... which exist in our society.' He draws upon these ideas in <i>Stone Cold</i>. HOMELESSNESS The latest data shows that on any given night, there were an average of 2440 people sleeping rough in the UK. Remember this is on any given night, so the number who slept rough over the course of a year is likely to be many times more. A study by the Evening Standard showed that more than 7,500 people slept rough in London at some point in 2015. This included 880 under 25s. THE ARMED FORCES The British Armed Forces are the military services responsible for the defence of the United Kingdom. They include the British Army, the Royal Navy, the Royal Marines, and the Royal Air Force. Service members can be discharged from service for a variety of reasons. A dishonourable discharge (DD – language more often used in the US military) is handed down for an offence that the military considers to be exceptionally poor conduct. Some members are also discharged on physical/mental health grounds.  KEY THEMES IN THE NOVEL Threat – Homelessness – Injustice – Hopelessness – Exploitation, Vulnerability-Prejudice IF YOU ENJOYED STONE COLD THEN READ THESE NEXT: The Silence of Bones – June Hur One of Us is Lying – Karen M. McManus The Magpie Society – Zoe Sugg & Amy McCulloch A Good Girl's Guide to Murder – Holly Jackson

Section 1: Key Vocabulary		Section 2: New knowledge	Section 3: Standard constructions
Tier 3 vocabulary	Definition	Use the properties of a circle in construction Draw a triangle with sides 4cm, 7cm and 9cm 	Perpendicular bisector of the line segment AB https://vle.mathswatch.co.uk/vle/browse/309 
Line segment	The section of a line bounded by two points.		
Congruent	Identical in shape and size. Two triangles are congruent if all three sides are the same length (SSS)		
Equidistant	Equal distance		
Locus (plural is loci)	A set of points whose location is determined by specified conditions. A circle is the locus of points that are equidistant from a fixed point.		
Altitude	The height of a triangle – the vertical distance from the base to the opposite vertex.		
Tier 2 vocabulary	Definition	Draw a rhombus by constructing two congruent isosceles triangles joined at a common edge.  Use the properties of a rhombus to identify the geometric properties that are the basis for standard construction 	Angle bisector of the angle B https://vle.mathswatch.co.uk/vle/browse/308 
Pair of compasses	A drawing instrument used for creating circles or arcs. Watch this for tips on how to use them! https://www.youtube.com/watch?v=WACcU2ecnic		
Rhombus	A quadrilateral whose four sides all have the same length		
Arc	A segment of the circumference of a circle.		
Perpendicular	Two lines that meet at 90 degrees.		
Construction	A process of creating a diagram using only a pencil, ruler and a pair of compasses.		
Bisector	A line that divides something into two equal parts.		
Maths watch revision links		Key properties are: - The diagonals of a rhombus bisect one another at right angles - The diagonals of a rhombus bisect the angles at each vertex	Perpendicular from a point P to a line AB https://vle.mathswatch.co.uk/vle/browse/311 https://vle.mathswatch.co.uk/vle/browse/788 
https://vle.mathswatch.co.uk/vle/browse/203 https://vle.mathswatch.co.uk/vle/browse/311 https://vle.mathswatch.co.uk/vle/browse/788			

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Algebra	The use of letters or symbols to represent unknown values.
Binomial	An algebraic expression of the sum or difference of two terms
Equation	Shows two things as equal and can be solved to find an unknown, or variable amount.
Formula	A rule used to find a value.
Factor	A factor of a number can divide into that number without remainder.
Factorise	To use brackets in an expression to show a common factor.
Coefficient	The numerical multiplier for any variable in an expression/equation.
Simplify	To write in a simpler form by collecting common terms.
Tier 2 vocabulary	Definition
Term	A single number or variable
Expression	A "bit of algebra" with a minimum of two numbers/variables and at least one operation.
Variable	A quantity that may change within the context of a problem.
Subject	The unknown number we need to find the value of.
Collecting terms	Simplifying an expression by combining "like terms"
Solve	Numerical value that satisfies the equation.
Product	The result of a multiplication.
Maths watch revision links	
https://vle.mathswatch.co.uk/vle/browse/643/practice https://vle.mathswatch.co.uk/vle/browse/713/practice https://vle.mathswatch.co.uk/vle/browse/714/practice	

Section 2: Knowledge/Skills

Expanding Single Brackets

Example— Expand $4(x + 7)$

Area Model:

x

7

4

$4x$

28

Grid Model:

$\times$

x

$+7$

4

$4x$

$+28$

Answer:

$4x + 28$

Expanding Double Brackets

Example— Expand $(x + 5)(x + 2)$

Area Model:

x

5

x

x^2

$5x$

2

$2x$

10

Grid Model:

$\times$

x

$+5$

x

x^2

$+5x$

$+2$

$+2x$

$+10$

$= x^2 + 5x + 2x + 10$

$= x^2 + 7x + 10$

Difference of two squares

$(a^2 - b^2) = (a - b)(a + b)$

x

a

b

a

a^2

ab

$-b$

$-ab$

$-b^2$

Section 2: Knowledge/Skills

Changing the Subject

G			
p	p	p	p

This bar model gives two different formulae:

$G = 4p$ In this equation G is the subject

$p = \frac{G}{4}$ In this equation p is the subject

a	
b	c

Write a formula for a in terms of b and c .

$$a = b + c$$

Write a formula for b in terms of a and c .

$$b = a - c$$

Write a formula for c in terms of a and b .

$$c = a - b$$

Rearrange the formula to make u the subject.

$$\begin{array}{ccc}
 4u + 3 = t & & \\
 \downarrow -3 & \downarrow -3 & \\
 4u = t - 3 & & \\
 \downarrow \div 4 & \downarrow \div 4 & \\
 u = \frac{t - 3}{4} & &
 \end{array}$$

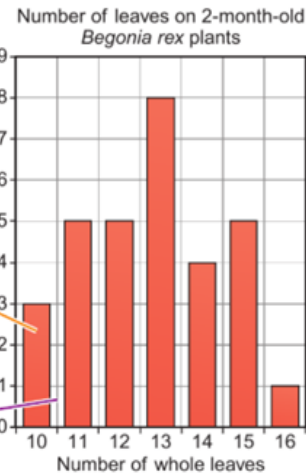
Section 1: Key Vocabulary		Section 2: New Knowledge/Skills	Section 2 (cont.): New Knowledge/Skills
Tier 3 vocabulary	Definition	In this topic we will find out how to find the third side-length of a right-angled triangle if we know the other two side-lengths Pythagoras Theorem states that : ...if we have a right-angled triangle with sides of length a, b and c, where c is the longest side, then... a c b $a^2 + b^2 = c^2$ We can think of this as... “the <u>sum</u> of the <u>squares</u> of the <u>shortest</u> sides of a right-angled triangle is <u>equal</u> to the <u>square</u> of the hypotenuse” ...in other words... - work out the squares of the three sides of the right-angled triangle - now add the two smallest squares together – they should add up to the square of the hypotenuse 3 cm 5 cm 4 cm $3 \times 3 = 9$ $4 \times 4 = 16$ 25 and $5 \times 5 = 25$!!THIS ALWAYS WORKS FOR ALL RIGHT-ANGLED TRIANGLES!!	If we draw squares on the sides of the triangle, the combined area of the smaller squares is the same as the area of the square on the hypotenuse (biggest square) 
Hypotenuse	The longest side of a triangle		
Right-angled triangle	A triangle which has a 90° angle		
Square or square number	The product of a number multiplied by itself e.g. 4 x 4 = 16, so 16 is a square number, and 16 is the square of 4		
Square root	The number that multiplies by itself to make a square number e.g. 4 x 4 = 16, so 4 is the square root of 16 Represented with the symbol √ so √16 =4 (find the square root button on your calculator)		
		Section 3: Using Pythagoras Theorem	
		- We can find the hypotenuse if we know the two shorter sides [$a^2 + b^2 = c^2$] - We can find one or both of the shorter sides if we know the hypotenuse [$a^2 = c^2 - b^2$] or [$b^2 = c^2 - a^2$] - We can test a triangle to see if it has a right-angle by testing whether Pythagoras Theorem works for that triangle.	
		Section 4: Pythagorean Triples	
		- Right-angled triangles do not all have side-lengths which are integers, but those whose side-lengths are all integers are known as Pythagorean Triples. - The example in Section 3 is an example of a Pythagorean Triple - We can represent the triple in Section 3 as (3,4,5) Now it's your turn! - Can you use the Triple in Section 3 to find any other triples? - Using a list of the first 100 squares (google it!), can you find any other Triples? - List as many as you can - Can you group them into 'families'? Explain how you've grouped them.	
		Section 5: Handy Hint	
		!!ALWAYS REMEMBER!! No matter which side-lengths are given in a question, it's the two SHORTEST sides whose squares are added together – NEVER add the square of the hypotenuse to one of the other squares	
Tier 2 vocabulary			
Triangle	A 2D (two-dimensional) shape with three sides and three angles		
Theorem	A mathematical rule which can be shown to be true and used to find things we don't know		
Triple	A set of three numbers		
Integer	A whole number		
Maths watch revision links			
https://vle.mathswatch.co.uk/vle/browse/794/practice https://vle.mathswatch.co.uk/vle/browse/314/practice/1			

Tier 3 vocabulary	Definition
Gamete	The female (Egg/ovum) and male (sperm) sex cells
Fertilisation	Where two gametes join together forming a zygote with a full set of chromosome pairs
Natural Selection	Living things better adapted to their environment are more likely to survive and reproduce
Zygote	Fertilised egg cell containing a full set of DNA
Haploid	Cell half the DNA only one of each chromosome
Diploid	Cell with chromosome pairs (full set of DNA)
Discontinuous	Data can be any value within a range
Continuous	Data falls into discrete groups or categories
DNA	Deoxyribonucleic acid. A polymer that contains our genetic information
Chromosome	A structure found in the nuclei of cells. Each chromosome contains one enormously long DNA molecule packed up with proteins.
Gene	Section of DNA found in a chromosome, which often contains instructions for a protein.
Allele	Different versions of the same gene
Dominant	Allele that will always be expressed
Recessive	Allele that will only affect the phenotype if the other allele is also recessive.
Heterozygous	When both the alleles for a gene are different
Homozygous	When both the alleles for a gene are the same
Genotype	The alleles for a certain characteristic that are found in an organism.
Phenotype	The characteristics that a set of alleles produce.
Mutation	A change in the DNA base pairs

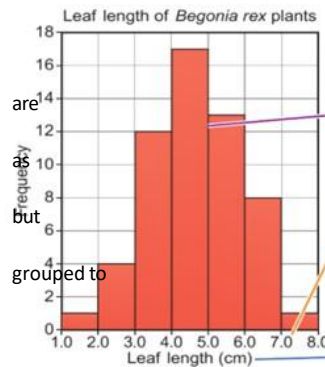
Section 3

Variation – Discontinuous

Data falls into discrete categories (you can not have a value in between) with a gap shown between on a graph. The y-axis shows frequency (the number of times something occurs)



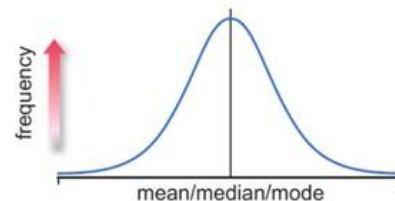
Variation - Continuous



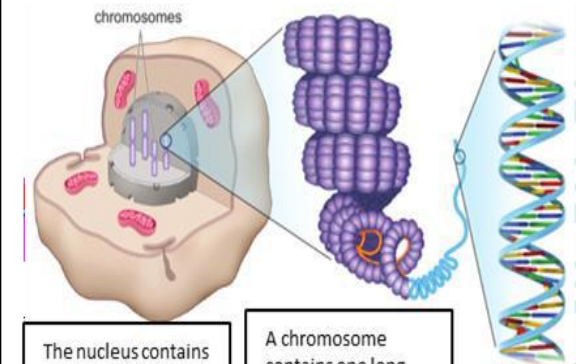
Data can be any value Within a range. There are no gaps between bars the data is continuous, but the values are grouped to make it easier to see patterns

Normal distribution

In a normal distribution curve, the **mean** value is the same as the **mode** (most common value) and the **median** (the middle value).



