

Knowledge Organiser

YEAR

8

TERM 1: **RESILIENCE**

"If you fail, you just have to look at why you failed and try to do it better next time. It's a game of inches, and you just have to keep moving forward."

Mr Beast, Youtuber



**THE ENGAGED MIND STAYS SHARP.
BE ENGAGED IN THE HERE AND NOW.**

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Equipment

all students must have...



Mobile phones are not to be used in lessons without staff permission
No photos or videos to be taken without permission
No school related images or videos to be uploaded on to social media

Black or blue pen
Pencils
Ruler - 30cm
Protractor
Compass
Rubber
Pencil Sharpener
Purple pen
Scientific calculator
Coloured crayons
Student Organiser
Knowledge Organiser
Locker Key

Knowledge Organisers at Redmoor Academy

WHY?

Why do we have knowledge organisers?

Your knowledge organisers help you to be successful in many ways. Firstly, they make the key elements of each topic clear, showing you what you need to have an excellent understanding of in order to be successful. If you know these elements, your teacher will help you to understand them.

WHAT?

What are my teachers' expectations of me?

In Year 7 and 8 your teachers will give you homework. You will be spending 20 minutes a week learning information from your knowledge organiser for each subject, with Sparx used for Maths and Literacy. In Year 9 this will increase to 30-40 minutes. Teachers will test you regularly to make sure that you are completing the homework and remembering your knowledge.

HOW?

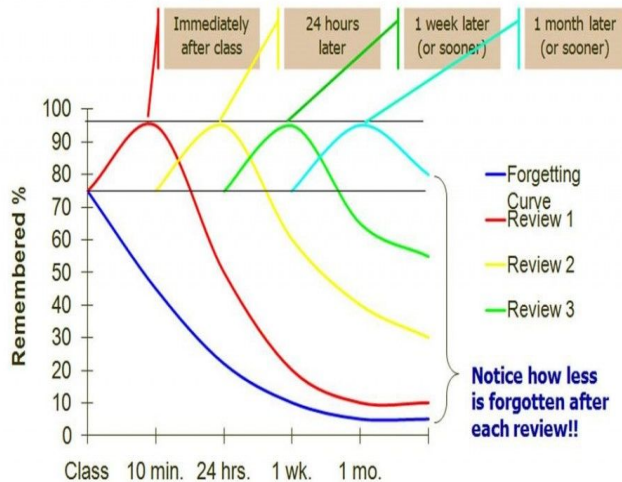
How will my teachers use them?

Core subjects will set homework once a week (others less often). This will help you to learn the most important knowledge for each topic. Teachers will also test you regularly to see how well you have remembered it. Research tells us that this practising is a really good way of helping you make sure that the knowledge stays in your memory. Over time, you will build on this knowledge to make sure that you know everything you need to for your subject. Sometimes you may have high stakes quizzes, where teachers will set a certain score that you have to reach to be successful.

How will they help me to be successful later on?

When it comes to GCSEs, you have lots of information to remember. Your knowledge organisers will gradually build up this knowledge over 5 years to help support you in Year 11. This means that when you revise you will just be recalling knowledge that you have already stored. Also, all of this practice with lots of different revision techniques now will help you when it comes to your final exams.

How we learn at Redmoor



Why reviewing your learning is so important

As soon as we are told a new piece of information, most of that information is 'lost' and forgotten. Hermann Ebbinghaus found that repeating information helps us remember more of it. This means we need to be reviewing and going over what we learn in order for us to remember and be able to use the information after a period of time has passed.

This resource summarises some proven strategies that you can use to review your knowledge.

Common methods of revision that are the **least effective**:

- Highlighting key points
- Re-reading
- Summarising texts



Retrieval practice

Testing what you know is a powerful tool in revision; the effort to remember something really strengthens your memory. Apps such as Memrise and Quizlet allow you to use or create your own quizzes based on topics. Create them, test yourself or get someone to test you. It works!

Learn more about retrieval practice here: [Link to the Learning Scientists](#)

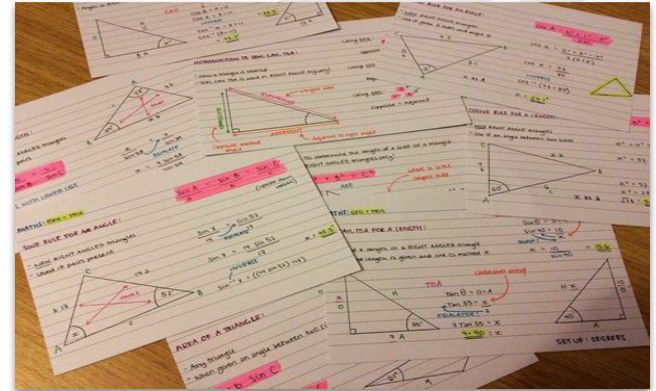
How we learn at Redmoor

Flash Cards

You can use these simply to create questions on one side and answers on the other. You might colour-code the cards for specific topics, and even include keywords and timelines.

Once you have created your flashcards you need to think about how you will use them effectively. There is a link below to a video helping you understand the Leitner system of using flashcards:

[YouTube: The Leitner Method](#)



Dual Coding



Dual coding is the process of combining verbal materials with visual materials.

You simply take information that you are trying to learn and draw visuals to go with it.

You can learn more about dual coding here:

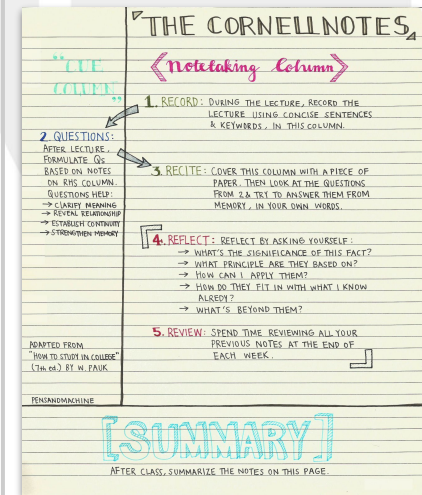
[Link To The Learning Scientists](#)

Try to come up with different ways to represent the information. For example, you could draw a timeline, a cartoon strip or a diagram of parts that work together.

Cornell Notes

This method can be used in your revision books as a great method to get you to 'think' about your revision. You simply split your page into 3 sections as shown on the diagram below:

- Note Taking
- Key words / concepts
- Summary

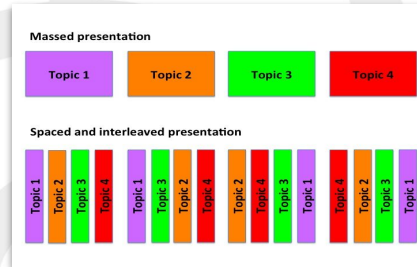


How we learn at Redmoor

Spacing and Interleaving

You shouldn't revise all of your topics in one go - this is called cramming. Instead, you should revise 'chunks' of a topic for small amounts of time, spending around 15-30 minutes on each. You should then move onto another 'chunk' from a different topic.

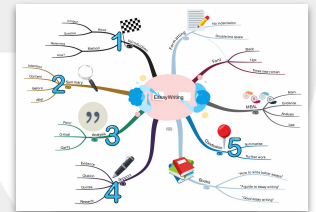
Eg. topic 1 is 'cells', topic 2 is the 'digestive system'. This will improve your memory!



Mind Maps

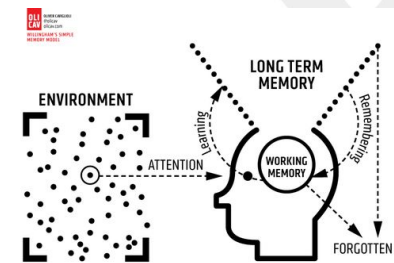
Mind mapping is simply a diagram used to visually represent or outline information. It is a powerful graphic technique you can use to translate what's in your **mind** into a visual picture.

Mind maps help with memorisation of key knowledge as they help to organise information and allow you to begin to make links and connections to different pieces of information. The use of visual images helps your brain to memorise the information with simple words next to them - and this links to dual coding!



Useful links:

- The learning scientists: <https://www.learningscientists.org/>
- Memrise: <https://www.memrise.com/>
- Quizlet: <https://quizlet.com/en-gb>
- Seneca: <https://www.senecalearning.com/>



Literacy

Proofreading Guidance

When we write, we know what we're trying to say, so our brains might skip out words or punctuation. It is important that we proofread to avoid making silly mistakes.

Full Stops & Commas

- A full stop gives a strong pause. It goes at the end of a whole sentence.

e.g. Jake had four brothers. He got on best with Dan who shared his sense of humour.

- A comma gives a short pause and is used to separate items in a list *e.g. Bring some milk, eggs, butter and flour.*

After introductory words *e.g. However,*

Between the different parts of a sentence: *Gran, who had been a champion boxer in the sixties, stepped forward.*

Paragraphs

- Change in time, *e.g. Later that day, an important letter arrived.* - Change in place, *e.g. Back at home things were just as bad. / Chile, however, has a population of...*

- Change of subject, *e.g. As well as mountain biking, I also enjoy swimming...*

- Each time a different person speaks:

"Hey, that's my phone!"

"No it isn't - I had it for my birthday."

Spelling Homophones

Words that sound the same but are spelt differently.

there, their, they're

They're silly to have left their coats over there where there is wet grass.

your, you're

You're such a good friend to lend me your phone.

to, two, too

Two of my friends are coming to Alton Towers too.

Grammar Errors

I have played tennis. ✓ *I of played tennis.* ✗

I should have / should've played tennis. ✓

I should of played tennis. ✗

I/she/he were late. ✗ *I/she/he was late.* ✓

They were late. ✓ *They was late.* ✗

You were late. ✓ *You was late.* ✗

I ran quick, passing the ball brilliant. I played amazing. ✗

I ran quickly, passing the ball brilliantly. I played amazingly. ✓

Apostrophes

- Use an apostrophe to show possession *e.g. John's football is flat.*

- Also use an apostrophe for omissions (the apostrophe shows where a letter or letters are missing) *e.g. I didn't do it. It wasn't me!*

Capital Letters

- At the start of every sentence

- For days, months and celebrations, *e.g. Wednesday, April, Easter*

- For proper nouns (names of people and places) *e.g. James, London, Rutland Water*

- For Titles (except the small words) *e.g. The Hunger Games, Match of the Day*

- For abbreviations *e.g. BBC, RSPCA*

Correct Tense

Are you using the correct tense? Do not switch from one to another. - For days, months and celebrations,

- **Past:** *e.g. I ran to the shops.*

- **Present:** *e.g. I am running to the shops*

- **Future:** *e.g. I am going to run to the shops.*

Literacy Marking Code:

