



The Trafalgar School at Downton

# Knowledge Organiser

Year 9: Terms 1 and 2

2024/2025



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Name.....House.....

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## WHAT WE EXPECT FROM YOU

BE ON **TIME** ●

BE **EQUIPPED** ●

*PEN, PENCIL, RULER, KNOWLEDGE ORGANISER & EXERCISE BOOK (AS A MINIMUM)*

LISTEN TO STAFF AND **ALWAYS**  
COOPERATE ●

DO NOT INTERRUPT **LEARNING** TIME ●

COMPLETE **ALL WORK** SET  
*BEST WORK, FIRST TIME* ●

SHOW **RESPECT** ●

WEAR UNIFORM **PROPERLY** AND  
WITH **PRIDE** ●

MOBILE DEVICES/SMART  
WATCHES TO BE IN **YONDR** CASE ●

## Being Trafalgar

At the end of your time at the school your knowledge organisers will provide you with lots of help and support when you prepare for your GCSE exams.

To help yourself you should:

- Keep your Knowledge Organisers as tidy as possible
- Highlight parts of them as you go through learning lessons or add in post-it notes etc. to help you learn key knowledge
- Keep your used Knowledge Organisers safe at home. If you have used them since Year 7 you will end up at the end of Year 11 with 14 Knowledge Organisers. Line them up on your shelf at home and keep coming back to them for your revision, homework and learning
- Show them to your parents and talk through with them the facts and knowledge you have learned about in lessons – help them to learn new things too!
- Take your Knowledge Organiser for the term you are in to school every day and use it in every lesson you can!



## Using a Knowledge Organiser well

### **What is a Knowledge Organiser?**

A Knowledge Organiser is a document that sets out the key information you need to understand, learn and memorise in each of the subjects you study this term.

### **Why do I have to carry my Knowledge Organiser around with me?**

Your teachers will want you to use your Knowledge Organisers in lessons. They are yours forever and you may want to annotate or highlight on them when your teacher talks about things in them. They will certainly be used in lessons when you have a cover teacher and you can use them whenever you find yourself with some spare time.

### **How should I use my Knowledge Organiser?**

You should use your Knowledge Organiser to learn this key information and commit it to memory. Your teachers will often quiz you on the information on the Knowledge Organiser in your lessons. The best way of using it is to use the look, cover, write, check method which you will have been introduced to in your Knowledge Organiser launch assemblies.

### **What do I do with my Knowledge Organiser at the end of the term?**

You don't have to carry your Knowledge Organiser around with you anymore but you should keep it somewhere safe where you can easily get it out and use it. Remember that the information on the Knowledge Organiser includes things you will need to remember for your GCSE exams, so your teachers will continue to quiz you on it.

















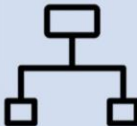

### **Why is a Knowledge Organiser important?**

GCSE specifications require students to memorise more facts, equations, quotations and information than ever before and there are things you will learn right from the start of year 7 that you will need to know in year 11 when you sit your GCSE exams – the Knowledge Organiser helps you to identify the things that you need to try and commit to your long term memory and return to over and over again during your time at secondary school. There are also things that we think it is important you learn about and remember that might not be in a GCSE exam but represent useful knowledge for life.

Your Knowledge Organiser is a vital document. It contains all the key things from your lessons that you will need to work on committing to your long-term memory.

Here are some useful methods to use that will help commit the information to your long-term memory



	Look, Cover, Write, Check	Definitions to Key Words	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
Step 1	<p>Look at and study a specific area of your knowledge organiser</p> 	<p>Write down the key words and definitions</p> 	<p>Use your knowledge organiser to condense and write down the facts and or information on flash cards</p> 	<p>Use your knowledge organiser to create a mini quiz.</p> 	<p>Create a mind map with all the information you can remember from your knowledge organiser.</p> 	<p>Ask a partner or family member to have the knowledge organiser in their hands, read out what you remember.</p> 
Step 2	<p>Cover or flip the knowledge organiser over and write down everything you remember.</p> 	<p>Try not to use your knowledge organiser to help you</p> 	<p>Add pictures to help support. Then quiz yourself using the flash cards. You can write questions on one side and answers on the other.</p> 	<p>Answer the questions and remember to use full sentences</p> 	<p>Check your knowledge organiser to see if there were any mistakes with the information you have made.</p> 	<p>They can test you by asking you questions on different sections of your knowledge organiser.</p> 
Step 3	<p>Check what you have written down. Correct any mistakes in green pen and add anything you missed. Repeat.</p> 	<p>Use a different coloured pen to check and correct your work.</p> 	<p>Use a parent/carer or friend to help quiz you on the knowledge.</p> 	<p>You can also use family to quiz you. Keep self-quizzing until you get all questions correct.</p> 	<p>Try to make connections that link information together.</p> 	<p>Write down your answers.</p> 

# Language Methods to Practise in your Fortnightly Writing Challenge and Examine in your Reading



When writing, don't fragment.  
fuse or splice your sentences.

<b>alliteration:</b>	the repetition of a consonant sound to begin a series of words.	
<b>anecdote:</b>	a short story to prove a point e.g. a dad, talking to his children about the dangers of running in the house, a dad might include an <u>anecdote</u> about falling in his home as a boy and breaking his arm.	
<b>antithesis:</b>	putting two opposite ideas together to highlight contrasts.	
<b>emotive language:</b>	words and phrases that are used to make the reader feel a particular emotion.	
<b>extended metaphor:</b>	a version of metaphor that extends over the course of multiple lines, paragraphs, or stanzas of prose or poetry.	
<b>foreshadowing:</b>	the writer hints at an event that will happen later in his story/poem/play/writing.	
<b>imperative verbs:</b>	instructional/command words that give the action the speaker/writer wants you to do.	
<b>metaphor:</b>	like a simile, but instead of using 'like' or 'as' it compares two things by suggesting that something is something else.	
<b>modal verbs:</b>	help show the level of possibility, ability, obligation or permission of the main verb/action e.g. might, can, must, may ...	
<b>pathetic fallacy:</b>	the projection of human emotions/mood onto non-human objects found in nature e.g. the weather.	
<b>sensory description:</b>	employing the five senses in writing to evoke a mental image and/or sensation for the reader.	
<b>simile:</b>	a comparison which finds similar characteristics in two objects and compares them, always by using the words 'like' or 'as'.	
<b>statistics:</b>	factual data used in a persuasive way.	
<b>superlative:</b>	an adjective or adverb that shows the highest or lowest degree of comparison e.g. best, worst, <u>finest</u> , <u>most</u> , etc.	
<b>onomatopoeia:</b>	using words that sound like the noise they represent.	
<b>personification:</b>	a type of figurative language that gives an object human characteristics (emotions, sensations, speech, physical movements).	
<b>rhetorical question:</b>	a question asked for a purpose other than to obtain the information the question asks e.g. create a dramatic effect; emphasise a point; make you think about/eager to learn the answer.	

Unfortunately, I don't think I'm going to get a good grade. Because I didn't study. ❌ **FRAGMENT**

**Fix it** by re-joining the fragment to the sentence: Unfortunately, I don't think I'm going to get a good grade because I didn't study. ✅

In the holiday, I went to Paris it is the most beautiful place I have ever visited. ❌ **Fuse**

**Fix it** by using a full stop (never a comma), coordinating conjunction (for, and, but, or, yet, so), or subordinating conjunction (as, because, so that, before, after, until, since, when, although, etc.), or semi-colon to join the two sentences:  
In the holiday, I went to Paris as it is the most beautiful place I have ever visited. ✅

Heavy rain fell throughout the night, by morning every major road was flooded. ❌ **SPLICE**

**Fix it** in the same way you would fix a fuse: Heavy rain fell throughout the night; by morning every major road was flooded. ✅

Fortnightly Writing Challenge Year 9





**Use fronted adverbials:**

Rather slowly, (manner)  
During the night, (time/temporal)  
Every minute or two, (frequency)  
At the end of the corridor, (spatial)

Just beyond the stairwell on his left,  
he opened the door.

**Use a two and then three word sentence:**

It hurt. I was dying!

Snow fell. Flakes floated precariously.

**Use anaphora:**

Now is the time for action. Now is the time to take up arms. Now is the time to fight for your country.

**Use epiphora (epistrophe)**

I can't believe I was robbed. Everything is gone. My television and electronics are gone. The money I left on my nightstand is gone.

**Use a range of sentence structures:**

The spotted green frog jumped into the pond.  
(simple)

The spotted green frog jumped into the pond and he splashed water on me.  
(compound – coordinating conjunction: for, and, nor, but, or, yet, so)

The spotted green frog jumped into the pond when the hawk flew overhead.  
(complex – subordinating conjunction: if, although, as, before, because, when, after, since, until, so that, while etc.)

When the hawk flew overhead, the spotted green frog jumped into the pond.  
(subordinate/dependent clause start)

The frog, which had been lurking underwater, jumped on the lily pad.  
(embedded clause)

**Use a past participle - 'ed' start:**  
Glazed with barbecue sauce, the rack of ribs lay nestled next to a pile of sweet coleslaw.

**Use a present participle - 'ing' start:**  
Whistling to himself, he walked down the road.

**Use a tricolon (tripartite list):**

'I stand here today humbled by the task before us, grateful for the trust you have bestowed, mindful of the sacrifices borne by our ancestors.'

Snap! Crackle! Pop! (Rice Krispies slogan)

**Use a conditional sentence:**

When people smoke cigarettes, their health suffers.

If I had cleaned the house, I could have gone to the cinema.

**Use paired adjectives to describe a noun:**

Take a look at this **bright red** spider.

Luckily, it isn't a **wild, dangerous** one.

**Use anadiplosis (yoked sentence):**

Building the new motorway would be **disastrous, disastrous** because many houses would need to be destroyed.

'Fear leads to anger. Anger leads to hate. Hate leads to suffering.'  
Yoda, *Star Wars*.

**Use different sentence types:**

The wind is blowing. (declarative)

Put your pen down. (imperative)

Who do you trust most in the world? (interrogative)

Pollution is killing us! (exclamation)

**Use discourse markers to begin paragraphs and start/link some sentences:**

First of all, To begin with, Firstly,

Therefore, Consequently, Hence, As a result,

Furthermore, In addition, Additionally, Moreover,

Meanwhile, Later that day, Seconds later, Subsequently, That afternoon,

On the whole, Interestingly, Basically, In short, Broadly speaking,

Alternatively, Conversely, Similarly, On the other hand, Despite this, Likewise, However,

To conclude, Finally, In conclusion, Eventually, In the end,

# PUNCTUATION PIT STOP



## Full Stop

Full stops are used to:

1) mark the end of a sentence. 😊

Carefully, he kicked the ball into the goal.

2) show when a word has been abbreviated.

Saint Peter's Road is on the High Street.

→ St. Peter's Road is on the High Street.

## COMMAS

Commas are used to separate: 🗨️

1) items in a list. 🗨️

Bert, Ernie and Elmo are my three pet rats.

2) **dependent clauses and phrases.**

While I was in the bath, the cat scratched at the door. That meant, because I was on my own in the house, I had to get out to let him in. Thankfully, I had a towel handy!

## Quotation Marks

Quotation marks show exact words that are spoken or written by someone. 😊

'Don't be late!' shouted Mrs Smith. 🗨️

'I will be,' Molly said, and added, 'so don't expect me before 11.'

## Question Mark

Question marks are used at the end of direct questions instead of a full stop. 🗨️

What is your favourite food? 🗨️

How do you feel today? 🗨️

**An indirect question ends with a full stop rather than a question mark:** 🗨️

I'd like to know what you've been doing all this time. I wonder what happened.

## Exclamation Mark

Exclamation marks express strong emotions: forcefulness, commands, anger, excitement, surprise etc.

Don't buy that car! Stop telling me what to do! I'm free! You're late! She actually won!

**They're also used for most interjections:** 🗨️

'Hi! What's new?' 'Ouch! That hurt.'

'Oh! When are you going?' 🗨️

## Semi-colon

Semi-colons are used to separate two sentences that are closely related: 🗨️

It was winter; the snow was falling heavily.

**They can also be used to separate items in a list made of longer phrases.** I have been to Newcastle, Carlisle, and York in the North; Bristol, Exeter, and Portsmouth in the South; and Cromer, Norwich, and Lincoln in the East. 🗨️

## Colon

Colons are used to: 🗨️

1) begin a list. 🗨️

I have three pet rats: Bert, Ernie and Elmo.

2) indicate that what follows it is an explanation or elaboration of what precedes it.

Unfortunately, the weather forecast was wrong: it rained all day!

## Apostrophe

An apostrophe is used to show: 🗨️

1) omission - where a letter or letters has been missed out.

does not → doesn't I am → I'm

2) possession - when some thing/one owns something. Thankfully, they played Susan's game. Interestingly, David's house has no garden, but Susan's house does.

## Dash —

Dashes are used for parenthesis: a word or phrase inserted as an explanation or afterthought into a passage which is grammatically complete without it. E.g.

Last year, they roasted the winning brisket — the size of a pillow — in a mighty clay oven. Paul felt hungry — more hungry than he'd ever been.

## Brackets

Brackets are used in pairs for parenthesis: a word or phrase inserted as an explanation or afterthought into a passage which is grammatically complete without it. E.g.

Andrew Jacklin (last year's losing finalist) is expected to win this heat.

Tigers are carnivores (meat eaters)!

## Ellipsis

Ellipsis is used to: 🗨️ 🗨️ 🗨️

1) show a pause or hesitation in someone's speech or thought.

I don't know ... I'm not sure.

2) build tension or show that something is unfinished.

Looking up, Paul couldn't believe what he saw ...

# PUNCTUATION PIT STOP





## Writing the text for a Leaflet/Guide

Stay Safe and Sound Online

clear/apt/original title

### Manage your online reputation

subtitles

Anything that you upload, email or message could stay online forever. Therefore, before you post anything online, consider whether or not you would want your parents, teacher or a future employer seeing it. If the answer is no, don't post it! Your privacy is key here.