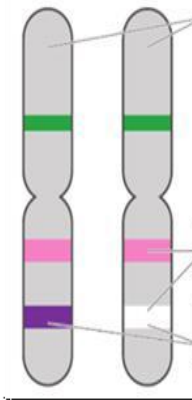
Section 3



The nucleus contains chromosomes

A chromosome contains one long strand of DNA, tightly coiled many times.

DNA is a double helix

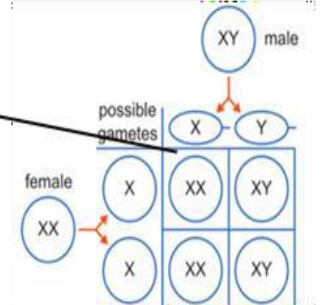


Chromosomes of the same type are the same size and have same genes in the same order

Different genes

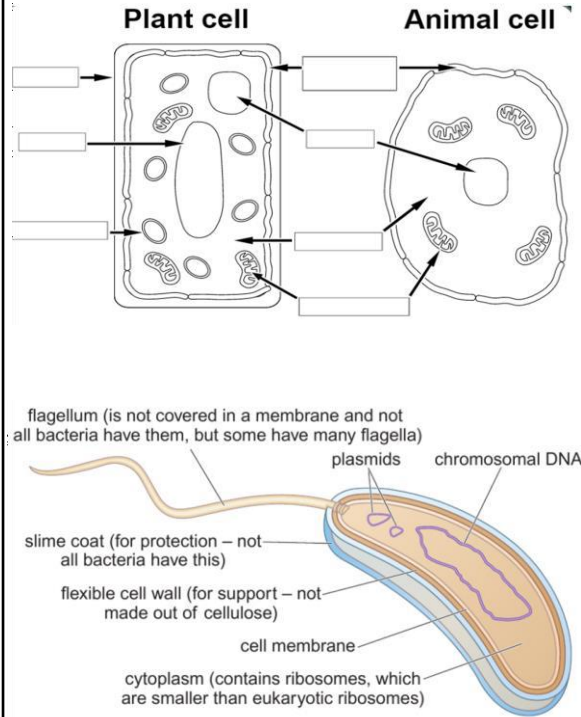
Different alleles of the same gene

Boxes show all the possible combinations of offspring. Here there is 2/4 (1/2) or 0.5 (50%) chance of a boy or a girl

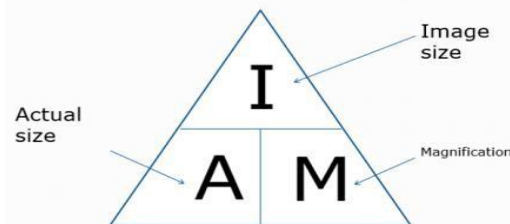


Tier 3 vocabulary	Definition
Eukaryotic	A cell with a nucleus is eukaryotic.
Chromosome	A structure found in the nuclei of cells. Each chromosome contains one enormously long DNA molecule.
Cell membrane	The membrane that controls what goes into and out of a cell.
Cell wall	A tough layer of material around some cells, which is used for protection and support.
Nucleus	The 'control centre' of a eukaryotic cell. Contains DNA.
Mitochondria	Subcellular structure (organelle) where aerobic respiration occurs.
Cytoplasm	Jelly like substance where chemical reactions take place.
Chloroplasts	Green disks containing chlorophyll. Site of photosynthesis.
Ribosomes	Tiny structures where new proteins are made.
Vacuole	A storage space in the cell for cell sap. Helps keep the cell rigid.
Chloroplasts	A green disk containing chlorophyll. Site of photosynthesis.
Chlorophyll	The green substance inside chloroplasts. It traps energy transferred by light.
Diploid	Describes a cell that has two sets of chromosomes (2n)
Haploid	Describes a cell that has one set of chromosomes
Acrosome	A small section in the tip of a sperm which contains enzymes.
Flagellum	A tail-like structure that rotates allowing a unicellular organism to move.
Prokaryotic	A cell with no nucleus
Plasmid	A ring of DNA
Objective lens	One of the parts of the microscope that magnifies the specimen
Eyepiece lens	The part of the microscope that one looks down. It also magnifies the specimen
Magnification	How much bigger something appears compared with its actual size
Resolution	The smallest distance between two points where they are seen as two points.

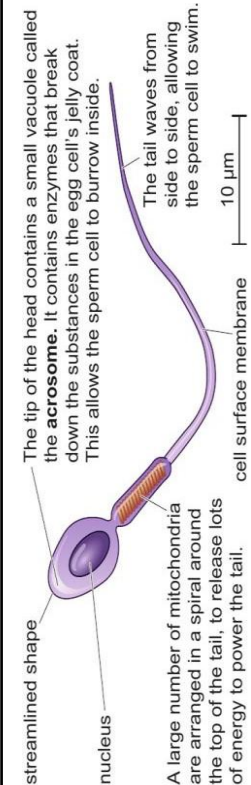
Section 2: New Knowledge/Skills



$$\text{Magnification} = \frac{\text{Image size}}{\text{Actual size}}$$



Section 3



1. A scientist observed a cell using an electron microscope. The size of the image was 25 mm. The magnification was $\times 100\,000$.

Calculate the real size of the cell in micrometres.

The cell membrane fuses with the sperm cell membrane. After fertilisation, the cell membrane becomes hard to stop other sperm cells entering



The jelly coat protects the egg cell. It also hardens after fertilisation to ensure that only one sperm cell enters the egg cell.

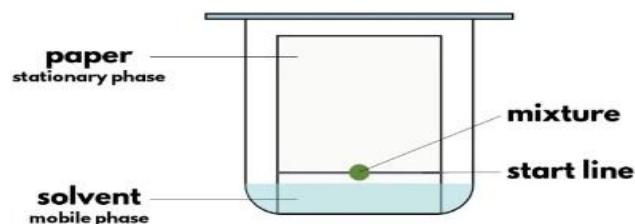
The cytoplasm is packed with nutrients to supply the fertilised egg cell with energy and raw materials for the growth and development of the embryo.

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Chromatography	Carried out by spotting drops of the samples onto paper, and then allowing a solvent to move up the paper. Different components in the samples travel up the paper in the solvent at different rates.
Chromatogram	The piece of paper showing the results of carrying out chromatography on substances.
Stationary phase	The surface through which the solvent and dissolved substances move in chromatography.
Mobile phase	In paper chromatography, the solvent that moves along the paper carrying the dissolved samples with it.
R_f value	The ratio of the distance travelled by the solute on a chromatogram (measured from the centre of the spot) to the distance travelled by the solvent under the same conditions.
Potable water	Drinking water
Chlorination	The process of adding chlorine to a substance, often to water.
Sedimentation	The process in which rock grains and insoluble substances sink to the bottom of a liquid.
Distillation	The process of separating a liquid from a mixture by evaporating the liquid and then condensing it.
Distillate	Something formed by distillation
Condenser	Apparatus for condensing vapour
Filtrate	Liquid that has passed through a filter
Crystallisation	Separating the solute from a solution by evaporating the solvent

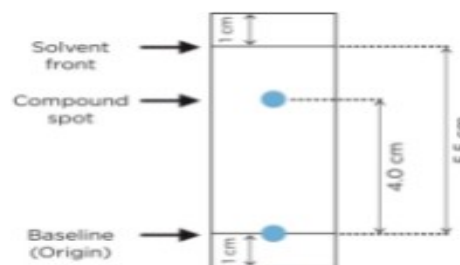
Section 2: New Knowledge/Skills

Creating a chromatogram and calculate R_f values



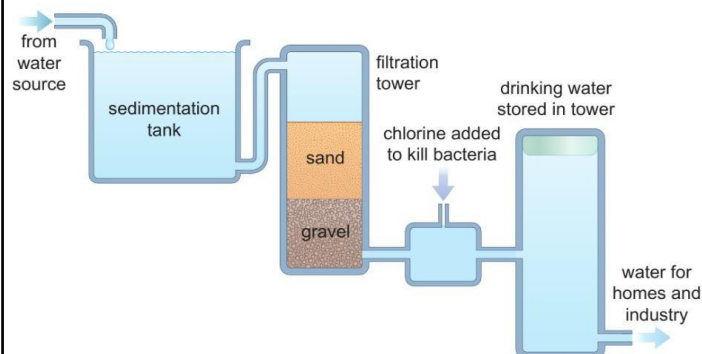
R_f values can be used to identify unknown chemicals. The R_f value is always the same for a particular substance.

The R_f value = distance moved by spot / distance moved by solvent



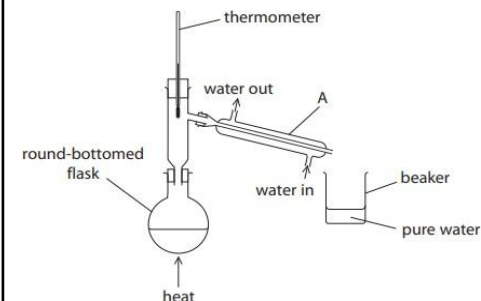
In the above example R_f value = 4.0 / 5.5 = 0.73

Making potable water



Section 3: Other subject specific things

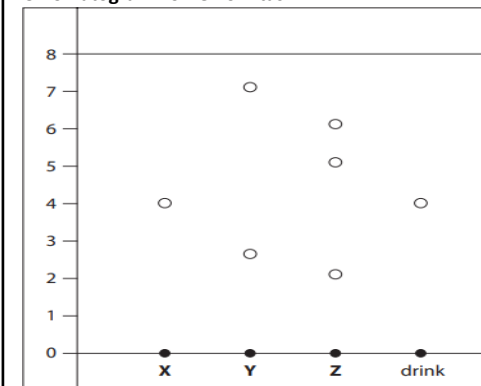
Apparatus for distillation



Apparatus for crystallisation



Chromatogram homework task:



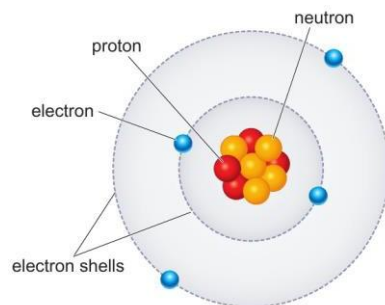
Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Abundance	Amount
Atomic number	The number of protons in the nucleus of an atom (symbol Z)
Mass number	The total number of protons and neutrons in the nucleus of an atom (symbol A).
Isotopes	Atoms of an element with the same number of protons (atomic number) but different mass numbers due to different numbers of neutrons.
Relative atomic mass (RAM)	The mean mass of an atom relative to the mass of an atom of carbon-12, which is assigned a mass of 12. The RAM of an element is the mean relative mass of the isotopes in the element.
Electron	Tiny particle with a negative charge that is found in shells around the nucleus of an atom
Electron shell	Area around a nucleus that can be occupied by electrons, usually drawn as a circle
Neutron	Electrically neutral subatomic particle found in the nucleus of most atoms.
Proton	A positively charged subatomic particle in the nucleus of all atoms.
Subatomic particles	The smaller particles that make up atoms – protons, neutrons and electrons.
Electron configuration	The arrangement of electrons in shells around the nucleus of an atom.

Section 2: New Knowledge/Skills

Atomic Structure

The nuclei of atoms contain subatomic particles called protons and most also contain neutrons.



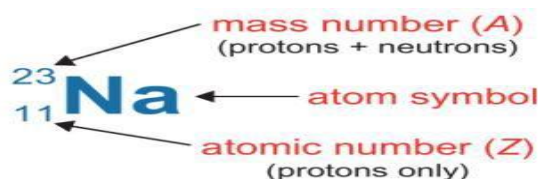
The masses of subatomic particles are very tiny. Instead of writing their actual masses in kilograms, we often use their relative masses. The mass of electrons is very small compared with protons and neutrons. Since a nucleus contains protons and neutrons, most of the mass of an atom is concentrated in its nucleus.

Subatomic particles	Relative mass	Relative charge	Position in atom
Proton	1	+1	Nucleus
Neutron	1	0	Nucleus
Electron	1/1835	-1	Shells

Calculating numbers of subatomic particles

The symbol for an atom can be written to show its mass number at the top and its atomic number at the bottom.

