

# Knowledge Organiser

Year 9 Autumn 2 2024



Create Your Future

“Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so we may fear less.”

## Marie Curie

*A Chemist and Physicist who conducted pioneering research on radioactivity. She was the first woman to win a Nobel Prize, the first person to win a Nobel Prize twice and the only person to win a Nobel Prize in two scientific fields.*

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	4	5
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					

Week 2	1	2	3	4	5
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					

## In Class Expectations



## Out of Class Expectations



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.”*

**BE PRESENT**

**BE PUNCTUAL**

# 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
<b>Dystopian Fiction</b>	An imagined world or society in which people lead wretched, dehumanised, fearful lives
<b>Propaganda</b>	Information, especially of a biased or misleading nature, used to promote a political cause or point of view
<b>Oppression</b>	Prolonged cruel or unjust treatment by an authority
<b>Corruption</b>	Dishonest or fraudulent conduct by those in power
<b>Totalitarianism</b>	A system of government that is dictatorial and requires complete subservience from its people
<b>Dictatorship</b>	A government which has one leader who is very authoritative and is usually obtained by force
<b>Manifesto</b>	A written statement declaring publicly the intentions, motives, or views of its issuer
Tier 2 vocabulary	Definition
<b>Infer</b>	To work something out based on evidence from the text.
<b>Reiterates</b>	Reinforcing an idea within a text.
<b>Connotation</b>	What a word or phrase makes you think of.
<b>Satire</b>	The use of humour, irony, exaggeration or ridicule to expose and criticise people's stupidity or vices
<b>Allegory</b>	A story that can be interpreted to reveal a hidden meaning, typically a moral or political one

## Section 2: Key Skills/Strategies

PERSUASIVE WRITING/SPEECH TECHNIQUES**DIRECT ADDRESS:**

**When the text addresses the reader directly.**

*"That is my message to you, comrades: Rebellion!"*

**RHETORICAL QUESTIONS:**

**A question asked in order to create a dramatic effect or to make a point rather than to get an answer.**

*"Is it not crystal clear, then, comrades, that all the evils of this life of ours spring from the tyranny of human beings?"*

**HYPERBOLE:**

**Exaggerated language used for effect.**

*"The life of an animal is misery and slavery"*

**EMOTIVE LANGUAGE:**

**Vocabulary to make the audience/reader feel a particular emotion.**

*"We are born, we are given just so much food as will keep the breath in our bodies, and those of us who are capable of it are forced to work to the last atom of our strength; and the very instant that our usefulness has come to an end we are slaughtered with hideous cruelty."*

**IMPERATIVE COMMAND:**

**Instructional language.**

*"And above all, pass on this message of mine to those who come after you, so that future generations shall carry on the struggle until it is victorious."*

**REPETITION**

**The use of a word or phrase numerous times.**

*"No animal in England knows the meaning of happiness or leisure after he is a year old. No animal in England is free."*

**TRIPLETS/TRICOLON**

**Three points to support an argument.**

*"The soil of England is fertile, its climate is good, it is capable of affording food in abundance to an enormously greater number of animals than now inhabit it."*

## Section 3: Context and Further Reads

CONTEXT: THE AUTHOR

- George Orwell was born in India in 1903 when India was still part of the British Empire.
- He worked in Burma as a police officer before he became a writer.
- Orwell was a socialist. A socialist believes that all people in any society are of equal worth and value because we are all human beings. Everyone should be given equal opportunity and society have a duty and responsibility to make sure that all its members have reasonable standards of care and help.

CONTEXT: THE NOVEL

- Animal Farm was published in 1945.
- The majority of the characters and events in Animal Farm are linked to what happened before, during, and after the Russian Revolutions.
- As a communist turned socialist, and as a journalist too, Orwell wanted to attack and highlight the history, rhetoric and excesses of Soviet Communism whose leaders abused their power using this political ideal.
- The Russian Revolution took place in 1917, during the final phase of World War I. It removed Russia from the war and brought about the transformation of the Russian Empire into the Union of Soviet Socialist Republics (USSR), replacing Russia's traditional monarchy with the world's first ever Communist state.



Flag of  
Animal Farm

Flag of the  
Soviet Union

KEY THEMES IN THE NOVEL

Leadership, Control, Lies and Propaganda, Violence, Pride and Belonging, Dreams and Hopes

IF YOU ENJOYED ANIMAL FARM THEN READ THESE NEXT:

1984 – George Orwell  
Fahrenheit 451 – Ray Bradbury  
Lord of the Flies – William Golding  
Never Let Me Go – Kazuo Ishiguro



**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.

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

Tier 2 vocabulary	Definition
<b>Foreshadowing</b>	To hint at something that will happen later in the play
<b>Stage Directions</b>	An instruction in the text of a play indicating the movement, position, or tone of an actor
<b>Sonnet</b>	A poem of 14 lines, in English typically having ten syllables per line
<b>Prologue</b>	An opening speech that introduces key themes within the play
<b>Soliloquy</b>	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.

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

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

#### Tier 2 vocabulary

#### Definition

<b>Alliteration</b>	Using the same letter at the start of closely connected words
<b>Hyperbole</b>	Language used to exaggerate information
<b>Metaphor</b>	A comparison where something is described to be something it is not
<b>Secondary story</b>	A less important story featured on the front cover of a newspaper
<b>Sensationalism</b>	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.

<b>P</b>	Purpose	Is the writer trying to inform, entertain, explain, persuade or argue?
<b>A</b>	Audience	Who is the target audience? Who would this text appeal to?
<b>F</b>	Format	What are the key conventions of the text?
<b>T</b>	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:

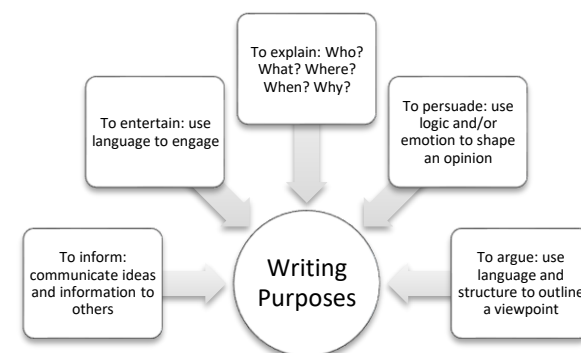
Text A	Text B

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**: INSIDE: Our Opinion Your Letters Sports Shocker! HAVE You Gossiped?

**Opening**: EXCLUSIVE STORY: Do dogs rule? The star of all celebrity manes, it's a dog's life and it's being lived in style. Barry had been waiting for his lucky day and the moment was here. He was excited for his million. It was thought that the golden retriever had made a mistake and got stuck when the door closed behind him.

**Article**: Barry went missing last night and was found this morning. Barry's owner, Mrs. Smith, said she was worried about him. Barry had been missing for 24 hours and was found in a park. Barry's owner, Mrs. Smith, said she was worried about him. Barry had been missing for 24 hours and was found in a park.

**Sub-heading**: Barry's owner, Mrs. Smith, said she was worried about him. Barry had been missing for 24 hours and was found in a park.

**Picture**: A photograph of a golden retriever dog.

**Caption**: Barry, the golden retriever, was found in a park after missing for 24 hours.

**Advert**: WORKING ABOUT LOANS: YOUR BET? Put a Bank Package on your wish list and track them when you want.

**Extra Information**: Barry is now the star dog in the town and is being shown at a dog show. Barry is now the star dog in the town and is being shown at a dog show.

## Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
<b>Line segment</b>	The section of a line bounded by two points.
<b>Congruent</b>	Identical in shape and size. Two triangles are congruent if all three sides are the same length (SSS)
<b>Equidistant</b>	Equal distance
<b>Locus (plural is loci)</b>	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.
<b>Altitude</b>	The height of a triangle – the vertical distance from the base to the opposite vertex.

## Tier 2 vocabulary

<b>Pair of compasses</b>	A drawing instrument used for creating circles or arcs. Watch this for tips on how to use them! <a href="https://www.youtube.com/watch?v=WACcU2ecnic">https://www.youtube.com/watch?v=WACcU2ecnic</a>
<b>Rhombus</b>	A quadrilateral whose four sides all have the same length
<b>Arc</b>	A segment of the circumference of a circle.
<b>Perpendicular</b>	Two lines that meet at 90 degrees.
<b>Construction</b>	A process of creating a diagram using only a pencil, ruler and a pair of compasses.
<b>Bisector</b>	A line that divides something into two equal parts.