### Privacy Matters

Make sure you set high privacy settings on social networks. Regularly you should change passwords and never share or put online any of your personal details like a phone number, address or your school details. Make sure your safety and privacy settings are activated on your mobile devices too, so you aren't sharing private information. Be aware that using public WiFi might not filter inappropriate content, so look for friendly WiFi symbols when you're out and about.

### Remember:

- make sure you know how to block abusive comments and report worrying content;
- don't arrange to meet people in real life that you've only talked to online;
- use secure and legal sites to download music and games;
- when using the internet for homework, use information appropriately and explain things in your own words rather than copying.

bullet points

effectively/fluently sequenced paragraphs

## Text for a Speech/Talk

### 'Address to Nation on the Challenger' by Ronald Regan (28<sup>th</sup> January, 1986)

Ladies and Gentlemen, I'd planned to speak to you tonight to report on the state of the Union, but the events of earlier today have led me to change those plans. Today is a day for mourning and remembering. Nancy and I are pained to the core by the tragedy of the shuttle Challenger. We know we share this pain with all of the people of our country. This is truly a national loss.

a clear address to an audience

For the families of the seven, we cannot bear, as you do, the full impact of this tragedy. But we feel the loss, and we're thinking about you so very much. Your loved ones were daring and brave, and they had that special grace, that special spirit that says, 'Give me a challenge and I'll meet it with joy.' They had a hunger to explore the universe and discover its truths. They wished to serve, and they did. They served all of us.

rhetorical indicators that an audience is being addressed throughout

The crew of the space shuttle Challenger honoured us by the manner in which they lived their lives. We will never forget them, nor the last time we saw them, this morning, as they prepared for the journey and waved goodbye and 'slipped the surly bonds of earth' to 'touch the face of God.'

Thank you.

a clear sign off e.g. 'Thank you for listening'.

## Writing Forms

### Article

clear/apt/original title

#### Andy Murray's Appliance of Science

By Jim White

by-line

If the Caledonian superman wins Wimbledon this year, it will be thanks to pieces of sushi a day, a magic potion and a battalion of experts.

If you want to know what it is about Andy Murray that makes him stand out from the rest of us – apart from that fizzing backhand return and the huge-mouthed celebratory yodel – it is summed up in one word: science!

### Sample Check

Today, before he even steps out on to the Centre Court for his Wimbledon semi-final, the 28-year-old, seven-time Wimbledon champion, Andy Murray will have been subject to several of these. He does a urine test every time he pops to the lavatory. The osmolarity check is conducted by one of his staff, its purpose to gauge the percentage of water and minerals in his urine, to show whether his body is correctly hydrated. The fact is, if Murray wins today, it will only be thanks to the bloke who inspects his wee.

### Daily Diet

At 7.30 this morning, while many of the other players arriving at Wimbledon's press restaurant will have begun their day assaulting the chattering Himalaya of fried starch, Murray will have eaten yogurt, fruit and a bagel smeared in peanut butter ...

strapline

introductory (overview) paragraph

effectively/fluently sequenced paragraphs

sub-headings

### Writing to Review

clear, engaging title

#### Feeling Icy About Frozen?

effective introduction

Last weekend I was forced to endure a new DVD that has been added to my little sister's ever-growing Disney collection: Frozen 2. For those of you who have been living on a different planet for the last few years, the Frozen franchise is particularly big business for girls under the age of around 7 or 8.

At first, I have to be honest, I was pretty reluctant to watch it. The first version of Frozen followed the usual Disney drama of: boy meets girl, dramas occur, friends are made, and annoyingly catchy songs are sung. There were the conventional talking animals too and (I have to admit it), a cute little snowman. In hope of reacquainting myself with the humour of this cold, carrot-nosed cutie – I gave up the fight, and decided I'd try to grin and bear it through the sequel...!

use topic specific language

use your tone to make the reader feel like you are sharing personal information and advice.

Surprisingly, having sat through the whole of the movie, I'm willing to confess: it actually wasn't too bad. The music is slightly better than the first one. In Frozen 2, there are some instrumental versions of songs and the riffs are well pitched and engaging. This was a definite positive for me, although I was a little annoyed when I started humming the tune on the school bus yesterday morning!

effectively/fluently linked paragraphs to sequence a range of ideas (no room to produce the other paragraphs/conclusion here).

As for the characters... Elsa and Anna are still the leading ladies, with Sven, Olaf, and the talking reindeer, (whose name I can't actually remember). Elsa is still a little too overly heroic as she constantly runs off to try and fix things with the customary 'we know it's going to end badly' music tinkering away in the background...

## Writing a formal letter



221B Bakers Street  
London  
NW1 6XE

reader's  
address

writer's  
address

35 Hibiscus Crescent  
Andover  
Hants  
SP10 3WE

date

20<sup>th</sup> February, 2020

Dear Sir or Madam

Formal Salutation: Sir/Madam/Mr Roderick/Mrs Roderick

I am writing because you chair a committee in charge of the compulsory wearing of school uniforms. I am a student at Brinsley High School, a friendly and successful school where uniforms are not worn.

Of course, ... that students won't spend all morning choosing what to wear or beg parents for clothes that will impress. There is another side to this case: uniforms breed uniformity. We are a culturally diverse nation and we all dress the same, this encourages us to be the same. At Brinsley High, we are encouraged to express our individuality, yet this seems to be in contradiction of the message enforced uniform sends to us.

fluently sequenced paragraphs

fluently sequenced paragraphs

Furthermore, ...

Yours faithfully  
Boris Johnson

formal sign off: Yours faithfully (Sir/Madam = Faithfully) (Mr/Mrs = Sincerely)

## Writing a Report

### Fundraising at Frecklewood

clear title

The Frecklewood Donkey Sanctuary is a charity that cares for rescued and unwanted donkeys. The sanctuary is based a mile away from Frecklewood Academy and the school has a long history of partnership, having sent many year 10 students there for work experience week. The charity is currently in need of funds, having seen a 12% dip in charitable giving during the past few years....

introductory paragraph outlining aims

### Benefits of fundraising

subheadings

As part of this investigation we have spoken with school leaders at the five state secondary schools in the Danshire area about the fundraising activities that they undertake. Collectively they raise funds for numerous causes, including Shelter (a charity that tackles homelessness), Stonewall (a charity that promotes equality for lesbian, gay, bi and trans people) and Young Dementia UK (who provide support for people whose lives are affected by young onset dementia).

Formal tone

One team leader said 'Some of our students have pursued careers in the charity sector as a result of their fundraising work at school.' ...

### Suggestions for activities

subheadings

As Frecklewood has a student ...

clear conclusion addressing task and recommendations

Ultimately the benefits of fundraising events are huge. Whichever approach Frecklewood Academy takes, the charity, students and staff are all set to benefit.

## Dystopian Narrative: *The Machine Stops* by E.M. Forster

Above her, beneath her, and around her, the Machine hummed eternally; she did not notice the noise, for she had been born with it in her ears. The earth, carrying her, hummed as it sped through silence, turning her now to the invisible sun, now to the invisible stars. She awoke and made the room light.

"Kuno!"

"I will not talk to you," he answered, "until you visit me."

"Have you been on the surface of the earth since we spoke last?"

His image faded.

Again she consulted the book. She became very nervous and lay back in her chair palpitating. She directed the chair to the wall, and pressed an unfamiliar button. The wall swung apart slowly.

Through the opening she saw a tunnel that curved slightly, so that its goal was not visible. Should she go to see her son, this would be the beginning of the journey.

Of course she knew all about the communication-system. There was nothing mysterious in it. She would summon a car and it would fly with her down the tunnel until it reached the lift that communicated with the air-ship station: the system had been in use for many, many years, long before the universal establishment of the Machine. Those funny old days, when men went for change of air instead of changing the air in their rooms! And yet — she was frightened of the tunnel: she had not seen it since her last child was born.

## Writing a Narrative: extract is from *The Silent Land*, by Graham Joyce.

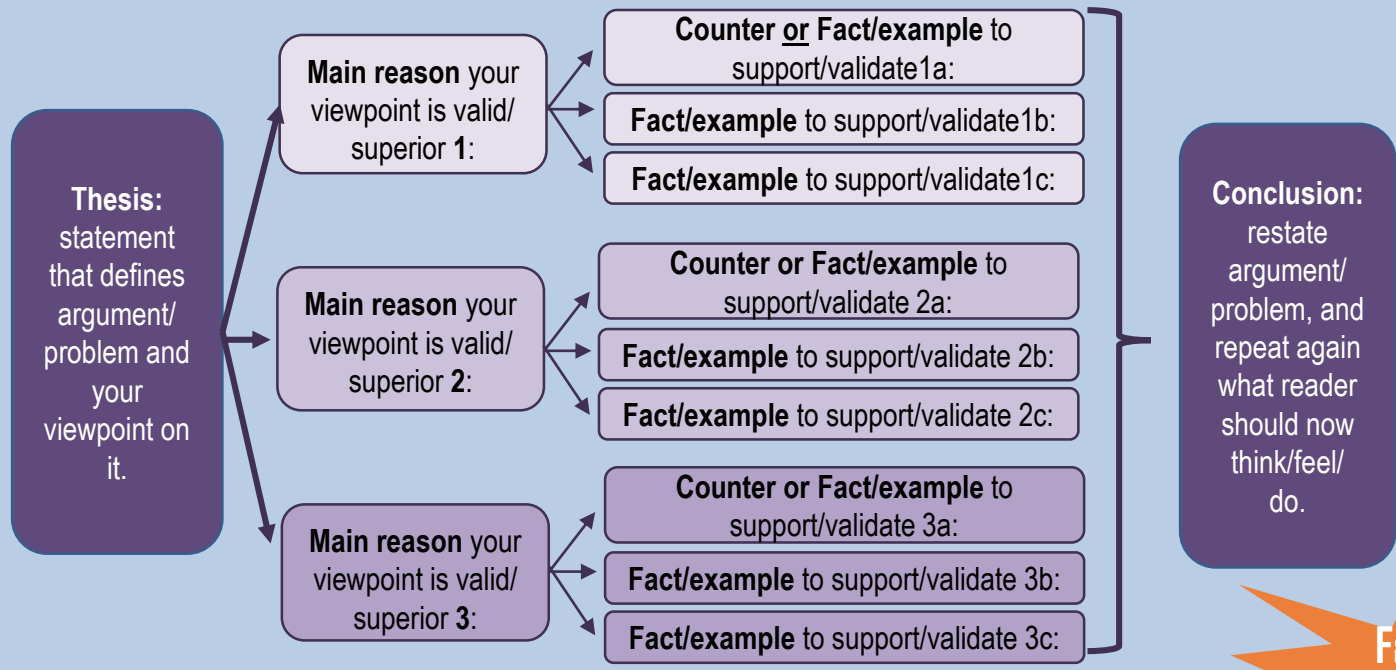
It was snowing again. Gentle six-pointed flakes from a picture book were settling on her jacket sleeve. The mountain air prickled with ice and the smell of pine resin. Several hundred metres below lay the dark outline of Saint-Bernard-en-Haut, their Pyrenean resort village; across to the west, the irregular peaks of the mountain range.

...

If there are few moments in life that come as clear and as pure as ice, when the mountain breathed back at her, Zoe knew that she had trapped one such moment and that it could never be taken away. Everywhere was snow and silence. Snow and silence; the complete arrest of life; a rehearsal and a pre-echo of death. She pointed her skis down the hill. They looked like weird talons of brilliant red and gold in the powder snow as she waited, ready to swoop. I am alive. I am an eagle.

...

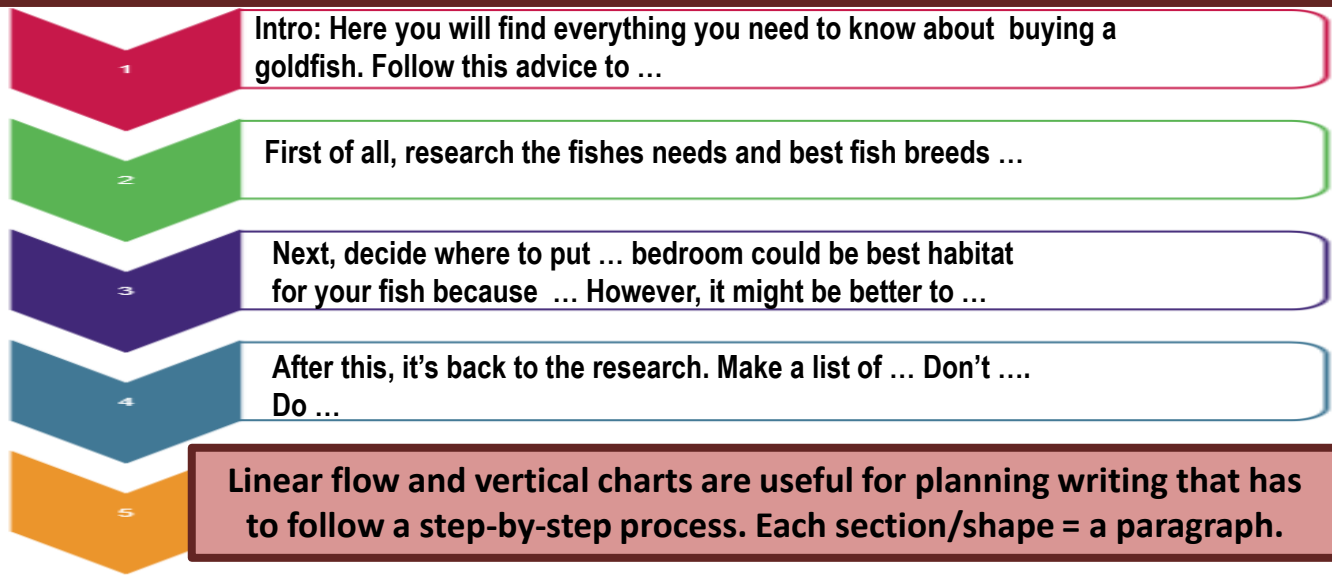
The noise itself filled her ears and muffled everything, and then there was silence, and the total whiteness faded to grey, and then to black!