sp	Spelling mistake
^	Missing word/letter
O	Capital letter/Punctuation
~~~~~	Unclear/poorly worded
//	New paragraph
th	Use a thesaurus
w	Wrong word

# Talking Points

## To add an new idea to what someone else has been saying:

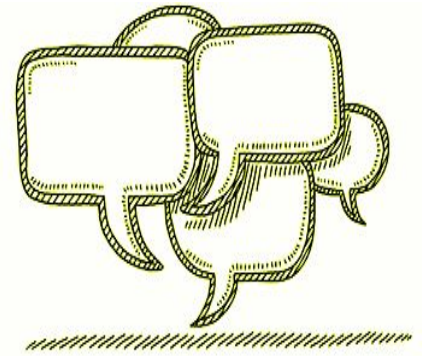
- I would like to add to this...
- I would have to agree with you because...
- Another example of this could be...
- Adding on to this, in my opinion...
- We might also consider...
- As well as this, it is important to think about...
- In addition...

## To build on what someone else has been saying:

- This could be developed by considering...
- This links to...because...
- Furthermore, it could be argued that...
- To elaborate further...
- Building onto this...
- Leading from this...
- Taking this one step forward...
- On top of this...

## To challenge someone's ideas and offer the opposite viewpoint:

- I would challenge this idea because...
- On one hand I agree with... However I think...
- On the other hand this idea could be challenged because...
- From another perspective you might argue that...
- Although I can see why ___ thinks... I disagree because...
- Whereas ___ seems to think... instead I think...



## Banned words:

- ★ You know
- ★ Like
- ★ Isn't it
- ★ Basically
- ★ Sort of
- ★ Kind of
- ★ Sommit
- ★ Innit
- ★ Dunno
- ★ Gonna
- ★ So...
- ★ Okay....

Add,  
Build,  
Challenge

**AUTHORIAL  
ADVERBS –  
SPRINKLE THESE  
INTO YOUR  
ANALYSIS**

The writer...

skilfully,  
subtly,  
provocatively,  
disturbingly,  
pivotally,  
effectively,  
strikingly,  
challengingly,  
crucially,  
significantly,  
clearly,  
critically,  
rarely,  
artfully,  
carefully,  
masterfully,  
awkwardly,  
surprisingly,  
subsequently,  
conversely,  
frequently,  
vividly,  
subsequently,  
thoroughly,  
creatively,  
ambitiously,  
unexpectedly,  
realistically,  
dramatically...

HOW TO STRUCTURE YOUR PETZEL PARAGRAPHS	SENTENCE STARTERS
Effective essay paragraphs are structured carefully using PETZEL PARAGRAPHS	
<b>P: Give a clear <u>point</u> to answer the question. This is your idea or argument.</b>   <i>The writer presents the headteacher as a terrifying and angry person.</i>	<input type="checkbox"/> [Author's surname] presents the character of... as...     <input type="checkbox"/> [Author's surname] presents the theme of... as...
<b>E: Use well-chosen <u>evidence</u> which backs up your idea and proves what you're saying. Remember to use quotation marks when quoting from the text!</b>   <i>For example, the text says, "The teacher barked at the students like a wild dog."</i>	<input type="checkbox"/> This is shown through the line '...'     <input type="checkbox"/> The writer's description '...' suggests/emphasises/highlights...     <input type="checkbox"/> We see this when '...'     <input type="checkbox"/> The texts says '...'
<b>T+Z: Name the language trick the writer used (<u>technique</u>), then pick out one specific word to look at closely (<u>zoom</u>).</b>   <i>The writer uses a simile by comparing the teacher to a dog. If we zoom in on the word "barked", it shows he is loud, aggressive, and losing control.</i>	<input type="checkbox"/> The writer uses the word '...' to suggest/emphasises/ highlight...     <input type="checkbox"/> The use of the [literary technique] shows/highlights/ emphasises/...
<b>E: Explain how this makes the reader or audience feel (<u>effect</u>), and what it makes them think of or imagine.</b>   <i>This makes the reader feel scared for the pupils. Audiences in the past might have been used to strict schooling, but modern audiences today would find this behavior shocking.</i>	<input type="checkbox"/> This makes the reader feel/ think/ realise/ understand...     <input type="checkbox"/> A reader would/ would not be surprised because...     <input type="checkbox"/> A traditional reader may... whilst a modern reader may...
<b>L: <u>Link</u> your ideas back to the history of when the text was written, or back to your main argument.</b>   <i>In older schools, teachers were allowed to be much stricter and use harsher punishments than they do today. Therefore this amplifies how terrifying the teacher might seem to a modern reader.</i>	<input type="checkbox"/> This reflects the idea of... at the time...     <input type="checkbox"/> Overall, the writer presents the character/theme in this way to show/ emphasise/ highlight...

<i>LANGUAGE TECHNIQUES</i>	<i>STRUCTURE TECHNIQUES</i>
<b>Superlative:</b> Shows the highest degree. Example: biggest, fastest, best.	<b>Repetition:</b> Saying something more than once. Example: "He ran and ran."
<b>Modal Verb:</b> Shows if something is possible or necessary. Example: can, must, should.	<b>Triplet:</b> Three words or phrases together. Example: "Tall, dark, and handsome."
<b>Imperative:</b> A command or order. Example: "Sit down."	<b>Juxtaposition:</b> Putting two different things together to show contrast. Example: "The rich and the poor."
<b>Symbolism:</b> Using something to represent an idea. Example: A heart for love.	<b>Listing:</b> Writing several things in a row. Example: "Apples, oranges, bananas."
<b>Alliteration:</b> Words close together start with the same sound. Example: "Silly snakes slither."	<b>Shifts in Focus:</b> A change in what the writer is writing about, typically signposted by a new paragraph.
<b>Metaphor:</b> Saying something is something else. Example: "He is a lion in battle."	<b>Chronological Structure:</b> Events in time order.
<b>Simile:</b> Comparing using 'like' or 'as'. Example: "She is as fast as a cheetah."	<b>Foreshadowing:</b> Hinting at something which will happen in the future.
<b>Personification:</b> Giving human qualities to things. Example: "The wind whispered."	<b>Flashback:</b> Jumping to a past event.
<b>Semantic Field:</b> Group of words about the same topic. Example: ocean, wave, tide, sand.	<b>Exposition:</b> The beginning or opening of a text.
<b>Hyperbole:</b> Exaggeration. Example: "I've told you a million times!"	<b>Tension:</b> The build up of nerves or fear before an important event.
<b>Imagery:</b> Describing something so you can picture it. Example: "The golden sun warmed her face."	<b>Climax:</b> The most exciting part of a story
<b>Onomatopoeia:</b> A word that sounds like the actual noise it makes. Example: "The heavy textbook fell to the floor with a loud thud."	<b>Oxymoron:</b> Two direct opposites placed next to each other Example: "Exploding comfortably"
<b>Allegory:</b> Plot or characters are used to present a hidden message.	<b>Cyclical Structure:</b> a story begins and ends in the same or a very similar way.

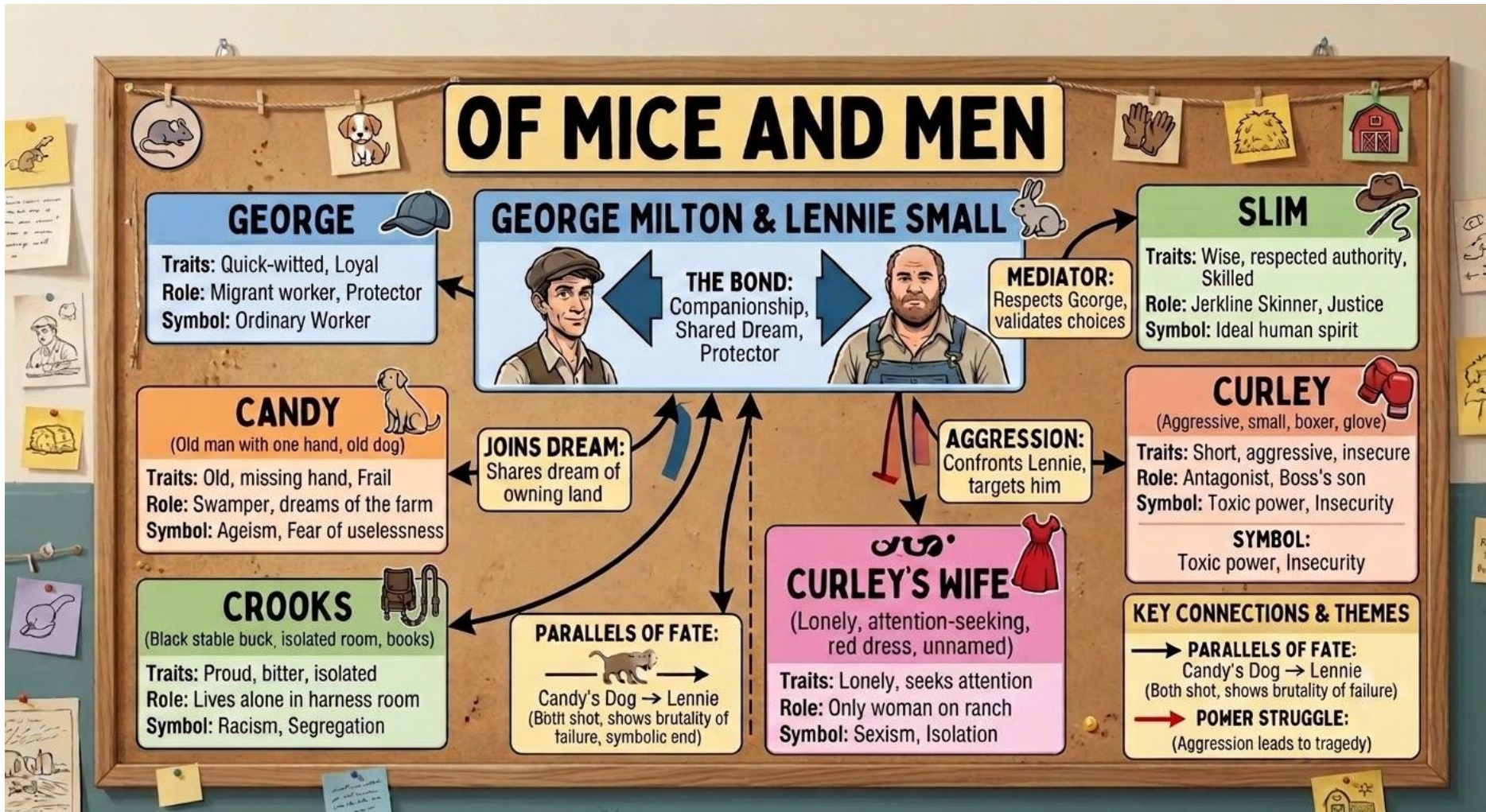
# English: Of Mice and Men

BIG QUESTION: What influenced John Steinbeck to write this novella?	
John Steinbeck	Grew up as middle class and spent his summers working on ranches near his home in California. He often wrote stories with moral messages (allegories).
Gender	In the 1930s, married women were expected to stay at home, look after the children and give up their jobs if their husband wanted them to.
Darwinism	'Survival of the fittest': this is the belief that the weak will be placed aside as the powerful take the opportunities.
Racism	The Jim Crow Laws made racial segregation legal in America. They lasted until 1968 and denied African Americans the right to vote, hold jobs and get an education or other opportunities.
Disability	The mentally disabled were often seen as a burden on society. In some states, having a low IQ score meant that people were sterilised (stopped from having children).
American Dream	The idea that every person has the equal opportunity to build a prosperous life through hard work and determination, regardless of their background or social class.
Discrimination	Treating someone badly because they are different. Often due to race, gender or disability.

Vocabulary Boost	
Word	Definition
Bundle	A bundle of bedding and personal belongings rolled up and carried on a migrant worker's back.
Swamper	A cleaner or general handyman on the ranch.
Stable Buck	A historical, racially derogatory term for a Black man who works in the stables looking after horses and mules.
Jerkline Skinner	The lead driver of a team of mules or horses. This was a highly respected, skilled job on the ranch.
Hoosegow	Ranch slang for a prison or jail.
Stake	An amount of money saved up.
Alfalfa	A plant grown as food for animals.

Key Themes	
Dreams	George and Lennie dream of owning a small piece of land where they can "live off the fatta the land" and Lennie can tend rabbits. This dream keeps them going through tough times.   Almost every character has a dream that is crushed. Candy loses his savings, Crooks realizes he will never be equal, and Curley's wife never becomes a movie star.   Steinbeck uses the tragic ending to show that the American Dream was a lie for marginalised people in the 1930s; hard work was not enough to overcome poverty.
Loneliness	Migrant workers in the 1930s were usually completely alone, moving from job to job. George and Lennie are different because they have a bond: "We got a future. We got somebody to talk to that gives a damn about us."   The Isolated Characters:       • Crooks is isolated because of his race (forced to sleep in the stable).     • Curley's Wife is isolated because of her gender (the only woman on the ranch).     • Candy is isolated by his age and disability.       Loneliness makes characters cruel or desperate for attention. The novel shows that humans desperately need companionship to stay happy and healthy.
Discrimination	The ranch is a miniature version of 1930s America, where anyone who is "different" or "weak" is mistreated:       • Racism: Crooks is subjected to racial slurs and threatened with violence, legally segregated from the white workers.     • Sexism: Curley's wife is viewed as dangerous "bait" or property rather than a human being with feelings. She isn't even given a name.     • Ableism &amp; Ageism: Lennie is targeted because of his intellectual disability, and Candy fears being thrown out when he gets too old to work.       The novel exposes how cruel society can be to vulnerable people when there are no laws or support systems to protect them.

Character Map



Key Plot

# FREYTAG'S PYRAMID: OF MICE AND MEN

## 3. RISING ACTION

- Carlson shoots Candy's old dog; establish the law of the old and useless. Candy listens to "The Dream" and asks to join, offering his life savings. The dream becomes tangible.

- Curley picks a fight with Lennie.
- Lennie gets scared, George tells him to "get 'im."
- Lennie crushes Curley's hand.

- Lennie gets his puppy from Slim. In the barn, he accidentally kills the puppy because he doesn't know his own strength.

## 1. EXPOSITION

- Meeting George & Lennie by the Salinas River near Soledad.
- Define relationship: George is sharp and protective, Lennie is strong, mentally disabled.
- Introducing "THE DREAM" in detail: owning their own farm, "living off the fat of the land". Lennie tends rabbits
- Establish "Weed" backstory: Fleeing after Lennie touched a girl's dress.

## 2. INCITING INCIDENT

- Arrival at the ranch bunkhouse and meeting various characters.
- Interact with confrontational Curley (boss's aggressive son).
- Meet provocative Curley's Wife (lonely and unnamed).