To calculate the numbers of subatomic particles in an atom use its atomic number and mass number



Number of protons = atomic number

Number of electrons = atomic number

Number of neutrons = mass number - atomic number

Section 3

Calculate Relative Atomic Mass

Chlorine naturally exists as two isotopes, chlorine-35 and chlorine-37. The abundance of chlorine-35 is 75% and the abundance of chlorine-37 is 25%.

To calculate the relative atomic mass of chlorine:

$$\text{RAM} = \frac{\text{total mass of the atoms}}{\text{the number of atoms}}$$

$$= \frac{(75 \times 35) + (25 \times 37)}{100}$$

The answer is closer to 35 than to 37. This is because the chlorine-35 isotope is much more abundant than the chlorine-37 isotope.

Electron configuration

Electrons occupy shells starting with the innermost one

Electron shell	Max number of electrons
First	2
Second	8
Third	8

The electron configuration of sodium, Na is 2.8.1. This shows that it is in period 3 because it has 3 shells. It is in group 1 because it has 1 electron in the outer shell.

Homework task

40 Ca calcium 20	24 Mg magnesium 12	40 Ar argon 18
19 F fluorine 9	27 Al aluminium 13	31 P phosphorus 15

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
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Scalar quantity	A quantity that has a magnitude (size) but not a direction
-----------------	--

Vector quantity	A quantity that has both a size and a direction
-----------------	---

Velocity	The speed of an object in a particular direction.
----------	---

Speed	A measure of the distance an object travels in a given time.
-------	--

Displacement	The distance travelled in a particular direction.
--------------	---

Acceleration	A measure of how quickly the velocity of something is changing.
--------------	---

Tier 2 vocabulary	Definition
-------------------	------------

Magnitude	The size of something, such as the size of a force or the measurement of a distance
-----------	---

Unit	What we measure a magnitude in. For example, the unit of distance is meters, the unit of time is seconds.
------	---

Gradient	A way of describing the steepness of a line on a graph in numbers
----------	---

Section 2: New knowledge/skills

All measurements are either scalar or vector quantities

Measurement	Scalar	Vector
Distance	Y	
Speed	Y	
Velocity		Y
Acceleration		Y
Weight		Y
All forces		
Energy	Y	

Calculating speed and acceleration

$$(\text{average}) \text{ speed (m/s)} = \frac{\text{distance (m)}}{\text{time taken (s)}}$$

Acceleration

$$\text{acceleration (m/s}^2\text{)} = \frac{\text{change in velocity (m/s)}}{\text{time taken (s)}}$$

When objects fall they accelerate due to the gravitational field on Earth. The values for these quantities are

Acceleration due to gravity is 10 m/s^2

Gravitational field strength is 10 N/kg

Section 3: Skills

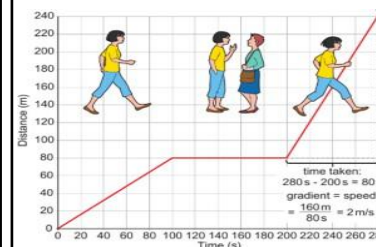
Using a Distance / time graph

Alice is walking in the park. Alice stops to chat.

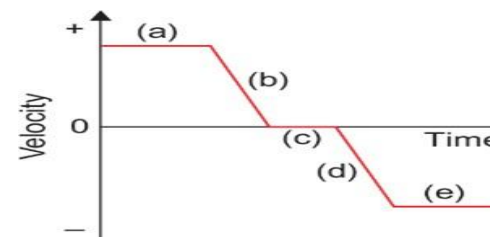
Alice is now late

She travels 80m in 100s to a friend for 100s so she has to jog

mm



Reading a Velocity / Time graph



The journey of a lift. We count up as positive.

The graph shows a lift moving up at a constant speed (a), slowing to a stop (b) and waiting at a floor (c) then accelerating downwards (d) and then travelling downwards at a constant speed (e)

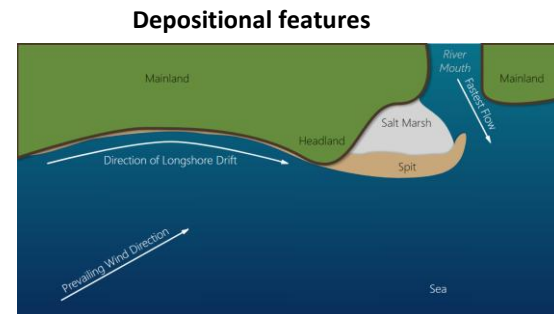
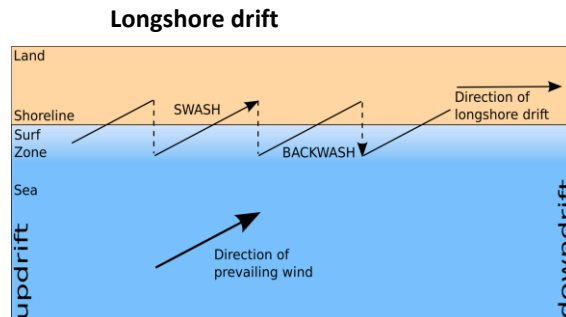
Distance travelled

The distance travelled can be worked out from a velocity - time graph by calculating the area under the graph for the period you are measuring.

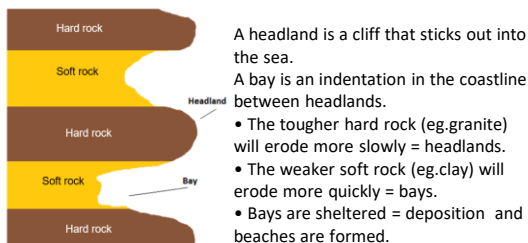
Tier 3 vocabulary	Definition
Erosion	Rock breaking into smaller pieces.
Hydraulic action	Erosion where the force of water against the cliff traps air in cracks in the rock. The rock expands under pressure and over time the rock breaks apart.
Abrasion	Erosion where sediment eg. rocks in the sea hits against the cliffs and break rocks. It acts like sandpaper.
Attrition	Erosion where sediment in the sea hits other sediment, breaking into smaller pieces. Continued attrition = smaller, smoother pebbles and sand particles.
Solution	Erosion where chalk and limestone are dissolved into the sea.
Wave-cut platform	Narrow flat area of hard rock often found at the base of a sea cliff.
Headland	A cliff of hard rock eg. granite, limestone or chalk, that sticks into the sea and erodes slowly.
Bay	The land curves inwards because it is made from soft rock eg clay, and has eroded more quickly.
Sediment	Eroded and deposited material from a variety of sources including cliff erosion and rivers. This may be rocks or sand.
Longshore drift	How sediment is moved along the beach by the sea. The prevailing (main) wind direction pushes it in a particular direction.
Beach	A shore between the high and low water marks, made of deposited sediment.
Spit	A landform created by sediment that has been transported by longshore drift and deposited in the sea. It is a narrow beach.
Hard engineering	Coastal management using structures eg. walls.
Soft engineering	Coastal management that is more natural eg. beach nourishment.

Tier 2 vocabulary	Definition
Sustainability	Meeting the needs of the present without compromising the ability of future generations to meet their own needs
Social	About people and their community eg. health and education.
Economic	About money eg. jobs and house prices.
Environmental	About our surroundings eg. animals and plants.

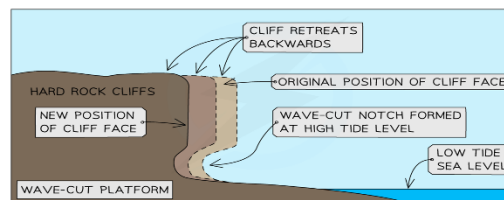
Section 2: New Knowledge



Headlands and Bays



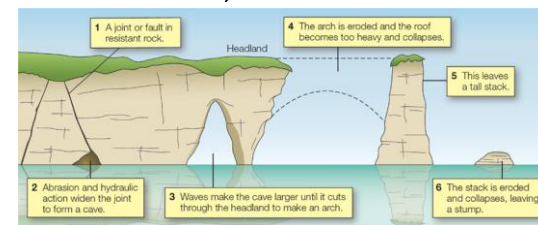
Wave-cut platforms



- Waves erode the base of the cliff between the high and low tide levels.
- Continued erosion eg. abrasion = wave-cut notch and overhanging cliff= becomes unstable.
- Eventually it collapses leaving a flat area of rock (wave cut platform) and the cliff retreats (moves backwards).

Erosional features

Caves, arches and stacks



- Erosion attacks a line of weakness in the cliff =cave.
- Continued erosion (eg. abrasion) erodes the back of the cave = arch.
- This is unstable and not supported, so collapses = stack.
- The stack is eroded from the base by the sea and weakened at the top by weathering = stump.

Coastal management

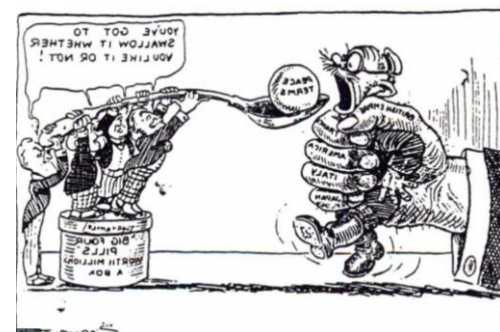
Management techniques	
Hard engineering	Soft engineering
Walls	Beach nourishment
Groynes	Beach reprofiling
Rock armour	Dune regeneration
Gabions	Managed retreat

Section 3: Geographical Skills

- Compare an OS map with aerial and ground-level photos to identify coastal landforms, and how people try to manage the coast.
- Consider different viewpoints and justify decisions about coastal management.

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Front Line	The land nearest the enemy, where the fighting takes place
British Empire	Collection of counties under British control
Imperialism	The desire to have the best collection of countries and to be rich
Trench	Long, thin hole in the ground
Munitions	Bombs, guns, bullets; anything connected with fighting weapons
Home Front	Where events of the war had an impact in Britain.
Fascist	A person or political party with extreme right-wing views, often including racism, national and complete obedience to authority
Conscription	A law that forces all men to join the army
Shell Shock	The psychological effects of war
Tier 2 vocabulary	
Militarism	The desire to have the biggest army and navy
Propaganda	Spreading information which is often false or misleading, to persuade people to support a point of view or cause.
Alliance	An agreement between two or more countries to support each other.

Section 2: New Knowledge
The First World War August 1914-The first shot fired by a soldier in Togoland, a small German colony (now part of modern day Togo and Ghana). November 1914- Britain and France declare war on the Ottoman Empire. 1915- Right to work march by women, to show the government their value. April 1915- Second Battle of Ypres. Poison gas used. January 1916- conscription introduced. July 1916- Battle of the Somme begins. April 1917- USA declares war on Germany. July 1917- Battle of Passchendaele. March 1918- Russia reaches a peace with Germany. November 1918- Armistice signed.
The Rise of Dictatorships in Europe November 1917- Russian Revolution Lenin and the communists take power. 1922- Mussolini announced he was marching to Rome to take over. He was dressed all in black. The king made him Prime Minister of Italy. November 1923- The Munich Putsch- Hitler tried to seize power, but ended up in prison where he wrote Mein Kampf. 1924- Lenin dies and Stalin takes over in Russia. 1932- The British Union of Fascists (BUF) is formed by Oswald Mosley in Britain. January 1933- Hitler becomes Chancellor- This meant that Hitler was now in charge. 1936- Spanish civil war starts. 1939- Spanish civil war ends, Franco becomes the fascist leader of Spain. 1940- BUF declared illegal and Mosley was interned for WW2

Section 3: Enquiry Questions
What was it like to be British during the First World war?
Why did dictatorships take power in Europe in the 1930's?
Section 4: Source Analysis
When analysing sources consider the following: Content- What is happening in the picture, who are the key people, what message is it giving? Context- What else is happening at the time? Purpose- Why was this cartoon drawn? Provenance- Who drew it? Who is it the audience?

Section 5: Interpretations
How and why historians and others have interpreted the same events and developments in different ways.
For example: Some historians will argue that Hitler became Chancellor because of the Great Depression. Other historians will argue that it was due to leadership skills.