The Grid Plan is good for making sure you include lots of different methods, or to compare two/more things side-by-side. Each row/column = a paragraph.

Paragraph content/ topic	Language method/vocab	Sent structures	Punc
1: waves engulfing and devouring the sea side town - noisy and disruptive, movement	onomatopoeia crash, whip, smash personify so violent/threatening	'ing' start verbs (pres part)	! ;
2: train victim moving across railway line past houses towards destination	personify - victim, alliteration, metaphor: A caterpillar, the train sways and pitches precariously along the track to its daily destination. Snatching bites, the sea salt nips at its metal skin as it passes, eating away at it, killing it. Rattles. Will it survive?	Chain/ tricolon Question	? --
3: zoom in on one carriage window, motion sick	Windows hit by spray that 'like a tamed ca' has 'turned savage' today. Passenger pitched side-to-side; bubbling sickness rising bile from stomach!	Anadiplosis (yoked)	' ' ; !
4: houses	Like soldiers standing to attention they are defending their inhabitants. Diff pastel colours of a seaside town: prawn pink, salmon peach, oyster grey, seaweed green, cracking paintwork	Fronted spatial adverbials	( ) :
5: canopy of sky above threatening	Adjectives for mood: grey sky, stuffed clouds full of cold, sharp rain, Verb: beating down, attacking,	Two then three word sentences	... ;

Plan non-fiction writing (include a counter-argument for writing to argue) using a graphic organiser.



**Climax (turning point, height of action/problem at its worst):**

- use exciting adverbs and verbs;
- accelerate pace and heighten tension using lots of shorter sentences.



**Rising Action (build towards conflict):**

- build on character, setting, plot;
- introduce a complication/problem;
- build tension/excitement;
- use interesting adjectives, sensory description, figurative language etc.

**Freytag's Pyramid/ the Story Mountain is the best for planning narratives (stories).**

**Falling action (turning point, height of action/problem at its worst):**

- what events happen to solve the problem?

**Exposition (Introduction):**

- use an opening hook to grab attention e.g. mysterious atmosphere, in medias res, etc.
- use descriptive vocabulary to set the scene and describe the main character/setting;
- foreshadow what is to come.

**Dénouement/Resolution (ending):**

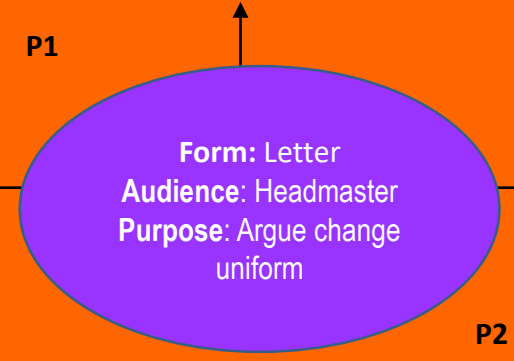
- link back to the start (circular);
- what has the character learned?
- how are things different now?
- is there an exciting twist or cliff-hanger ending?

**Conclusion:**  
To conclude, repeat RQ, Quite simply, yes!  
  
Yours Sincerely

**Intro:** My address right hand side, + date, school address left,  
Dear Mr Cole  
Should we consider discontinuing wearing a school uniform, you've asked? Quite simply, yes! Within this letter, you will find several arguments setting out precisely why we should make this change.

**Counter reason:** all look same so no prejudice/bullying over clothes,  
**Argument reason:** no individualism, learning who we are  
**Supporting example:** RQ +triple  
Isn't part of our learning at school about learning how to dress appropriately, learning who we are, learning how to judge people on what is inside, not what wear?

**Counter reason:** old-fashioned tradition, so easier to continue  
**Argument reason:** other traditions - burnt witches, slept on straw, walked barefoot – now discontinued so ...  
**Supporting example:** anecdote, use experts



**Counter reason:** cost cheaper as not designer or from shops making huge profit  
**Argument reason:** cost of blazers, trousers and skirts from school uni shop expensive as no competition, own clothes mix 'n' match so fewer outfits needed, wear weekends so more use,  
**Supporting example:** emotive language: force poorer families to go without, statistics

**Mind maps/spider diagrams, allow you to jot down content ideas in no particular order and then decide on the best order to write them up in – so they're ideal for non-fiction writing. Each leg = a paragraph**

## Writing Purposes

## Key Language/Structural methods

## Chocolate Model!



**Inform:** tell the reader what they want/need to know.

- Use interesting facts details;
- use brackets to explain technical terms.

**Interestingly, chocolate** is actually made from the seeds of a cacao tree. After fermentation, the beans are dried, cleaned, and roasted. The shell is then removed to produce cacao nibs (**unadulterated chocolate in rough form**).

**Explain:** tell the reader how and why.

- Use connectives: 'as a result', 'because', 'so that', when;
- use sequence discourse markers: Eventually, Another, Furthermore.

**Often, when** in need of comfort or reassurance, or in stressful situations, people crave chocolate. Primarily, this is **because** dopamine is released into your brain **when** you eat chocolate, and **as a result** it can lower levels of anxiety ...

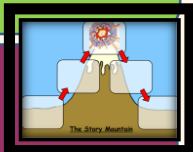
**Describe:** help the reader to picture it and imagine the experience.

- Use similes, metaphors, personification, interesting adjectives/verbs, sensory description.

**Enticingly, the dome of dark chocolate, flecked sporadically with lime slivers, remained encased** in its **fluted carapace**. **Around** the outside of it **cleaved** the **diminutive remains** of its **neighbour**: a **praline** long ago eaten! **Velvety smooth**, this **solitary bead of ganache glistened, revelling** in its **escape**, yet **mourning its rejection**.

**Narrate:** tell the reader a tale that will have them hanging on your every word.

- Use the mountain/pyramid structure;
- use some description;
- use a few lines of direct speech.



**Suddenly**, she was aware she had arrived at her destination! On the door in front of her, a **scarlet square of shiny plastic printed** with the words 'Chocolate Laboratory' stood out on **splintering wood**. **Why she was standing on this doorstep, though, and what, or who, had led her here in the first place?**

**Persuade:** try to get the reader to do as you ask/agree with you.

- Use APE FOR REST: anecdote, personal pronouns, emotive language, fact, opinion, rhetorical questions, repetition, experts, statistics, triples.

**One of the world's greatest comfort** foods, Chocolate, is the **unrivalled 'go-to'** when **life takes a bad turn**, an **easy gift to thrill** just about **everyone**, and a **tasty treat** that will **uplift even the most melancholy of moods**.

**Argue:** present two sides, but ensure your side appears strongest so reader agrees with you.

- Use sequence discourse markers;
- use 'Some believe ..', 'However, most people would agree that';
- use APE FOR REST (above).

**First of all, some believe that as chocolate** is high in calories, it is bad for you. **However, scientific experts have proven** that chocolate, as it contains high levels of antioxidants, could **lower cholesterol levels, improve mood and prevent memory decline!**

**Advise:** help warn and guide reader, but reassure with carefully considered advice.

- Use imperative verbs (stop, do, don't, wait etc.), and modal verbs (if, could, might, should).
- use second person (you, your).

**Most importantly, if you** are feeling bored and craving chocolate, **don't** give in to your yearning. Instead, **you could go** for a walk, **run** errands, **call** a friend or **read** a book. **If you** can take your mind off food for a short time, the craving **may** pass.

Most Often

Mis spelled  
words

amateur	definite(ly)
basically	environment
beginning	exceed
blasphemy	government
changeable	grateful
collectible	immediate
colloquial	judgement

Term 1 & 2 SPiVoT  
words

conundrum	erroneous
hypothetical	embarrass
meander	dissatisfied
consequently	especially
adjacent	equipped
disastrous	desperate
donkey	efficient
exception	

## WILLIAM GOLDING

William Golding was born on 19th September, 1911, in Cornwall, England. He grew up in Marlborough, Wiltshire. Golding's parents tried to bring him up with a scientific, rational view of the world and wanted him to be a scientist. A frustrated child, he found an outlet in bullying his peers. Later in life, he described his childhood self as a brat, even going so far as to say, "I enjoyed hurting people."

Golding went to Oxford in 1930 to study science but changed to English Literature. After graduating he worked as a writer, actor and producer with a small theatre group and then became a teacher.

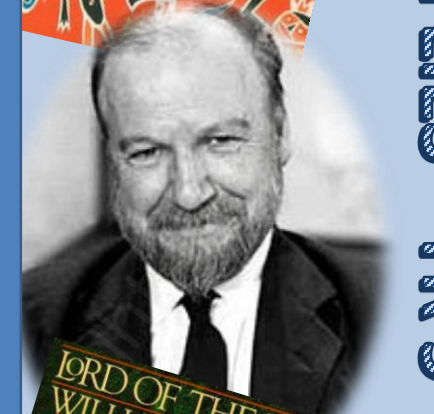
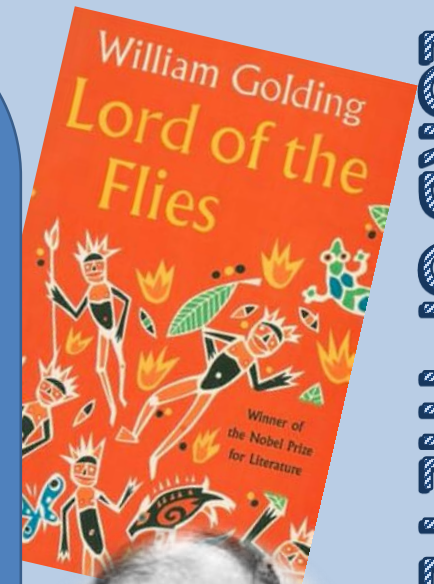
During the Second World War Golding served with the Royal Navy and was profoundly affected by his experiences. After the war he taught English and Philosophy at Bishop Wordsworth's boys' school in Salisbury. His experience teaching unruly young boys served as inspiration for his first novel *Lord of the Flies*. He also wrote LOTF due to his disgust after the war. He was appalled at what human beings can do to one another – he thought people were born with the potential to be evil and war gave people an excuse to release this evil personality trait. War and conflict were the perfect conditions for it.

Years later he said that writing the book was 'like lamenting the lost childhood of the world'. In 1962 he retired from teaching to become a full time writer.

The novel is an examination of what human nature is really like. In 1954, the world had witnessed many shocking events: the systematic destruction of the Jewish race, two world wars revealing atrocities of what man can do to man, the 1945 the mushroom cloud of the atomic bomb. The Cold War where people were terrified of a nuclear war was in full flow...this is, potentially, what the boys were being evacuated from..

Golding also explores the idea of original sin – the religious idea that we are all capable of evil – it is innate in our nature. He also explores how both power and man corrupts everything they come into contact with – for example, the destruction of the island when the fire gets out of control.

He won the Booker Prize in 1980 with 'Rites of Passage', was awarded the Nobel Prize for Literature in 1993 and was knighted in 1988. William Golding died in 1993.



## This novel can be split into three distinct parts...

**PART 1** INNOCENT BOYS ON BEAUTIFUL ISLAND – the boys arrive and have an assembly making the early decisions about what to do. There is an emphasis on island as a paradise and there is a hope of rescue. The boys find pleasure in the day to day events. There is a strong sense of law, order and sense – the boys have a strong sense of the forbidden and what is right and wrong.

**PART 2** THREAT AND FEAR APPEAR – with the arrival of the dead airman comes a physical threat – the fear becomes real. Destruction occurs and this is caused by the boys' actions. There is the beginning of the idea that they have evil within them (Simon's realization that "what I mean is...maybe it's only us". Evil has been let loose on the island and this is established with Simon on the beach (the airman is no longer needed to symbolize evil at this point and so he disappears).

**PART 3** CONSEQUENCES OF CREATING EVIL – moral anarchy is unleashed by murder of one of the boys on the beach – rule and order is destroyed – Piggy's incident, torture, hunting of Ralph and Ralph's will to kill or be killed. The boys lose individual identity and become a mass/mob. At the end of the novel, we are reminded of how far the boys have descended into a lawless culture when the naval officer is embarrassed by what he sees.