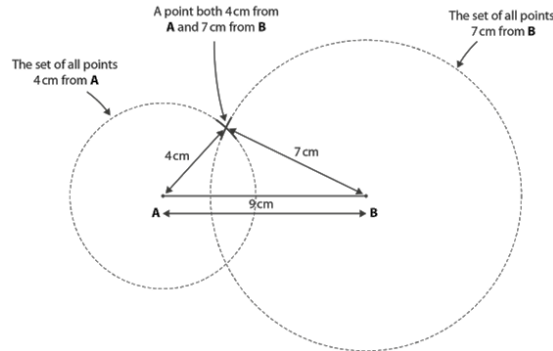
## Maths watch revision links

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<https://vle.mathswatch.co.uk/vle/browse/311>  
<https://vle.mathswatch.co.uk/vle/browse/788>

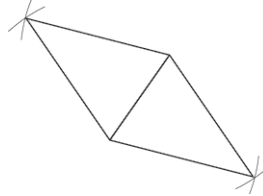
## Section 2: New knowledge

### Use the properties of a circle in construction

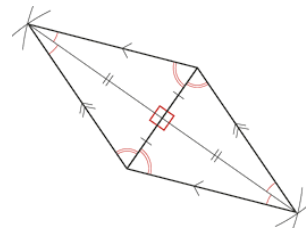
- Draw a triangle with sides 4cm, 7cm and 9cm



- 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 constructions



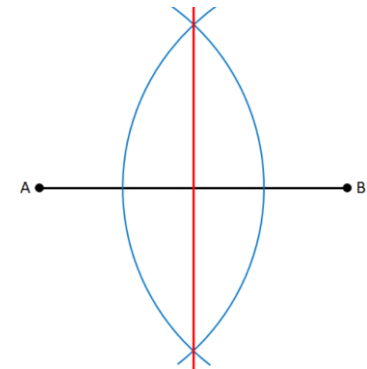
Key properties are:

- The diagonals of a rhombus bisect one another at right angles
- The diagonals of a rhombus bisect the angles at each vertex

## Section 3: Standard constructions

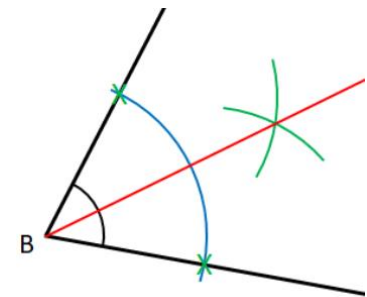
### Perpendicular bisector of the line segment AB

<https://vle.mathswatch.co.uk/vle/browse/309>



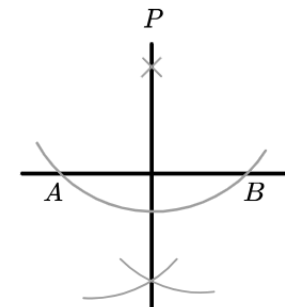
### Angle bisector of the angle B

<https://vle.mathswatch.co.uk/vle/browse/308>



### Perpendicular from a point P to a line AB

<https://vle.mathswatch.co.uk/vle/browse/310>



## 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

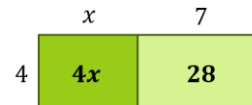
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<https://vle.mathswatch.co.uk/vle/browse/713/practice>  
<https://vle.mathswatch.co.uk/vle/browse/714/practice>

## Section 2: Knowledge/Skills

## Expanding Single Brackets

**Example** – Expand  $4(x + 7)$

Area Model:



Grid Model:

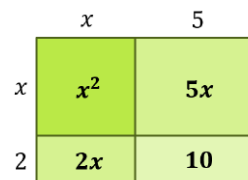
×	$x$	$+7$
$4$	$4x$	$+28$

**Answer:**  $4x + 28$

## Expanding Double Brackets

**Example** – Expand  $(x + 5)(x + 2)$

Area Model:



Grid Model:

×	$x$	$+5$
$x$	$x^2$	$+5x$
$+2$	$+2x$	$+10$

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

$$= x^2 + 7x + 10$$

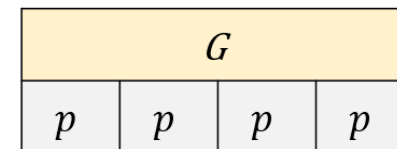
## Difference of two squares

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

$x$	$a$	$b$
$a$	$a^2$	$ab$
$-b$	$-ab$	$-b^2$

## Section 2: Knowledge/Skills

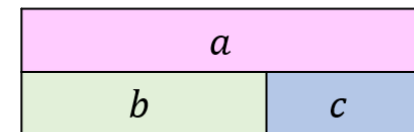
## Changing the Subject



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



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

$$a = b + c$$

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

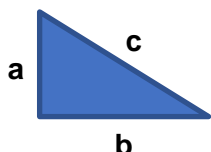
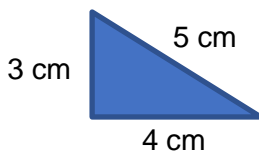
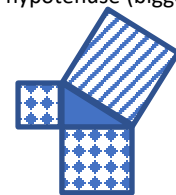
$$b = a - c$$

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

$$c = a - b$$

Rearrange the formula to make  $u$  the subject.

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

Section 1: Key Vocabulary		Section 2: New Knowledge/Skills	Section 2 (cont.): New Knowledge/Skills
Tier 3 vocabulary	Definition	<p>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</p> <p><b>Pythagoras Theorem</b> states that : ...if we have a right-angled triangle with sides of length a, b and c, where c is the longest side, then...</p> <div><math display="block">a^2 + b^2 = c^2</math></div> <p>We can think of this as... “<u>the sum of the squares of the shortest sides of a right-angled triangle is equal to the square of the hypotenuse</u>”</p> <p>...in other words...</p> <ul style="list-style-type: none"><li>work out the squares of the three sides of the right-angled triangle</li><li>now add the two smallest squares together – they should add up to the square of the hypotenuse</li></ul> <div><div><math display="block">\begin{array}{r} 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ \hline 25 \end{array}</math></div>and<math display="block">5 \times 5 = 25</math></div> <p><b>!!THIS ALWAYS WORKS FOR ALL RIGHT-ANGLED TRIANGLES!!</b></p>	<p>If we draw squares on the sides of the triangle, the <b>combined</b> area of the <b>smaller</b> squares is the same as the area of the square on the hypotenuse (biggest square)</p> 
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)		
Tier 2 vocabulary		Section 3: Using Pythagoras Theorem	
Triangle	A 2D (two-dimensional) shape with three sides and three angles	<ol style="list-style-type: none"><li>We can find the hypotenuse if we know the two shorter sides [ <math>a^2 + b^2 = c^2</math> ]</li><li>We can find one or both of the shorter sides if we know the hypotenuse [ <math>a^2 = c^2 - b^2</math> ] or [ <math>b^2 = c^2 - a^2</math> ]</li><li>We can test a triangle to see if it has a right-angle by testing whether Pythagoras Theorem works for that triangle.</li></ol>	
Theorem	A mathematical rule which can be shown to be true and used to find things we don't know	Section 4: Pythagorean Triples	
Triple	A set of three numbers	<ul style="list-style-type: none"><li>Right-angled triangles do not all have side-lengths which are integers, but those whose side-lengths <b>are all</b> integers are known as Pythagorean Triples.</li><li>The example in Section 3 is an example of a Pythagorean Triple</li><li>We can represent the triple in Section 3 as (3,4,5)</li></ul> <p>Now it's your turn!</p> <ol style="list-style-type: none"><li>Can you use the Triple in Section 3 to find any other triples?</li><li>Using a list of the first 100 squares (google it!), can you find any other Triples?</li><li>List as many as you can</li><li>Can you group them into 'families'? Explain how you've grouped them.</li></ol>	
Integer	A whole number	Section 5: Handy Hint	
Maths watch revision links		<p><b>!!ALWAYS REMEMBER!!</b> No matter which side-lengths are given in a question, it's the two <b>SHORTEST</b> sides whose squares are added together – <b>NEVER</b> add the square of the hypotenuse to one of the other squares</p>	
<a href="https://vle.mathswatch.co.uk/vle/browse/794/practice">https://vle.mathswatch.co.uk/vle/browse/794/practice</a> <a href="https://vle.mathswatch.co.uk/vle/browse/314/practice/1">https://vle.mathswatch.co.uk/vle/browse/314/practice/1</a>			



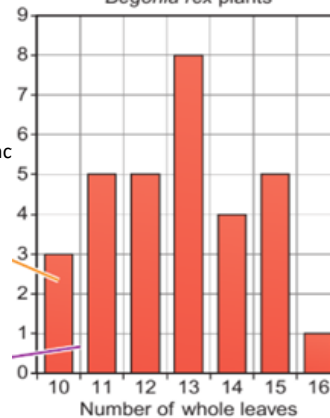
Tier 3 vocabulary	Definition
<b>Gamete</b>	The female (Egg/ovum) and male (sperm) sex cells
<b>Fertilisation</b>	Where two gametes join together forming a zygote with a full set of chromosome pairs
<b>Natural Selection</b>	Living things better adapted to their environment are more likely to survive and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

### Section 2: New Knowledge/Skills

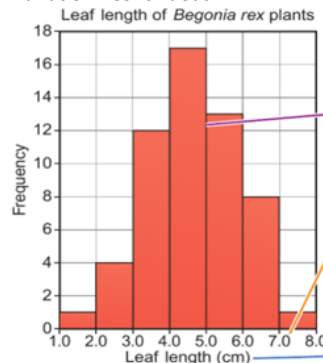
#### Variation – Discontinuous

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)

Number of leaves on 2-month-old *Begonia rex* plants



#### Variation - Continuous



Data can be any value Within a range. There

no gaps between bars

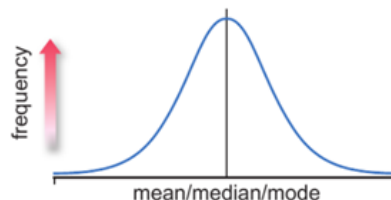
the data is continuous,

the values are

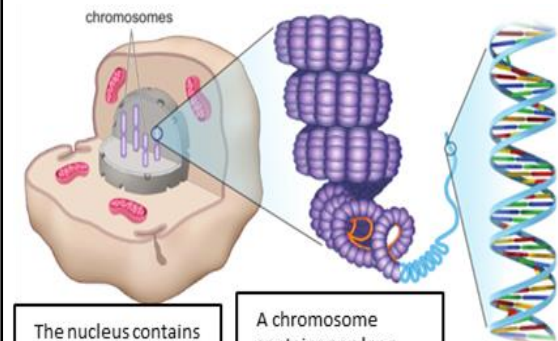
make it easier to see patterns

#### Normal distribu

In a normal distri the **mode** (most value).