- Establish George's direct warnings: stay away from both.

## 4. CLIMAX

- **THE PEAK OF TENSION:** Crucial barn meeting between Lennie and Curley's Wife.
- She lets Lennie stroke her soft hair. He can't let go. She screams. He panics and breaks her neck.
- Lennie flees, and the shared dream is irrevocably shattered.

## 5. FALLING ACTION

- Candy finds the body and notifies George. Ranch learns.
- Curley leads a furious armed mob to hunt Lennie down (add a few extra people sketches).

## 5. FALLING ACTION

- George realizes there's no way to save Lennie from brutality. He secretly steals Carlson's Luger pistol.

## 6. RESOLUTION / DENOUEMENT

Return to the Salinas River pool as planned.

- Return to the Salinas River pool as planned. George finds Lennie.
- They recite "The Dream" for the final time together.
- To spare Lennie from the mob, George executes him (shoots him in the back of the head).
- Carlson doesn't understand: "What the hell..."
- Slim comforts George, understanding the sacrifice, and leads him away. The cycle continues.

**BIG QUESTION: What is the point in the media?**

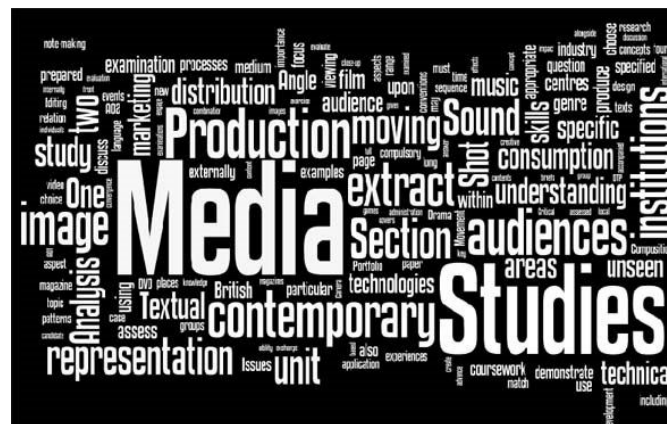
Denotation	The literal meaning of a word
Connotation	The secondary meaning; what it makes you think of and how it makes you feel
Camera Angle	The specific location of where a camera is placed to take a shot
Diegetic Sound	Natural sounds. Eg dialogue, weather, animal noises etc
Non - diegetic Sound	Sounds added into a shot. Eg soundtrack, theme tune, tense music

**BIG QUESTION: How does the media influence?**

Representation	The way the media presents individuals and particular groups of people, places & issues
Stereotype	A widely held, cliched and oversimplified image of a particular group or place
Conventions	The ingredients of a genre.
Ethnicity	The belonging to a population or subgroup who share a common cultural background or decent
Race	Physical attributes that categorise humans based on a particular group.
Gender	Gender is how people feel or express themselves in relation to being male or female

**BIG QUESTION: Why do we need music videos?**

Concept	An abstract idea
Narrative	A story
Performance	An act of entertainment
Lyrics	The words of a song or poem
Marketing	Promoting or selling a product
Promotion	Publicising a product to increase sales



# MATHS – Mastery Curriculum

Sparx Code	TOPIC	In Class	Pre-test	Post test
M437	Finding percentages of amounts without a calculator			
M905	Finding percentages of amounts with a calculator			
M958	Converting between fractions and decimals			
M264	Converting between fractions, decimals and percentages			
M553	Ordering fractions, decimals and percentages			
M701	Using recurring decimal notation			
M922	Converting fractions to recurring decimals			
M979	Substituting into real-life formulae			
M208	Substituting into algebraic formulae			
M327	Substituting into expressions with multiple operations			
M417	Substituting into expressions with one operation			

Acute

Right

Obtuse

Straight

Reflex

Angles on a straight line add up to 180°

Angles around a point add up to 360°

Vertically opposite angles are equal

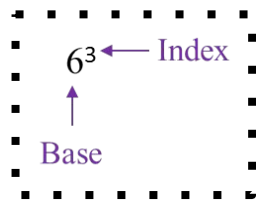
Sparx Code	TOPIC	In Class	Pre-test	Post test
M502	Types of angles			
M541	Estimating angles			
M780	Measuring angles			
M331	Drawing angles			
M818	Angles on a line and about a point			
M163	Vertically opposite angles			
M885	Writing and simplifying ratios			
M801	Using equivalent ratios to find unknown amounts			
M525	Sharing amounts in a given ratio			
M478	Solving proportion problems			
M597	Drawing and interpreting tally charts			
M644	Drawing and interpreting pictograms			
M460	Drawing bar charts			
M738	Interpreting bar charts			
M140	Drawing line graphs			
M183	Interpreting line graphs			
M945	Collecting and recording data using tables			

# MATHS – Stretch Curriculum

Sparx Code	TOPIC	In Class	Pre-test	Post test
M957	Constructing and solving equations			
M387	Solving equations with the unknown in the denominator			
M554	Solving equations with the unknown on both sides			
M902	Solving linear equations involving brackets *			
M401	Solving equations of the form $(x+a)/b=c$ *			
M568	Simplifying algebraic fractions by cancelling common factors			
M866	Position-to-term rules for sequences of patterns			
M991	Position-to-term rules for arithmetic sequences			
M166	Substituting into position-to-term rules			
M241	Term-to-term rules for sequences of patterns			
M381	Term-to-term rules for numerical sequences			

Sparx Code	TOPIC	In Class	Pre-test	Post test
M120	Simplifying expressions using index laws			
M150	Index rules with negative indices			
M608	Index rules with positive indices			
M681	Value for money			
M533	Percentage change with a calculator			
M476	Percentage change without a calculator			
M230	Solving shape properties involving coordinates			
M622	Calculating midpoints			
M618	Reading and plotting coordinates			
M112	Drawing and interpreting scale diagrams			
M525	Sharing amounts in a given ratio			

Rule	Example
$a^m \times a^n = a^{m+n}$	$2^5 \times 2^3 = 2^8$
$a^m \div a^n = a^{m-n}$	$5^7 \div 5^3 = 5^4$
$(a^m)^n = a^{m \times n}$	$(10^3)^7 = 10^{21}$
$a^1 = a$	$17^1 = 17$
$a^0 = 1$	$34^0 = 1$
$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$	$\left(\frac{5}{6}\right)^2 = \frac{25}{36}$



Rule	Example
$a^{-m} = \frac{1}{a^m}$	$9^{-2} = \frac{1}{81}$
$a^{\frac{x}{y}} = \sqrt[y]{a^x}$	$49^{\frac{1}{2}} = \sqrt[2]{49} = 7$

## Balancing method

$$\frac{x}{12} - 5 = 4$$

+ 5   + 5

$$\times 12 \quad \frac{x}{12} = 9 \quad \times 12$$

x = 108

## Function machine method

$$\frac{x}{12} - 5 = 4$$

x  $\rightarrow \div 12 \rightarrow - 5 \rightarrow 4$   
108  $\leftarrow \times 12 \leftarrow + 5 \leftarrow 4$

x = 108

Expanding Brackets  
Grid Method

x	x	+4
5	5x	+20

$5(x + 4)$

# Science: Chemical reactions

## BIG QUESTION: What are the patterns in chemical reactions of acids?

<b>Acid</b>	Substance which has a pH below 7. Have a high concentration of hydrogen ions (H ⁺ ).
<b>Base</b>	A substance which has a pH above 7. React with acids to neutralise it and produce a salt.
<b>Alkali</b>	A base that is soluble in water.
<b>Corrosive</b>	Able to damage metal, stonework, clothes and skin. Strong acids and alkalis are corrosive.
<b>Neutralisation reaction</b>	Reaction between an acid and an alkali that produces a substance with a neutral pH. A salt and water are also formed.
<b>Salt</b>	Substance produced by the reaction between an acid and a base.

### Reactions of Metals

Metals react with oxygen to form metal oxides



Iron + Oxygen → Iron Oxide

Magnesium + Oxygen → ?

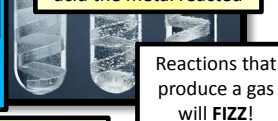
Zinc + Oxygen → ?

What are the products of the reactions above?

Metals react with acids to form a **salt** + hydrogen **gas**

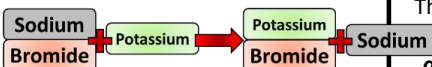
Acid	Salt Formed
Hydrochloric	- Chloride
Sulfuric	- Sulfate
Nitric	- Nitrate

The suffix of the salt's name depends on the acid the metal reacted



Reactions that produce a gas will **FIZZ!**

### Displacement Reactions



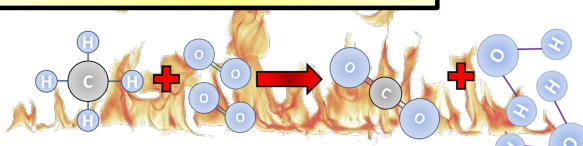
The more reactive element will **displace** the less reactive element

Displacement reactions can occur between halides (group 7 ions) or metals

## BIG QUESTION: What are chemical reactions?

<b>Chemical reaction</b>	A process where by the atoms of substances are rearranged to make a different substance.
<b>Reactants</b>	Substance(s) present at the start of a chemical reaction.
<b>Products</b>	Substance(s) formed from a chemical reaction.
<b>Combustion</b>	The process of burning by heat.
<b>Thermal decomposition</b>	Type of reaction in which a compound breaks down to form two or more substances when it is heated.
<b>Oxidation</b>	The gain of oxygen by a substance during a chemical reaction.
<b>Displacement reaction</b>	Reaction where a less reactive element is displaced from its compound by a more reactive element.
<b>Chemical bond</b>	The chemical link that holds molecules together.

### Combustion



Most **fuels** consist of 2 elements: Hydrogen and Carbon

When **hydrocarbons** are burned the products are **CO₂** and **H₂O**

These are called **hydrocarbons**

### Thermal Decomposition

A **decomposition** reaction is identified by having only **one reactant** and **multiple products**

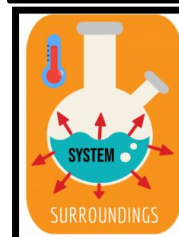


Copper Carbonate **Decomposes to form...** Copper Carbonate **-AND-** Carbon Dioxide  
Why is it called "**THERMAL**" decomposition?

## BIG QUESTION: How do acids, alkalis and bases behave?

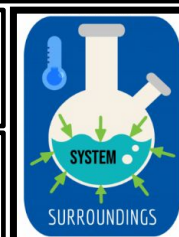
<b>Indicator</b>	A substance that has different colours, depending upon the pH of the solution it is in.
<b>Neutral substance</b>	Substance with a pH of 7.
<b>Litmus paper</b>	An indicator that can be red or blue. Red litmus turns blue in alkalis, while blue litmus turns red in acids.
<b>pH</b>	Scale of acidity or alkalinity. A pH (power of hydrogen) value below 7 is acidic, a pH value above 7 is alkaline.
<b>Universal Indicator</b>	An indicator solution that produces many different colour changes corresponding to different pH levels.
<b>Catalyst</b>	A substance that changes the rate of a chemical reaction without being changed by the reaction itself.

### Endothermic and Exothermic Reactions

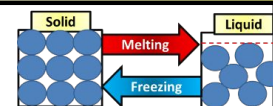


□ **Exothermic** reactions release **energy** into the surroundings

**Endothermic** □ reactions absorb **energy** into the surroundings

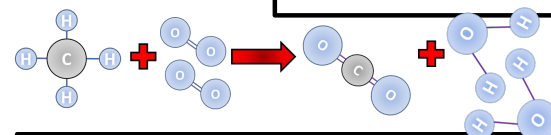


### Chemical and Physical Changes



□ **Physical changes:**

The arrangement of particles changes no bonds are broken  
H₂O (s) □ H₂O (l)



↑ **Chemical Reactions** ↑  
Bonds between atoms are broken, the atoms rearrange, and new bonds are formed

*Notice that there are the same number of C, H, and O atoms **before** and **after** the reaction

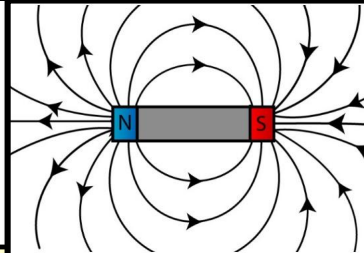
# Science: Electricity and Magnetism

## BIG QUESTION:

How do objects become charged and how do they interact with each other?

<b>Electron</b>	Subatomic particle with a negative charge.
<b>Charge</b>	Property of matter that causes a force when near another charged object. Charge can be positive or negative.
<b>Attraction</b>	When two or more charged objects are brought together due to having different charges.
<b>Repulsion</b>	When two or more charged objects are pushed away from each other due to having the same charge.
<b>Electric field</b>	Area surrounding an electric charge that may influence other charged objects.
<b>Non-contact force</b>	Force exerted between two objects that do not need to be touching.
<b>Insulator</b>	A material that does not let electrical charge or thermal energy to be transferred through it easily. E.g. rubber
<b>Static electricity</b>	Electric charge that builds up on an insulated object.

## Magnets and Magnetic Fields



The area around a magnet is called a **magnetic field**

The **magnetic field** is the strongest at the poles of the magnet

## Electromagnets

If you pass a current through a coil of insulated wire, the coil (**solenoid**) will act like a magnet

If you put a magnetic material such as an iron nail into the centre (**core**) the **magnetic field** becomes stronger