Section 1: Key Vocabulary		Section 2: New Knowledge	Section 3: New Knowledge
Tier 3 vocabulary	Definition	Key Concepts This unit explores the following: - What is ethics? : looking at ideas around absolute and relative morality. - Ethics in the media - are people treated ethically? With the advancement of social media and reality TV lines have become blurred in the way that we treat each other with some arguing that as a nation we are becoming unethical in our pursuit of entertainment.	Plato's Allegory of the Cave. - Tells the story of people living in a cave, only seeing shadows on the wall as reality. - One person escapes and discovers the real world outside, finding it much more beautiful and true. - This person then tries to tell the others, but they don't believe them, thinking the shadows are all there is. - The allegory is about the difference between appearances and reality, and the importance of seeking knowledge and truth.
Vegetarian	Person who eats no fish or meat products.		
Death Penalty	State execution as a punishment for specific crimes.		
Euthanasia	Deliberate ending of the life of a person who is terminally ill, or for whom life has become unbearable due to suffering.		
Abortion	The deliberate termination of a pregnancy with the intention that there should be no baby born.		
Quality of life	Standard of health, comfort and happiness enjoyed by an individual; defined in terms of health and happiness rather than wealth.		
Sanctity of life	The principle that human life has unconditional value.	Section 2: Skills Knowledge - what do you know? Impact - how does someone's belief impact on their choices or behaviour? Source of Authority - quotes from religious text or important people/organisations. Specialist terms - subject specific words. Judgement - is the point valid/invalid/strong/weak? Opinion - considering differing points of view.	
Relative Morality	Situation ethic' morality which is dependant on the circumstances of the situation.		
Absolute Morality	Unchanging moral code, giving a fixed attitude to an issue.		
Tier 2 vocabulary	Definition		
Morality	Sense of right and wrong.		
Justice	Fairness, bringing greater equality to the lives of people.		
Conscience	Human sense of right and wrong.		
Compassion	Empathy for the suffering of others.		
Creation	The living world: for most religions, this is considered to have been created by God.		

Section 1: Key Vocabulary/Questions	
Tier 3	Definition
Noun	Word for a person, place, or thing
Infinitive	Form of the verb giving its general meaning, with no subject or tense
Identity noun	Describes one's identity, religion or profession
Possessive adjective	A word that goes before a noun to show ownership or belonging
Perfect tense	A verb tense that describes completed actions in the past, e.g. 'I said', 'she played'
Adverb	Describes a verb or an adjective
Inversion	When the subject pronoun and the verb switch place to form a question
Negative	A statement which denies or expresses negative meaning, e.g. 'il ne pleut pas'; in French this includes two elements, e.g. 'ne ... pas', around the main verb
Modal verb	Verb of necessity or possibility used with a 2nd verb in the infinitive, e.g. 'must', 'can', 'want'
Pre-nominal adjective	Adjective that appears before the noun it modifies
Comparative	Form of adjective or adverb used to compare people, things or ideas
Partitive article	Refers to parts of things; often means some in English

Section 2: Grammar
Infinitives The infinitive is the long form of the verb. It always ends in: -er, -ir or -re. To say who is or what is doing the action, we change the infinitive to a short form of the verb: regarder - je regarde. An infinitive can be used as the subject of a sentence to express an activity (like a noun): Conduire, c'est difficile. Driving is difficult. Use the infinitive after pour to say why someone is doing something and after sans to say 'without doing something'. The verbs soutenir (to support) and appartenir à (to belong to) follow the same pattern as 'venir'. Je soutiens, il soutient ... (see verb table on the next page) The verb croire (to believe) follows the same pattern as 'boire' in its singular form. Je crois, tu crois etc. Nationality adjectives can become nouns when used with an article: elle est française. (she is French) - la Française (the French person -female). There is no article 'un/une' after 'être' when using nouns to describe identity. Il est Anglais: He is an Englishman. Identity nouns have different forms based on the gender of the person it is referring to: un Italien - une Italienne Nationality and religious adjectives can become nouns when used with an article. Religious nouns do not use capital letters, unlike nationality nouns. Le musulman - l'Algérien. Nouns (feminine and plurals) Nouns ending in -ien often change to -ienne in the feminine form: le chrétien - la chrétienne. To make nouns plural, we usually add an -s. Nouns ending in -eu, -(e)au, -al or -ail make their plurals with -(au)x Perfect tense To talk about an action that happened in the past, we can use the perfect tense in French (le passé composé), e.g. 'j'ai mangé'. When using the perfect tense, the adverb generally goes after the verb 'avoir' and before the past participle. To form an inversion question in the perfect tense, swap the subject and the verb ('avoir'), e.g. 'As-tu commencé ?'. In negative sentences 'ne ... pas' and 'ne ... jamais' go around the verb. It is necessary 'Devoir', 'pouvoir', 'vouloir' and 'savoir' are modal verbs and they are followed by infinitives. We use 'devoir' to say what someone must or has to do. Another way to show necessity is to use the impersonal verb 'il faut'. 'avoir' and 'être' for feelings and states Avoir means to have, having but is often used when we would use the verb to be (être) in English to describe feelings and states e.g. 'avoir faim' (to be hungry). When using avoir expressions like 'avoir raison' and 'avoir chaud', there is no article after avoir.

Section 3: grammar

Possessive adjectives

	masculine	feminine	before a vowel	plural
my	mon	ma	mon	mes
your	ton	ta	ton	tes
his/her	son	sa	son	ses
our	notre	notre	notre	nos
your	votre	votre	votre	vos
their	leur	leur	leur	leurs

Numbers 17-69 and telling the time

Numbers 17-69 are made up of a combination of numbers in French. Add ‘et’ before ‘un’ e.g. ‘quarante et un’ and a hyphen between other numbers.

To ask what time it is in French, say ‘Quelle heure est-il ?’ To say at what time something happens, use ‘à’.

To say what time it is, use impersonal verb ‘il est’, a number followed by the hour ‘heure(s)’ and minutes. The 24-hour clock is used more in French than in English.

donc

‘donc’ means ‘so/therefore’. It connects two short, related sentences to make a longer sentence showing cause and effect.

Adjectival position and the comparative

Most French adjectives come after the noun they describe. Use BRAGS (beauty, rank, age, goodness, size) to remember **pre-nominal adjectives**.

With more than one adjective, add ‘et’ after the noun. Nouns can also be surrounded by adjectives.

e.g. Il y a un vent fort et froid.

There is a strong, cold wind.

e.g. J’ai un **vieux** souvenir heureux.

I have an **old**, happy memory.

To make **comparisons** in French, use the structures **plus/aussi/moins + que** with adjectives and adverbs.

Some **comparative** forms are irregular, such as **meilleur**, **mieux**, and **pire**.

Partitive articles

Use un/une (the indefinite article) to talk about whole things, and **du/de la/de l’** (the **partitive article**) to talk about ‘part’ of something.

Whole things are normally countable – you can put ‘a’ or a number in front of them.

Some nouns are uncountable. You can’t put ‘a’ or a number in front of them. Uncountable nouns can only take the **partitive**.

The **partitive article** changes to ‘de’ after a quantity and in negatives.

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9Fr Aut2 W1	
empêcher	to prevent, preventing
pratiquer	to practise, practising
respecter	to respect, respecting
risquer	to risk, risking
la région	region
le château	castle
essentiel	essential (m)
la question essentielle	the essential question
fantastique	fantastic
historique	historic
utile	useful
9Fr Aut2 W2A	
appartenir à	to belong to, belonging to
croire	to believe, believing
je crois	I believe, I am believing
tu crois	you believe, you are believing
il croit	he believes, he is believing
elle croit	she believes, she is believing
soutenir	to support, supporting
le dieu	god
la foi	faith
la laïcité	non-religiousness
la liberté	freedom
9Fr Aut2 W2B	
chrétien	Christian (m)
chrétienne	Christian (f)
européen	European (m)
européenne	European (f)
juif	Jewish (m)
juive	Jewish (f)
musulman	Muslim (m)
musulmane	Muslim (f)
religieux	religious (m)
religieuse	religious (f)

9Fr Aut2 W3	
commander	to order, ordering
réserver	to reserve, reserving
l'addition	bill
la carte	menu, card
le choix	choice
la nuit	night
la réception	reception
le restaurant	restaurant
le service	service
la table	table
votre	your (s formal)
vos	your (formal and pl)
leur choix	their choice (s)
leurs cartes	their cards, menus (pl)
9Fr Aut2 W4 A-D	
revision on Languagenut	
9Fr Aut2 W5	
no list	
9Fr Aut2 W6	
la faim	hunger
l'heure	hour, o'clock, time of day
le midi	midday
le minuit	midnight
la peur	fear
la raison	reason, right
la soif	thirst
le tort	wrong
quarante	forty
cinquante	fifty
soixante	sixty
donc	so, therefore

9Fr Aut2 W7	
contenir	to contain, containing
l'air	atmosphere, feeling
le bonheur	happiness
le symbole	symbol
le souvenir	memory
le vent	wind
fort	strong (m)
forte	strong (f)
long	long (m)
longue	long (f)
vers	towards
l'Afrique	Africa
l'Asie	Asia
l'Europe	Europe

French phonics			
qu	quatre	en/an	enfant
ien	canadien	ain/in	train/fin
ienne	canadienne		
closed –eu	peu		
open –eu/ œu	peur, sœur		

venir – to come	
soutenir- to support, appartenir- to belong follow the same pattern	
je viens	nous venons
tu viens	vous venez
Il/elle/on vient	ils/elles viennent

boire– to drink 'croire' (to believe) follows the same pattern in the singular and ils/elles form	
je bois/ crois	nous buvons/ croyons
tu bois/ crois	vous buvez / croyez
il/elle/on boit / croit	ils/elles boivent/ croient

Section 1: Key Vocabulary/Questions	
Tier 3	Definition
2-verb structure	Where the 2nd (infinitive) verb comes at the end of 2 verb clauses
Stress	Pronouncing one syllable more heavily than other syllables in a word
Direct object pronoun	Replaces the noun directly receiving the action of the verb: 'me', 'it', 'them'; takes the accusative case
Indirect object pronoun	Replaces the person, people or thing(s) the verb action is done to. 'with them', 'to me', 'from you'; takes the dative case
Preposition	A word that is used before a noun, a noun phrase, or a pronoun, connecting it to another word
Reflexive	Describes an action where the subject and object of the verb are the same
Reflexive pronoun	Indicates doing something to yourself, words like 'myself' and 'yourself'
Idiom	Phrase whose meaning isn't always literal and doesn't always translate word for word

Questions	Translation
Was möchtest du machen?	What would you like to do?
Was versuchst du, zu machen?	What are you trying to do?
Was sind deine Pläne?	What are your plans?
Wie hast du gefeiert?	How did you celebrate?