### SYMBOLS IN THE NOVEL

Piggy's glasses

fire

The Lord of the Flies

The island

The Beast

The dead airman

The conch

## Themes in 'Lord of the Flies'

Human nature

Civilisation v savagery

Innocence and loss of it

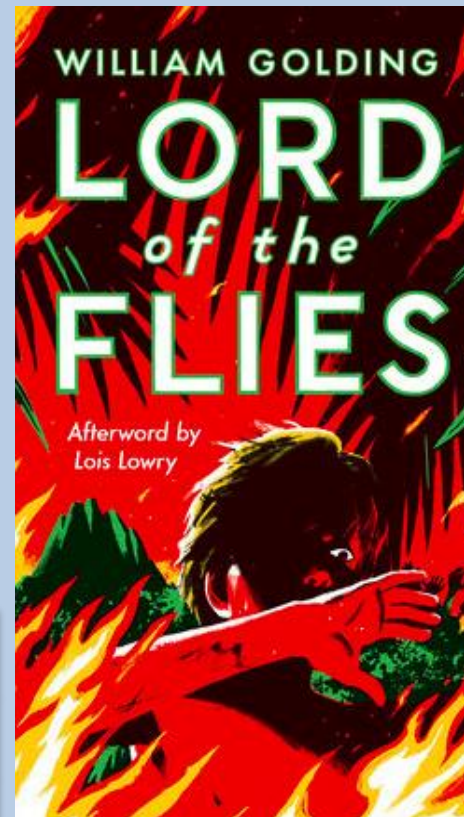
Fear

Violence and death

Survival

Power

Leadership



## Did you know...?

Ralph's name comes from the Anglo-Saxon language and means 'counsel' (good advice)

Jack's name is Hebrew in origin and means 'one who supplants' (takes over/replaces)

Roger's name, which is Germanic in origin, means 'spear' (weapon)

Simon's name comes from the Hebrew word meaning 'listener'



Terminology	Definition
<b>allegory</b>	a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one. Remember 'Animal Farm' in Year 7?
<b>microcosm</b>	a community, place, or situation regarded as encapsulating in miniature the characteristics of something much larger. In LOTF, the island is a microcosm of the globe as a whole. Remember the ranch in 'Of Mice and Men' in Year 8?
<b>macrocosm</b>	the whole of a complex structure, especially the world or the universe, contrasted with a small or representative part of it. Contrasted with microcosm.
<b>scar</b>	a mark left where a wound, burn, or sore has not healed completely. The plane crash leaves a SCAR on the island paradise – suggests it is not perfect from the start. This can also suggest that humankind ruins things – it is a manmade object that creates this scar and the boys do not respect their island paradise.
<b>irony</b>	the expression of one's meaning by using language that normally signifies the opposite, typically for humorous or emphatic effect.
<b>foreshadowing</b>	be a warning or indication of (a future event).
<b>metaphor</b>	a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.
<b>symbolism</b>	the use of symbols to represent ideas or qualities. In LOTF, the conch is a symbol of law and order/civilisation.
<b>authority</b>	the power or right to give orders, make decisions, and enforce obedience.
<b>civilised</b>	bring (a place or people) to a stage of social and cultural development considered to be more advanced
<b>savage</b>	Not domesticated or cultivated; wild: a savage animal. Not civilized; barbaric: a savage people

SOME USEFUL WEBSITES TO HELP YOU WITH THE LORD OF THE FLIES:

<https://youtu.be/NnnZ6y1HPgI> Why you should read LOTF by TED-Ed

Sparknotes.com (search for Lord of the Flies)

[www.william-golding.co.uk](http://www.william-golding.co.uk)

[www.cliffsnotes.com](http://www.cliffsnotes.com) (search for Lord of the Flies)





## IMPORTANT QUOTATIONS

Within the diamond haze of the beach something dark was fumbling along...Then the creature stepped from the mirage on to clear sand, and they saw that the darkness was not all shadow but mostly clothing.

You got your small fire alright. [...] the boys were falling still and silent, feeling the beginnings of awe at the power set free below them.

Bollocks to the rules [...] we'll close in and we'll beat and beat and beat –"

We've got to have rules and obey them. After all , we're not savages.

Roger gathered a handful of stones and began to throw them. Yet there was a space round Henry, perhaps six yards in diameter, into which he dare not throw. Here, invisible yet strong, was the taboo of the old life. Round the squatting child was the protection of parents and school and policemen and the law.

Fear can't hurt you any more than a dream. There aren't any beasts to be afraid of on this island...serve you right if something did get you, you useless lot of crybabies.

I'm frightened. Of us.

"There isn't anyone to help you. Only me. And I'm the beast...Fancy thinking the Beast was something you could hunt and kill...You knew didn't you? I'm part of you? [...] Why things are the way they are?"

"I just take the conch to say this. I can't see no more and I got to get my glasses back. Awful things has been done on this island. I voted for you for chief. He's the only one who ever got anything done. So now you speak Ralph..."

The rock struck Piggy a glancing blow from chin to knee: the conch exploded into a thousand white fragments and ceased to exist.

Ralph wept for the end of innocence, the darkness of man's heart and the fall through the air of a true, wise friend called Piggy.

## CHARACTERS

**Ralph:** the largest and most physically powerful. Wants to plan and follow rules, but even he is sometimes seduced by savagery. **Symbolises: law, government and civil society.**

**Piggy:** the smartest boy but has asthma and is fat so he is bullied. Has a tendency to lecture and is ridiculed. **Symbolises: science and rationality.**

**Jack:** leader of the hunters. Loves to hunt and kill, gets angry when he does not get his own way. Believes a leader should be obeyed. **Symbolises: dominance, power and fear.**

**Simon:** dreamy, dark haired boy prone to fits. He recognizes that the beast is within themselves. He is unafraid and he meditates. At one with nature. **Symbolises: religion and spirituality.**

**Roger:** quiet and intense at first then becomes more and more evil. He tortures SamnEric and likes to inflict pain. **Symbolises: brutality**

CHAPTER		CHAPTER	
1	Schoolboys have crash landed on a deserted island. The reader meets Ralph and Piggy. Piggy has asthma. They find a conch to summon any other survivors including twins SamnEric, Jack, Roger and Simon.	7	Jack and Ralph continue to clash as they search for the beast. Ralph kills a boar and is flushed with excitement. Robert is almost killed in a re-enactment. Later they head up the mountain and see 'the beast' and they are terrified.
2	The boys focus on short term pleasure and fun. Ralph suggests building a fire to be rescued. Jack wants to hunt. A boy with a birthmark tells of 'the beast'. He goes missing after the fire and the boys are ashamed.	8	Jack declares himself chief of his own group. Simon meditates alone and learns what the beast is. Piggy tries to cheer Ralph up with talk of a new fire. The savages dance around as they kill a sow with Roger being very brutal.
3	Ralph wants to build shelters but only Simon helps whilst the others play and Jack hunts. The fire has been allowed to go out. Simon slips away to meditate.	9	A storm comes and they have no shelter. Simon emerges from the forest and is set upon by the other boys who think he is the beast.
4	Island life gets a rhythm. Mornings are pleasant because it is cool but evening is not because the boys worry about the beast. A boat goes past but there is no fire to attract it. Piggy is laughed at for sundial idea. Jack paints his face and hunts and kills a pig chanting 'Kill the pig. Cut her throat. Spill her blood'. Ralph walks away.	10	Jack's gang have moved to Castle Rock. Ralph, Piggy and SamnEric remain but cannot keep the fire going by themselves. Jack steals Piggy's glasses whilst the others protect the conch.
5	Ralph calls a meeting to get people to follow the rules, but he and Jack are more apart than ever. There is talk of the beast a little'un suggesting it comes from the ocean at night. Jack just wants to hunt and won't listen to the rules of the conch. Ralph wishes for adults or a sign from the adult world.	11	The boys go to Castle Rock to confront Jack.... Jack attempts to kill Ralph with a spear. Ralph runs away. Jack's group torture SamnEric to make them join them.
6	A dead parachutist floats on to the island. No one sees because the fire is out. When they awake, SamnEric light the fire and see him but they think it is the beast. Jack finds a rock and some boulders.	12	SamnEric are tortured into revealing Ralph's hiding place. Jack vows to burn down the forest to find him. The smoke attracts a boat. An officer finds the boys and asks if they are playing at war. All of the boys cry when the officer looks back at his ship.

## Simplify

Simplify the given expression.



## Simplify fully

Simplify the given expression. Answer must be given in its simplest form.



## Factorise

Insert brackets by taking out common factors.



## Factorise fully

Insert brackets by taking out **all** the common factors.



## Expand

Remove brackets.



## Expand and simplify

Remove brackets and then collect like terms.



# Command Words in Maths questions

These words are the clue to what the examiner expects you to do. Remember to always show your workings. You can get marks for it, even if you get the final answer wrong.

### TECHNICAL VOCABULARY

Factor	A number which divides exactly into another.
Multiple	A multiple is a number made by multiplying two other numbers.
Prime	A prime number has exactly two factors.
Integer	The positive and negative whole numbers.
Estimate	Usually a calculation where the numbers have been rounded before the operation is performed.
Index (indices plural)	An index is a power or exponent.
Square root	Is the number that was multiplied by itself to get the square number.
Square number	Is a number that has been multiplied by itself.
Cube number	Is a number that is multiplied by itself then again by the original number.
Cube root	Is the number that was multiplied by itself and itself again to get the cube number
Numerator	The number on the top of the fraction. Shows how many part there are.
Denominator	The number on the bottom of the fraction. Shows how many equal parts the item is divided into.
Common denominator	When two or more fractions have the same denominator.
Equivalent	Having the same value
Inverse	The opposite mathematical operation.
Reciprocal	The number produced by dividing 1 by a given number
Odd	An integer that cannot be divided exactly by two.
Even	An integer that can be divided exactly by two.

## Calculate

A calculator and some working will be needed.



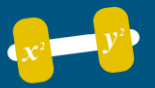
## Find

Some working will be needed to get to the final answer.



## Work out

Some working will be needed in order to get the answer.



## Explain

Write a sentence or a mathematical statement to show how you got to your answer or reached your conclusion.



## Describe

Write a sentence that gives the features of the situation.



## Complete

Fill in missing values.

x	y
-1	-3
0	1
2	3
2	5

## Give a reason

Must be clear and accurate reasons. If the reasons are geometrical then make sure you:

- provide a reason for each stage of working (if required)
- use correct geometric terminology.

## Express

Re-write in another form, some working may be needed.



## Justify

Show all working and/or give a written explanation.



## Solve

Find the solution of an equation or inequality.



## Solve algebraically

Find the solution of an equation or inequality; algebraic manipulation **must** be shown.



## Prove

More formal than 'show', all steps must be present. In the case of a geometrical proof, reasons must be given.



## Prove algebraically

Use algebra in the proof.



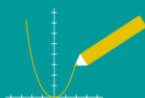
## Draw

Produce an accurate drawing (unless a sketch is being drawn).



## Draw a sketch of... Sketch

Produce a drawing that does not have to be drawn to scale or a graph that is drawn without working out each coordinate.



## Change

Usually convert from one unit to another; either using known metric unit conversions or the use of a conversion graph.



## Show

All working needed to get to a given answer or complete a diagram to show given information.



### Websites to help you with understanding and revision

[SparxMaths.com](http://SparxMaths.com)

[CorbettMaths.com](http://CorbettMaths.com)

[Trafalgar Maths Site](http://Trafalgar Maths Site)

[Maths Genie](http://Maths Genie)

[OnMaths](http://OnMaths)





### Place Value System

Millions	Hundreds of thousands	Tens of thousands	Thousands	Hundreds	Tens	Units	Tenths	Hundredths	Thousandths
1000000	100000	10000	1000	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
<b>M</b>	<b>HTh</b>	<b>TTh</b>	<b>Th</b>	<b>H</b>	<b>T</b>	<b>U</b>	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
5	2	9	7	8	2	1	6	0	3

Five million, two hundred and ninety seven thousand, eight hundred and twenty one point six zero three.

### Rounding to the nearest..

- Decide which is the last digit to keep, eg if you are rounding to the nearest ten, focus on the number in the tens column.
- Leave it the same if the next digit is less than 5 (rounding down) 
- But increase it by 1 if the next digit is 5 or above (rounding up) 

Example

**Round 293 to the nearest 10**

The 9 is in the tens column, the number after it is 3 which is less than 5 so we leave the 9 the same.

Answer: **290**

Example

**Round 1 572 to the nearest 100.**

The 5 is in the hundreds column, the number after it is 7, which is more than 5, so we increase 5 by 1.

Answer: **1 600**

### Inequalities

- < less than
- ≤ less than or equal to
- > greater than
- ≥ greater than or equal to
- = equal to
- ≠ not equal to

Examples

- a)  $342 > 339$
- b)  $1091 < 1909$
- c)  $-5 > -9$
- d)  $-4 < -1$
- e)  $2 < a \leq 7$
- f)  $c \neq d$



### Keywords:

- Place value
- Decimal
- Inequality
- Round
- Significant Figure
- Estimate – Round to 1 s.f.
- Integer = whole number

Examples with Decimals

- a)  $3.55 > 3.54$
- b)  $0.909 < 0.91$
- c)  $2.135 < 2.3$

Although 2.135 has three decimal places, it only has 1 tenth, whereas 2.3 has 3 tenths and is therefore larger.

### Rounding to a decimal place (d.p.)

Decimal places are the digits after the decimal point.

3 . 2 6 4

**3.264 to 1 dp = 3.3**

The first decimal place is the first number after the decimal point, in this case the 2. After the 2 is a 6, which is bigger than 5 so we round the 2 up to a 3.

**3.264 to 2 dp = 3.26**

The second decimal place is 6. Because there is a 4 after, which is less than 5, we keep the 6 the same.



### Rounding to significant figures (s.f.)

This rounds to the most important figure in a number. To round to 'so many' significant figures, we start at the first non-zero number and count from left to right.

**7 639 to 1 sf = 8000**

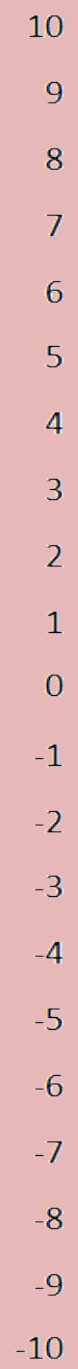
The 1<sup>st</sup> significant figure is 7, there is a 6 after it so we increase the 7 to an 8 to become 8000.

**10 240 to 3 sf = 10 200**

The 3<sup>rd</sup> significant figure is 2, there is a 4 after it, which is less than 5 so we keep the 2 the same.

**0.0749 to 2 sf = 0.075**

The 2<sup>nd</sup> significant figure is the 4 as the first zeros do not count. After the 4 is a 9 so we round up.



### Mental Methods

#### Complements

Group numbers that add to a multiple of 10 together to make numbers simpler to add or subtract:

$$\begin{aligned} & (3) + (4) + (26) + (17) \\ & (20) + (30) = 50 \end{aligned}$$

#### Partitioning

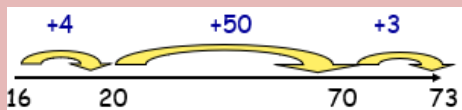
Break down the number you are adding so you can do the calculation in stages:

$$\begin{aligned} 54 + 68 &= 50 + 60 = 110 \\ & \quad 4 + 8 = 12 \\ 54 + 68 &= 122 \end{aligned}$$

#### Counting on

Find the difference between two numbers by counting on from the smaller

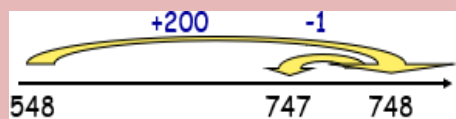
$$73 - 16 = 57$$



#### Compensation

Solve problems by adding or subtracting a near multiple of 10 then adjusting

$$548 + 199 = 747$$



### Estimation

Sparx M878

When we estimate, we round to one significant figure. It is a good strategy to work out a rough size of a calculation.