An electromagnet has the benefit of being turned on/off

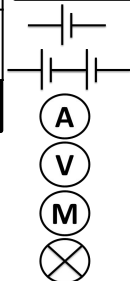


## BIG QUESTION:

How can we manipulate Voltage and Current?

<b>Conductor</b>	A material that allows electrical charge and thermal energy to be transferred through it easily. E.g. metal.
<b>Electric current</b>	The movement of electrons moving through the wires in a circuit. Measured in amperes (A).
<b>Series</b>	Connected to a circuit in the same or branch. There is only one loop in the circuit.
<b>Parallel</b>	Connected across a component in a different branch. There is more than one loop in the circuit.
<b>Potential difference</b>	Also known as voltage. The difference in energy between two points in a circuit. This difference causes electric current to flow between them. Measured in volts (V).
<b>Resistance</b>	Anything that opposes the flow of electrical current in a circuit. Measured in Ohms ( $\Omega$ ).

## Current and Circuit Symbols



Cell

Battery

Ammeter

Voltmeter

Motor

Bulb

Circuits are difficult to draw – so we use **symbols** to represent the components of a circuit

**Current** is the flow of **charge** and is measured in **Amperes (A)**

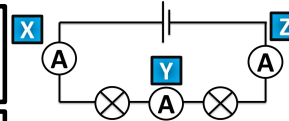
The current flowing through a circuit can be measured using an ammeter

## Current and Series Circuits

A series circuit has a single loop leading to and from the battery/cell

↑ This circuit has ↑ 3 ammeters (X,Y,Z) and 2 bulbs.

The current measured by the ammeters were □



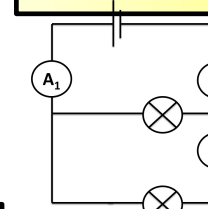
Ammeter	Current (A)
X	3
Y	3
Z	3

## BIG QUESTION:

How do magnets behave and why is this important for navigating the Earth?

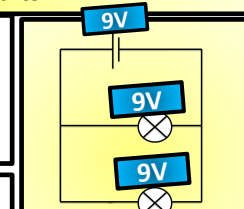
<b>Magnetic</b>	Able to be magnetised or is attracted to a magnet.
<b>Magnetic field</b>	Area surrounding a magnet that can exert a force on magnetic objects.
<b>North pole</b>	The end of a magnet that is attracted to the Earth's magnetic north pole.
<b>South pole</b>	The end of a magnet that is attracted to the Earth's magnetic south pole.
<b>Permanent magnet</b>	Magnet made from a magnetic material. Its magnetism cannot be turned off and it is always magnetised.

## Parallel Circuits



A parallel circuit contains more than one loop

Current will split when it reaches a branch in a □ circuit



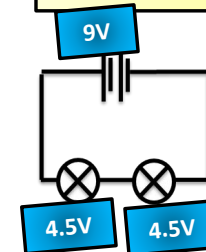
The p.d. across each branch of the circuit is the same as the p.d. of the battery/cell

Ammeter	Current (A)
A ₁	4.50
A ₂	2.25
A ₃	4.50

## Potential Difference (Voltage)

The **potential difference** (p.d.) of a **cell** or **battery** tells you the amount of **ENERGY** a battery or **CELL** can supply.

You measure p.d. with a **VOLTMETER** The **VOLTAGE** of a **battery** tells you the p.d. across it and the **VOLTAGE** on a bulb tells you the p.d. it is designed to work at.



The total **voltage** of the **battery/cell** (9V) is shared across the **components** of a **series** circuit

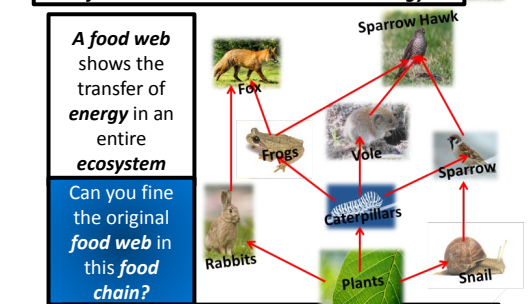
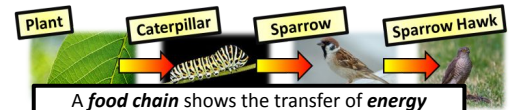
□ The 2 bulbs in this circuit have the same potential difference across them. This implies the bulbs are identical

# Science: Bioenergetics and Interdependence

## BIG QUESTION:

How do organisms interact with an ecosystem?

<b>Ecosystem</b>	A community and the habitat in which the organisms live.
<b>Community</b>	All the organisms that live in a habitat.
<b>Habitat</b>	A place where organisms live.
<b>Population</b>	All the members of a single species that live within a geographical area.
<b>Producer</b>	Plants that begin food chains by making food.
<b>Food chain</b>	A sequence of feeding relationships between organisms.



Food webs are important in maintaining steady population numbers within an ecosystem

## Leaf Structure and Plant Minerals

How are leaves adapted to carry out photosynthesis?

Contain <b>Chloroplasts</b>	<b>Air Spaces</b> for Diffusion	<b>Xylem</b> transports water and <b>phloem</b> transports glucose
Large <b>Surface Area</b>	<b>Stomata</b> control gas exchange	The reactants for <b>Photosynthesis</b>
Thin		

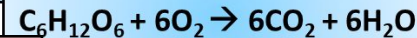
## BIG QUESTION:

What happens to organisms if the ecosystem changes?

<b>Prey</b>	Organisms that predators kill for food.
<b>Predator</b>	Organisms that kill prey for food.
<b>Interdependence</b>	All organisms in an ecosystem depend on each other for survival.
<b>Bioaccumulation</b>	Toxic materials build up in a food chain and damage the organisms in it.
<b>Adaptations</b>	A characteristic that helps an organism to survive in its environment.
<b>Pollination</b>	The fertilisation of flowers by the transfer of pollen from one to another.

### Aerobic Respiration

Glucose + Oxygen → Water + Carbon Dioxide



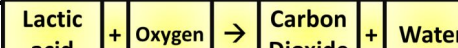
### Anaerobic Respiration

Glucose → Lactic Acid



Anaerobic respiration occurs in the absence of oxygen

Lactic acid needs to be removed by reacting it with oxygen - this called the **Oxygen Debt**



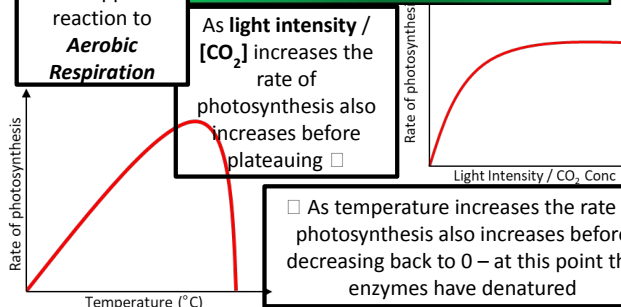
### Photosynthesis

Carbon Dioxide + Water → Glucose + Oxygen



Photosynthesis is the opposite reaction to **Aerobic Respiration**

As **light intensity** / **[CO₂]** increases the rate of photosynthesis also increases before plateauing



As temperature increases the rate of photosynthesis also increases before decreasing back to 0 – at this point the enzymes have denatured

# Science: Bioenergetics and Interdependence

## BIG QUESTION:

How do plants produce food?

<b>Photo-synthesis</b>	A chemical process whereby plants make food by absorbing sunlight. Carbon dioxide + Water → Glucose + Oxygen
<b>Chloroplast</b>	Cell organelle that contains the green pigment chlorophyll which absorbs sunlight for photosynthesis.
<b>Leaf</b>	Plant organ adapted to carry out photosynthesis.
<b>Stomata</b>	Tiny holes on the underside of leaves that open and close to control water loss and gas exchange
<b>Palisade cell</b>	Plant cell adapted to carry out photosynthesis. It contains many chloroplasts.
<b>Plant mineral</b>	Chemical elements and compounds needed for plant growth.

## BIG QUESTION:

How do we get energy from food?

<b>Energy</b>	The ability to work or produce a change.
<b>Aerobic respiration</b>	A chemical process whereby oxygen and glucose are reacted to release energy. Glucose + Oxygen → Carbon dioxide + Water
<b>Anaerobic respiration</b>	A chemical process whereby glucose is broken down without oxygen to release a small amount of energy. In animals: Glucose → Lactic Acid Fermentation: Glucose → Ethanol + Carbon dioxide
<b>Lactic acid</b>	Substance formed from anaerobic respiration that causes muscle fatigue, muscle cramps and pain.
<b>Oxygen debt</b>	The amount of oxygen required by the body for recovery after vigorous exercise.

Year 8 French, Autumn 1: Mon Collège

Les matières <i>Subjects</i>		opinion Phrase	subject	because	reason			
L'anglais = <i>English</i>	La musique = <i>Music</i>	Ma matière préférée, c'est... <i>My favourite subject is...</i>  J'adore... <i>I love</i>  J'aime... <i>I like...</i>	l'anglais <i>English</i> les maths <i>Maths</i> les sciences <i>Science</i> le français <i>French</i> l'histoire <i>History</i> la géographie <i>Geography</i> la technologie <i>DT</i> L'EPS <i>PE</i> la musique <i>Music</i> le théâtre <i>Drama</i> l'informatique <i>IT</i> la biologie <i>Biology</i> la chimie <i>Chemistry</i> la physique <i>Physics</i> la religion <i>Philosophy</i> la lecture <i>Literacy</i>	car <i>because</i>  parce que <i>because</i>  donné que <i>given that</i>  puisque <i>since</i>	c'est amusant <i>it's fun</i> c'est intéressant <i>it's interesting</i> c'est utile <i>It's useful</i> c'est créatif / pratique <i>its creative / practical</i> j'aime le / la prof <i>I like the teacher</i>			
Les maths = <i>Maths</i>	Le théâtre = <i>Drama</i>				Je n'aime pas... <i>I don't like</i>  Je déteste... <i>I hate...</i>  Je ne supporte pas <i>I can't stand...</i>			c'est barbant <i>it's boring</i> c'est nul <i>it's rubbish</i> c'est inutile <i>it's useless</i> je n'aime pas le / la prof <i>I don't like the teacher</i>
Les sciences = <i>Science</i>	L'informatique = <i>IT</i>							
Le français = <i>French</i>	La biologie = <i>Biology</i>							
L'histoire = <i>History</i>	La chimie = <i>Chemistry</i>							
La géographie = <i>Geography</i>	La physique = <i>Physics</i>							
La technologie = <i>DT</i>	La religion = <i>Philosophy</i>							
L'EPS = <i>PE</i>	La lecture = <i>Literacy</i>							

Qu'est-ce que tu portes au collège ? <i>What do you wear to school?</i>				
verb phrase	item of uniform	colour	opinion	reason
Je porte <i>I wear</i>  Je dois porter <i>I have to wear</i>  il faut porter <i>You have to wear</i>  il est nécessaire de porter <i>It is necessary to wear</i>  Pour l'EPS je porte <i>For PE I wear</i>	un pantalon <i>some trousers</i> un polo <i>a polo shirt</i> un short <i>some shorts</i>  une veste <i>a blazer</i> une jupe <i>a skirt</i> une chemise <i>a shirt</i> une cravate <i>a tie</i>  des chaussures <i>some shoes</i> des chaussettes <i>some socks</i> des baskets <i>some trainers</i>	noir / gris <i>black / grey</i> rouge <i>red</i> noir <i>black</i>  noire <i>black</i> rouge et noire <i>black and red</i> blanche <i>white</i> rouge <i>red</i>  noires <i>black</i> noires / blanches <i>black / white</i> bleues / noires / blanches <i>blue / black / white</i>	je l'adore <i>I love it</i>  je l'aime <i>I like it</i>  je ne l'aime pas <i>I don't like it</i>  je le déteste <i>I hate it</i>	car c'est chic <i>because it's stylish</i> car c'est pratique <i>because it's practical</i> car c'est facile <i>because it's easy</i> car c'est confortable <i>because it's comfortable</i> car c'est inconfortable <i>because it's uncomfortable</i> car c'est moche <i>because it's ugly</i>

20

Year 8 French Autumn 2: Future Plans

Qu'est-ce que tu vas faire à l'avenir ? <i>What are you going to do in the future?</i>							
Time phrase	Future trigger	Infinitive phrase	connective	opinion phrase	It ____	Intensifier	Adjective
À l'avenir, <i>In the future,</i>	je vais <i>I'm going to</i>	aller à l'université <i>go to university</i>	car <i>because</i>	pour moi <i>for me</i>	ce sera <i>it will be</i>	très <i>very</i>	amusant <i>fun</i>
Dans le futur, <i>In the future,</i>	je veux <i>I want to</i>	avoir beaucoup d'amis <i>have lots of friends</i>	parce que <i>because</i>	je pense que <i>I think that</i>	ce serait <i>it would be</i>	vraiment <i>really</i>	super <i>super</i>
Quand je suis adulte, <i>When I'm an adult,</i>	j'ai l'intention d' <i>I intend to</i>	avoir un travail bien payé <i>have a well-paid job</i>	puisque <i>because</i>	je crois que <i>I believe that</i>		totalelement <i>totally</i>	fantastique <i>fantastic</i>
À l'âge de 25 ans, <i>When I'm 25,</i>	je voudrais <i>I would like to</i>			à mon avis <i>In my opinion</i>	c'est <i>it is</i>	absolument <i>absolutely</i>	chouette <i>great</i>
	_____ va <i>_____ is going to</i>	être célèbre <i>be famous</i>	donné que <i>given that</i>	je dirais que <i>I would say that</i>		complètement <i>completely</i>	formidable <i>amazing</i>
		être content(e) <i>be happy</i>		de mon point de vue <i>from my point of view</i>		tellement <i>so</i>	important <i>important</i>
		habiter à l'étranger <i>live abroad</i>				incroyablement <i>incredibly</i>	cool <i>cool</i>