Section 2: Grammar																																
Prepositions Many verbs and some prepositions (ohne/für) are followed by the accusative case, some verbs (glauben, helfen) and prepositions (mit, zu, von) are followed by the dative case..																																
	<table><thead><tr><th></th><th>accusative</th><th>dative</th></tr></thead><tbody><tr><td>me</td><td>mich</td><td>mir</td></tr><tr><td>you</td><td>dich</td><td>dir</td></tr><tr><td>her</td><td>sie</td><td>ihr</td></tr><tr><td>him</td><td>ihn</td><td>ihm</td></tr><tr><td>it</td><td>es</td><td>ihm</td></tr><tr><td>us</td><td>uns</td><td>uns</td></tr><tr><td>you</td><td>euch</td><td>euch</td></tr><tr><td>you</td><td>Sie</td><td>Ihnen</td></tr><tr><td>them</td><td>sie</td><td>ihnen</td></tr></tbody></table>		accusative	dative	me	mich	mir	you	dich	dir	her	sie	ihr	him	ihn	ihm	it	es	ihm	us	uns	uns	you	euch	euch	you	Sie	Ihnen	them	sie	ihnen	Ich mag ihn → I like him Ich werde <u>mit ihm</u> feiern → I will celebrate <u>with him</u> Sie findet mich → She finds me Du glaubst mir → you believe me
	accusative	dative																														
me	mich	mir																														
you	dich	dir																														
her	sie	ihr																														
him	ihn	ihm																														
it	es	ihm																														
us	uns	uns																														
you	euch	euch																														
you	Sie	Ihnen																														
them	sie	ihnen																														

Reflexive Verbs These are used to show the action is being done to oneself. Some reflexive pronouns are the same as direct object pronouns, so use the context to understand the sense.																										
	<table><thead><tr><th>Subject</th><th>(verb)</th><th>Reflexive pronoun</th></tr></thead><tbody><tr><td>ich</td><td>(freue)</td><td>mich</td></tr><tr><td>du</td><td>(meldest)</td><td>dich</td></tr><tr><td>sie</td><td>(fühlt)</td><td>sich</td></tr><tr><td>er</td><td>(entscheidet)</td><td>Sich</td></tr><tr><td>wir</td><td>(waschen)</td><td>Uns</td></tr><tr><td>ihr</td><td>(entspannt)</td><td>Euch</td></tr><tr><td>Sie/sie</td><td>(setzen)</td><td>sich</td></tr></tbody></table>	Subject	(verb)	Reflexive pronoun	ich	(freue)	mich	du	(meldest)	dich	sie	(fühlt)	sich	er	(entscheidet)	Sich	wir	(waschen)	Uns	ihr	(entspannt)	Euch	Sie/sie	(setzen)	sich	
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ich	(freue)	mich																								
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er	(entscheidet)	Sich																								
wir	(waschen)	Uns																								
ihr	(entspannt)	Euch																								
Sie/sie	(setzen)	sich																								
Ich wasche mich → I wash myself Sie entspannt sich → She is relaxing (herself)																										
Some verbs that have a reflexive pronoun in German do not use one in English.																										

Section 3: Grammar

2-verb structures

These are sentences with a conjugated verb and an **infinitive**, which is placed at the end of the clause.

Use a modal verb or 'werden' with an infinitive

Ich **möchte** ins Kino **gehen** → I **would like to go** to the cinema

Wir **werden** einen Film **sehen** → We **will watch** a film

Sie **kann** Deutsch **sprechen** → She **can speak** German

Verbs that need a second verb and are **not** modals or 'werden' have '**zu**' before the infinitive and a comma after the first verb

Wir **hoffen**, Muskeln **zu entwickeln** → We **hope to develop** muscles

Er **beginnt**, Italienisch **zu lernen** → He is **beginning to learn** Italian

Ich **versuche**, mehr Obst **zu essen** → I **am trying to eat** more fruit

Weak verbs and Strong verbs in the perfect tense

Weak verbs have the past participle: ge + verb stem + t

e.g. ich habe ein Schloss **gekauft** / du hast Tennis **gespielt**

The past participle of strong verbs must be learnt. They end in **en** and some have a vowel change.

Er hat ein Buch **gelesen**. → He read a book

Ich bin in die Schweiz **gefahren**. → I travelled to Switzerland

Sie sind viel **geschwommen**. → They swam a lot

Wir haben die Fahrt **genossen**. → We enjoyed the journey

Verbs that start with 'ver-', 'er-', 'be-', 'ent-' do not have a 'ge' at the start of their past participle.

Ich habe mein Auto **verkauft** → I sold my car

Er hat seinen Onkel **besucht** → He visited his uncle

Wir haben uns **entschieden** → We have decided

Possessive pronouns

my	Nom	Acc	Dat
m	mein	meinen	meinem
f	meine	meine	meiner
n	mein	mein	Meinem
pl	meine	meine	meinen

Use the same endings for the possessive you need.

your → dein

her → ihr

his → sein

our → unser

your → euer

your/their → ihr

9Gr Aut2 W1	
ich möchte	I would like
du möchtest	you would like (s informal)
er möchte	he would like
sie möchte	she would like
es möchte	it would like
auswählen	to choose, select
genießen	to enjoy, enjoying
probieren	to try, trying
verkaufen	to sell, selling
der Betrieb	business, company
das Gericht	dish
der Kuchen	cake
der Laden	shop
das Weihnachten	Christmas
günstig	cheap
traditionell	traditional
ab	from, as of (time)
9Gr Aut2 W2	
einige	a few, some
entwickeln	to develop, developing
hoffen	to hope, hoping
üben	to practise, practising
verbessern	to improve, improving
verlangen	to demand, request
vorhaben	to have in mind, be planning
der Geist	mind, spirit
die Leistung	performance
die Pflicht	duty
laut	loud
meistens	mostly
mindestens	at least
obwohl	although

9Gr Aut2 W3 A-E	revision on Sprachen
9Gr Aut2 W4 A-D	revision on Sprachen

9Gr Aut2 W5 A-D revision on Sprachen	
9Gr Aut2 W6	
waschen	to wash, washing
der Stuhl	chair
anziehen	to put on, putting on
verantwortlich	responsible
das Bett	bed
fühlen	to feel, feeling
dich	you (acc), yourself
nennen	to name, naming
gerade	straight
halten	to hold, keep, stop
mich	me (acc), myself
sich	self, himself, herself
9Gr Aut2 W7	
beschließen	to decide, deciding (collectively)
einladen	to invite, inviting
sich melden	to get in touch
sich entscheiden	to decide, deciding (personal)
sich freuen	to be happy
sich unterhalten	to have a good time, chat
unterhalten	to entertain, entertaining
das Fest	festival, celebration
sich	themselves, self, himself, herself, itself
die Stimmung	atmosphere
die Tradition	tradition
kulturell	cultural
typisch	typical
euch	you (all acc), yourselves
uns	us, ourselves

German phonics – consonants at the end of words			
b	like p gelb	ig	like ch in ich zwanzig
d	like t Hand		
s	like s		
short		long	
a	kalt	a	sagen
o	Kopf	o	Wo
soft		hard	
ch	ich	ch	Buch
Other phonics			
ä	like the ai in air before you say the r	er	like the English 'air'

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Algorithm	A series of simple, logical, step-by-step instructions that must be followed in a strict sequence.
Sequencing	When a set of instructions is carried out in order.
Variable	A storage location in a computer.
Data type	Different types of data are stored in variables: strings, integers, float, Boolean.
String	A data type consisting of alphanumeric characters; e.g. "Hello", "%\$&*" and "12345".
Integer	A data type consisting of whole numbers; e.g. 1, 10 and -100.
Floating point number	Also known as a real number. A data type consisting of numbers with decimal point; e.g. 2.3, 5.44 and 10.9.
Selection	Used when making a decision. It involves asking a question to which the answer is either true (yes) or false (no). Depending on the answer, the program follows certain steps and ignore others.
Iteration / loop	When a set of instructions is repeated, also referred to as a loop.
Concatenation	Lets you combine two or more strings or inputs in an output.
if statement	Allows selection in a computer program. Used to decide what to do next if a condition is True.
Else statement	Used with if statements to check several conditions in a row.
Elif statement	Short for 'else if' and used with if statements and else statements to check several different conditions in a row.
For loop	A type of loop used when we know how many times we want to do something.
While loop	used when we are unsure how many times we wish to carry out a repeated task.

Tier 2 vocabulary	Definition
Execute	To run a program. Select Run then Run Module OR press the F5 button.
Condition	Used to make decisions in a program.
Process	All modern computers function of the idea of input - process - output.
Syntax	The format that the code needs to be in.

Section 2: New Knowledge/Skills
print statement - allows you to display text in the shell. <pre>print ("Hello World!") print ("I am a programmer")</pre>
input statements - using input () we can ask a user to input information.  <pre>name = input("Enter your first name: ") print ("Hello") print (name) print ("Pleased to meet you.")</pre> Entering an integer. <pre>number = int(input("Enter a number"))</pre>
Concatenation <pre>userName = input ("What is your name?") print ("Hello! " + userName)</pre>
IF statements - used to select different options depending on a condition (also known as selection). <pre>realPassword = "computer" userPassword = input("Please enter the password: ") if userPassword == realPassword: print ("The password is correct. ") else: print("Wrong password. ")</pre>
<pre>number = int(input("Enter a number between -5 and 5")) if number > 0: print ("Your number is positive") elif number < 0: print ("Your number is negative") else: print ("Your number is 0")</pre> 

Section 3: Other subject specific content

Naming variables:

userName is a **variable**.
Choose a recognisable name.
Start with a letter NOT a number.
Can contain letters, numbers and the underscore symbol (_)
Variables are case sensitive (name, Name, NAME)

Indexing strings

- Each individual character in a string can be given a index value. The first character in the string is given the index value 0. The table represents a string stored in the variable **programName**.

p	y	t	h	o	n
0	1	2	3	4	5

Adding a random element to your program

```
import random
number = random.randint(1,10)
print (number)
```

Comments -

(#) an explanation or annotation in the code of a program.
They make the source code easier for humans to understand, and are generally ignored by the computer.

Syntax errors

Traceback (most recent call last):
File "C:/Python33/a.py", line 2 in <module>
Above - it says the line the error is on.
prin (greeting)
NameError: name 'prin' is not defined
#Above - it says what type of error.

Don't forget about checking for errors

- ❑ Not indenting correctly, or forgetting to indent.
- ❑ Forgetting the colon (:) at the end of a line for selection - if, elif, else.
- ❑ Incorrect spellings - input instead of input, Print instead of print.
- ❑ Misspelt variable names e.g. username instead of userName.
- ❑ Forgetting the quotes at the end of strings.
- ❑ Forgetting the bracket at the end of a function.

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PE: Netball

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Holding Space	Using your body to protect a space you want to move into.
Interception	Deflecting or catching the ball whilst it is on route to another player.
Repossession	Catching, dropping and then re-catching the ball.
Rebounding	Trying to reclaim the ball after an attempted shot at goal.
Driving onto the ball	Sprinting towards the ball when receiving a pass.
Throw-up	Method used to restart the game after two players simultaneously commit a foul.
Double Lead	Two players running out at an angle in different directions to give two passing options to a player in possession of the ball.

Section 2: New Knowledge/Skills

Within the netball module you will learn about :

Tactics used at the centre pass – both in terms of attacking and defending the centre pass in order to try and maintain/win possession of the ball. Think about why it is important to keep possession of the ball during your own team's centre pass.

The correct technique for defending a shot at goal. Know where to move to in order to rebound a shot and then try to regain possession of the ball. Why is this important?

Holding space – you will be able to demonstrate the correct technique and know when to throw the ball to a player who is holding space. Can you identify when this technique would be effectively used?

Intercepting the ball - focusing on the correct technique and being able to intercept a pass without causing contact. Can you identify key points of how to carry out this technique?

Driving effectively onto the ball by running out at an angle, using a change of speed and direction and looking at double leads to help maintain possession of the ball.

PE: Hockey

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Penalty corner	An attacking set piece with the attackers lined up outside the circle and the defenders on the goal line.
Injection	Passing the ball into play from the penalty corner.
25m hit	Hockey's version of football's corner when a defender hits the ball behind their own goal line.
Jab tackle	A one-handed effort to reach in and knock the ball away from a dribbling player.

Section 2: New Knowledge/Skills

In Year 9 Hockey, you will be working towards playing the full **11 v 11** version of the game with some of the more advanced rules such as **penalty corners** and **25m restarts**.

You will develop your range of skills by considering different ways to **score** when you get in and around the **shooting circle**.

Part of your development in hockey will include leadership and you may be asked to set up a practice for your teammates, captain a team or umpire a game.

As you go through the lessons, you should be able to answer some of these questions:

- Explain the difference between the jab tackle and the block tackle?
- Why is a penalty corner awarded and how do the players line up for it to be taken?
- Where (exactly) is a 25m hit take from?
- What are your options if you find yourself dribbling towards the keeper and how would you choose which one to use?
- Name 5 rules you would be looking out for if you were umpiring a hockey game.
- Describe a playing formation you might use to set your team up if you were captain.

PE: Volleyball

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Set	Passing the ball from in front of the forehead using the fingers and thumbs of both hands.
Dig	Passing the ball with the forearms - between the wrists and the elbows.
Spike	Volleyball's version of the smash - hitting the ball firmly over the net making it difficult for the opponents to return.
Block	The best defence against the spike is to jump up with both hands at the net to try to stop the ball coming over to your side.
Serve/service	The start of the rally can be done underarm or overarm. It must be taken by the player at the back right side corner.
Sideout	This is when the service transfers to the other team and the players move to a new position by rotating in a clockwise direction.