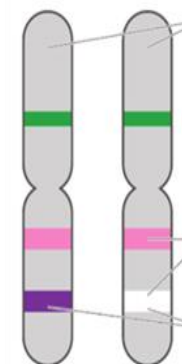
### Section 3



The nucleus contains chromosomes

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

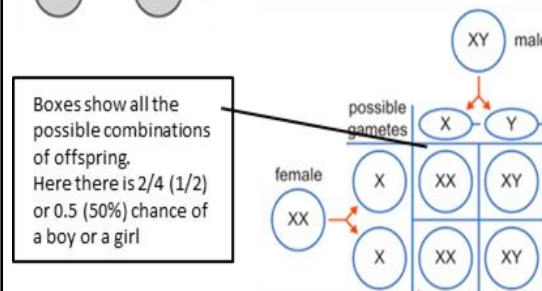
DNA is a double helix



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

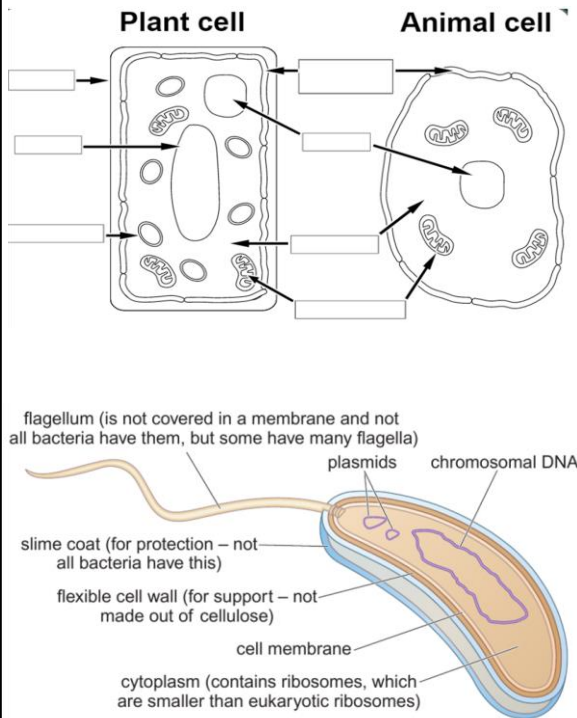
Different genes

Different alleles of the same gene

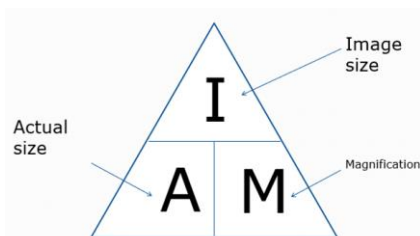


Tier 3 vocabulary	Definition
<b>Eukaryotic</b>	A cell with a nucleus is eukaryotic.
<b>Chromosome</b>	A structure found in the nuclei of cells. Each chromosome contains one enormously long DNA molecule.
<b>Cell membrane</b>	The membrane that controls what goes into and out of a cell.
<b>Cell wall</b>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

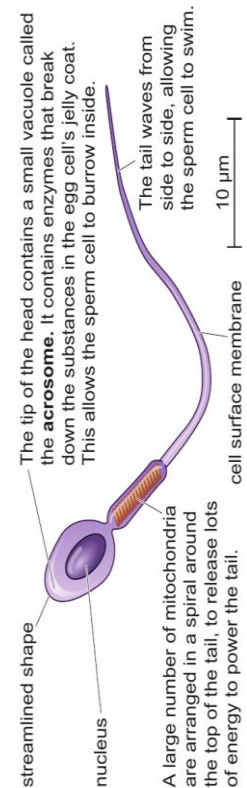
### Section 2: New Knowledge/Skills



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



### 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.

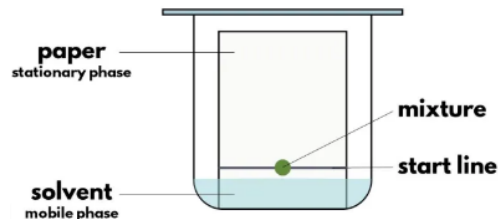


## Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
<b>Chromatography</b>	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.
<b>Chromatogram</b>	The piece of paper showing the results of carrying out chromatography on substances.
<b>Stationary phase</b>	The surface through which the solvent and dissolved substances move in chromatography.
<b>Mobile phase</b>	In paper chromatography, the solvent that moves along the paper carrying the dissolved samples with it.
<b>R<sub>f</sub> value</b>	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.
<b>Potable water</b>	Drinking water
<b>Chlorination</b>	The process of adding chlorine to a substance, often to water.
<b>Sedimentation</b>	The process in which rock grains and insoluble substances sink to the bottom of a liquid.
<b>Distillation</b>	The process of separating a liquid from a mixture by evaporating the liquid and then condensing it.
<b>Distillate</b>	Something formed by distillation
<b>Condenser</b>	Apparatus for condensing vapour
<b>Filtrate</b>	Liquid that has passed through a filter
<b>Crystallisation</b>	Separating the solute from a solution by evaporating the solvent

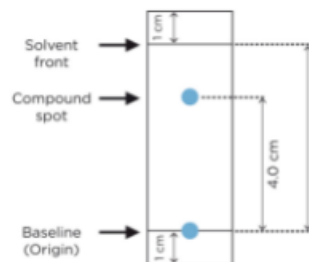
## Section 2: New Knowledge/Skills

### Creating a chromatogram and calculate R<sub>f</sub> values



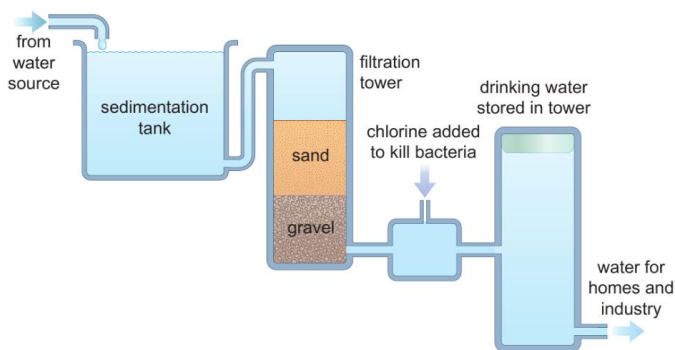
R<sub>f</sub> values can be used to identify unknown chemicals. The R<sub>f</sub> value is always the same for a particular substance.