Quel métier veux-tu faire à l'avenir ? <i>Which job do you want to do in the future?</i>			
Je veux être <i>I want to be</i> Je voudrais être <i>I would like to be</i> Je voudrais travailler comme <i>I would like to work as</i>  Ce serait mon rêve d'être <i>It would be my dream to be</i>  Si j'avais le choix, je serais <i>If I had the choice, I would be</i>	avocat(e) <i>a lawyer</i>  prof <i>a teacher</i>  policier(e) <i>a police officer</i>  pompier(e) <i>a firefighter</i>  journaliste <i>a journalist</i>	mécanicien(ne) <i>a mechanic</i>  ingenieur(euse) <i>an engineer</i>  écrivain(e) <i>an author</i>  coiffeur(euse) <i>a hairdresser</i>  influenceur(euse) <i>an influencer</i>	médecin <i>a doctor</i>  infirmier(e) <i>a nurse</i>  chef de cuisine <i>a chef</i>  footballeur(euse) <i>a footballer</i>  pilote <i>a pilot</i>

# History

Economic  
Study: 1500 -  
Modern Day

**Economic:**  
relating to  
money or  
wealth of a  
country

**Political:**  
relating  
to the  
government  
/ ruling elite

**Social:**  
relating to  
society or  
the people

## The Transatlantic Slave Trade

**1492:** Columbus lands in the Caribbean

**1562:** John Hawkins takes first ship of enslaved people to the West Indies.

**1619:** Transatlantic Slave Trade in North America begins with first ship full of enslaved Africans docking in Virginia colony (now USA)

**1789:** Publication of Olaudah Equiano's autobiography

**1807:** The slave trade is abolished by Great Britain

**1833:** Slavery is abolished in all British colonies

**1839:** Amistad slave ship rebellion

**Exploration:** travelling to find new parts of the world

**Trade Triangle:** the slave trade system Europe/Africa/America

**The Middle Passage:** the voyage from Africa to America, transporting the enslaved Africans.

**Labour:** work or workers

**Trade:** the action of buying and selling goods

**Exploitation:** The action of treating someone unfairly in order to benefit from their work.

**Plantation:** A large scale farm where crops such as coffee, sugar, and tobacco were grown.

**Abolition:** to oppose or end something

**Overseer:** a person who supervised the enslaved or factory workers

**Olaudah Equiano:** a former enslaved man who wrote about his life

**Harriet Tubman:** American abolitionist and activist. She was the organiser of the 'underground railway'.

**Thomas Clarkson:** campaigned for abolition of slavery

**Granville Sharp:** used legal means to try to abolish slavery

**William Wilberforce:** MP who campaigned to abolish slavery



## Empire

**Empire:** collection of colonies ruled by one state with means to gain power

**Colony:** an area controlled by a foreign power as part of an empire

**Imperialism:** a policy to extend a country's power and influence by building an empire

**1497-1783:** English seamen reached places Europeans had not previously been. Britain then set up colonies and used them to trade all over the world

**1783-1924:** By 1924 Britain controlled a fifth of the land in the world.

After **1924:** After the World War One it became increasingly difficult for Britain to hold on to the Empire

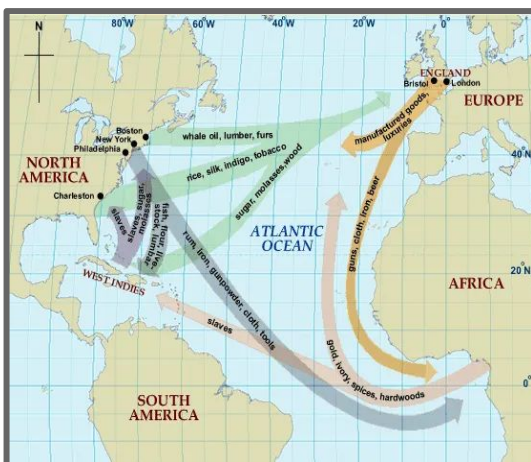
**Australia:** used as a location for criminals. Criminals would be shipped to Australia, where they would be used as a workforce.

**The Caribbean:** Because of the warm climate, the Caribbean grew important crops that Britain could not.

**Africa:** Britain enslaved the people of Africa. The Gold Coast was important because it held lots of gold, ivory and silver.

**India:** Was an important producer of spices and of materials that were traded for money across the Empire

**East India Company:** A British trading company which had its own army. Helped the colonise India for the British Empire.



# History

Economic  
Study: 1500 -  
Modern Day



## The Industrial Revolution

**1600s - 1700s** Enclosure Acts  
**1712:** Newcomen develops steam powered pump  
**1761:** Bridgewater Canal opens  
**1765:** James Watt's steam engine  
**1770:** The Spinning Jenny invented by Hargreaves,  
**1771:** Arkwright builds Cromford Mill textile factory  
**1790s:** Canal Mania  
**1840's:** Railway Mania  
**Industrial Revolution:** change from an economy based on agriculture to manufactured goods  
**Rural:** countryside areas/settlements  
**Urban:** town or city areas/settlements  
**Steam power:** using pressure from heating water to power machines  
**Iron:** main metal used in manufacturing.  
**Canal:** transporting heavy good by water  
**Turnpike Trust:** Private toll roads  
**Domestic System:** manufacturing items in the home  
**Factory System:** manufacturing in a specially constructed building  
**Industry:** The process of making products by using machines and factories  
**Mass production:** The production of many products in one go e.g. textiles  
**Richard Arkwright:** pioneered the factory system  
**George Stephenson:** engineer and railway pioneer  
**Poverty:** the state of not having enough resources for a minimum standard of living  
**Textiles:** Cloth or clothing production by spinning and weaving  
**Apprentice:** an child (sometimes orphans) who worked in factories in return for food and lodging  
**Workhouse:** a place where poor people could get food and shelter in return for work  
**Depression:** severe downturn in the economy, causes mass unemployment

## AO2: Skills

**Point:** give a broad reason / factor that answers the question. Use the wording from the question to structure this sentence.  
**Evidence:** give specific factual detail that relates to the point you have given. **Specific Factual Detail:** This could be facts / dates / people / statistics / laws.  
**Explanation:** : explain why or how your evidence answers the question.  
**Explanation Phrases:** : This meant that / This led to / Consequently / As a result/ This proves.



## AO3: Skills

**Inference:** making judgements from sources  
**Message:** what a source says  
**Purpose:** why a source was created  
**Nature:** the type of source  
**Origin:** who created a source  
**Utility:** what a source is useful for  
**Interpretation:** a view / opinion on the past

**We study History so that we can know the past, engage in the present and impact the future**

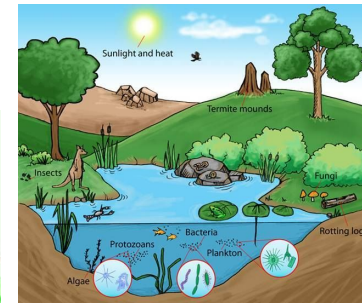
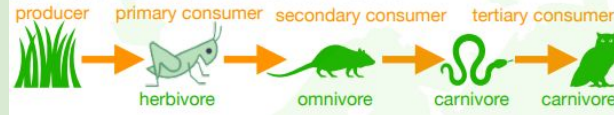
# Year 8 Geography - Ecosystems

An ecosystem is an environment in which a community of plants and animals (biotic) that share an environment with non-living things (abiotic) such as soil. The plants and animals within ecosystems adapt so that they are able to survive in that area.

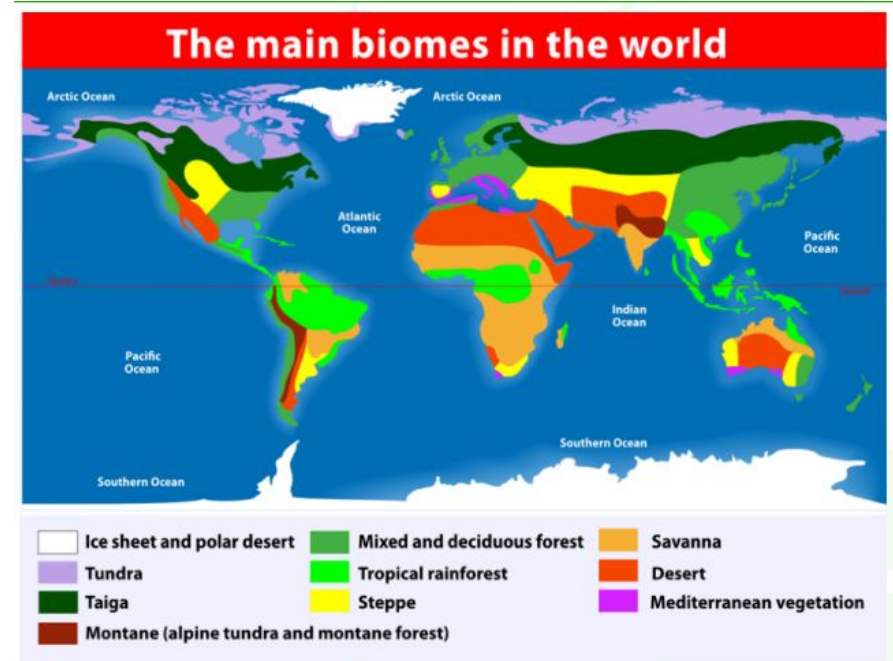
Ecosystems are not one size: they can be as small as a hedgerow or as large as a rainforest.

Large ecosystems are called biomes. Examples of biomes include: tundra (cold desert), tropical rainforest, hot desert

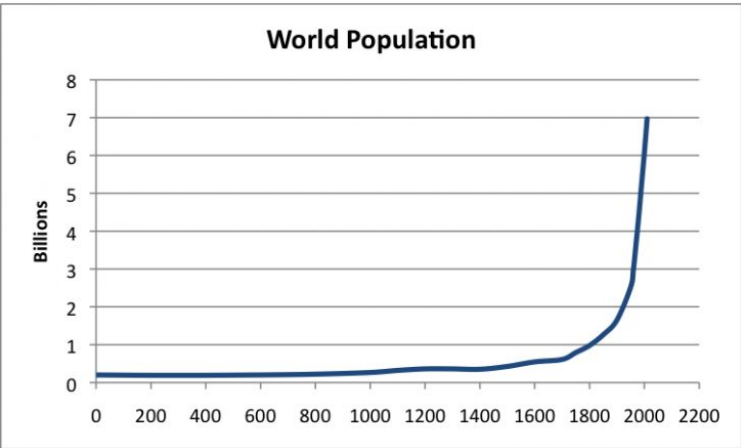
A **food chain** only follows one path as animals find food. eg: A hawk eats a snake, which has eaten a frog, which has eaten a grasshopper, which has eaten grass. A **food web** consists of many food chains. It shows the many different paths plants and animals are connected.



Key Terms:	
<b>Ecosystem</b>	A community of plants and animals that interact with each other and their physical environment.
<b>Biome</b>	A global scale ecosystem which has similar plants, animals, climate and soils e.g. rainforest, desert.
<b>Producer</b>	A living thing which is able to absorb energy from the sun through photosynthesis, and nutrients from the soil.
<b>Consumer</b>	A living thing which eats plants and/or other animals.
<b>Decomposer</b>	A living thing such as bacteria, insects or fungi, which feeds on and breaks down dead or waste material from other species, returning nutrients to the soils.
<b>Food web</b>	Uses lines to show the feeding links between living things.
<b>Nutrients</b>	Minerals required for all species to grow. These are cycled between the soils, living things and dead matter.
<b>Climate</b>	The usual weather conditions in a place or at a particular time of year.
<b>Latitude</b>	Lines across the globe, from 0° at the Equator to 90° N/S
<b>Tropical Rainforest (TRF)</b>	An ecosystem with high temperatures (around 30°C) and rainfall (2000mm+), found near the Equator, mostly between the Tropic of Cancer and Capricorn.
<b>Adaptation</b>	Species have evolved special characteristics of their bodies or behaviour suited to particular biomes.
<b>Temperate deciduous woodland</b>	Deciduous trees like those in the UK lose their leaves in autumn, as the climate is seasonal at around 50-60° N (UK).



# Geography - Population and Migration



World Population is increasing exponentially - what will this mean for the planet and how can we manage it?

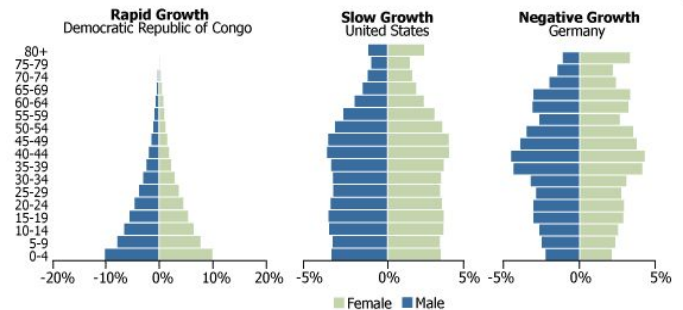
### Mexico to USA case study

There is a 2000 km border between the USA and Mexico as illegal migration is a huge problem. U.S. Border Patrol guards the border and tries to prevent illegal immigrants from entering the country. Illegal migration costs the USA millions of dollars for border patrols and prisons.

Many Americans believe that Mexican immigrants are a drain on the economy. They believe that migrant workers keep wages low which affects Americans.

However other people believe that Mexican immigrants benefit the economy by working for low wages. Mexican culture has also enriched the USA border states with food, language and music.

Key Term	Definition
Population	All the inhabitants of a particular place. E.g The population of the UK is just over 65 million.
Migration	The movement of people from one place to another, usually to live or to work.
Life Expectancy	The average period (years) that a person would expect to live. This varies from country to country.
Birth Rate	The number of live births per 1000 people per year.
Death Rate	The number of deaths per 1000 people per year.
Natural Increase	Birth Rate is higher than Death Rate so the population grows.
Natural Decrease	Death Rate is higher than Birth Rate so population lowers.
Immigration	The movement of people into a country to live or to work.
Emigration	The movement of people out of a country to live or to work.
Exponential Growth	When the rate of growth increases all the time creating an ever steeper upward curve.
Population Density	The number of people living in a given area. E.g 350 people per KM squared.
Sparsely Populated	A low number of people living in a given area. E.g 3 people per KM squared.
Urban	Relating to towns or cities.
Rural	Relating to the countryside.
Push Factor	Factors that make you want to leave an area E.g War, famine, lack of education.
Pull Factor	Factors that make you come to a certain area E.g low levels of crime, better quality housing.



Population pyramids show the makeup of a country in terms of age and gender. Look at the following website and make comparisons between the population pyramids of poor and rich countries.  
<https://www.populationpyramid.net/world>

# Year 8 Computing

## Core Computing 2

Internal Hardware & The CPU	
CPU (Central Processing Unit)	The main chip inside a computer that carries out instructions.