Section 2: New Knowledge/Skills

The Year 9 Volleyball module will provide an introduction to a sport which is hugely popular among Key Stage 4 students. You will learn the key rules and skills to enable you to take part in a 4v4 game.

You should be able to answer these questions as you go through your volleyball module:

- Give 3 points of technique for performing a set.
- Why should a player try to set the ball rather than dig it?
- Give 3 points of technique for the dig?
- How many shots is a team allowed to get the ball over the net?
- How many players are there in a volleyball team?
- Who takes the next serve in a game of volleyball?
- Suggest 5 ways a volleyball rally comes to an end.

PE: Rugby

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Touch judge	An important officiating role which you may need to take on in lessons.
Gain line	An imaginary line across the pitch where the breakdown occurs.
Conversion	Kicking over the bar for after a try is scored.
Drop kick	A half-volley kick to start the game.
Drop goal	A drop kick over the posts.
Kick for touch	Kicking the ball off the side of the pitch when your team is under pressure.
Props	Two forwards that support the hooker in a scrum.
Hooker	The forward who goes in the front middle of the scrum and tries to hook the ball with their feet.
Fly-half	A back who receives the ball from the scrum-half and decides how the backs will attack.

Section 2: New Knowledge/Skills

In Year 9 rugby we are working towards playing the full 15-a-side version of the games with everyone able to contribute as a back or a forward in a specific position.

Try the following questions to check your knowledge of 15-a-side rugby:

- Can you explain the full scoring system in rugby?
- How many of the 15 positions on the field can you name?
- What is the importance of the 'gain-line'?
- How many players make up a full scrum?
- Which players do most of the kicking in a game of rugby?
- When might a team try for a drop goal?
- Where is a conversion taken from?

PE: Table Tennis

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Back spin	Hitting down the back of the ball to make it travel more slowly over the net - a defensive tactic.
Top spin	Hitting over the top of the ball to give it topspin will cause it to dip as it goes over the net - an attacking tactic.
Variation	Doing different things to keep your opponent guessing - playing different shots to different parts of the table for example.
Attack	One playing is usually on the offensive, trying to hit the winning point.
Defence	If your opponent is on the offensive, you made need to adjust your position and your shot selection to effectively defend their shots.
Shot selection	The skill of knowing what shot to use at any point in the game.
Block	A defensive tactic of just putting your bat out to bounce the ball back over the net.
Loop	Playing the ball back high over the net when defending to give yourself time to get ready to defend the next shot.
Backhand flick	An attacking version of the backhand push. Just flick the wrist to add power.

Section 2: New Knowledge/Skills

Year 9 table tennis will provide plenty of opportunity for you to compete with your classmates. As you compete more, you will develop tactical 'answers' to what is happening in the game.

You should be able to recognise when you are in attack and when you are in defence and start to change your shot selection and your positioning.

You will be expected to umpire and keep score for your classmates, being confident in stopping rallies when faults occur.

PE: Gymnastics

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Partners/Pairs	Performing with 1 other student.
Trios/Groups	Performing in a group of 3 or more.
Cannon/ Mirror/ Unison	Performing 1 after the other/performing in time in opposition/performing in time.
Counter balance	Leaning inward or towards a partner or group to support or maintain a balance.
Counter tension	Leaning outward or away from a partner or group to support or maintain a balance.
Weight bearing	Acting wholly or partially as the base of support in a pair or group balance.

Section 2: New Knowledge/Skills

In Year 9 gymnastics, you will be challenged to develop more complex sequences with more people involved and more complex moves. This will not only develop your gymnastic skills, you will need to use good leadership and communication skills to get your group to work as a unit to create and perform the sequence.

Try these questions to check your understanding of Year 9 gymnastics:

- Describe a weight-bearing balance as a trio?
- Describe a counter-tension position for a group?
- Explain how a group of 4 people could perform a counter-balance position?
- What qualities does a leader need in order to organise a group into an effective sequence?

PE: Basketball

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Rebound	Catching the ball after a missed shot.
Offensive rebound	Taking a rebound when your team is in attack giving your team another chance to score.
Defensive rebound	Taking a rebound when you are in defence, preventing the other team from having another shot.
Assist	Setting a teammate up to score a basket.
Outlet pass	Making a quick pass out from under your own basket to set up an attack after you have taken a rebound.
Breakout dribble	Making a quick dribble out from under your basket (2 or 3 bounces) to set up an attack for your team.
Officiating crew	The team of officials needed to run a basketball game including a referee, an umpire, a scorer and a timekeeper.
Half court defence	Running back after your team lose possession to defend close to your own hoop.
Section 2: New Knowledge/Skills	
In basketball this year, you will be working towards playing the full court version of the game, with some of the more advanced rules and tactics. Hopefully, after your lessons, you will be able to answer some of the following questions: What is the backcourt rule? What are some of the time limits that players have to be aware of in a game of basketball? Why is half-court defence played most of the time? When might a team use full-court defence? What makes a good rebounder and why are they so important to a team's success?	

PE: Health and Fitness

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Components of fitness	Our fitness can be broken down into 11 components of fitness which we all possess. Examples include speed, strength, agility.
Effects of exercise	The short term effects of exercise are changes in the body which occur as a result of physical activity. We should know why they occur.
Fitness testing	Each component of fitness can be measured by a test. Using fitness tests can help performers to see if their training is having a positive effect on their fitness.
Circuit training	A method of training which involves exercising at a station then having a rest before moving to the next station.
Weight training	Using a resistance such as a dumbbell to exercise a specific muscle.
Heart rate	How fast our heart beats can be a good measure of how hard we are working and a good measure of how fit we are.
Section 2: New Knowledge/Skills	
The Health and Fitness module will give students a good foundation for taking responsibility for their own fitness. You will look at a variety of ways to measure your own fitness and a variety of ways to improve your own fitness. Many of the exercises and activities we do can be repeated at home with little or no equipment - you take responsibility! The unit also provides a taste of some of the content students will experience should they opt for exam PE in KS4. Try these questions as you complete this module: How many of the major muscles can you name? Can you link 5 components of fitness with their fitness test? Can you list 10 exercises you can do with a pair of dumbbells? Can you list 10 exercises you can do without any equipment? Which heart rate is an important measure of your health?	

PE: Running

New Knowledge/Skills
You will use the same running route (3 laps/2200m) to work on endurance and work towards a personal best time. You will set your own targets based on previous times and set yourself interim targets (lap times and split times) to help you reach your goal. We will continue to develop our mental approach to running by looking at some basic tactics (strategies) - when to run faster or when to conserve energy. To improve our performance we will look at two training methods which can be used to improve running: fartlek and interval. Fartlek training means running at different speeds for varying distances whereas interval training involves running a set distance or for a set time and then having a period of rest.

PE: Health and Fitness

New Knowledge/Skills
Our focus on health and fitness across the sports will be on the components of fitness and how they are required in different activities. Question: Can you list the 11 components of fitness? Hopefully, you will be able to identify the main components of fitness used in any sport you do.

PE: Leadership

New Knowledge/Skills
You will be challenged at times to take on the role of captain and help influence your team's performance. You may be asked to lead a warm up in front of the class to help develop your confidence to stand in front of and speak to a large group of people. You will also be given time in some activities to create your own practices for a group of classmates.

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Critically	Doing something in a way that involves analysis of the merits and faults of something.
Enquiry	The study of something in a way that enhances understanding.
Flora and fauna	Plant and animal life.
Gouache	Opaque watercolour paint.
Invertebrate	Animal without a backbone.
Iridescent	Featuring bright colour that changes depending on the viewing angle.
Kaleidoscopic	Having a complex pattern that multiplies the appearance of symmetry, similar to the way the children's toy the kaleidoscope works.

Tier 2 vocabulary

Tier 2 vocabulary	Definition
Assumption	Something a person believes to be true without good evidence or proof.
Controversial	Causing disagreement and fierce discussion.
Illustrator	An artist that produces work for a commercial purpose, e.g. as part of a graphic layout.
Symmetry	Displaying self-similarity through reflection or rotation.
Watercolour	Art medium that uses pigment suspended in a water soluble binder, such as gum arabic.

Section 2: Illustrating nature, questioning ideas

Ernst Haeckel was a German biologist and artist. Haeckel drew from direct observation of samples of plant and animal life that he had collected himself, revealing detail that was previously unseen or overlooked. Haeckel used pencil, pen and watercolour to produce his intricate illustrations of flora and fauna. His often richly coloured illustrations reveal symmetrical invertebrate body structures. His carefully observed illustrations straddle the line between art and science.

Haeckel made valuable contributions to science and art, but some of his views, particularly those about human races, were based on false assumptions. These assumptions are now considered scientifically incorrect. This reminds us that it is important to critically evaluate historical figures, and to understand how ideas evolve over time.

While Ernst Haeckel took a highly detailed approach to illustrating insects and other small animals, focussing on scientific inquiry, other artists have taken a more fanciful or playful approach.



Left: By Ernst Haeckel

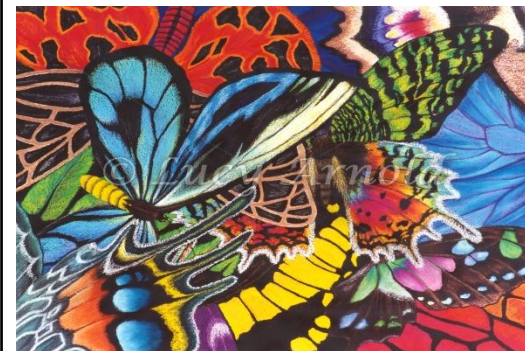


Below: by Damien Hirst

In his 'Entomology' series, Damien Hirst has used actual insect bodies to create assemblages. Presented as kaleidoscopically arranged specimens on flat boards, the iridescent, jewel-like bodies of exotic beetles and other invertebrates glimmer under a thick protective layer of varnish. Damien Hirst creates provocative and sometimes controversial art, and some people question the ethics of using real insects and other animals as part of a work of art.

Section 3: Artists and techniques

Lucy Arnold combines multiple individual illustrations of insects in a variety of ways. These range from insects carefully arranged in symmetries very similar to Damien Hirst's Entomology works, to chaotic overlapping insect bodies that vie for attention and bustle with colour and energy. Arnold works in a wide variety of media, but is known foremost as a painter.



Above: by Lucy Arnold



Left: by Caroline Kaufmann

Caroline Kaufmann's insects look plausible at first glance, but closer inspection reveals asymmetrical geometric patterns that defy nature. These playful creations embellish the natural forms and symmetry of insects with surface patterns more often seen in clothing. Kaufmann is a textile artist, but has created this series of insects using gouache on paper.

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Loops	A repeating section of sound material
Chord	A group of notes (usually 3) played at the same time
Metronome	A device used by musicians that marks time at a selected rate by giving a regular tick
Tempo	How slow or fast the music is. Defined by bpm
BPM	Beats per minute
Chord Progression	A set of chords played in a particular pattern.
Root Note	The first note of a chord, or the first note of a musical scale.
Lead Track	The track which holds the main melody.

Tier 2 vocabulary

Tier 2 vocabulary	Definition
Mixing	Balancing all the sounds, making some louder than others.
Layers	Grouping instruments together.
Instruments	A device used to make musical sound.
Melody	The main tune of the music.

Section 2: New Knowledge/Skills

Developing skills from Year 8 you will be creating a track using Soundtrap and learning skills that will prepare you for KS4

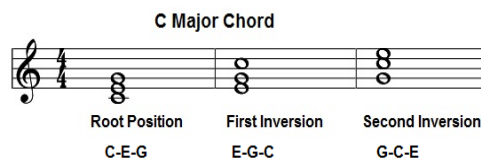
Using your knowledge from Y8 on **The Four Chord Trick**, you will programme in a chord pattern, using the **piano roll**.

Chords

A chord is a set of notes played at the same time. A **chord** constructed of three notes is called a **triad**. A **triad** uses notes one, three and five of the scale. The first note of the scale is called the **root note**.

Chord Inversions

Inversions refer to the order in which we play the notes of a triad. Sometimes by changing the order we play the notes; it makes it easier to play on the keyboard.