The R<sub>f</sub> value = distance moved by spot / distance moved by solvent



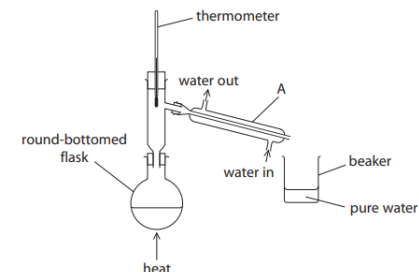
In the above example R<sub>f</sub> value =  $4.0 / 5.5 = 0.73$

### Making potable water

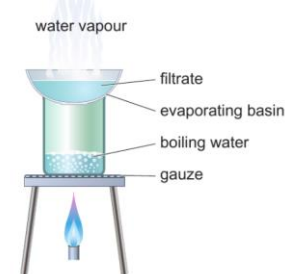


## Section 3: Other subject specific things

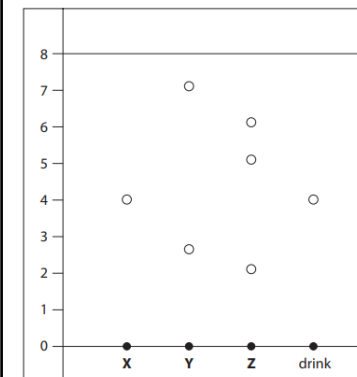
### Apparatus for distillation



### Apparatus for crystallisation



### Chromatogram homework task:



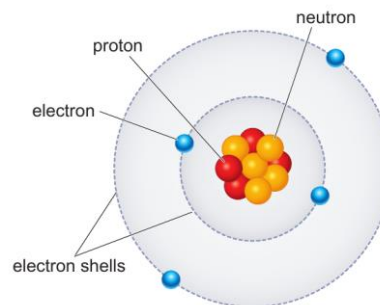
### Section 1: Key Vocabulary

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

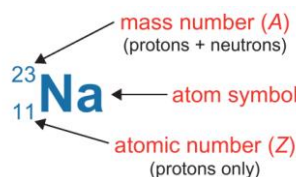


The masses of subatomic particles are very tiny. Instead of writing their actual masses in kilograms, we often use their relative masses. The mass of electrons is very small compared with protons and neutrons. Since a nucleus contains protons and neutrons, most of the mass of an atom is concentrated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

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

$$= \frac{(75 \times 35) + (25 \times 37)}{100} = 35.5$$

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

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
<b>Scalar quantity</b>	A quantity that has a magnitude (size) but not a direction
<b>Vector quantity</b>	A quantity that has both a size and a direction
<b>Velocity</b>	The speed of an object in a particular direction.
<b>Speed</b>	A measure of the distance an object travels in a given time.
<b>Displacement</b>	The distance travelled in a particular direction.
<b>Acceleration</b>	A measure of how quickly the velocity of something is changing.

Tier 2 vocabulary	Definition
<b>Magnitude</b>	The size of something, such as the size of a force or the measurement of a distance
<b>Unit</b>	What we measure a magnitude in. For example, the unit of distance is meters, the unit of time is seconds.
<b>Gradient</b>	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		
Weight		
All forces		
Energy	Y	

Fill in the missing Ys

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  $10 \text{ m/s}^2$

Gravitational field strength is  $10 \text{ N/kg}$

## Section 3: Skills

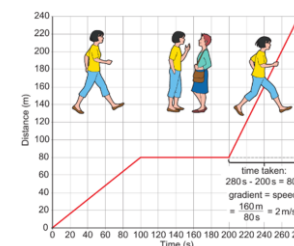
### Using a Distance / time graph

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



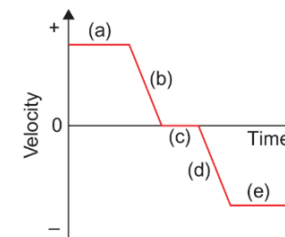
How fast was Alice walking in the first 100s?

### Reading a Velocity / Time graph

The journey of a lift.

We count u

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

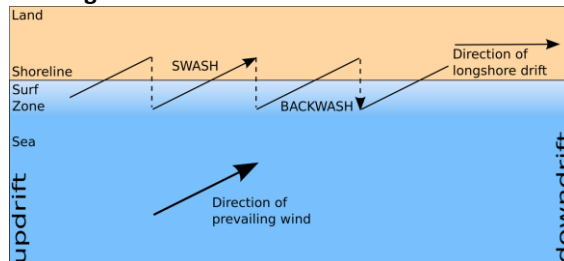
The distance travelled can be worked out from a velocity - time graph by calculating the area under the graph for the period you are measuring.

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

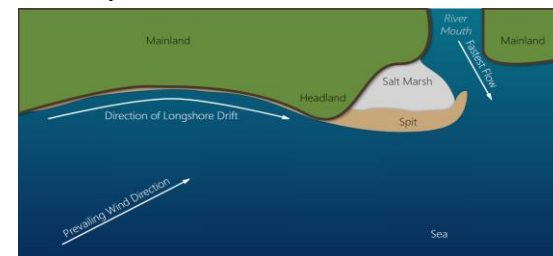
Tier 2 vocabulary	Definition
<b>Sustainability</b>	Meeting the needs of the present without compromising the ability of future generations to meet their own needs
<b>Social</b>	About people and their community eg. health and education.
<b>Economic</b>	About money eg. jobs and house prices.
<b>Environmental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

## Section 2: New Knowledge

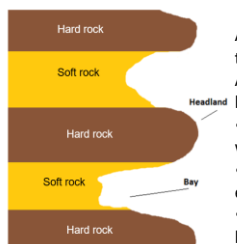
### Longshore drift



### Depositional features



### Headlands and Bays



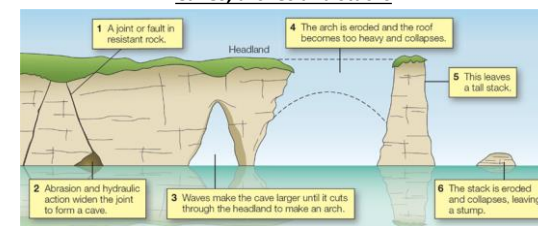
A headland is a cliff that sticks out into the sea.

A bay is an indentation in the coastline between headlands.

- The tougher hard rock (eg. granite) will erode more slowly = headlands.
- The weaker soft rock (eg. clay) will erode more quickly = bays.
- Bays are sheltered = deposition and beaches are formed.

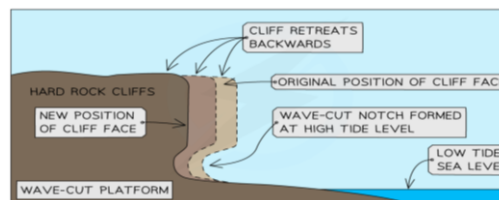
### Erosional features

#### 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.

### 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).

### 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
<b>Fascist</b>	A person or political party with extreme right-wing views, often including racism, national and complete obedience to authority
<b>Totalitarianism</b>	Power in the hands of one leader.
<b>Communism</b>	A type of government as well as an economic system (a way of creating and sharing wealth).
<b>Concentration Camp</b>	Prison for political prisoners and enemies of the state, placed there without trial.
<b>Third Reich</b>	The Nazi name for Germany. Means 'Third Empire'.
<b>Dictatorship</b>	A country or government in which absolute power is exercised by one person.
<b>Democracy</b>	A system of government where the people have the power.
Tier 2 vocabulary	
	Definition
<b>Militarism</b>	The desire to have the biggest army and navy.
<b>Propaganda</b>	Spreading information which is often false or misleading, to persuade people to support a point of view or cause.
<b>Alliance</b>	An agreement between two or more countries to support each other.
<b>Appeasement</b>	The act of giving the opposing side in an argument or war an advantage that they have demanded, in order to prevent further disagreement

## Section 2: Unit Summaries

## 1. Why did dictatorships take power in Europe in the 1930's?

This unit will look at different dictatorships across Europe. You will begin with the end of WW1 had the consequences of the Treaty of Versailles on Germany. You will compare the experience of Germany with other dictators across Europe.

Task:

1. What does the writing on the poster tell us about the Treaty of Versailles?



Second order concept = Cause and Consequence

## 2. What was it like to live in Communist Russia?

In 1917 Russia had a Communist Revolution. This created a huge change in everyday life. Dictators such as Lenin and Stalin had different policies which impacted everyday people in multiple ways. In this unit you will explore the reality of living under totalitarianism.



Task:

1. Predict what could be going on in this propaganda poster?

Second order concept = Similarity and Difference

## 3. Was appeasement a mistake?

After Hitler became chancellor of Germany in 1933, he became more powerful in Germany and across the world. As Hitler's rising power and increasing militarisation became apparent, countries such as Britain took up the policy of appeasement. They believed that allowing Hitler to have what he wanted would prevent further conflict. In 1939 Germany invaded Poland, this event is seen at the start of the Second World War. By the end of this unit, you will come up with your own judgement on if appeasement was a mistake?

Task:

1. Label who all the people are in this cartoon.
2. What might this symbolise?



Second order concept = Cause and Consequence

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
<b>Life</b>	The existence of an individual human being or animal.
<b>Purpose</b>	A person's sense of resolve or determination. Or: The reason for which something is done or created or for which something exists.
<b>Death</b>	The action or fact of dying or being killed; the end of the life of a person or organism.
<b>Hedonist</b>	A person who believes that the pursuit of pleasure is the most important thing in life; a pleasure-seeker.
<b>Euthanasia</b>	The painless killing of a patient suffering from an incurable and painful disease or in an irreversible coma.
<b>Abortion</b>	The deliberate termination of a human pregnancy
<b>Sanctity of Life</b>	Human life is holy, precious and sacred.