Fetch, Decode, Execute Cycle	The continuous three-step loop the CPU runs billions of times a second to get an instruction, understand it, and run it.
Clock Speed	How fast the CPU can run instructions, measured in Gigahertz (GHz). Higher clock speed means a faster computer.
Cores	The number of independent processing units inside a single CPU; more cores allow a computer to do multiple tasks at once.

Units of Storage	
Bit	A single binary digit. A 0 or a 1.
Nibble	4 bits
Byte	8 bits
Kilobyte	1000 bytes
Megabyte	1000 kilobytes
Gigabyte	1000 megabytes
Terabyte	1000 gigabytes
Petabyte	1000 terabytes

Memory & Storage Types	
RAM (Random Access Memory)	Temporary, high-speed memory that holds the apps and files you are actively using right now. It empties completely when power is turned off.
ROM (Read Only Memory)	Permanent memory that contains the unchangeable boot-up instructions needed to turn the computer on.
Secondary Storage	Permanent storage used to keep your files, operating system, and software safe when the computer is turned off.
Magnetic Storage	Devices that use spinning platters and magnets to read and write data (e.g., traditional internal Hard Drives).
Optical Storage	Devices that use lasers to read data from reflective discs (e.g., CDs, DVDs, and Blu-ray discs).
Solid State Storage	Flash memory devices with no moving parts, making them incredibly fast and durable (e.g., USB sticks and modern SSD hard drives).

Addition		Result	Carry
0 + 0	=	0	0
0 + 1	=	1	0
1 + 0	=	1	0
1 + 1	=	0	1

# Year 8 Computing

## Algorithms and Programming 2

### Variables & Programming Basics

Variable	A named storage location (like a labelled box) in a program that holds a piece of data which can change while the program is running.
Constant	A named storage location that holds a value that cannot change while the program is running (like the value of Pi).
Arithmetic Operator	A symbol used in code to do basic maths.
Comparison Operator	A symbol used to compare two values to see if they match or if one is bigger.

### Operators

*	Multiply
/	Divide
==	Equal to
!=	Not equal to
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to

### Algorithms & Flowcharts

Algorithm	A set of step-by-step instructions followed to complete a task or solve a problem.
Flowchart	A diagram that uses shapes and arrows to show the step-by-step path of an algorithm.
Input	The data or information that is put into a computer program (e.g., typing your age).
Process	The action the computer takes to change or calculate data.
Output	The final result that the computer displays or sends back to the user (e.g., printing text on the screen).
Trace Table	A grid used to manually track the values of variables step-by-step to check if an algorithm works correctly.

### Controlling the Code

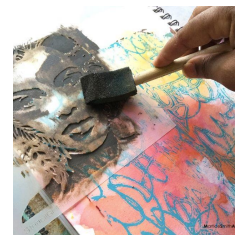
Sequence	Running instructions in order, one after the other, from top to bottom.
Selection	Uses an IF statement to make a decision and choose which path to take.
Loop (Iteration)	A section of code that repeats a set of instructions multiple times
Debugging	Finding and fixing errors (bugs) in a piece of code so it runs perfectly.

# Year 8 Art - Graffiti

## Can graffiti be transformed into valuable art?

Alecks Cruz is a successful artist that uses graffiti style lettering to create his sculptures. His work is showcased in galleries across the world.

1. Born in Chicago in 1984, Alecks is a self-taught visual artist and **graphic** designer
2. 2011 when Alecks began gaining local recognition by winning design competitions.
3. He explores the **composition** of individual letters and the unique beauty that each character has to offer.
4. Alecks took his love for graffiti art and constructs cardboard graffiti pieces that quickly became his **trademark**.
5. His work shows arrows, barcodes and colours that pop out with hard angles, straight sides and swooping edges.



## What messages do urban artists try to communicate, and how do they do it?

Street art is more than just a visual spectacle; it is a medium through which artists tell compelling stories that resonate with the public. Whether these stories are personal, historical, or fictional, the narrative power of street art lies in its ability to convey complex messages through imagery.

Many street artists use their work to share personal experiences and emotions. These pieces often reflect the artist's struggles, triumphs, and perspectives on life. For instance, murals depicting scenes from the artist's childhood, portraits of loved ones, or symbols representing personal growth can be found in cities worldwide.

Street art also serves as a powerful tool for historical storytelling, bringing past events to life in vivid and engaging ways. Murals commemorating significant historical figures, events, or movements can educate the public and keep history alive in the collective memory.

In addition to personal and historical narratives, street artists often create fictional stories that captivate the imagination. These artworks can feature fantastical characters, surreal landscapes, and imaginative scenarios that transport viewers to other worlds. This type of storytelling allows artists to explore themes of fantasy, mythology, and folklore, blending reality with fiction to create visually stunning and thought-provoking pieces.

Street art, with its rich tapestry of personal, historical, and fictional narratives, transforms urban spaces into vibrant storytelling arenas. Through their creative expressions, street artists connect with the public on a profound level, fostering empathy, awareness, and inspiration. The immediacy and accessibility of street art ensure that these stories reach a diverse audience, breaking down barriers and building bridges between different communities.

## Is graffiti an acceptable art form?

- **Graffiti** art as a term refers to images or text painted usually onto buildings, typically using spray paint. Graffiti is marks, scratchings or drawings made on a surface in a public place.
- Graffiti art has its origins in 1970s New York, when young people began to use spray paint and other materials to create images on buildings and on the sides of subway trains. Such graffiti can range from bright graphic images (wildstyle) to the stylised monogram (tag).
- Today, many graffiti are very complicated mixtures of writing and pictures. When done without a property owner's permission it is considered **vandalism**. Sometimes it is just a person's name or a word. Sometimes it is as a public **political protest**.

A **stencil** is a device for applying a pattern, design, words, etc. to a surface, consisting of a thin sheet of cardboard, metal, or other material from which figures or letters have been cut out, a coloring substance, ink, etc., being rubbed, brushed, or pressed over the sheet, passing through the **perforations** and onto a surface.

# Year 8 Art - Surrealism

## What is the point of Abstract Art?

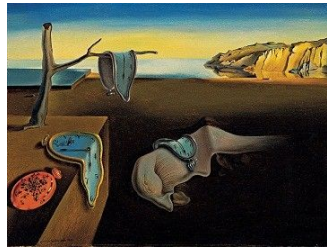
The main purpose of abstraction in art is not to tell a story, but to encourage imagination. Abstract art has been around for well over 100 years. Some might even assert that abstraction started with the cave paintings of thousands of years ago.

Abstraction can be traced to **Impressionism**, **Post-Impressionism** and **Cubism**. It was completely **radical** for its day. Artists began to create simplified objections with little or no reference to the “real” world.

The first artist to create abstract art as we know it will always remain a mystery but Wassily Kandinsky is often credited by historians as he created paintings of floating, **non representational** forms as early as 1912. His work brought abstraction to America during the Armory Show in 1913.

Abstract art now lives in the art world in many forms. It is two- and three-dimensional. It can be vast or small. Abstract art can also be made with many materials and on many surfaces. It can be used in concert with **representational** art or completely abstract. Artists creating it often focus on other visual qualities like colour, form, texture, scale and pattern. The continuing interest in abstract art lies in its ability to inspire our curiosity about the reaches of our imagination and the potential for us to create something completely unique in the world.

## Art Style and Technique



## What is the artist's role in society?

Artists are important to our world for many reasons. They do more than just paint pictures or make music—they help us understand life and each other in powerful ways.

### 1. They Show Us the World

Artists help us see things in new ways. They can show beauty in everyday life or highlight problems in the world that we might not notice.

### 2. They Tell Stories

Through their art, artists tell stories about people, places, and important events. These stories help us learn about the past and understand other cultures.

### 3. They Make Us Feel

Art can make us happy, sad, excited, or even confused. Artists help us explore our emotions and understand what others are feeling too.

### 4. They Inspire Change

Artists can use their work to stand up for what they believe in. Their art can make people think and even lead to changes in society.

### 5. They Imagine the Future

Artists are dreamers. They imagine what the world could be like and help others see new ideas and possibilities.

### 6. They Make Life More Beautiful

Whether it's music, paintings, dance, or design, artists bring beauty and creativity into our daily lives.

## Is there a “right” or “wrong” way to create marks?

Mark making refers to the way artists create different lines, dots, textures, and patterns in their artwork. These marks can be achieved using various tools and materials on different surfaces, and they are a **fundamental** building block for any artwork. Mark making can significantly impact an artwork by **influencing** its visual texture, tone, and overall **aesthetic**. Artists use a wide range of **techniques**. Artists can use mark making to **convey** emotions, ideas, and personal styles. Mark making is not limited to drawing; it can be applied to painting, sculpture, printmaking, or even sound. Artists use mark making to express their feelings, emotions, or responses to their surroundings. It can also be used to create abstract compositions without representing anything specific.

- **Hatching:** Creates tone and shadow by drawing parallel lines.
- **Cross-hatching:** Builds up tone by drawing lines in multiple directions.
- **Stippling:** Uses dots to create tone and texture.
- **Dabbing:** Creates marks by using a brush or tool to dab paint or ink on a surface.
- **Scribbling:** Loose and free-flowing marks, often used for exploration and experimentation.
- **Splattering:** Creates a splatter effect by throwing paint or ink onto a surface.



# Year 8 Design - Cubism

Do design movements still have an influence today?

A “movement” is a style in art or design that has a specific philosophy or ideal and is followed and promoted by a group of artists for a defined period of time.

Cubism is an art movement that began in the early 1900s. Artists wanted to show objects and people from **multiple viewpoints at the same time**, rather than from one realistic angle.