Example

**Estimate  $0.724 + 0.849$**

Round each of them to 1 s.f.

Answer:  $0.7 + 0.8 = 1.5$

Example

**Estimate  $374 + 297$**

Round each of them to 1 s.f.

Answer:  $400 + 300 = 700$

### Negative Numbers

Same signs together give a positive:  $3 + (+2) = 3 + 2 = 5$

Same signs together give a positive:  $3 - (-2) = 3 + 2 = 5$

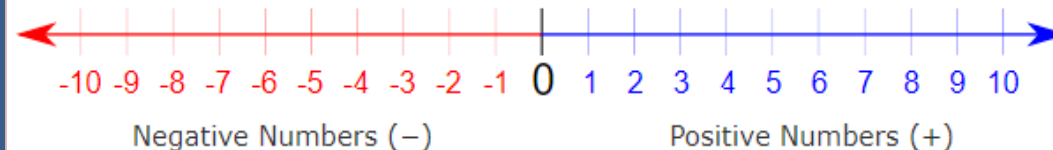


Different signs together give a negative:  $3 + (-2) = 3 - 2 = 1$

Different signs together give a negative:  $3 - (+2) = 3 - 2 = 1$



Careful! This changes sign of the middle operation NOT the answer



### Column Method – Addition (Trick: Estimate your answer first)

- Remember to line up the numbers in columns by place value.
- Use the decimal points as the marker to line up the columns
- Write numbers to the same number of decimal places, add zeros as needed
- Add columns from right - “carry” tens to next column over  
... and remember to add onto total for that column

$$543 + 379 =$$

$$\begin{array}{r} 543 \\ + 379 \\ \hline 922 \\ \text{1 1} \end{array}$$

$$5.4 + 3.79 =$$

$$\begin{array}{r} 5.40 \\ + 3.79 \\ \hline 9.19 \\ \text{1} \end{array}$$

### Column Method – Subtraction (Trick: Estimate your answer first)

- Remember to line up the columns by place value  
... and to write the number to be taken away on the bottom
  - Use the decimal points as the marker to line up the columns
  - Write decimals with the same number of decimal places
  - Fill in with zeros as needed
- Subtract columns from right
  - If the bottom digit is bigger than the top, “take 10” from the next column over which has a digit > 0
  - Move “taken 10” back one column at a time to account for size!

$$543 - 379$$

$$\begin{array}{r} 543 \\ - 379 \\ \hline 164 \end{array}$$

$$9.1 - 2.76$$

$$\begin{array}{r} 9.10 \\ - 2.76 \\ \hline 6.34 \end{array}$$

$$5.04 - 3.79$$

$$\begin{array}{r} 5.04 \\ - 3.79 \\ \hline 1.25 \end{array}$$

# Multiplication and Division

## Multiplying by powers of 10

x 10 = move digits 1 place to the left  
 x 100 = move digits 2 places to the left  
 x 1000 = move digits 3 places to the left....

### Example

54.2 x 10 = 542

Sparx M113

100's	10's	1's	1/10
	5	4	2
5	4	2	

← x10

## Dividing by powers of 10

÷ 10 = move digits 1 place to the right  
 ÷ 100 = move digits 2 places to the right  
 ÷ 1000 = move digits 3 places to the right....

### Example

235 ÷ 10 = 23.5

100's	10's	1's	1/10
2	3	5	
	2	3	5

÷10 →

## Keywords:

Remainder	Order of Operations	Division
Power	Indices	Multiplication
Roots	BIDMAS	Addition
Brackets	Subtraction	Integer

## Written Methods of Multiplication

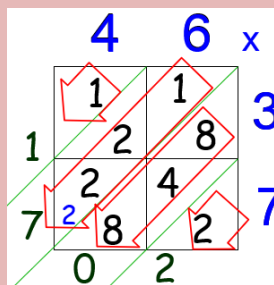
Work out 46 x 37

Sparx M187

Column Method

$$\begin{array}{r} 46 \\ \times 37 \\ \hline 322 \\ 1380 \\ \hline 1702 \end{array}$$

Lattice Method



## Order of Operations

Sparx M521

**B** (brackets)

$$100 \div (2 + 3)^2 \\ = 100 \div 5^2 \\ = 100 \div 25 = 4$$

**I** indices<sup>2</sup>

**D** ÷ division

Multiplication and division are performed whichever comes first from left to right  
 $10 \times 3 \div 5 = 6$

**M** multiplication x

**A** + addition

Addition and subtraction are performed whichever comes first from left to right  
 $20 - 4 + 7 = 23$

**S** subtraction -

Multiplication	Division	Examples
$\begin{matrix} (+) \times (+) \Rightarrow (+) \\ (+) \times (-) \Rightarrow (-) \\ (-) \times (+) \Rightarrow (-) \\ (-) \times (-) \Rightarrow (+) \end{matrix}$	$\begin{matrix} (+) \div (+) \Rightarrow (+) \\ (+) \div (-) \Rightarrow (-) \\ (-) \div (+) \Rightarrow (-) \\ (-) \div (-) \Rightarrow (+) \end{matrix}$	a) $12 \times 7 = 84$ b) $7 \times -4 = -28$ c) $-30 \div 5 = -6$ d) $-4 \times -6 = 24$ e) $-50 \div -10 = 5$

## Written Method of Division

Sparx M354

Division into an integer

$2931 \div 3 = 977$

$$\begin{array}{r} 0977 \\ 3 \overline{) 2931} \end{array}$$

Division into an integer with remainder

$1985 \div 4 = 496.25$

$$\begin{array}{r} 0496.25 \\ 4 \overline{) 1985.00} \end{array}$$

Division into a decimal

$27.6 \div 6 = 4.6$

$$\begin{array}{r} 04.6 \\ 6 \overline{) 27.6} \end{array}$$

Division into a decimal with "remainder"

$57.2 \div 8 = 7.15$

$$\begin{array}{r} 07.15 \\ 8 \overline{) 57.20} \end{array}$$

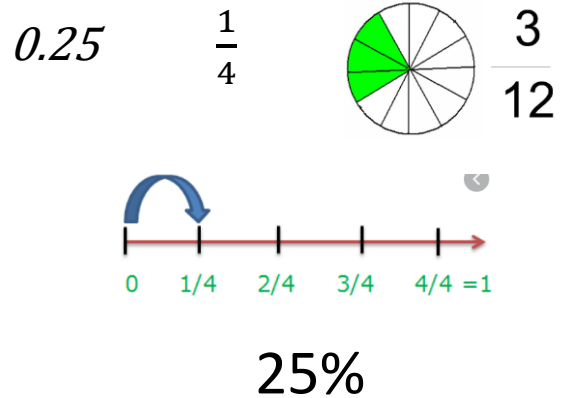
$1/10$	x 0.1	is the same as	÷ 10
	÷ 0.1	is the same as	x 10
$1/100$	x 0.01	is the same as	÷ 100
	÷ 0.01	is the same as	x 100
$1/1000$	x 0.001	is the same as	÷ 1000
	÷ 0.001	is the same as	x 1000

Get comfortable with your calculator now!! Look after it and familiarise yourself with all the shortcuts

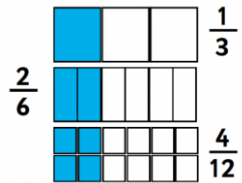


## Year 9 Maths Term 1 & 2 Fractions, Decimals and Percentages

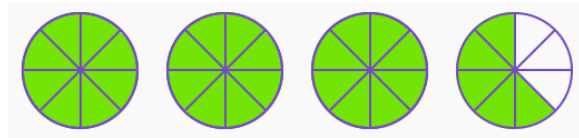
Different ways fractions can be represented (all of these are "one quarter")



These fractions are the same (equivalent).  $\frac{1}{3}$  is in the simplest form.

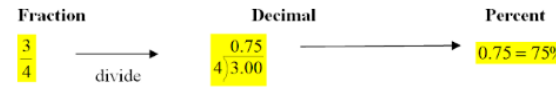
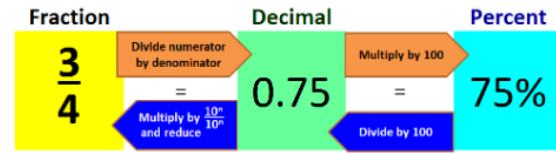


Each circle is split into 8, so there are  $\frac{29}{8}$  shaded (improper fraction). This can be written  $3\frac{5}{8}$  (mixed number).



Sparx M158, M410, M601, M671

Convert between fractions, decimals and percentages

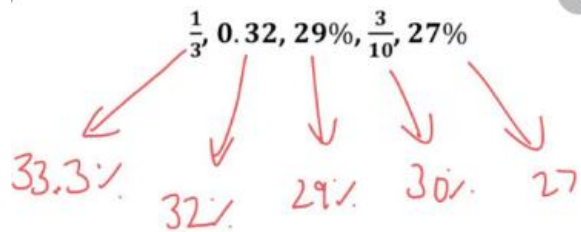


0.5	50%	$\frac{1}{2}$
0.25	25%	$\frac{1}{4}$
0.1	10%	$\frac{1}{10}$
0.01	1%	$\frac{1}{100}$
0.2	20%	$\frac{1}{5}$
0.75	75%	$\frac{3}{4}$

Higher ONLY: convert recurring decimal to a fraction

Convert 0.3474747... to fraction  
 Let  $x = 0.3474747...$   
 So  $10x = 3.474747...$   
 and  $1000x = 347.474747...$   
 by subtracting  $990x = 344$   
 So  $x = \frac{344}{990}$   
 $x = \frac{172}{495}$  in simplest form

Order fractions, decimals and percentages.  
 Key fact: convert everything to the same representation (percentage is probably the easiest).



Sparx M264, M437, M905

To multiply:  
 1. multiply numerators  
 2. multiply denominators  
 3. simplify  
 To divide:  
 multiply by the reciprocal of the second fraction (keep, flip, change)

Work out

$$\frac{3}{4} \times \frac{2}{7} = \frac{3 \times 2}{4 \times 7} = \frac{6}{28} = \frac{3}{14}$$

Work out

$$\frac{3}{4} \div \frac{2}{7} = \frac{3}{4} \times \frac{7}{2} = \frac{21}{8} = 2\frac{5}{8}$$

Mixed numbers: change to improper fractions first.

Sparx M157, M197, M110, M265

To add and subtract:  
 1. find equivalent fractions with same denominator  
 2. add/subtract numerators  
 3. Simplify

Work out

$$\frac{3}{4} + \frac{2}{7} = \frac{21}{28} + \frac{8}{28} = \frac{29}{28} = 1\frac{1}{28}$$

Work out

$$\frac{3}{4} - \frac{2}{7} = \frac{21}{28} - \frac{8}{28} = \frac{13}{28}$$

Mixed numbers: change to improper fractions first.

Sparx M835, M931,

Fraction of an amount

Find  $\frac{2}{5}$  of 40

First we find  $\frac{1}{5}$  of 40 = 8 (by dividing by 5)

Then we find  $\frac{2}{5}$  of 40 = 8 x 2 = 16 (by multiplying by 2)

This is logical! find one fifth (by dividing by 5), then double to find two fifths!

Remember: divide by the denominator; multiply by the numerator.

A percentage is simply a fraction with a denominator of 100.

Sparx M695, M684

# The Periodic Table of Elements

1	2											3	4	5	6	7	0		
		<b>Key</b> relative atomic mass atomic symbol name atomic (proton) number										1 <b>H</b> hydrogen 1							4 <b>He</b> helium 2
7 <b>Li</b> lithium 3	9 <b>Be</b> beryllium 4											11 <b>B</b> boron 5	12 <b>C</b> carbon 6	14 <b>N</b> nitrogen 7	16 <b>O</b> oxygen 8	19 <b>F</b> fluorine 9	20 <b>Ne</b> neon 10		
23 <b>Na</b> sodium 11	24 <b>Mg</b> magnesium 12											27 <b>Al</b> aluminium 13	28 <b>Si</b> silicon 14	31 <b>P</b> phosphorus 15	32 <b>S</b> sulfur 16	35.5 <b>Cl</b> chlorine 17	40 <b>Ar</b> argon 18		
39 <b>K</b> potassium 19	40 <b>Ca</b> calcium 20	45 <b>Sc</b> scandium 21	48 <b>Ti</b> titanium 22	51 <b>V</b> vanadium 23	52 <b>Cr</b> chromium 24	55 <b>Mn</b> manganese 25	56 <b>Fe</b> iron 26	59 <b>Co</b> cobalt 27	59 <b>Ni</b> nickel 28	63.5 <b>Cu</b> copper 29	65 <b>Zn</b> zinc 30	70 <b>Ga</b> gallium 31	73 <b>Ge</b> germanium 32	75 <b>As</b> arsenic 33	79 <b>Se</b> selenium 34	80 <b>Br</b> bromine 35	84 <b>Kr</b> krypton 36		
85 <b>Rb</b> rubidium 37	88 <b>Sr</b> strontium 38	89 <b>Y</b> yttrium 39	91 <b>Zr</b> zirconium 40	93 <b>Nb</b> niobium 41	96 <b>Mo</b> molybdenum 42	[98] <b>Tc</b> technetium 43	101 <b>Ru</b> ruthenium 44	103 <b>Rh</b> rhodium 45	106 <b>Pd</b> palladium 46	108 <b>Ag</b> silver 47	112 <b>Cd</b> cadmium 48	115 <b>In</b> indium 49	119 <b>Sn</b> tin 50	122 <b>Sb</b> antimony 51	128 <b>Te</b> tellurium 52	127 <b>I</b> iodine 53	131 <b>Xe</b> xenon 54		
133 <b>Cs</b> caesium 55	137 <b>Ba</b> barium 56	139 <b>La*</b> lanthanum 57	178 <b>Hf</b> hafnium 72	181 <b>Ta</b> tantalum 73	184 <b>W</b> tungsten 74	186 <b>Re</b> rhenium 75	190 <b>Os</b> osmium 76	192 <b>Ir</b> iridium 77	195 <b>Pt</b> platinum 78	197 <b>Au</b> gold 79	201 <b>Hg</b> mercury 80	204 <b>Tl</b> thallium 81	207 <b>Pb</b> lead 82	209 <b>Bi</b> bismuth 83	[209] <b>Po</b> polonium 84	[210] <b>At</b> astatine 85	[222] <b>Rn</b> radon 86		
[223] <b>Fr</b> francium 87	[226] <b>Ra</b> radium 88	[227] <b>Ac*</b> actinium 89	[261] <b>Rf</b> rutherfordium 104	[262] <b>Db</b> dubnium 105	[266] <b>Sg</b> seaborgium 106	[264] <b>Bh</b> bohrium 107	[277] <b>Hs</b> hassium 108	[268] <b>Mt</b> meitnerium 109	[271] <b>Ds</b> darmstadtium 110	[272] <b>Rg</b> roentgenium 111	[285] <b>Cn</b> copernicium 112	[286] <b>Nh</b> nihonium 113	[289] <b>Fl</b> flerovium 114	[289] <b>Mc</b> moscovium 115	[293] <b>Lv</b> livermorium 116	[294] <b>Ts</b> tennessine 117	[294] <b>Og</b> oganeson 118		

\* The Lanthanides (atomic numbers 58 – 71) and the Actinides (atomic numbers 90 – 103) have been omitted.