Section 2: Sources of Authority
John 5:24-25
John 5:28-29
John 14:1-7
Corinthians 15:51-57
Revelations 21:1-4

Section 2: New Knowledge/Skills
<b>Key Questions:</b> What do people believe about life?  What do people believe about the afterlife?  What is the sanctity of life?  What is abortion?  What is euthanasia?  Has medicine gone too far?  Why do we have funerals?  What do Buddhists believe about life and death?  Does death matter to Humanists?  Is this life hell?
<b>Abortion:</b> <b>UK Law</b> Legal up to 24 weeks (in some circumstances) with the agreement of two doctors.  <b>Christianity</b> Some argue we should be compassionate and permit abortion if the mothers life is in danger. Other Christians say it is a moral evil because every life is a gift from God.
<b>Euthanasia:</b>  <b>UK Law</b> Illegal and considered either murder or manslaughter and carries a life in prison penalty. Hospices and palliative care offer pain relief and comfort as end of life care.  <b>Christianity</b> Christians are generally against Euthanasia - "Do not commit murder" but some argue "the most loving action"

Section 3: Assessment Essay Question:
<b>Assessment Essay Question:</b>  <h2>Is Death the End?</h2>  In answering the question - you should consider: <ul style="list-style-type: none"> <li>A range of beliefs regarding the possibility of life after death.</li> <li>Consider where these beliefs come from?</li> <li>the importance of this life compared to the hope of an afterlife. (Remembering to consider different views).</li> <li>The impact of differing views of life after death on how individuals view earthly life.</li> <li>Similarities and differences between Humanists and Christian funeral services.</li> <li>Similarities and differences between Buddhist, Christian and Humanists on the purposes of life.</li> </ul>
<b>Skills checklist –</b> As you write your essay check that you have included... <b>Knowledge –</b> facts and religious or non-religious beliefs,  <b>Impact of belief –</b> how it affects what people think and do,  <b>Specialist terms,</b>  <b>Sources of authority –</b> where people get their ideas/beliefs from – quotations, <b>Judgement –</b> how strong, valid or sound the argument is,  <b>Opinion –</b> at least 2 different points of view



Section 1: Key Vocabulary/Questions	
Tier 2 vocabulary	Definition
Modal verbs	pouvoir, vouloir, devoir + inf.
Infinitives (inf.)	Verb in its original form (e.g. to do/doing)
Regular verbs	Follow a pattern (-er, -ir, -re)
Irregular verbs	Follow their own pattern
Time frames	Reference to past, present or future
Time expressions	Indication of which time frame is being used
Questions	Translation
1. Qu'est-ce que tu fais normalement le weekend ?	What do you normally do at the weekend?
2. Qu'est-ce que tu as fait le weekend dernier ?	What did you do last weekend?
3. Qu'est-ce que tu vas faire ce weekend ?	What are you going to do this weekend?
4. C'est comment ? C'était comment ? Ça va être comment ?	What is it like? What was it like ? What is it going to be like?
5. Qu'est-ce qu'on peut faire pour gagner de l'argent ?	What can you do to earn money?
6. Qu'est-ce que tu achètes avec ton argent ?	What do you buy with your money?
7. Qu'est-ce que tu dois faire pour aider ?	What do you have to do to help?
8. Qu'est-ce que tu veux faire plus tard ?	What do you want to do later?
9. Pourquoi est-ce que tu veux être (architecte) ?	Why do you want to be (an architect)?

Section 2: Grammar			
Modal verbs are followed by the infinitive.			
	<b>pouvoir</b> to be able to	<b>vouloir</b> to want	<b>devoir</b> to have to
je	peux (I can)	veux (I want)	dois (I must)
tu	peux	veux	dois
il/elle/on	peut	veut	doit
nous	pouvons	voulons	devons
vous	pouvez	voulez	devez
ils/elles	peuvent	veulent	doivent
<p>★ Je veux aider à la maison. (I want to help at home)</p> <p>★ Elle peut gagner de l'argent (She can earn some money)</p> <p>★ Ils doivent aller à l'école (They must go to school.)</p> <p>★ The noun 'les devoirs' means 'homework' - something you must do!</p>			
<p><b>Three time frames review</b></p> <p>Use a range of time frames for each verb</p>			
	<b>Present</b>	<b>Past</b>	<b>Near Future</b>
je/j'	joue	ai joué	vais jouer
je/j'	finis	ai fini	vais finir
je/j'	rends	ai rendu	Vais rendre
je/j'	vais	suis allé	vais aller
je/j'	fais	ai fait	vais faire
je/j'	suis	ai été	vais être
je/j'	ai	ai eu	vais avoir
<p>★ <b>Present tense time phrases</b> - normalement, d'habitude, quelquefois, de temps en temps, maintenant, souvent</p> <p>★ <b>Past tense time phrases</b> - le weekend dernier, hier, hier soir, la semaine dernière, l'année dernière, récemment.</p> <p>★ <b>Future tense time phrases</b> - demain, le weekend prochain, la semaine prochaine, l'année prochaine, à l'avenir</p>			

Section 3: WAGOLL
<p>Salut je m'appelle Farid et j'habite en Tunisie. Le weekend j'aime faire du sport, surtout la natation, alors normalement, samedi je vais à la piscine. Je nage avec mes amis et après je mange un petit gâteau et on boit du coca, c'est génial. Pourtant le weekend dernier je suis allée en ville avec mes parents. On a fait des achats et j'ai choisi un pull noir pour l'école. C'était super joli! Le weekend prochain je veux visiter un parc d'attractions avec ma sœur. On va faire les manèges et on va manger des glaces..miam miam!</p> <p>Ça va être hyper cool!</p> 
<p>Pour gagner de l'argent on peut travailler dans le jardin ou on peut nourrir les animaux, mais moi je dois aller au marché avec mon père et de temps en temps je dois aussi garder ma petite sœur. Avec mon argent je peux acheter des billets de cinéma et de la musique...j'adore ça!</p> <p>Ma mère est médecin, c'est utile mais fatigant et mon beau-père est prof. Il adore ça! Plus tard, moi, je veux être ingénieure car à mon avis c'est varié et vraiment intéressant. Je dois beaucoup travailler à l'école pour être ingénieur!</p>
<p><b>À savoir:</b></p> <p><b>Les Métiers</b></p> <p>When saying what job a person does, <b>don't</b> use un/une before the job.</p> <p>eg Elle est scientifique - She is a scientist</p>
<p>Some job nouns have masculine and feminine forms</p> <p><b>Il</b> est infirmier - He is a nurse</p> <p><b>Elle</b> est infirmière - She is a nurse</p> <p><b>Il</b> est instituteur - He is a primary school teacher</p> <p><b>Elle</b> est institutrice - She is a primary school teacher</p>
<p>☺ Can you find the masculine and feminine forms of 10 jobs in French?</p>

FRENCH Y9 Word list Autumn 2.A		
	l'argent	money
	pouvoir	to be able to
	devoir	to have to
	aider	to help/helping
	nourrir	to feed/feeding
	l'argent de poche	pocket money
	le maquillage	makeup
	gagner	to earn/win
	pour + infinitive	in order to + infinitive
	une mauvaise idée	a bad idea

FRENCH Y9 Word list Autumn 2.B		
	continuer	to continue/continuing
	varié	varied
	dangereux	dangerous
	le lycée	secondary school
	un petit boulot	a part-time job
	utile	useful
	passionnant	exciting
	le travail bénévole	voluntary work
	il est infirmier	he is a nurse
	elle est infirmière	he is a nurse

FRENCH Y9 Word list Autumn 2.C		
	à l'avenir	in the future
	J'habiterai	I will live
	Je travaillerai	I will work
	J'achèterai	I will buy
	J'aurai	I will have
	À l'étranger	abroad
	Je serai	I will be
	J'irai	I will go
	Je ferai	I will do/make
	d'ici dix ans	In 10 years time

FRENCH Y9 Word list Autumn 2.D		
	effrayant	frightening
	en ligne	on line
	sans	without
	avec	with
	une perte de temps	a waste of time
	en plus	in addition
	agréable	pleasant
	carrément	downright
	ranger	to tidy/tidying
	il y aura	there will be

FRENCH Y9 Word list Autumn 2.E		
	devenir	to become/becoming
	Je veux devenir	I want to become
	scientifique	scientist
	infirmier/ ière	nurse
	mécanicien/ienne	mechanic
	architecte	architect
	vétérinaire	vet
	musicien/ienne	musician
	instituteur/rice	primary school teacher
	policier/ière	police officer

FRENCH Y9 Word list Autumn 2.F		
	recevoir	to receive
	reçu	Received
	des vêtements	Clothes
	des cadeaux	Presents
	des trucs à manger	things to eat
	le prix Nobel	the Nobel Prize
	(pour) une organisation bénévole	(for) a voluntary organisation
	continuer	to continue/continuing
	les études	Studies
	J'espère + infinitive	I hope to +infinitive

Phonics: on/om	
bon	compliqué
donner	comme

Phonics: in/un	
intéressant	un
dessin	brun

Phonics: au/eau/o/ô	
chaud	bateau
poster	hôtel

Phonics: en/an	
ennuyeux	relaxant
entendre	amusant

Phonics: ail/aïlle	
travail	paille
ail	maillot

Phonics: ill/ille	
gentil	filles
lentil	juillet

Phonics: liaison with 's' and a vowel	
plus_ennuyeux	moins_intéressant
très_important	je vais_aller

## REVISION:

Scan this QR code which links to the French Y9 Quizlet word list folder.