Using the **root note** of chords **C, Am, F and G**, we will create a **bass line**.

Lead Track

The lead track will hold the main **melody** of the music.

Section 3

You will be exploring the use of layers in your music and the different **textures** that can be created.

You will consider **dynamics** and how to change and balance the different **volumes** of your track

Post Production Techniques

Post production plays a crucial role in the creation of music. It involves **editing, mixing** and **mastering** recordings to enhance their quality for the listener.

Getting started with Soundtrap. Follow the QR code link to get started.



Links to prior learning: Music and Poetry, The Four Chord Trick

Section 1: Key Vocabulary

Tier 3 vocabulary Definition

Choreographed Movement Movement which is choreographed is likely to be stylised, rehearsed and carefully sequenced.

Physical Theatre Physical theatre shows that you don't have to use words to express ideas. It uses techniques such as movement, mime, gesture and dance and can be used to explore complex social and cultural issues.

Direct Address Direct address in drama refers to a character speaking directly to his or her audience rather than talking to other actors or simply leaving them thinking.

Proxemics Proxemics is the use of space/distance between characters on stage. This can represent the relationship between characters.

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

Tier 2 vocabulary Definition

Hierarchy A hierarchy is a system of organising people into different ranks or levels of importance, for example in society or in a company.

Gang Dynamics This behavior often manifests itself in most or all of the gang's members, especially when they are together. This behavior can be explained as 'group dynamics,' which is essentially the way individuals behave when they are part of a group. The behavior can become extreme.

Section 2: Romeo and Juliet

- In what 'world' a feud, where two families are constantly fighting each other, exist?
- What are the reasons for the feud and who is involved?
- Does the argument between the two houses affect everyone, or some household members more than others?
- Why has it taken over every level of family life for the Capulets and Montagues?



This short clip explains Act 1 Scene 1.

Section 3: Physical Theatre - Frantic Assembly

What does the work of Frantic Assembly look like?


Building Blocks

Chair Duets
Round By Through
Hymns Hands
Fluff

"We began with little more than a fierce work ethic and a desire to do something different and to do it differently."

Scott Graham, Artistic Director and Co-Founder

The Frantic Method is approaching devising as a series of tasks, each broken down into building blocks. This is designed to establish progress from the simplest discoveries. Performers are encouraged to take a moment back to its simplest truth and build from there. This places dancers, actors, students, teachers and all participants on the same starting point.

Using these building blocks they are empowered to find and create complex work through a process that is safe, fun and constantly illuminating.

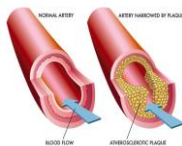
The Frantic Assembly Methods explained.



Tier 3 vocabulary	Definition
Macronutrients	The nutrients needed in larger quantities within the diet.
Vs	Carbohydrates, proteins and fats.
Micronutrients	The nutrients needed in smaller quantities within the diet. Vitamins and minerals.
Deficiency disease	A health issue related to a lack of one or more nutrients in the diet. E.g. Kwashiorkor, Rickets and Anaemia.
Dietician	An individual who promotes good dietary health and treats nutritional problems by providing practical advice about food choices, based on scientific research.
Complex/Starchy Carbohydrates vs Simple/Sugary Carbohydrates	These should make up the majority of a person's carbohydrate intake. Providing slow-release energy. These should be consumed as a smaller proportion of the carbohydrate intake. Providing fast-release energy.
Proteins	A nutrient provided by meat, fish, dairy, nuts. Peas, beans and lentils. Protein is required for growth and repair.
Saturated Fat vs Unsaturated Fat	A healthier type of fat which can be linked to higher risk of obesity, CHD and type II diabetes if consumed in larger quantities. Predominantly from animal sources. A type of fat containing a high proportion of fatty acid molecules with at least one double bond, considered to be healthier than saturated fat. Predominantly from plant sources.
Dietary recommendations	The daily nutritional requirements of individuals that vary depending on a number of factors including age, physical activity level, sex & body size.

Tier 2 vocabulary	Definition
Obesity	The state of being grossly overweight.
Symptom	a physical or mental feature which is regarded as indicating a condition of disease
Disease	a disorder of structure or function in a human, animal, or plant, especially one that has a known cause and a distinctive group of symptoms, signs, or anatomical changes.
Diet	the regularly consumed food and drink of an individual.
Dehydration	when your body does not have as much water as it needs.

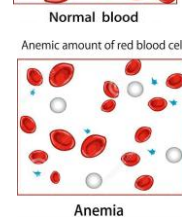
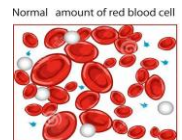
Section 2: New Knowledge



The picture to the left shows Atheroma, which is where plaque build up in the arteries and causes the walls to harden. The happens a result of a high fat and salt diet.



The picture to the left shows a health bone scan (left) and a bone with osteoporosis (right). The bone has lost density and is more brittle. This naturally happen in old age, but can occur earlier due to lack of vitamin D & calcium.



The picture to the left shows a normal red blood count (Top) and the red blood count of someone suffering from Anaemia (bottom). There are less red blood cells and they are deformed. This occurs when someone is deficient in the mineral iron.

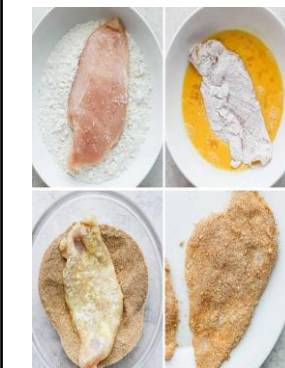
Section 3: Food & Nutrition Skills



We use temperature probes a lot this project. The probe is used to check the core temperature of meat. The probe should reach 75C for 30 seconds or 80C for 15 seconds. It is important the probe is inserted into the centre where the meat is thickest.



Corn starch can be used to thicken sauces such as gravy and stir fry sauces. Before adding to a sauce, the cornstarch must be mixed with liquid to form a paste. If added directly, lumps can form.



Breadcrumbs/coating Ingredients such as chicken, halloumi and fish can be coated. The process starts with coating the protein in plain flour, then beaten egg and then finally breadcrumbs. This process has a high risk of contamination.

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Aesthetics	What a product looks like, Colour, shape, style etc
Components	Anything in the textile product that is not made of fabric. Eg. Zip, button, press stud
Embellishment	The application of stitching, trimmings, threads, braid, ribbons and beads to decorate a fabric or textile.
Pattern	Paper templates that show the shape of the fabric pieces that must be cut out to make a product
Context	The setting for an event, statement, or idea.
Couching	The process used to secure threads, fibres or yarns to a surface using hand stitching or embroidery.

Tier 2 vocabulary

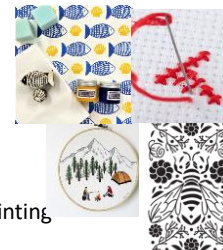
Tier 2 vocabulary	Definition
Form	The shape, aesthetics. What something looks like.
Function	How well does the product perform the job it was designed to do?
Customer	Who will use your product? What Are their needs, interests etc
Evaluation	Making a judgment about a product or design

Section 2: Skills

Surface Decoration

You have worked with many different types of surface decoration in your previous textile projects. In this project you will need to pick the most relevant ones to your design:

- Stencil
- Applique
- Block printing
- Embroidery
- Cross stitch
- Buttons/beads/sequins
- Fabric crayons
- Digital Fabric design and printing

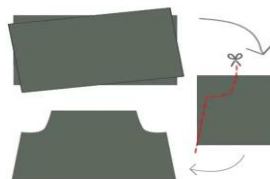


You have also learned how to create patterns/templates and sew a zip in amongst other things! Can you explain how each of these processes work? Can you decide which are the most appropriate to use in your design?

Upcycling

Upcycling is taking an old garment and making it into something new. Often this is a garment that might be destined for landfill.

You can add decorations to hide holes or stains. Combine garments, take the sleeves from one top and sew them onto another. Or completely remake something ie. take an old pillowcase and make it into a top.



Section 3: Knowledge

Textiles and the Environment

Of all industries textiles is the second most pollutant. As designers and consumers we have a responsibility to be aware of the impact it has.

As designers we should consider the environment when picking the materials we will use to make our designs. For example considering using recycled materials, or sustainably produced fabrics.

FAST FASHION has led to a huge increase in the amount of textiles that end up in landfill. There is also the impact of the MANUFACTURE and CARE of the garments during their life. As consumers we have a responsibility to consider the impact our purchases have on the environment.

Some facts to consider:

*2,700l of water is needed to produce 1 t-shirt. This is equivalent to enough drinking water for one person for 2.5 years.

*10% of all greenhouse gases are produced by textile production.

*0.5million tonnes of MICROFIBRES are released into the oceans each year as a result of washing SYNTHETIC textiles.

The 6 R's

Whilst we are all quite familiar with the idea of recycling materials there actually 6 different 'R' words that we can use to consider our impact on the environment. This is a list of 6 different guidelines that people can use to help them reduce their impact on the environment. These words can be applied by the designer when they are creating new products or the consumer who is looking to decide what to do with a ripped t-shirt!

REDUCE
RECYCLE
REFUSE
RETHINK
REUSE
REPAIR



Section 1: - Key Vocabulary	
Tier 3 Vocabulary	
Biscuit Joint	Small oval shaped piece of wood used to join two sections of larger wood together
Light Dependant Resistor	LDR – A resistor which changes it's ability to resist the flow of electricity based on the light level
Pillar Drill	A machine drill used to accurately drill holes in wood, metal and plastic
Printed Circuit Board	PCB – Plastic board which is printed with copper track and soldering pads, used to link electronic components together

Tier 2 Vocabulary	
Cost	Details about the cost of materials, manufacture, and retail price of a product
Aesthetic	What the theme, colour scheme and look of a product
Function	What a product is intended to do and how
Ergonomic	Detailed about how easy it is to interact with a product, including how it feels
Quality	How well a product is made, and how it effects the durability and material choice
User	How is the intended target market of the product.
Environment	How does your product effect the environment, from raw materials to end of life

Section 2: Skills	
Soldering	Being able to solder 'on and off board' components based on a schematic diagram independently Soldered joints should be neat, use the correct amount of solder, they should be shiny to avoid 'dry joints', with errors being independently identified and repaired.
Biscuit Joint	Mark out joints, then uses a biscuit jointer under close supervision to joint join 2 panels of wood
Pillar Drill	Set up, including the changing the drill bit, to cut small and large diameter holes in wood to a fixed depth and through cut
2D design software	Use CAD software create a themed design, considering suitable and secure location of the PCB, power, and the inputs & outputs
Application of laser cutting	Understand the set up requirement needed to laser cut and engrave materials, including the use of colour to define cut type, and power/speed setting requirements for different materials
Product Assembly	Create a high quality, fully functioning, electronic product from a collection of parts. Including the use of glues and fixing techniques
Health and Safety	Consistently use a wide range of tools and equipment safety, always using the correct PPE

Section 4:- WAGOLL	
	

Section 3:- New Knowledge	
Product Analysis and Evaluation Complete an in depth evaluation of your own completed practical work, and a similar commercial product using the common evaluation techniques, including CAFEQUE and LCA	
Design Theme Research Develop your knowledge of a well known designer or design house, being able to explain their style and ethos. Apply this design style to a product  PlaySam  Alessi  Memphis  De Stijl	
Life Cycle Assessment Understand the concept of LCA and how it applies to every stage of a products life. Apply the concept to your product during the evaluation. 	
Risk Assessment - Understand the meaning off, and difference between a hazard and a risk. - Identify people at risk and control measures which can be put into place to make an activity safer - Complete a formal risk assessment for skills/tools/machines which are used to make the clock project	
Processes Be able to explain the competent safe use of the following machines using annotation and sketches. - Pillar Drill - Biscuit Jointer - Strip Heater/Line Bender	

Section 1: Key Vocabulary

Tier 2 vocabulary	Definition
Sexual Harassment	Behaviour characterized by the making of unwelcome and inappropriate sexual remarks or physical advances
Violence	Behaviour involving physical force intended to hurt, damage, or kill someone or something
Abusive	Treating someone badly or cruelly, esp. Physically
Repercussions	Something that happens because of another action, typically negative.
Stereotyping	An often unfair and untrue belief that many people have about all people or things with a particular characteristic
Prejudice	Preconceived opinion that is not based on reason or actual experience.
Gang	An organized group of criminals
Misconceptions	A view or opinion that is incorrect because based on faulty thinking or understanding
Weapons	A thing designed or used for inflicting bodily harm or physical damage

Tier 3 vocabulary

Tier 3 vocabulary	Definition
Grooming	Forming a relationship with a child or young person, with the intention of sexually assaulting them or inducing them to commit an illegal act
Exploitation	The action or fact of treating someone unfairly in order to benefit from their work
Resolution	The action of solving a problem or contentious matter
Reconcile	Restore friendly relations between

Section 2: Key Themes:

Abusive Relationships: Understanding key terms and definitions related to this topic, signs and risks of this kind of relationship and how to avoid and seek help.