Instead of making art look realistic, Cubist artists:

- Broke objects into **geometric shapes**
- Fragmented and rearranged forms
- Showed different sides of an object in one image
- Used overlapping planes
- Simplified colour

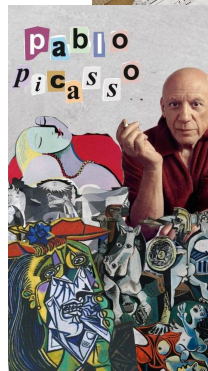
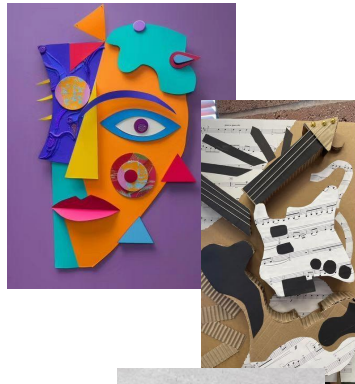
Cubism changed the way artists thought about space, perspective and form.

Key artists were Pablo Picasso and Georges Braque

Why do artists and designers look at others work, isn't this copying?

- If all we ever view is unsuccessful design, there is a good chance that unsuccessful design is what we'll regurgitate!
- By looking at the work of other new or past designers or artists, we are able to gain inspiration meaning we can use their ideas in our own designs.
- If we are good at what we do we will problem solve and create new solutions from this inspiration and take it a step further in order to make it our own, making it a new and fresh perspective.
- It is important for us as designers to constantly be seeking and absorbing good design, different perspectives and design around us so we create relevant ideas.

## Design Movements



Why is it important to try new materials instead of always using the same ones?

Understanding the different properties of materials helps you make better choices in your artwork. Different materials create different textures, effects and styles. Be open-minded when experimenting and don't be afraid to try new things. Even if something doesn't work, you are still learning and developing your skills.

When starting your work, build on what you already know but also challenge yourself. If you feel confident using a material, try using it in a new way. If you like a certain technique, test it with a different material. You can also experiment with backgrounds by changing colours, textures, shapes and layers. Looking at artists you find inspiring and trying out their techniques can help you develop your own ideas.

It is important to record your experiments in your sketchbook. Keep your tests and small studies, and write about what worked well and why. Keep the pieces that didn't work too, and explain what you learned from them. This shows your progress and helps you improve your final piece.

# Year 8 Art - Lino Printing

## Why do artists choose lino printing over other techniques?

Artists choose lino printing because it is a versatile, affordable, and expressive printmaking technique. It allows them to create multiple copies of the same design while still giving each print its own unique character. The bold lines, strong contrasts, and textured marks produced by carving into lino create striking images that are difficult to achieve with other methods. Many artists also enjoy the hands-on process of designing, carving, inking, and printing, which encourages careful planning, creativity, and experimentation with colour and composition.

The creation of a lino print typically involves four steps:

1. **Transferring the Design:** The artist draws or traces an image onto the linoleum surface. Because the final print will be a mirror image, this is the time to reverse text or directional elements.
2. **Carving:** Using sharp tools called *gouges* and *chisels*, the artist carves away all the areas they do not want to appear in the final print.
3. **Inking:** A roller (called a *brayer*) is used to apply a thin layer of specialized, tacky block printing ink onto the raised surface of the block.
4. **Printing:** Paper is placed over the inked block and pressure is applied either by hand (using a wooden spoon or a barren) or with a mechanical printing press to transfer the design.

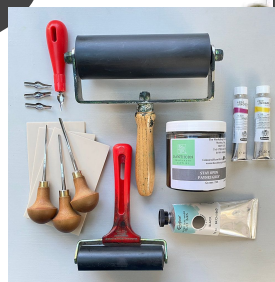
## How can artists use pattern in art?

Patterns are all around us, in nature as well as in art and design. We see patterns where shapes, lines or colours are repeated. How complicated a pattern is depends on what is repeated and the way in which it is repeated.

Patterns can be **regular** or **irregular**.

In regular patterns the motif (or motifs) is repeated in a way that is **predictable**. It could be exactly the same each time, or it could change in a way that is regularly repeated. An irregular pattern is one in which the motif changes or the way it is repeated is unpredictable. A radiating is a pattern that is arranged around a central point is called a radiating pattern. It seems to radiate out in all directions. Radiating patterns result in designs that feel balanced. They can be an effective way to create a focal point at the centre of the pattern.

## Pattern



## How does understanding pattern help us to become better artist?

**Motif** - A repeated shape, symbol, or image that forms the main feature of a pattern or design.

**Pattern** - A repeated arrangement of shapes, lines, colours, or motifs used to create a decorative design.

**Regular Pattern** - A pattern where motifs repeat in a consistent, predictable order with equal spacing.

**Irregular Pattern** - A pattern where motifs repeat in an uneven or unpredictable way, creating a more natural or varied effect.

**Relief Printing** - A printing process where the raised surface is inked, while the carved-away areas do not print.

**Carving** - The process of cutting away sections of lino using specialist tools to create a design.

**Positive Space** - The raised areas of the lino that hold the ink and appear in the final print.

**Negative Space** - The carved-away areas that do not hold ink, allowing the paper to show through.

**Texture** - The visual effect created by different carved lines, marks, and patterns in a lino print.

## Drama Keywords

<b>Melodrama</b>	A type of play where plots are predictable, characters are stereotypes and good overcomes evil.
<b>Stock character</b>	A stereotypical person whom audiences readily recognise from frequent recurrences in a particular genre.
<b>Stereotype</b>	A widely held but fixed and oversimplified image or idea of a particular type of person or thing.
<b>Exaggeration</b>	Making something larger or greater than it is naturally.
<b>Thought Tracking</b>	A thought-track is when a character steps out of a scene to address the audience about how they're feeling.
<b>Pace</b>	The speed the dialogue is delivered to the audience, or the speed of the movement.
<b>Transitions</b>	How to change from one scene to another - could be smooth, could be abrupt, could use lighting/sound.
<b>Blocking</b>	The position and movement of the actors in a scene when you are rehearsing.
<b>Verbatim</b>	Creating a play using precise words spoken by people interviewed about an event or topic

## Year 8 Drama - Autumn Term 1 Melodrama

### Key Knowledge

- We will where Melodrama fits in to the History of Theatre timeline
- We will learn about what Melodrama plays were like, and how Melodrama techniques have been used in other styles of theatre
- We will create our own Melodrama performances, learning about stock characters and their roles within the play
- We will explore the story of Sweeney Todd and create an assessed performance in a melodramatic style



## Year 8 Drama - Autumn Term 2 World War 1

### Key Knowledge

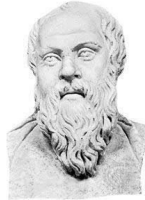
- We will look at the conditions of the trenches in WW1 (1914-1918) and explore stories of real life soldiers
- We will be using **Tableaux**, **Thought-Tracking**, **Movement** and **Soundscape** to create *atmosphere* and *mood*.
- We will devise our own performances, and also use some scripted elements to develop our performances
- We will use **tone of voice**, **body language**, **facial expression** and other skills to portray characters



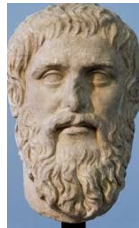
# Philosophy - love of wisdom

**Philosophers** - investigating the ideas of people who have shaped our world

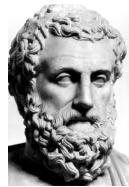
**Socrates** (born c470BCE) gave us Socratic questioning; a way of investigating truth.



**Plato** (born c427 BCE) was a rationalist. He said you need to use your **brain** to work out what is true - reason it out. He thought that ordinary people were like prisoners who had got trapped in a cave. The only little bit of the outside world the prisoners got to see was like shadow puppets. The firelight made the shadows of the outside world look like MONSTERS.



**Aristotle** (born c384 BCE) was a student of Plato. He strongly disagreed with Plato. He believed you need to use your senses to find out what is true - obviously. He was an empiricist.



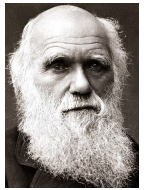
**Thomas Aquinas** (1225-1274 CE): The First Cause argument and the Design argument both prove that God exists as he is the only one who could have made the universe.



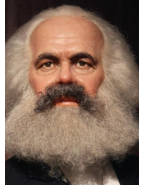
**Descartes** (born 1596 CE) thought he couldn't trust anything. He did reason that he was a thinking thing; 'I think, therefore I am'. His trademark argument was that the idea of God is imprinted on the brain. God is perfect and so must exist.



**Charles Darwin** (1809-1882 CE) wrote *On the Origin of Species* and introduced the theory of evolution by natural selection. He said the world was not made quickly and was not made exactly as it is today. He saw the results of natural selection in birds; survival of the fittest.



**Karl Marx** (1818-1883 CE) was an atheist. He described religion as 'the opium of the people.' He compared religion to an addictive, pain killing drug that enabled the ruling classes to oppress the working classes.



**Sigmund Freud** (1856-1939 CE) was a psychologist who said we are all scared of not having a parent, injustice and dying. He said religion was a 'cure' for the fear of these 3 things.



Happy Human -  
Humanist symbol.

## Key Terms

**Rationalist:** Using your logic

**Empiricist:** Using your senses

**Natural law:** God given rules that are innate

**Evolution:** Scientific theory of the development of species which involves a process of natural selection and survival of the fittest.

**Psychologist:** someone who studies the human mind and human emotions and behaviour

**Atheist:** someone who believes in no God

**Theist:** someone who believes in one or more gods

**Agnostic:** someone who is not 100% sure there is or is not a God or someone who thinks you cannot know for certain whether there is a god

**Humanist:** someone who believes that human reasoning is the highest authority.

**Sanctity of life:** Belief that life is sacred/special because it was created by God, or because we are each unique individuals.

**Quality of life:** The standard of health, comfort and happiness/fulfillment experienced by a person or group.

**Scientific:** Knowledge based on what can be observed (eg regularities in nature) and experimentation.

# Year 8 Music: Pop Music

## Key knowledge:

- 1. Riff - A repeated musical idea that is recognisable in a song
- 2. Bassline - A prominent part played in a low pitch instrument
- 3. Verse Chorus - The structure of a pop song
- 4. Chords - Two or more notes played at the same time to harmonise a melody
- 5. Homophonic - The texture of most pop songs.
- 6. Arpeggio's - The notes of a chord played individually
- 7. Chord progression - The order of the chords played