Section 1: Key Vocabulary/Questions

Tier 2 vocabulary	Definition
<b>Conditional</b>	<i>e.g. ich würde</i> This is used to say what you <i>would</i> or <i>would not</i> do.
<b>Word Order 3 (WO3)</b>	used in German with a subordinating conjunction. The first verb in the clause is moved to the end of that clause
<b>WO2 Inversion</b>	<i>e.g. Später möchte ich....</i> Where a sentence starts with an adverb, the subject pronoun and verb are swapped
<b>clause</b>	A group of words containing a subject and a verb
<b>subordinate clause</b>	a clause connected to a main clause that doesn't make sense by itself

Question	Translation
<b>1. Hast du einen Teilzeitjob?</b>	Do you have a part time job?
<b>2. Warum arbeitest du (nicht)?</b>	Why do(don't) you work?
<b>3. Wirst du in der Zukunft einen Teilzeitjob bekommen?</b>	Will you get a part time job in the future?
<b>4. Hast du ein Arbeitspraktikum gemacht?</b>	Did you do work experience?
<b>5. Was wirst du nach deinen GCSEs machen?</b>	What will you do after your GCSEs?
<b>6. Wirst du studieren?</b>	Will you study?
<b>7. Was möchtest du in 10 Jahren machen?</b>	What would you like to do in 10 years?
<b>8. Was möchtest du auf jeden Fall/auf keinen Fall machen?</b>	What would you definitely (not) like to do?

Section 2: Grammar

**Conditional**

ich würde  
du würdest  
er/sie/es/man würde  
wir würden  
ihr würdet  
sie/Sie würden

**+infinitive**  
**...studieren**  
**...wohnen**  
**...arbeiten**

The conditional is used with an infinitive at the end of the sentence.

Ich würde im Freien arbeiten, aber ich würde nie in London wohnen..  
I would work outside but I would never live in London.

**Modal Verbs**

There are actually 6 modal verbs. Here is an *Eselsbrücke* for you to remember them!

**Knowing Six Magic Modals Does Wonders**

*können, sollen, mögen, müssen, dürfen, wollen*  
- *man: kann, soll, mag, muss, darf, will*

**Um Geld zu verdienen, muss man arbeiten.**

*In order to earn money, you have to work.*

**Man kann im Ausland arbeiten, um den Lebenslauf zu verbessern.**

*You can work abroad, in order to improve your CV.*

**Ich will einen Job finden, um neue Leute kennenzulernen.**

*I want to find a job, in order to meet new people.*

**Main clauses and subordinating clauses**

*Ich möchte auf jeden Fall im Ausland wohnen, wenn ich älter bin.*

Wenn ich älter **bin**, **möchte** *ich* auf jeden Fall im Ausland wohnen.

Section 3: WAGOLL

Ich arbeite zweimal pro Woche in einem Café als Kellner, um Geld zu verdienen. Ich mag die Arbeit, obwohl sie manchmal anstrengend ist. In zwei Jahren werde ich als Babysitter arbeiten, um Erfahrung zu bekommen.

Letztes Jahr habe ich ein Arbeitspraktikum in einem Büro gemacht. Ich musste Briefe zur Post bringen und ich musste Kaffee kochen, aber ich durfte nicht mit den Kunden sprechen. Meiner Meinung nach war das sehr langweilig.

Nach meinen GCSEs werde ich bestimmt in die Oberstufe gehen, um mein Abitur zu machen. Dann würde ich gern eine Lehre machen. Ich werde mich wahrscheinlich nicht um einen Studienplatz bewerben, weil ich Geld verdienen möchte.

In zehn Jahren möchte ich vielleicht als Bauarbeiterin berufstätig sein, weil ich sehr praktisch bin. Ich möchte auf jeden Fall nicht nur reich, sondern auch erfolgreich sein. Ich werde auf keinen Fall im Büro arbeiten, denn das ist sowohl langweilig als auch ruhig!

**Gut zu wissen!**

Click on the QR code to see information on which jobs 14 year olds can do in Germany. Can you understand the questions on the right hand side?  
Can you see which types of jobs you're allowed to do?



GERMAN Y9 Word list Autumn 2.A		
	Lehrer*in	teacher
	Bademeister*in	lifeguard
	Kellner*in	waiter
	Küchenhelfer*in	kitchen hand
	Zeitungsaussträger*in	paper boy/girl
	arbeiten	to work
	gearbeitet	worked
	verdienen	to earn
	verdient	earnt
	ich arbeite als	I work as a

GERMAN Y9 Word list Autumn 2.B		
	um...zu...	in order to...
	das Geld	money
	die Erfahrung	experience
	bekommen	to get/receive/got/received
	Spaß haben	to have fun
	die Leute	people
	neu	new
	viel	lots (of)
	viele	lots (of)/many
	mehr	more

GERMAN Y9 Word list Autumn 2.C		
	das Büro	office
	die Fabrik	factory
	die Baustelle	building site
	in einem	in a (m/n)
	in einer	in a (f)
	auf einem	on a (m/n)
	auf einer	on a (f)
	im Freien	in the open air
	draußen	outside
	die Schichtarbeit	shift work

GERMAN Y9 Word list Autumn 2.D		
	bestimmt	definitely
	auf jeden Fall	definitely
	hoffentlich	hopefully
	wahrscheinlich	probably
	vielleicht	maybe, perhaps
	auf keinen Fall	no way
	niemals	never ever
	ich glaube	I think, I believe
	ich würde	I would
	ich würde gern	I would like

GERMAN Y9 Word list Autumn 2.E		
	ich musste	I had to
	er/sie musste	he/she had to
	musste nicht	didn't have to (sing)
	mussten nicht	didn't have to (pl)
	ich durfte	I was allowed
	er/sie durfte	he/she was allowed
	durte nicht	wasn't allowed (sing)
	durften nicht	weren't allowed (pl)
	ich wollte	I wanted
	ich sollte	I was supposed to

GERMAN Y9 Word list Autumn 2.F		
	schicken	to send
	der Brief	letter
	die Briefmarken	stamps
	die Post	post office
	Kollegen	colleagues
	der Chef/die Chefin	the boss
	Kunden	customers
	bedienen	to serve
	abwaschen	to wash up
	aufräumen	to tidy up

Phonics: ch (soft)	
nicht	Milch
abwaschen	Teich
Chef	modisch
ich	schlecht

Phonics: ch (hard)	
noch	acht
jedoch	Chor
auch	Buch
sechs	gedacht



REVISION: Scan the QR code above to access the word lists on Quizlet! This QR code links to all [the German Year 9 QUIZLET sets.](#)

### Section 1: Key Vocabulary

#### Tier 3 vocabulary

**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

**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.  
print ("Hello World!")  
print ("I am a programmer")

**input statements** - using input ( ) we can ask a user to input information.

```
name = input("Enter your first name: ")
print ("Hello")
print (name)
print ("Pleased to meet you.")
```



Entering an **integer**.  
number = int(input("Enter a number"))

**Concatenation**  
userName = input ("What is your name?")  
print ("Hello! " + userName)

**IF statements** - used to select different options depending on a condition (also known as **selection**).

```
realPassword = "computer"
userPassword = input("Please enter the password: ")
if userPassword == realPassword:
    print ("The password is correct. ")
else:
    print("Wrong password. ")
```

```
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")
```