Negative repercussions from Relationship Breakdown: Identifying dangerous situations and the risks of sharing intimate pictures online, know how to advise peers and where you can seek help from.

Stereotyping & Prejudice: Understanding ways people are stereotyped and how this has happened through history, the effect this has on the individual and how becoming more tolerant as an individual can make society better.

Safe Relationships: how to safely and responsibly form, maintain and manage positive relationships, including online and learning strategies to identify and reduce risk from people online that they do not already know; when and how to access help.

Gangs & Weapons: understand the factors that contribute to young people joining gangs; the social, legal and physical consequences of gang behaviours and identifying strategies to avoid peer pressure and exit strategies.

Clear Communication & Conflict Resolution: To further develop the skills of active listening, clear communication, negotiation and compromise and to develop conflict management skills and strategies to reconcile after disagreements

Section 3: Key concepts:

HEALTHY RELATIONSHIPS



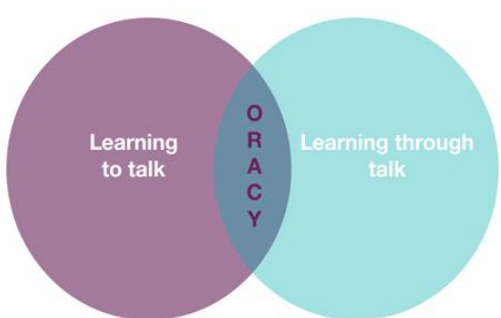
Types of Othering

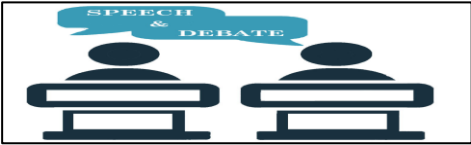


Any child could be exploited by criminals



Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
Register	A variety of language determined by formality, vocabulary, pronunciation and syntax.
Turn taking	The coordinated way participants alternate speaking roles, ensuring that one person speaks while others listen, and then the speaking role transitions to someone else
Articulate	The ability to express oneself clearly and effectively, or to pronounce words clearly.
Rhetoric	The art of using language effectively, especially in persuasive speaking or writing.
Tier 2 vocabulary	
Instigate	Present an idea or open up a new line of enquiry
Probe	Dig deeper, ask for evidence or justification of ideas
Challenge	Disagree or present an alternative argument
Clarify	Asking questions to make things clearer and check your understanding
Summarise	Identify and recap the main ideas
Build	Develop, add to or elaborate on an idea

Section 2: The 4 Strands of Oracy You Will Cover
Physical
This is how you use your voice and body Language to communicate and can include the pace or tempo of how you talk, the tone of voice, voice projection, posture, facial expression and eye contact.
Linguistic
This how you use appropriate vocabulary choices, register, grammar, and rhetorical techniques such as questions and humour.
Cognitive
This is about the choice of content you select to present meaning to an audience. It is about how you structure and organise your talk to engage your audience. Added to that it is seeking clarification through questioning, while maintaining focus and managing time.
Social and Emotional
This is about working with others, guiding or managing interactions through turn-taking. It is about listening actively and responding appropriately. Added to that it is about confidence in speaking, self assurance and being aware of what your audience may or may not know.


Section 3: Student agreement for oracy
In order for all students to get the most from oracy lessons and activities we should always:
• Be respectful at all times • Be supportive of others • Consider how what you say may impact others around you • If you disagree, make sure you do so with respect • Actively listen • Observe the rules of turn taking • Be curious • Be confident to have your opinion heard
Types of talk
Exploratory talk  A type of talk where participants critically and constructively engage with each other's ideas, often involving questioning and reasoning.
Presentational talk  Includes speeches, presentations, and other forms of one-way communication.
Debate Talk  A structured discussion with opposing viewpoints, aiming to persuade an audience or reach a conclusion.
Instructional Talk  Used to teach or explain something, often involving a teacher or expert imparting knowledge or skills.

Section 3: Talking Roles You Will Take:

Instigator



The person who starts the discussion might say:

‘I would like to start by saying...’

‘I think the first thing we should consider is...’

‘To begin with let’s talk about...’

Builder



The person who build or develops, adds to or runs with an idea might say:

‘I agree and I would like to add...’

‘Linking to your point I would suggest...’

‘Building on that idea...’

Challenger



The person who disagrees or presents an alternative argument might say:

‘That is true but have you considered...’

‘I respect your viewpoint but what about...’

‘I hear what you are saying but ...’

Clarifier



The person who clarifies makes things clearer and simplifies ideas by asking questions might say:

‘What do you mean when you say...’

‘Could you tell me more about that...’

‘Does that mean that...’

Prober



This person digs deeper into the argument, asks for evidence or justification of ideas might say:

‘What evidence do you have to support that?’

‘How does that support your argument?’

‘How did you come to that conclusion?’

Summariser



This person presents reflections on the discussion and may offer a conclusion or balanced assessment of the main point and may say:

“Overall, the main points covered were...”

‘In summary...’

‘To round up what has been discussed...’

The Writing Process

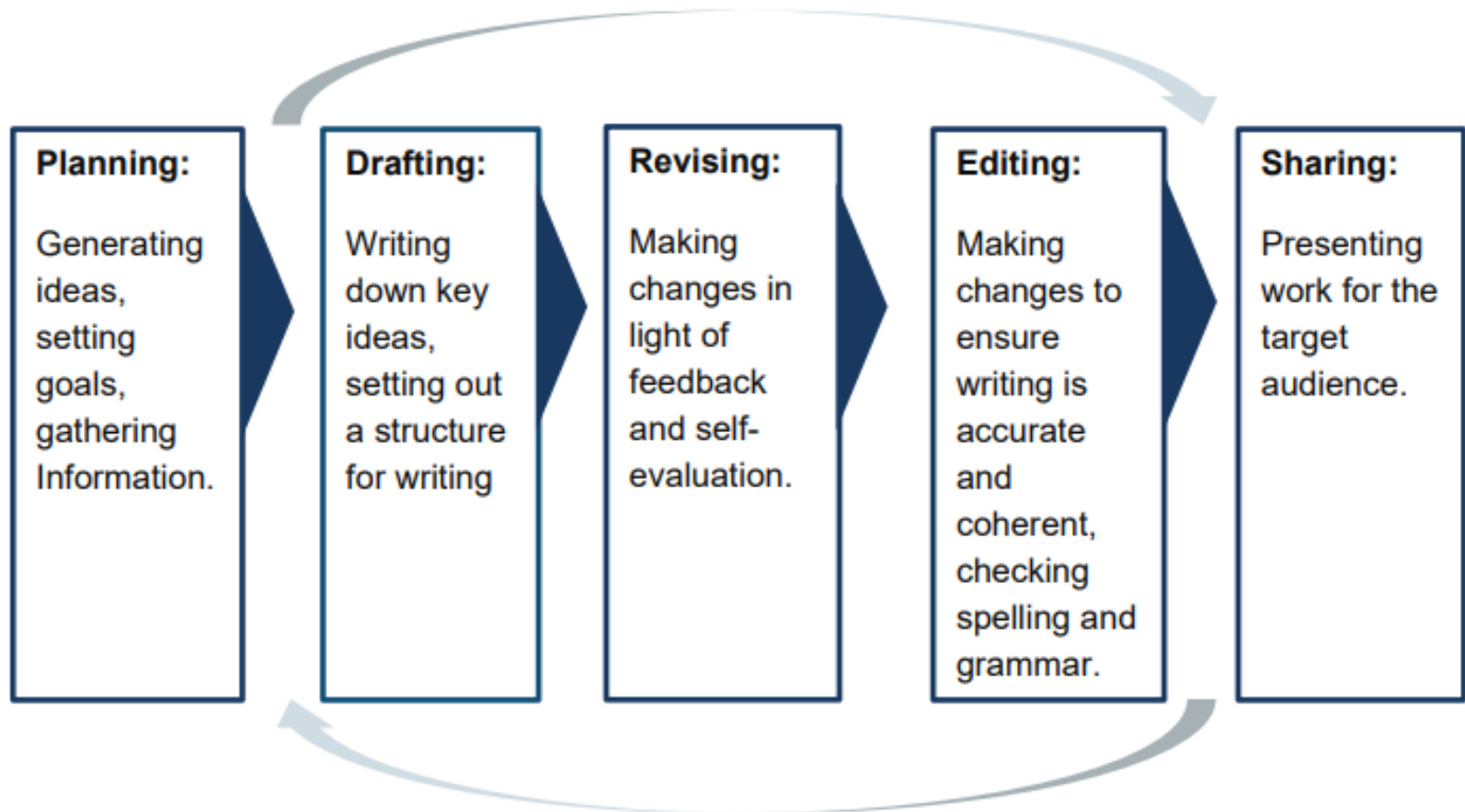
When we don't take the time to plan, revise, or edit, our writing can suffer—just like rushing a recipe without reading the instructions. But when we follow the writing process, it helps us:

Think more clearly

Organise our thoughts

Spot mistakes

Write with purpose



Strong writing doesn't happen by accident—it comes from thinking, crafting, and shaping your ideas over time. **Writing is thinking made visible.** The more we follow the process, the more confident and skilled we become.

Extra-Curricular Clubs - Lunch

Monday	Tuesday	Wednesday	Thursday	Friday
Book club with Sarah (library)	Drama club with Sarah (drama studio)	Art club with Lucy (art area)	Technical Theatre club with Sarah (drama studio)	Year 7, 8 & 9 Table tennis club with Mary
Year 7 Music club with Phil (music rooms)	Knitting and crochet club with Emma (S9)	Belper Wind Band with Anna (music rooms)	Wellbeing club with Sophie (English area)	
Warhammer and Tabletop Games Hobby club with Richard (art area)	Modern Foreign Languages club with Sarah (L5)	Anti-bullying Ambassadors (week 1) with John	Wellbeing Ambassadors (week 1) with Sophie (English area)	
Year 10/11 Table tennis and badminton club with Tom	Chess with Dan (M2)	Student Leadership Group (week 2) with John	Year 7 & 8 Games club with Emma (library)	
	Year 11 Inter-tutor football competition with James and Matt (3G)	Year 8 Dodgeball competition with Tom	Belper Choir with Anna (music rooms)	
		Model Railway Club with Phill (T2)	Year 7 Multi-sports club with Matt	
		Textiles Club with Sarah (T1)		

BE INVOLVED



Extra-Curricular Clubs – After School

Monday	Tuesday	Wednesday	Thursday	Friday
Show rehearsals with Anna & Sarah (stage and main hall)	KS4 & 5 Art with Lucy (art area)	Show rehearsals with Anna & Sarah (stage and main hall)		KS4, 5 and Staff Friday Sports Club with Matt, James, Tom & Leanne
Music Club with Phil (music rooms)	Year 9 Inter-tutor Basketball competition with James	Film Club with Becky (for students in Yr8 or above) (E6)		
Year 7, 8 & 9 Football club with Matt, James & Tom		Pride Club with Karen (T5)		
Year 9,10 & 12 Sports Leaders Events		Year 9 'Your Time' Leadership Programme with Rebecca and Matt		
Robot Club with Sarah (T1)				

BE INVOLVED



2 Black/Blue Pens
and 1 Coloured Pen



2 Pencils



Eraser



Pencil Sharpener



Knowledge
Organiser

Ruler



Scientific Calculator