- 8. Major chord - A chord where the root and the third are 4 semitones apart
- 9. Minor chord - A chord where the root and the third are 3 semitones apart



## COMPOSITION KNOWLEDGE ORGANISER

'Composing is a messy business!'

- STEPS**
- 1. GENRE/MOOD (Film music? Song? Hip-hop? Fusion?)
  - 2. KEY (Major or Minor? Chromatic? Modal?)
  - 3. CHORD PROGRESSION or MELODY first?
- STEPS - Part 2**
- 4. Repeat! Develop! Create contrast!
  - 5. Add layers! Minimum 4!
  - 6. Finalise structure. Add decoration?

**STEP 1 - What will I compose?**  
Listen to as many examples of your chosen genre/mood as possible.  
What can you use in your own composition? **Make a shopping list!**

**STEP 2 - What is my key?**

MAJOR KEY	# b	RELATIVE MINOR	# b
C major		A minor	G#
G major	F#	E minor	F# D#
F major	Bb	D minor	Bb C#

**STEP 5 - LAYERS**  
**Texture:** Aim to have a range of **very thin** (1 or 2 instruments) to **thick texture** (4 or more instruments) if possible!

**STEP 3 - Chords and Melody**  
**Common Chord progressions**

OPTIMISTIC	I	V	vi	IV	'Hey soul sister' 'I'm yours' 'No woman no cry'
PESSIMISTIC	vi	IV	I	V	'All of me' 'River flows in you' 'Grenade' 'Poker face'
PRIMARY	I	IV	V	I	Rock, Pop, Classical, Jazz, 12 bar blues, etc etc
'JAZZY'	I	ii	V	I	The ii-V-I is used in many jazz standards, RnB, Pop

**MELODY:** 'A good melody has many **STEPS**, a few **LEAPS** and some repeated notes'

- STEP 4 - How to develop my melody/piece**
- Repeat your ideas with minor changes (Don't 'loop', that's boring!)
  - Use sequences. Use imitation. Change octaves. Use inversion, augmentation, diminution.
  - Create contrast! (Change dynamics, key, instruments, texture, tempo, articulation)
  - Use **silence**.

- STEP 6 - Does my piece sound 'complete'?**
- Is there a logical structure to my piece?
  - Do the start/end make sense?
  - Is it unified? (Are the different sections connected in any way?)

**Dynamics:** Aim to have a range of **very quiet** (pp) to **very loud** (ff) if it suits your genre!

Composition is a balance between **variety** and **repetition**. Too much of either is NOT good!

## What is pop music?

Pop music is short for "popular music". It is a genre of commercial music designed to have wide appeal, featuring catchy melodies, short lengths, and simple, repeating structures like verses and choruses.

## What is pop music?

Pop music is short for "popular music". It is a genre of commercial music designed to have wide appeal, featuring catchy melodies, short lengths, and simple, repeating structures like verses and choruses.

## What are the different parts of a song?

**Intro:** Sets the mood and introduces the main vibe or beat before the vocals start.

**Verse:** Tells the story with new words each time, while keeping a similar tune.

**Pre-Chorus:** Builds up energy and tension to connect the verse to the big payoff.

**Chorus:** The most catchy, repeating part that holds the main message and title.

**Bridge:** Changes the tune and feel late in the song to give your ears a fresh break.

**Outro:** Brings the song to a clear and satisfying end.



# Year 8 PE - Netball

## KEY TERMS

**Court** – The area netball is played on.

**Goal Third** – The 2 areas of the court including the shooting circle.

**Centre Third** – The area in the middle including the centre circle.

**Umpire** – The name of the person who officiates the match.

**Other areas of the court:** back line, side line, centre circle, shooting semi-circle.

**Intercept / Interception** – Gaining the ball by getting in between a pass from the opposing team.

**Possession** – Keeping the ball.

## SKILLS IN ISOLATION

**Passing** – chest, shoulder, overhead (bounce).

**Handling** – ball control.

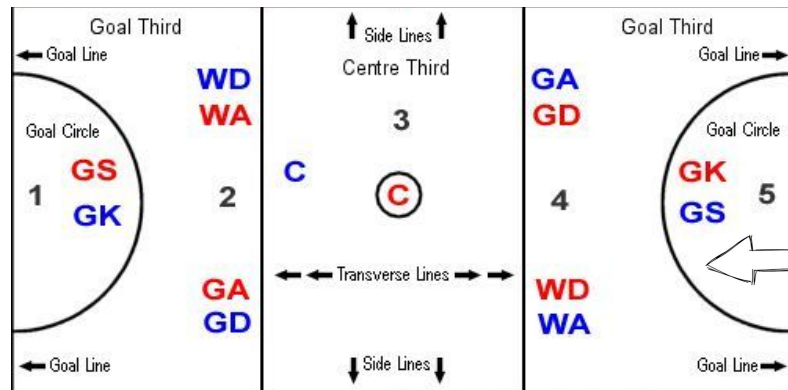
**Catching** – 1 and 2 handed.

**Footwork** – split and 1-2 landings, pivot to change direction.

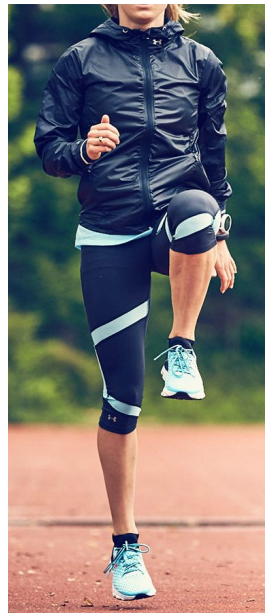
**Attacking** – holding space, dodging to get free from a player.

**Shooting** – 1 or 2 handed.

**Defending** – stage 1 man to man marking, stage 2 defend the pass.



*A netball match lasts for 4 x 15 minute quarters = 1 hour*



Character focus: Are you committed to trying your best in every aspect in Netball.

## APPLICATION OF SKILLS

- Set plays e.g. centre pass, back lines
- Decision making
- Demonstrate communication on court
- Adapt to the environment

## POSITIONS – BLUE TEAM

**How many players on 1 team?**

**Where can they go?**

**Defence:**

GK – 1 & 2

GD – 1, 2 & 3

WD – 2 & 3

**Attack:**

GS – 4 & 5

GA – 3, 4 & 5

WA – 3 & 4

C – 2, 3 & 4

**Which areas can the RED team go into?**

## BIG Questions

1. Can you identify or perform the main skills in netball?
2. Can you identify the key components of fitness required for netball and give examples?
3. Can you explain the difference between a free and penalty pass?

## RULES AND REGULATIONS

**Rules resulting in a FREE PASS** (Involves 1 player):

**FOOTWORK** – A player must not move their landing foot before passing the ball.

**OFFSIDE** – A player must stay in their playing area. See diagram above.

**HELD BALL** – The ball can only be held for 3 seconds by a player.

**REPLAYING** – A player must not bounce the ball to themselves when playing.

**Rules resulting in a PENALTY PASS** (Involves 2 players):

**CONTACT** – A player must not touch another player whilst on court.

**OBSTRUCTION** – Any player must stand 1 meter away from the player with the ball.

# Year 8 PE - Football

## KEY TERMS

- Back Foot
- Touch
- Formations
- Corner
- Lofted Pass
- Goal kick
- Jockeying
- Attacking
- Throw-in
- Free kick
- Scanning

## SKILLS IN ISOLATION

- ★ Passing
- ★ Tackling
- ★ Dribbling
- ★ Running with the ball
- ★ Volleying
- ★ Control



Character focus: Do you show respect to your teammates and opposition?

## COMPONENTS OF FITNESS

**Cardiovascular Fitness** – being able to exercise the whole body for long periods of time

**Agility** – Change direction quickly with control

**Speed** – the rate in which you perform a movement

**Strength** – the amount of force a muscle can generate

**Power** – performing a forceful movement as quickly as possible

**Co-ordination** – moving two or more body parts together

## POSITIONS

**Goalkeeper** – the player who can use their hands and is the last line of defence to stop the ball entering the goal

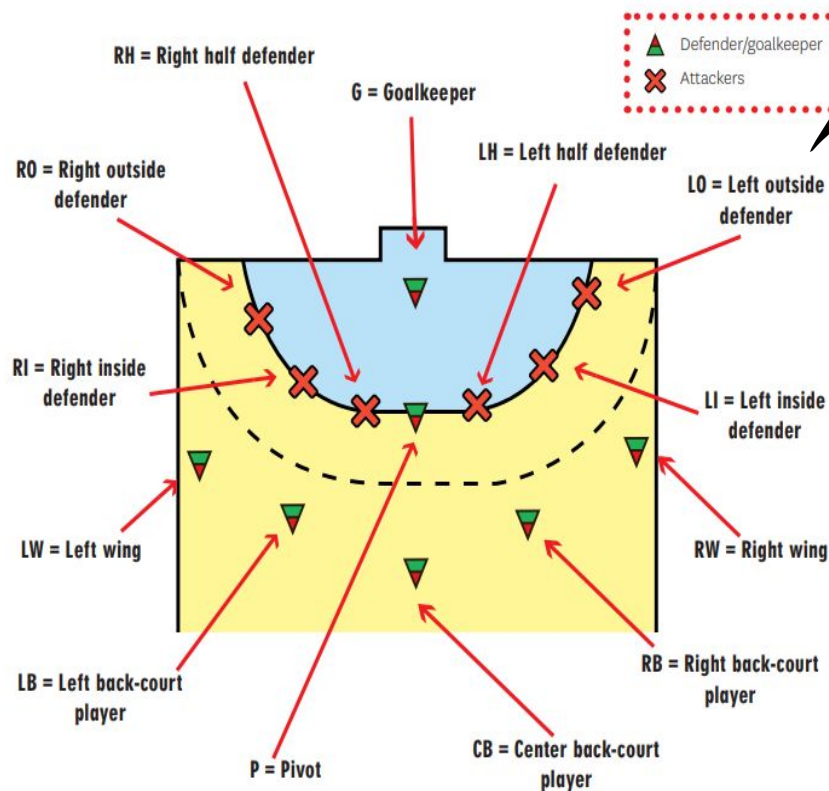
**Defenders** – players who have the main responsibility to stop the opposition from scoring. They also start the attacks.

**Midfielders** – lie between the defence and the attack. Responsible for stopping oppositions reaching the defence and providing the attackers with opportunities to score.

**Strikers** – responsible for scoring and setting up goals

## RULES AND REGULATIONS

- Game is started by a kick off in the centre of the pitch.
- In a full sided game each team consists of 11 players.
- If the ball goes off the side of the pitch it is a throw in to the team that didn't touch the ball last.
- If the ball goes off the end of the pitch it is a corner or a goal kick depending who the ball touched last.
- Depending on where the incident takes place, a free kick or a penalty is awarded if the player in possession of the ball is illegally infringed.
- The goalkeeper is the only player allowed to touch the ball with their hands and can only do this inside their 18 yard box.
- To score a goal, the ball must cross the opposition's goal line.
- If a player is past the opponent's last defender and in the opposition half when the ball is passed they are offside and a free kick is awarded to the opposition team.



**Goal Keeper** – The goalkeeper defends the goal with every part of the body. They are the only player who can touch the ball with their feet. The goalkeeper can leave the 6 yard/ metre box if they do not have contact with the ball.

**Left/Right Wingers** – These are the fastest players on the court and patrol the sides of the court. They counter the opposition wingers in attack in order to create openings for their team mates. They can also shoot from tighter angles.

**Left/Right Backs** – These are the largest players on the court. When attacking they are responsible for driving at the defence and long range shooting. However, when defending they are used to block opposition shots.

**Pivot** – The pivot is the creative force in attack. They are expected to stand among the defenders on the 6m line to create space for their team mates or themselves to shoot. When defending, they either play right or left inside defender. Their roles are to ensure there are no spaces in the centre of the defence and that the opposition centre and pivot cannot create chances.

**Centre Back** – The centre back is a creative handball player also known as the 'playmaker'. They are responsible for setting up the play tactics. When defending they either play right or left inside defender. Their roles are to ensure there are no spaces in the centre of the defence and that the opposition centre and pivot cannot create chances.

**Dribbling:** You are permitted one go at dribbling, then must either shoot or pass the ball after you stop dribbling the ball.

**Travel:** You are permitted three steps once you stop dribbling before you must either shoot or pass the ball.

**Passive play:** It is not permitted to keep the ball in the team's possession without making any recognisable attempt to attack or to shoot on goal. Prior to a penalty being awarded, a forewarning will be issued by the referee to give the team an opportunity to change its way of attack to avoid losing possession.

**Goalkeeper Area:** Only the goalkeeper is allowed to enter the goal area.

The goalkeeper throw, awarded when:

- Someone from the opposing team enters the goal area.
- Either the keeper of the attacking team had the last touch of ball before going out behind the goal-area line.
- The goalkeeper has control of the ball inside the goal-area.



**Character focus:** Are you taking responsibility for the positions you are playing in a game?

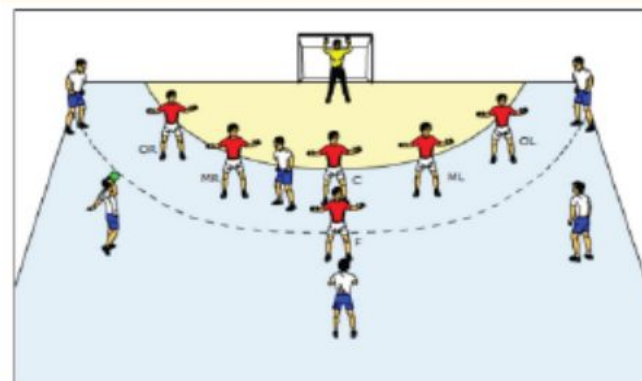


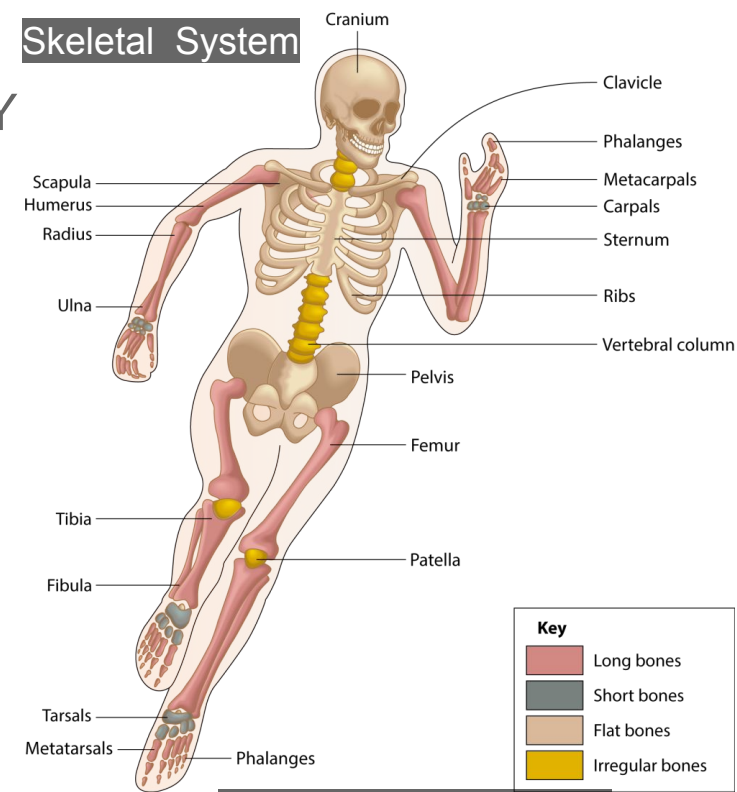
Fig 6.4: Defensive positions/ Defense in zone 5:1

## Short term effects of exercise

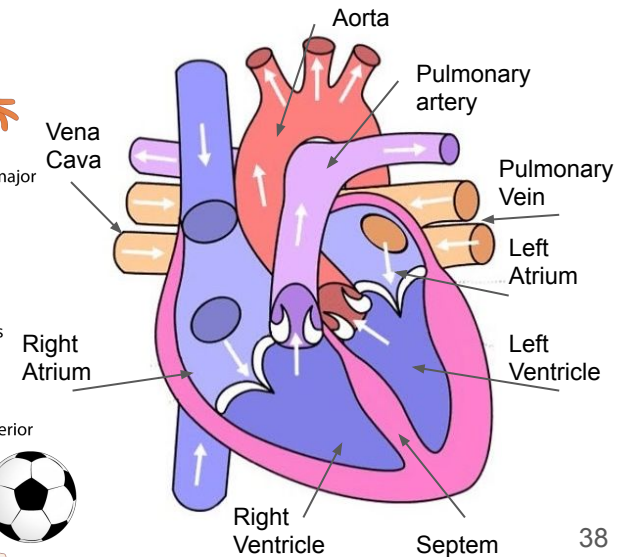
## YEAR 8 PE THEORY

Short Term Effects of Exercise	What happens to the following when we exercise?
HR	Your HR will increase as there is a greater demand for oxygenated blood in your working muscles
Breathing rate/Depth	As there is a greater demand for O ² in the muscles, our lungs have to work harder. Our breathing becomes more frequent and deeper
Sweat/Heat	When our muscles produce energy, heat is given off as a by product so our bodies temperature will increase. Our CV system will divert blood to the surface of the skin to release this heat causing sweat to form.
Lactic Acid	When we exercise at a higher intensity (anaerobically), our muscles produce energy without O ² . A by product of this process is Lactic Acid. This builds up in our muscles and causes them to fatigue. You will have felt this before after a long sprint!

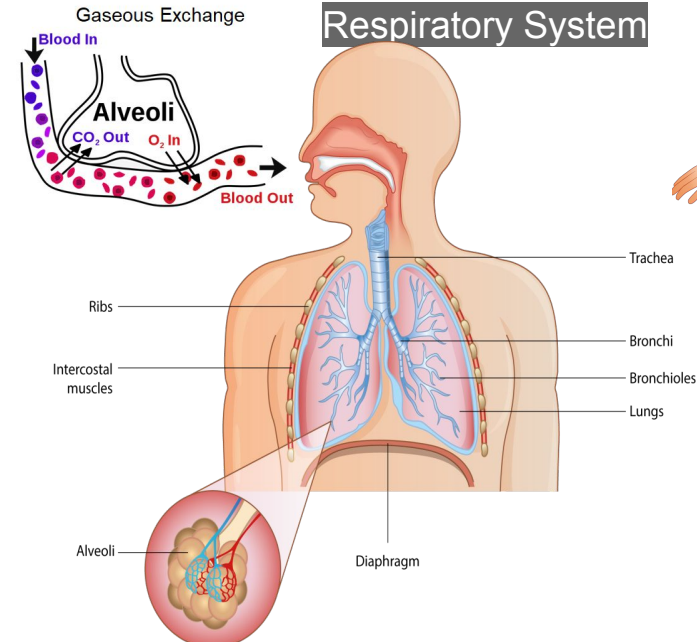
### Skeletal System



### Cardiovascular System



### Respiratory System



### Muscular System