### 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.

# PE: Netball

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
<b>Holding Space</b>	Using your body to protect a space you want to move into.
<b>Interception</b>	Deflecting or catching the ball whilst it is on route to another player.
<b>Repossession</b>	Catching, dropping and then re-catching the ball.
<b>Rebounding</b>	Trying to reclaim the ball after an attempted shot at goal.
<b>Driving onto the ball</b>	Sprinting towards the ball when receiving a pass.
<b>Throw-up</b>	Method used to restart the game after two players simultaneously commit a foul.
<b>Double Lead</b>	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
<b>Penalty corner</b>	An attacking set piece with the attackers lined up outside the circle and the defenders on the goal line.
<b>Injection</b>	Passing the ball into play from the penalty corner.
<b>25m hit</b>	Hockey's version of football's corner when a defender hits the ball behind their own goal line.
<b>Jab tackle</b>	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
<b>Set</b>	Passing the ball from in front of the forehead using the fingers and thumbs of both hands.
<b>Dig</b>	Passing the ball with the forearms - between the wrists and the elbows.
<b>Spike</b>	Volleyball's version of the smash - hitting the ball firmly over the net making it difficult for the opponents to return.
<b>Block</b>	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.
<b>Serve/service</b>	The start of the rally can be done underarm or overarm. It must be taken by the player at the back right side corner.
<b>Sideout</b>	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
<b>Touch judge</b>	An important officiating role which you may need to take on in lessons.
<b>Gain line</b>	An imaginary line across the pitch where the breakdown occurs.
<b>Conversion</b>	Kicking over the bar for after a try is scored.
<b>Drop kick</b>	A half-volley kick to start the game.
<b>Drop goal</b>	A drop kick over the posts.
<b>Kick for touch</b>	Kicking the ball off the side of the pitch when your team is under pressure.
<b>Props</b>	Two forwards that support the hooker in a scrum.
<b>Hooker</b>	The forward who goes in the front middle of the scrum and tries to hook the ball with their feet.
<b>Fly-half</b>	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
<b>Back spin</b>	Hitting down the back of the ball to make it travel more slowly over the net - a defensive tactic.
<b>Top spin</b>	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.
<b>Variation</b>	Doing different things to keep your opponent guessing - playing different shots to different parts of the table for example.
<b>Attack</b>	One playing is usually on the offensive, trying to hit the winning point.
<b>Defence</b>	If your opponent is on the offensive, you made need to adjust your position and your shot selection to effectively defend their shots.
<b>Shot selection</b>	The skill of knowing what shot to use at any point in the game.
<b>Block</b>	A defensive tactic of just putting your bat out to bounce the ball back over the net.
<b>Loop</b>	Playing the ball back high over the net when defending to give yourself time to get ready to defend the next shot.
<b>Backhand flick</b>	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
<b>Partners/Pairs</b>	Performing with 1 other student.
<b>Trios/Groups</b>	Performing in a group of 3 or more.
<b>Cannon/ Mirror/ Unison</b>	Performing 1 after the other/performing in time in opposition/performing in time.
<b>Counter balance</b>	Leaning inward or towards a partner or group to support or maintain a balance.
<b>Counter tension</b>	Leaning outward or away from a partner or group to support or maintain a balance.
<b>Weight bearing</b>	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
<b>Rebound</b>	Catching the ball after a missed shot.
<b>Offensive rebound</b>	Taking a rebound when your team is in attack giving your team another chance to score.
<b>Defensive rebound</b>	Taking a rebound when you are in defence, preventing the other team from having another shot.
<b>Assist</b>	Setting a teammate up to score a basket.
<b>Outlet pass</b>	Making a quick pass out from under your own basket to set up an attack after you have taken a rebound.
<b>Breakout dribble</b>	Making a quick dribble out from under your basket (2 or 3 bounces) to set up an attack for your team.
<b>Officiating crew</b>	The team of officials needed to run a basketball game including a referee, an umpire, a scorer and a timekeeper.
<b>Half court defence</b>	Running back after your team lose possession to defend close to your own hoop.
Section 2: New Knowledge/Skills	
<p>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:</p> <p>What is the backcourt rule?</p> <p>What are some of the time limits that players have to be aware of in a game of basketball?</p> <p>Why is half-court defence played most of the time?</p> <p>When might a team use full-court defence?</p> <p>What makes a good rebounder and why are they so important to a team's success?</p>	

## PE: Health and Fitness

Section 1: Key Vocabulary	
Tier 3 vocabulary	Definition
<b>Components of fitness</b>	Our fitness can be broken down into 11 components of fitness which we all possess. Examples include speed, strength, agility.
<b>Effects of exercise</b>	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.
<b>Fitness testing</b>	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.
<b>Circuit training</b>	A method of training which involves exercising at a station then having a rest before moving to the next station.
<b>Weight training</b>	Using a resistance such as a dumbbell to exercise a specific muscle.
<b>Heart rate</b>	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	
<p>The Health and Fitness module will give students a good foundation for taking responsibility for their own fitness.</p> <p>You will look at a variety of ways to measure your own fitness and a variety of ways to improve your own fitness.</p> <p>Many of the exercises and activities we do can be repeated at home with little or no equipment - you take responsibility!</p> <p>The unit also provides a taste of some of the content students will experience should they opt for exam PE in KS4.</p> <p>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?</p>	

## PE: Running

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

## PE: Health and Fitness

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

## PE: Leadership

New Knowledge/Skills
<p>You will be challenged at times to take on the role of captain and help influence your team's performance.</p> <p>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.</p> <p>You will also be given time in some activities to create your own practices for a group of classmates.</p>

## Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
<b>Realism</b>	The quality of representing a person or a thing in a way that is accurate and true to life.
<b>Composition</b>	The way in which different elements of an artwork are combined or arranged.
<b>Focus</b>	Clear visual definition.
<b>Naturalistic</b>	Closely imitating real life or nature.
<b>Coarse</b>	Rough or harsh in texture.
<b>Intense</b>	Extremely strong.
<b>Stippling</b>	A painting technique using small dots of colour.
<b>Symmetry</b>	The quality of being made up of exactly similar parts facing each other.

## Tier 2 vocabulary

Tier 2 vocabulary	Definition
<b>Texture</b>	The feel, appearance or consistency of a surface.
<b>Highlight</b>	The very lightest parts of an image.
<b>Layers</b>	A gradual build up of applications to achieve the desired effect.
<b>Crop</b>	A selected section of an original image.
<b>Stroke</b>	A single movement of a brush or other tool that makes a single mark.
<b>Detail</b>	An individual or small part of an item.
<b>Blend</b>	Mixing together so the colours/textures combine and disappear into one another.

## Section 2: New Knowledge/Skills

Photorealism

A style of Art and Sculpture characterised by the highly detailed depiction of ordinary life with the impersonality of a photograph.

Wildlife Artists

Alan M Hunt  
 Carl Brenders  
 Martin Dowse  
 David Shepherd

Context

Many wildlife artists' main motivations are to conserve the world's wildlife for future generations. Alan M Hunt states it as his mission to impart some of the love, experience and concern for these animals and to protect the environment and the wildlife we share this planet with, through his Art.

'As a wildlife artist and conservationist, I have grave concerns for the environment and believe it needs as much support as I can possibly give, whether financially or as a spokesman. Rather than become a famous painter, I would like to be remembered as someone who tried to make people aware of the need to protect the environment, wildlife and the planet.'

Artist tips to help you paint animal fur

'Start by painting the eye, when the eye looks correct, the animal starts to come alive'.

'It is important to understand the way fur, hair and feathers grow to believably paint them.'

'See which direction the fur is growing, make sure your brushstrokes follow this direction.'

'Painting fur is a lot like layering tiles on a roof, you start layering them from the bottom up.'

'Remember to work from dark to light with fur, the lightest colour is last.'

## Section 3: Other subject specific things

[bit.ly/bsadlastselfie](http://bit.ly/bsadlastselfie)



## WWF

The World Wide Fund for Nature is an international governmental organisation founded in 1961 that works in the field of wilderness preservation and the reduction of human impact on the environment.

## #LastSelfie

Launched in April 9th 2014

The idea behind the campaign is simple - the animals are conveying a message to their viewers which says 'Don't let this be my last selfie.' The timed message functionality on Snapchat was used to highlight that time is running out for the endangered species. After one week 400,000 tweets hit 120 million twitter timelines meaning 50% of all active twitter users were exposed to it. With headlines in more than 6 languages #LastSelfie raised global awareness and in just three days WWF reached their donation target for the entire month.



### 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.

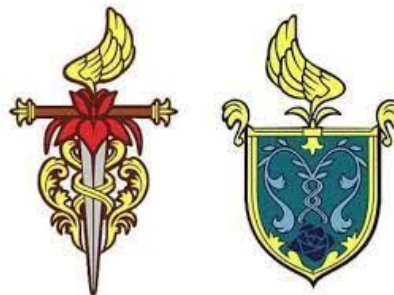
#### Tier 2 vocabulary Definition

**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' could the 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.





## Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
<b>Loops</b>	A repeating section of sound material
<b>Layers</b>	Grouping instruments together
<b>Volume</b>	The strength, intensity, pressure, or power of the sound
<b>Instruments</b>	A device used to make musical sound
<b>Metronome</b>	A device used by musicians that marks time at a selected rate by giving a regular tick
<b>Tempo</b>	How slow or fast the music is. Defined by bpm
<b>BPM</b>	Beats per minute

## Tier 2 vocabulary

Tier 2 vocabulary	Definition
<b>Mixing</b>	Balancing all the sounds, making some louder than others
<b>Bouncing down</b>	Writing the final mix to a stereo audio file
<b>Reference Track</b>	A premade track to inform structure and instrumentation

## 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

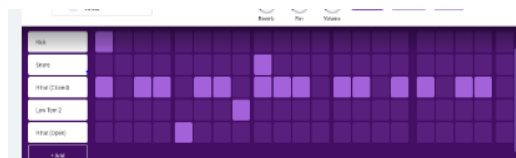
### Reference Tracks

You will be analysing the structure of a reference track of your choice. The **structure** of a piece of music refers to the different sections and how they are ordered. Reference tracks help a composer to structure the intro, verse, chorus, bridge and outro of a song.

Which song will you choose and why?

You can use preprogrammed **loops** to create a piece of music; however we will explore using the **piano roll** and **beat patternmaker** to program in our own beats, chords and riffs.

The patternmaker gives you a visual representation of beats and bars.



In music, the notes/beats are divided into equal 'measures' to match the time signature. For example if the music is in the time signature 4/4 it means that each **bar or measure** has 4 beats.