Relative atomic masses for **Cu** and **Cl** have not been rounded to the nearest whole number.



## KS4 Biology: B16 Adaptations, interdependence and competition

Key term	Definition
Ecosystem	The interaction of a <b>community</b> of living organisms with the non-living ( <b>abiotic</b> ) parts of their environment.
Biotic factors	Living components of an <b>ecosystem</b> . e.g availability of food, new predators/pathogens/competitors.
Abiotic factors	Non-living factors that affect living organisms e.g. light intensity, temperature, moisture levels, soil pH, wind intensity and direction, CO <sub>2</sub> for plants, O <sub>2</sub> for aquatic animals.
Community	Organisms that interact with each other in an <b>ecosystem</b> .
Interdependence	The network of relationships between different organisms within a <b>community</b> eg each species depends on other species for food, shelter, pollination etc.
Adaptations	Features that enable organisms to survive in the conditions in which they normally live.
Quadrat	A sample area used for measuring the <b>abundance</b> and <b>distribution</b> of organisms in the field.
Abundance	A measure for how common or rare a particular type of organism is in a given environment.
Distribution	Where particular types of organisms are found within an environment.
Transect	A measured line or area along which ecological measurements are made.
Extremophiles	Organisms that live in environments that are very extreme e.g. high temperature, pressure or salt concentration e.g. bacteria living in dead sea vents are extremophiles.

## Adaptations

Functional adaptation: Any adaptation that helps an organism survive e.g. plants with spikes or horns on animals.

There are no case study adaptation organisms that you have to learn, you have to be able to apply your knowledge to the examples they ask you about.

Structural adaptation: Physical adaptations e.g. beak shape to crack nuts, fur colour for camouflage.

Behavioural adaptation: things that organisms do in order to survive e.g bird song to find a mate, hibernation to avoid the lack of food in winter.

You must link the **adaptation** to the **purpose of that adaptation**



**Small surface area to volume ratio** to conserve heat

How is a cactus adapted to life in a very hot, dry climate?



water stored in a **fleshy stem**, and a **thick, waxy surface** reduces water loss

leaves are **narrow spines** to reduce water loss and protect from predators

roots are either **very deep**, or **shallow and widespread** to catch surface water

**Required practical:** Measure the population size of a common species in a habitat

### Random sampling using quadrats

Sampling of the area you are studying must be random. It must show no **bias** – for instance, choosing to sample where there are lots of plants.

1. When you have chosen a sampling area, first divide it up into a grid for example using tape measures on each side.
2. Use a suitable method – you could draw numbers out of a hat – to generate a pair of random coordinates on your grid.
3. Place the first quadrat on your grid using these coordinates.
4. Count the number of different species within this quadrat (the species richness).
5. Repeat steps 1-4 so that you have a total of **at least 10 counts**.

You can use this method to study:

1. **Number of an individual species** - the total number of individuals of one species (e.g. daisies) is recorded.
2. **Species richness** - the number of different plant or animal species is recorded but not the number of individuals within a species.
3. **Percentage cover** - the percentage of the quadrat area that is covered by one species (e.g. grass). Remember our quadrats are divided into 25 sections – each small square is worth 4%.



- Animals compete for mates, shelter, water, food. This may be with different species or within the same species.



- Plants compete for space, water, light.



**Required practical:** Use sampling techniques to investigate the effect of a factor on the distribution of species.



1. Lay a tape measure along the transect (between two points).
2. At regular intervals use a quadrat to sample the organisms **and measure any abiotic factors eg use a light meter**.
3. Repeat steps 1 and 2 along a different transect between the two points.

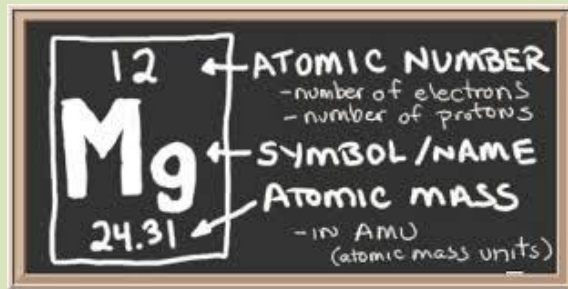
## KS4 Chemistry: C1 Atomic structure

### Chemical symbols

All substances are made from tiny particles called **atoms**. An atom is the smallest part of an **element** that can exist.

Atoms of each element are represented by their own chemical symbol.

A chemical symbol:  
consists of one or two letters  
always starts with a capital letter,  
with any other letter in lower case



### Chemical formulae

#### Elements

A **chemical formula** is used to represent an element or compound in balanced chemical equations.

The formula for most elements is just its chemical symbol. E.g. helium, He

Some non-metal elements exist as molecules that are made up of two atoms joined together. The formulae of these elements are the element's symbol followed by a **subscripted '2'**. For example: iodine, I<sub>2</sub>

#### Compounds

The formula shows:

the symbols for each element in the compound

the number of atoms of each element in a unit of the compound

E.g. sodium chloride, NaCl

It is not easy to split up a compound into its elements - the only way to do this is in chemical reactions.

Keyword	Definition
Atom	The smallest part of an element that can exist. All substances are made of atoms. No overall electrical charge. Very small, radius of 0.1nm.
Element	An element contains only one type of atom. Found on the Periodic Table. There are about 100 elements.
Compound	Two or more elements chemically bonded with each other. Can only be separated into the elements through chemical reactions.
Mixture	Contains two or more elements or compounds not chemically bonded. Can be separated using physical methods e.g. by filtration, crystallisation, distillation and chromatography.
Filtration	A process that separates mixtures of insoluble solids and liquids.
Crystallisation	A process that separates dissolved solids from liquids by evaporating the liquid to leave crystals.
Distillation	A process that separates a mixture of liquids based on their boiling points.
Chromatography	A process that separates mixtures by how quickly they move through a stationary phase (e.g. paper)
Isotope	An atom of the same element with different numbers of neutrons.
Relative atomic mass	An average value of mass that takes account of the abundance of the isotopes of the element.

## Chemical equations

A word equation represents a chemical reaction using the names of the substances involved

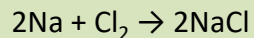
**Reactants** are substances that react together in a chemical reaction. In a chemical reaction, the atoms or ions in reactants separate from one another. They join back together in a different way to form **products**.

Word equations always take this form:

reactants → products

Sodium + chlorine → sodium chloride

Symbol equations use the formulae of the reactants and products. It shows the number of units of each substance involved.



The law of conservation of mass states that no atoms are lost or made during a chemical reaction, so the total mass of the products is equal to the total mass of the reactants.

## State symbols

Balanced equations often include state symbols, shown in brackets after each formula

An aqueous solution forms when a substance dissolves in water

State symbols are useful because they show what a substance is like.

For example:

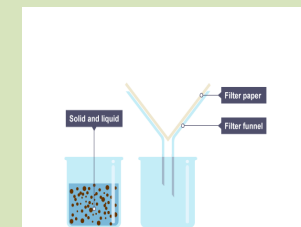
$\text{H}_2\text{O}(\text{l})$  is liquid water but  $\text{H}_2\text{O}(\text{g})$  is steam and  $\text{H}_2\text{O}(\text{s})$  is ice

State symbol	meaning
(s)	solid
(l)	liquid
(g)	gas
(aq)	Aqueous solution

## Mixtures

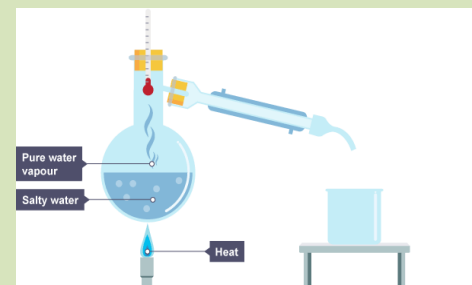
Mixtures can be separated by physical processes. These processes do not involve chemical reactions, and no new substances are made.

Filtration is used to separate an **insoluble** solid from a liquid. It is useful for separating sand from a mixture of sand and water, or excess reactant from a reaction mixture



## Simple distillation

is used to separate a solvent from a solution. The dissolved solvent has a higher boiling point than the solvent

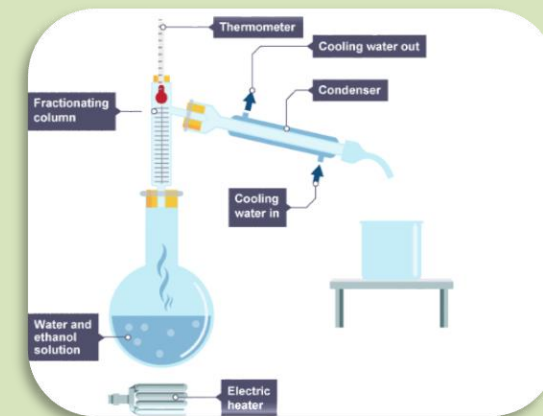


Crystallisation is used to produce solid crystals from a solution. When the solution is warmed, some of the solvent evaporates leaving crystals behind



Fractional distillation is used to separate different liquids from a mixture of liquids.

It works because different liquids have different boiling points and will evaporate at different Temperatures



Paper **chromatography** is used to separate mixtures of soluble substances. These are often coloured substances such as food colourings, inks, dyes or plant pigments

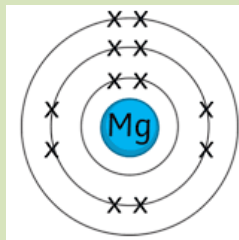
**stationary phase**, which in paper chromatography is very uniform, absorbent paper

**mobile phase** is the solvent that moves through the paper, carrying different substances with it



An atom has a central **nucleus**. This is surrounded by **electrons** arranged in shells.

The nucleus is tiny compared to the atom as a whole

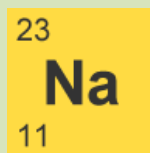


### Calculating numbers of subatomic particles

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

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

- number of protons = atomic number
- number of electrons = atomic number
- number of neutrons = mass number - atomic number

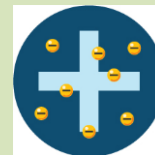


### Isotopes

Atoms of the same element must have the same number of protons, but they can have different numbers of neutrons.

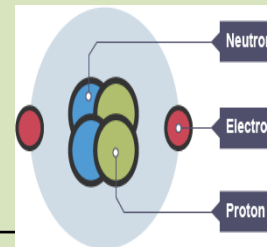
### Development of Atomic Model

Plum Pudding



The plum pudding model shows that the atom is a **ball of positive charge** with **negative electrons embedded** in it. Was **incorrect**.

Nuclear Model



**Rutherford's** scattering experiment found a central area of positive charge. The nuclear model has a **positive nucleus** and **electrons in shells**.

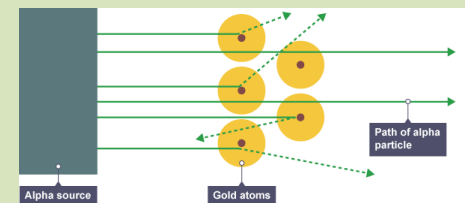
**Chadwick** later discovered **neutrons**.

**Bohr** discovered the arrangement of **electrons in shells**.

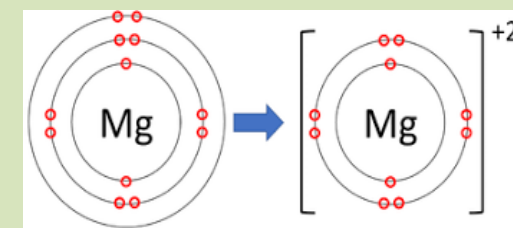
### Properties of Sub-Atomic Particles

Sub-atomic particle	Mass	Charge	Position in Atom
Proton	1	+1	Nucleus
Neutron	1	0	Nucleus
Electron	Very small	-1	Orbiting in shells

In 1909 Ernest Rutherford designed an experiment to test the plum pudding model. In the experiment, positively charged **alpha particles** were fired at thin gold foil. Most alpha particles went straight through the foil. But a few were scattered in different directions.