## Section 3

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

We will consider **dynamics** and how to change and balance the different **volumes** of our 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.



Tier 3 vocabulary	Definition
<b>Macronutrients</b>	The nutrients needed in larger quantities within the diet. Carbohydrates, proteins and fats.
<b>Micronutrients</b>	The nutrients needed in smaller quantities within the diet. Vitamins and minerals.
<b>Deficiency disease</b>	A health issue related to a lack of one or more nutrients in the diet. E.g. Kwashiorkor, Rickets and Anaemia.
<b>Dietician</b>	An individual who promotes good dietary health and treats nutritional problems by providing practical advice about food choices, based on scientific research.
<b>Complex Carbohydrates</b>	Also known as starchy carbohydrates. These should make up the majority of a person's carbohydrate intake. Providing slow-release energy.
<b>Simple Carbohydrates</b>	Also known as sugary carbohydrates. These should be consumed as a smaller proportion of the carbohydrate intake. Providing fast-release energy.
<b>Proteins</b>	A nutrient provided by meat, fish, dairy, nuts. Peas, beans and lentils. Protein is required for growth and repair.
<b>Saturated Fat</b>	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.
<b>Unsaturated Fat</b>	A type of fat containing a high proportion of fatty acid molecules with at least one double bond, considered to be healthier in the diet than saturated fat. Predominantly from plant sources.
<b>En papillote</b>	A cooking method where ingredients are cooked and served in a paper or foil wrap.

Tier 2 vocabulary	Definition
<b>Obesity</b>	The state of being grossly overweight.
<b>Diabetes</b>	A disease in which the body's ability to produce or respond to the hormone insulin is impaired, resulting in abnormal metabolism of carbohydrates and elevated levels of glucose in the blood.
<b>Dietary recommendations</b>	The daily nutritional requirements of individuals that vary depending on a number of factors including age, physical activity level, sex & body size.
<b>Recipe Modification</b>	Changing a recipe to suit different dietary needs or preferences.
<b>Nutrients</b>	a substance that provides nourishment essential for the maintenance of life and for growth.
<b>Creaming method</b>	Combining a fat and sugar as the first stage of a recipe to aerate the mixture.
<b>Melting Method</b>	A cake making method where one or more ingredients are melted prior to the addition of dry ingredients.
<b>Dietary Fibre</b>	A form of carbohydrate which can be soluble (e.g. in oats) and helps to lower risk of heart disease, or insoluble in wholemeal products which helps to remove waste from the body, reducing the risk of constipation, diverticular disease & colon / bowel cancer

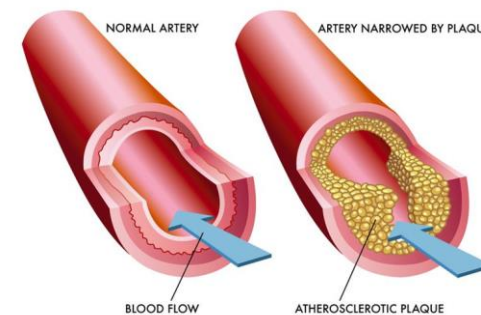
### Section 2: New Knowledge/Skills

The melting method - a cake making method which involves melting margarine / butter before adding it to dry ingredients.

List 3 other cake making methods -

- 1.
- 2.
- 3.

### Section 2: New Knowledge/Skills



The above diagram shows a picture the thickening and hardening of the artery walls. This build up of plaque is called

### Section 3



**Homework 1:** The Google Classroom H&S homework on safety set by your teacher (you can ask your teacher for a paper copy of this quiz if needed).

**Homework 2:** Read the nutritional information on this knowledge organiser then complete the quiz about Fibre on Google Classroom (ask for a paper copy if you need it.)

## Section 1: Key Vocabulary

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

## Tier 2 vocabulary

Tier 2 vocabulary	Definition
<b>Form</b>	The shape, aesthetics. What something looks like.
<b>Function</b>	How well does the product perform the job it was designed to do?
<b>Customer</b>	Who will use your product? What Are their needs, interests etc
<b>Evaluation</b>	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

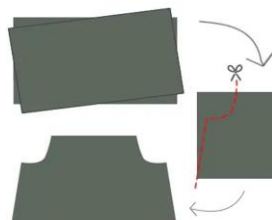


You have also learned how to create patterns/templates and sew a zip in amongst other things! Can you explain how each of these processes work? Can you decide which are the most appropriate to use in your design?

## 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 some thing 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 consider 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

<b>Soldering</b>	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.
<b>Biscuit Joint</b>	Mark out joints, then uses a biscuit jointer under close supervision to joint join 2 panels of wood
<b>Pillar Drill</b>	Set up, including the changing the drill bit, to cut small and large diameter holes in wood to a fixed depth and through cut
<b>2D design software</b>	Use CAD software create a themed design, considering suitable and secure location of the PCB, power, and the inputs & outputs
<b>Application of laser cutting</b>	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
<b>Product Assembly</b>	Create a high quality, fully functioning, electronic product from a collection of parts. Including the use of glues and fixing techniques
<b>Health and Safety</b>	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

### 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**



# Autumn 2: Extra – Curricular Timetable

Monday	Tuesday	Wednesday	Thursday	Friday
Lunchtime Clubs: 12.20 – 1.00				
<b>Exam PE Sports Club</b> <b>Years 10, 11</b> With Steve and Tom Sports Hall	<b>Duolingo Club</b> <b>All Years</b> With Sarah Knappett Languages Block	<b>Technical Theatre Club</b> <b>All Years (max 10 students)</b> With Sarah Holme A7	<b>Digital Skills Drop In</b> <b>Yr10-13</b> With Jody A2	<b>Chess</b> <b>All Years</b> With Carlos M2 12.20 – 1.00
<b>Book Group</b> <b>Year 9</b> With Sarah Phillips Library	<b>Basketball</b> <b>Year 9</b> With Steve Sports Hall	<b>Belper Band</b> <b>All Years</b> <b>Woodwind, Brass and Strings</b> With Anna MU1	<b>Music Club</b> <b>All Years</b> With Phil MU2	<b>Games Club</b> <b>Years 7, 8</b> With Emma Library 12.20 – 1.00
<b>Art Club</b> <b>All Years</b> With Lucy A4		<b>Volleyball</b> <b>Year 10&amp;11 Girls</b> With Steve Sports Hall	<b>Knitting and Crochet Club</b> <b>All Years</b> With Emma T5	<b>Sports Club</b> <b>Year 7 Boys and Girls</b> With Rebecca and Matt Sports Hall 12.20 – 1.00
<b>Wargaming Hobby Painting Club</b> <b>All years</b> With Richard A3			<b>Scalextric Racing/ Model Railways</b> <b>All Years (Max 15 students)</b> With Phill T1	
			<b>Foreign Language Spelling/ Translation Bee practice</b> <b>Years 7, 8, 9</b> With Sarah Knappett Languages Block	
			<b>Belper Choir</b> <b>All Years</b> With Anna MU1	
			<b>Football</b> <b>All Years Girls</b> With Leanne Sports Hall	

# Autumn 2: Extra – Curricular Timetable

Monday	Tuesday	Wednesday	Thursday	Friday
After School Clubs				
<b>Gardening</b> <b>All Years</b> With Marc and Tony Rosie's Garden 3.05 – 4.00  <b>More Than Robots</b> <b>Years 8, 9, 10, 11</b> With Sarah Speight T1 3.05 – 4.00  <b>Music Producers Club</b> <b>Years 9, 10, 11</b> With Phil MU2/Recodring STudio 3.05 – 4.00  <b>Football</b> <b>Years 7, 8, 9 Boys</b> With Steve, Matt and Tom Sports Hall 3.05 – 4.00  <b>Sports Leadership Events</b> <b>Year 10</b> with Rebecca & AVSSP 3.05-4.00	<b>Netball</b> <b>Years 9, 10, 11 Girls</b> With Rebecca Sports Hall 3.05 – 4.00  <b>Shrek</b> <b>All Cast and Crew</b> With Sarah and Anna Main Hall 3.05 – 5.00	<b>Litter Picking</b> <b>All Years</b> With Marc P2 3.05 – 4.00  <b>Scalextric Racing/ Model Railways</b> <b>All Years (Max 15 students)</b> With Phill T1 3.05 – 4.00  <b>Rugby</b> <b>Years 7, 8, 9, 10, 11 Girls</b> With Sarah Harrison Sports Hall 3.05 – 4.00  <b>Shrek</b> <b>All Cast and Crew</b> With Sarah and Anna Main Hall 3.05 – 4.00  <b>'Your Time' Leadership</b> <b>Year 9 Girls with Rebecca</b> 3.05-4.00 (week 1)  <b>A level PE Revision</b> <b>Year 13 with Rebecca</b> 3.05-4.00 (week 2)		

2 Black/Blue Pens  
and 1 Coloured Pen



2 Pencils



Eraser



Pencil Sharpener



Knowledge  
Organiser

Ruler



Scientific Calculator