Atoms form ions (charged particles) by losing or gaining electrons. These as shown using diagrams. Metal atoms lose electrons and non metal atoms gain electrons



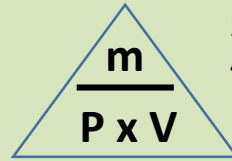
**KS4 Physics:  
P6 Molecules and matter**

**Density**

$$\text{Density (kg/m}^3\text{)} = \frac{\text{mass (kg)}}{\text{Volume}}$$

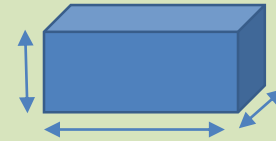
(m<sup>3</sup>)

**Density:** an objects mass per unit volume (how heavy an object is for its size)



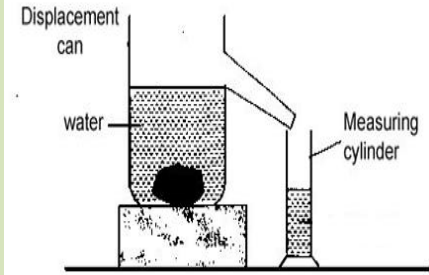
**To calculate the density of a regular shape**

1. Calculate its volume (e.g. measure each side and then do volume = **b**x**h**x**w**)
2. Measure its mass on a balance
3. Calculate density using the equation



**To calculate the density of an irregular shape**

1. Place the object into a displacement can
2. Record the volume of water displaced by the object with a measuring cylinder
3. Measure its mass on a balance
4. Calculate density using the equation



**Converting units**

**This is tricky in this section**

1m = 100cm

1m<sup>3</sup> = 100cm x 100cm x 100cm (1000000cm<sup>3</sup>)

So 1cm = 0.01m, but 1cm<sup>3</sup> = 0.000001m<sup>3</sup>

**States of matter and changes of state**

**Latent heat** – the amount of energy transferred to a substance when it changes state

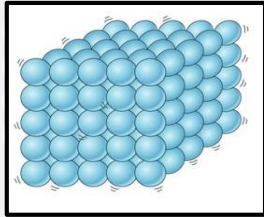
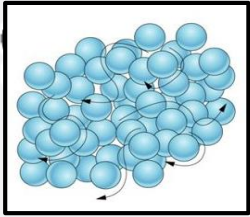
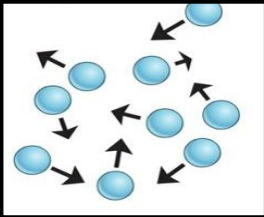
**Specific latent heat** – the amount of energy transferred to 1kg of a substance when it changes state

$$E = m \times L$$

- Energy **E** in Joules (J)
- Mass **m** in kilograms (kg)
- Specific latent heat **L** in joules per kilogram (J/kg)

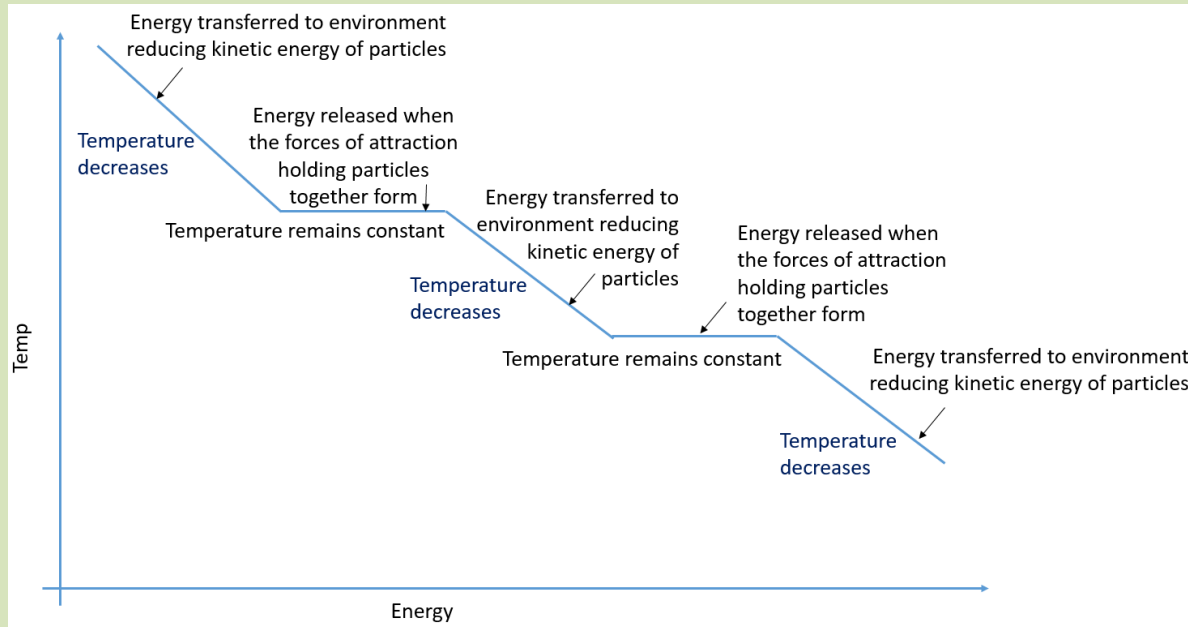
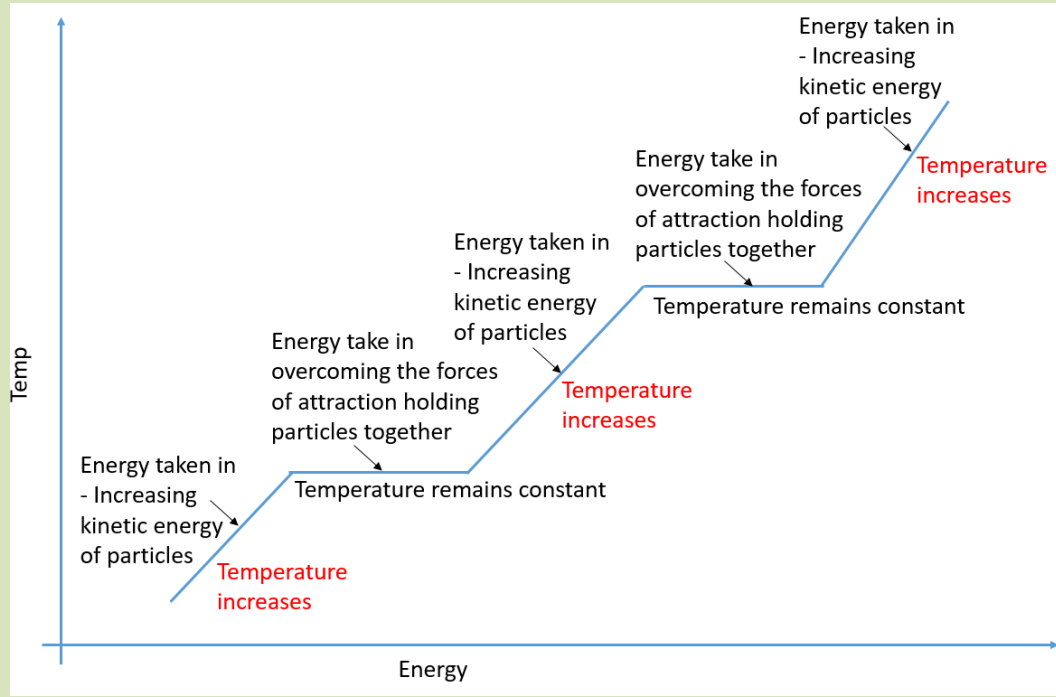
**Specific latent heat of fusion, L<sub>F</sub>** – energy transferred during melting

**Specific latent heat of vaporisation, L<sub>V</sub>** – energy transferred during boiling

	Solid	Liquid	Gas
Arrangement of particles	Close together Regular pattern	Close together Random arrangement	Far apart Random arrangement
Movement of particles	Vibrate on the spot	Move around each other	Move quickly in all directions
Diagram			

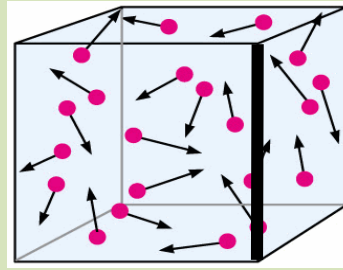
**Internal energy** - the sum of a particles kinetic energy and potential energy

# Energy changes during changes of state



## Gas pressure

Pressure is caused by the gas particles colliding with the container and exerting a force



Gas pressure can be increased by:

- **Increasing the temperature** – this makes the particles move faster and causes more collisions per second and collisions with a greater force
- **Decreasing the volume** – this results in a higher frequency of collisions
- **Increasing the number of particles** in the system – this again results in more collisions occurring

### **Boyles Law**

At a constant temperature

Pressure (Pa) x volume (m<sup>3</sup>) = constant

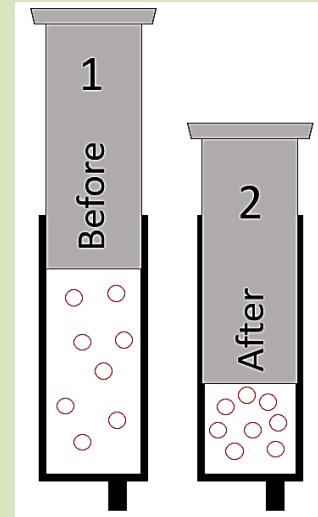
$$p \times v = \text{constant}$$

If you double the volume the pressure will half

**If a system is changed**

**Pressure x volume before must equal the pressure x volume after**

$$P_1 \times V_1 = P_2 \times V_2$$

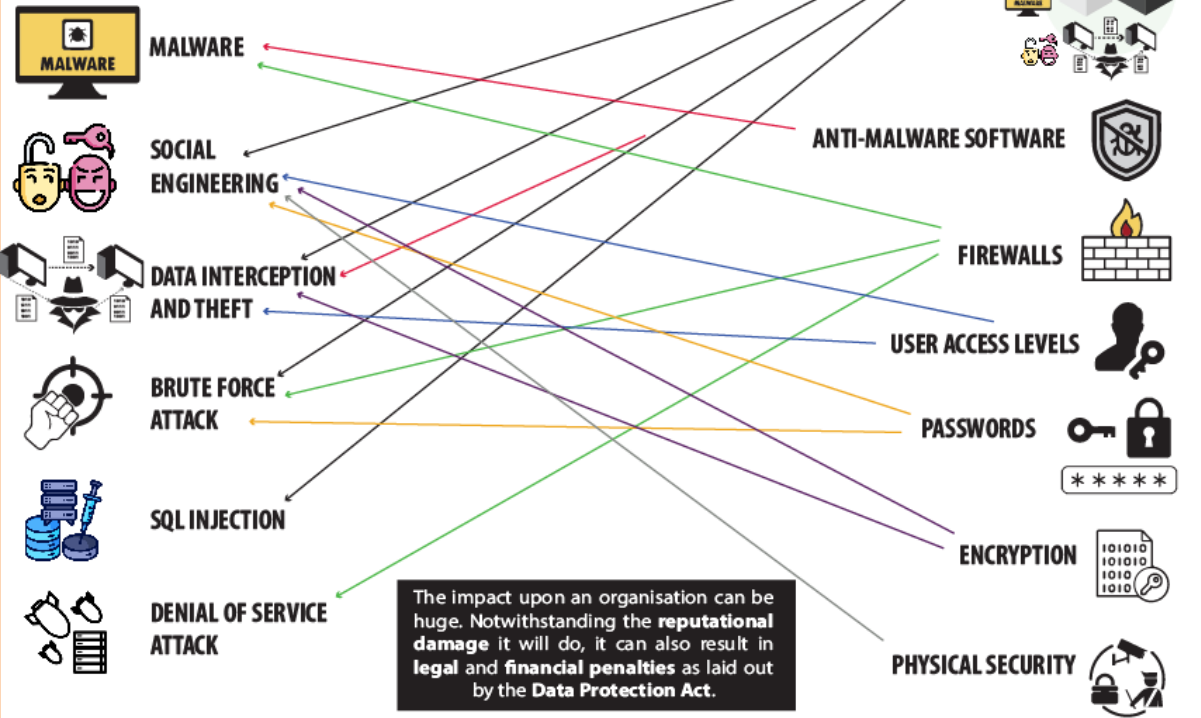


# 1. COMPUTER CRIME & CYBER-SECURITY

# Year 9 Computer Science – Autumn Term

## THREATS AND THEIR SUBSEQUENT PREVENTION

### METHODS



### CyberCrime

refers to criminal activities that are conducted using computers or the internet. This can include hacking, identity theft, phishing, and the distribution of malware, among other illicit activities. The goal is often to steal sensitive information, money, or to disrupt services.

### Phishing

is a type of cyber attack in which attackers pose as legitimate entities to deceive individuals into providing sensitive information such as usernames, passwords, and credit card details. Phishing attacks typically occur through email, fake websites, or instant messages.

### Trojan Horse

A Trojan Horse is a type of malicious software that appears to be legitimate or useful but is actually designed to harm, disrupt, or steal information from the system it infects. Once activated, it can create backdoors for other malware or allow unauthorized access to the user's system.

### Hacking

Hacking is the unauthorised access or manipulation of computer systems, networks, or data. Hackers may exploit vulnerabilities for various purposes, including data theft, espionage, or simply for the challenge.

### Advance Fee Fraud

Advance Fee Fraud is a scam where the victim is persuaded to advance sums of money in the hope of receiving a significantly larger amount of money or some other benefit, which never materializes. Common examples include the Nigerian prince scam and lottery frauds.

### Virus Generated Email

A Virus Generated Email is an email that is automatically sent by a computer virus from an infected system. These emails often contain malicious attachments or links designed to spread the virus to other systems.

### EMAIL SCAMS

Email Scams involve deceptive emails sent to individuals with the intent to defraud. These scams can include phishing, advance fee fraud, lottery scams, and others, aiming to trick recipients into providing personal information, financial details, or money.

### MALWARE

Malware (short for "malicious software") is any software intentionally designed to cause damage to a computer, server, client, or computer network. This includes viruses, worms, Trojans, ransomware, spyware, adware, and more.

### RANSOMWARE

Ransomware is a type of malware that encrypts a victim's files. The attacker then demands a ransom from the victim to restore access to the data upon payment. Instructions for how to pay the ransom are typically displayed in a message to the victim.

### IDENTITY THEFT

Identity Theft involves stealing someone's personal information (such as Social Security number, bank account details, or credit card numbers) to commit fraud or theft. This can result in financial loss and damage to the victim's credit rating.

### GENERAL DATA PROTECTION REGULATIONS (GDPR)

The General Data Protection Regulation (GDPR) is a legal framework that sets guidelines for the collection and processing of personal information of individuals within the European Union (EU). It aims to give control to individuals over their personal data and simplify the regulatory environment for international business.

### DAA HARVESTING

Data Harvesting (or data mining) is the process of extracting large amounts of data from websites, databases, or other sources, often without the consent of the data owner. This data is then analysed to find patterns, trends, or useful information.

### COPYRIGHT

Copyright is a form of intellectual property law that protects original works of authorship, such as literary, dramatic, musical, and artistic works. Copyright gives the creator exclusive rights to use, distribute, and reproduce their work, typically for a limited time.



## 2. AI & MACHINE LEARNING

### Artificial intelligence

An artificial creation of human-like intelligence that can 'think' like humans with abilities such as learning or problem solving.

### Neural Networks

Neural networks work like neurons in the brain. A neural network classifies information in the same way a human brain does.

### Facts and Rules

A fact for classifying a person might be that: People have a mouth. A rule that helps to classify a person could be: People might wear sunglasses

### Machine Learning

Machine learning (ML) is a part of AI. In machine learning, the machine will work out the rules for itself. It will be given a large amount of training data to work out these rules.

### Structured and Unstructured Data

In **structured data**, the data has been organised. For example, a company's financial data may be organised by month; a weather station's data may be organised by hour. **Unstructured data** has not been organised. For example, emails, newspaper articles, messages, social media posts are unstructured.

Strengths OF MACHINE LEARNING	Weaknesses OF MACHINE LEARNING
It can find patterns we did not know were there	It is only as good as the training data given to it
It can solve simple questions and leave skilled humans to deal with special or harder cases	It only gives a probability, not a certain answer
The machine improves with experience	Results may need careful interpretation
It can handle unstructured data	Errors can be hard to detect

### Ethics

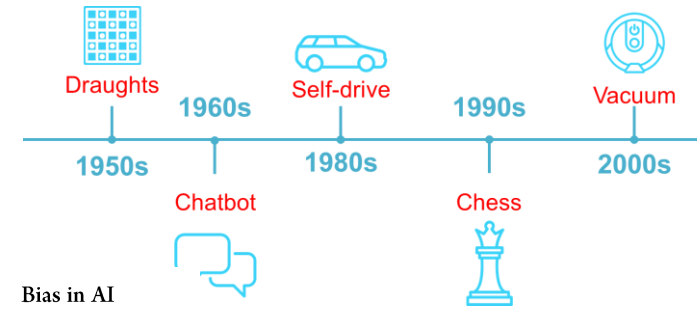
'Ethics' is a significant aspect of philosophy. At its simplest, ethics is about what is right, or wrong.

### Ethics of AI

Ethical questions can be very difficult to answer. It is important to consider the possible negative effects of new technologies by asking questions such as: *How reliable is the technology? Will there be cases of mistaken identity? How secure is the system? Could evidence be tampered with? Is it fair to be fined by a machine? What happens if the AI is programmed to follow rules that aren't in the interests of the majority of people?*

## Year 9 Computer Science – Autumn Term

### DEVELOPMENTS IN AI



### Bias in AI

Bias could occur in any area of AI. Some areas that may be affected could be:

*People tend to prefer sweeter fruit and vegetables, so AI could only pick or produce the very sweetest. This would affect people who don't like these*

*AI could use training data for job applications that makes it biased – for instance, if the training data was all from people with European names, it may reject someone who has a non-European name even though they could be very good at the job.*

### Facial Recognition

Facial recognition can work by calculating the distances between points on a face



### The Turing Test

This test was created by Alan Turing in 1950. A human sits in one room and asks questions through a computer. The questions go to a computer and a human. If the human cannot tell the difference between talking to a computer and a human, the computer passed the test.

### Problems with patterns

AI and machine learning are very good at finding patterns. The problem is, they might spot patterns that don't exist.

### Chatbots

Chatbots, also known as virtual assistants are able to help people by replying to messages or voice commands.

### Sentiment analysis

When we analyse how people feel about something, it is known as sentiment analysis

Sentiment analysis can be used to: Find a reaction to a product such as a film or TV series. Find out feelings to a fashion trend. Find how people feel about political issues or voting intentions.

Up to 40% of jobs could be replaced by automation & AI by 2035

# Africa before Transatlantic Enslavement

“The Transatlantic Slave trade not only distorted Africa’s economic development it also distorted views of the history and importance of the African continent itself. It is only in the last fifty years that it has been possible to redress this distortion and to begin to re-establish Africa’s rightful place in world history.”

*‘Understanding Slavery’ blog written for Black History Month Blog, 2019*

## Medieval Africa and Mansa Musa’ Mali Empire

*You studied this in year 8*

Mansa Musa was the 10<sup>th</sup> ruler of the Mali Empire. During his reign the Malian Empire experienced it’s Golden Age. Mansa Musa is the wealthiest individual in human history.



### Empire of Mali, 1230 CE – 1460’s CE

*Greatest trading empire in Africa, provided half of the world’s gold. 1,600km, ruled over 400 cities. Effective administration and semi-professional army.*



### Medieval traveller and writer, Ibn Battuta, who visited the Mali Empire records:

“Life in Mali was generally peaceful. He reported that there was very little crime and that the people were always friendly and welcoming”

### Education

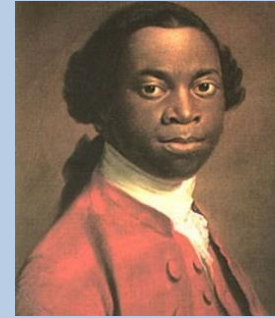
By the end of Mansa Musa’s reign Timbuktu had become a **centre of learning and knowledge**. The **Mosque** Mansa Musa built became a **university**. There were also 180 **schools**. In Timbuktu many **books** were **produced**. **Scholars** from across Africa and the Arab world often met here to discuss ideas.



### Timbuktu Documents

A large collection of documents from the Mali Empire have been found by historians, stored at Timbuktu. They show a **complex legal system** with written **laws** and carefully **documented administration**. This shows the Mali government was **sophisticated** for its time.

## Life of Africans before Enslavement



“The part of Africa, known by the name of Guinea, includes a variety of kingdoms. I had never heard of white men, or Europeans. Nor of the Sea.

We are a nation of dancers, musicians, and poets. Every great event, such as a triumphant return from battle is celebrated in public dances. Each master of a family has a large square piece of ground, surrounded with a moat or fence. Within this are houses to accommodate his family and slaves. The roof is thatched with reeds. We live in a country where nature is prodigal [provides lots of] of her favours, are wants are few.”

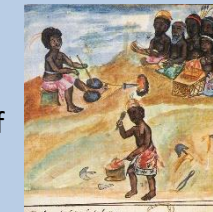
**Olaudah Equiano**, captured and enslaved African who later purchased his freedom and published the story of his life as part of his abolition campaigning.

## Africa’s Achievement

**Art, learning and technology** flourished and Africans were especially skilled in subjects like **medicine, mathematics and astronomy**. As well as domestic goods, they made fine luxury items in bronze, ivory, gold and terracotta for both local use and trade.

### Technology

The Nok Culture in Nigeria was known for it’s **ironworking**. They used bellows to increase the heat of the fire, and quenching to rapidly cool and harden the iron.



In Ethiopia they used the **terraced farming** technique to increase agricultural production. This involved cutting flat areas into hills which would otherwise be too steep to cultivate.



The Kingdom of Askum has advanced **textile** production including spinning wheels, looms and natural dyes.



### Medicine

Africans were advanced in medical knowledge and practices back as far as ancient Egypt.



Could set broken bones, perform surgeries (removing tumours, treating fractures and Ancient Egyptians even performed brain surgery) and used herbal remedies (for example, the plant known as ‘*kanna*’ was used to relieve hunger and thirst, and reduce anxiety).

### Scholars

**Ahmed Baba** made significant contributions to mathematics (particularly algebra and geometry and introduced new methods to solve equations).

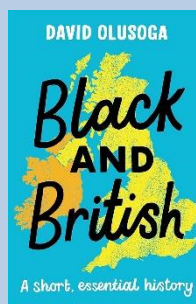
# THE TRANSATLANTIC

## SLAVE TRADE



David Olusoga, *Black and British: a short, essential history*, 2020

“Slavery was the best way of controlling the black population and making them useful. Many of the racist ideas that still exist today were invented by the enslavers and their supporters in the 18<sup>th</sup> century”



Kenneth Morgan, *Slavery and the British Empire*, 2007

“The forms of slavery in existence before the European discovery of America were radically different from the type of slavery that developed rapidly and on such a large scale on the Western shores of the Atlantic. One crucial difference was the latter was a radicalised version.

Africans were regarded as heathens, as racially and culturally different from Europeans, and as people lacking legal rights; they were prime candidates for enslavement.”



Afua Hirsch, *Brit(ish): On race, identity and belonging*, 2018

“Britain’s role in the transatlantic slave trade was not peripheral but central. It was not a sideshow, but a main event. The British economy was built on the backs of the enslaved Africans, and the wealth generated by the slave trade helped to fund the industrial revolution, which in turn made Britain the richest country in the world”



### Language surrounding Slavery

Slave vs Enslaved

Today most historians speak of **enslaved people** instead of ‘slaves’. This language separates a persons identity from his/her circumstances and highlights what happened to these people.

Owner/Master vs Enslaver

The use of ‘owner’ or ‘master’ empowers the **enslaver** and **dehumanises** the enslaved person to a commodity rather than a person who has had slavery imposed upon them. **Enslaver** highlights the actions of those who purchased and kept slaves.

### Key Words

Triangular Trade

Three part journey between GB, Africa and USA transporting goods and enslaved people.

Slave Forts

Forts built on the coasts and rivers of West Africa to store enslaved Africans, and prevent escape until their transportation.

Middle Passage

Journey of enslaved people between Africa and the Americas. It took 8-12 and 1 in 4 died in the awful conditions

Dysentery

A nasty form of diarrhoea killed many Africans on the journey.

Transatlantic

Going across the Atlantic ocean

Shackles

Iron chains used to fasten the legs or hands of a slave or prisoner.

Branding

To mark a person or animal with a hot iron to show ownership.

Cargo

Goods carried for trade

Zong Massacre

1781 slave ship Zong was carrying more than 470 enslaved people. The crew threw 132 people overboard.

Plantation

Large farm where one crop would be grown (typically cotton, sugar or tobacco)

Enslaved person

A person who is the property of another and is forced to work for little or no reward.

Overseer

The person in charge of the enslaved on a plantation

Abolition

Stopping a system, practice or institution by law

Abolitionist

Someone who campaigned to end the slave trade

The **Transatlantic Slave trade** involved the enforced **enslavement** of **12.5 million Black Africans** from the 16<sup>th</sup> to the 19<sup>th</sup> century leading to large profits for Imperial European Nations (Britain, Portugal, Spain)

# Enslavement in Africa

**Journey Part 3:** In the Americas and West Indies enslaved people were sold to work on plantations and the money was used to purchase goods such as sugar, cotton and tobacco, to be returned to Europe and sold for large profits.

**Journey Part 1:** European ships took cloth, guns, iron pots and swords to Africa. These were exchanged for enslaved African people.



**Journey Part 2:** The Middle Passage- Enslaved were transported across Atlantic ocean. This journey was notorious for its brutality and overcrowded, unsanitary conditions.



“One day, when all our people were gone out to their works as usual, and only I and my dear sister were left to mind the house, two men and a woman got over our walls, and in a moment seized us both, and, without giving us time to cry out, or make resistance, they stopped our mouths, and ran off with us”

**Olaudah Equiano**, captured and enslaved African who later purchased his freedom and published the story of his life as part of his abolition campaigning.



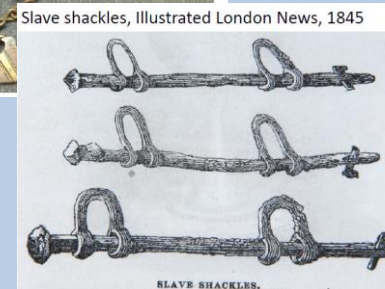
After capture, Africans were stored in **Slave Forts** or **barracoons** before the European traders arrived. These buildings were to prevent them escaping or fighting back.



Neck iron or slave collar, from a West African slave fort



**Collars and shackles** were used to keep control of enslaved peoples.



## Why did African's Capture their own people?

*Africa was split into several kingdoms often at conflict and many enslavers did not view enslaved as their 'own people'. Enslaved people were exchanged for weapons to increase power and protect own people.*

*Many felt they had no choice, as they needed trade with and good relations with (more powerful) Europe.*



60 second video on the triangular trade



SCAN ME



# Abolition of Slavery

Black people in Britain fought to end the Slave trade **Olaudah Equiano** campaigned for the end of slavery, along with **Mary Prince**, **Ottobah Cugoano** and many others.



White Campaigners such as **Sharp** and **Wilberforce** fought to change laws around the slave trade.



Furthermore, many enslaved people themselves **rebelled** to gain more rights and freedoms. Such as the rebellion in St Dominque and the Haitian revolution.

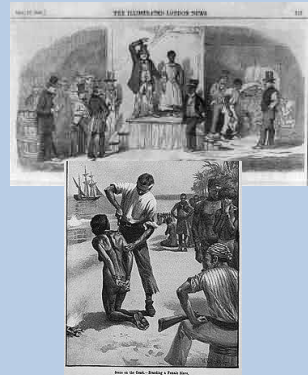


**Jeffrey Boakye, 2022**  
 “William Wilberforce is often seen as a great white saviour of the abolition movement, but the truth is that he was one of many people who fought for the abolition of slavery. He was not the only one, and he was not the first one. There were many black abolitionists who fought for the abolition of slavery and their contributions have been largely forgotten. We need to remember that the abolition movement was a collective effort and that many people, both black and white, played a role in ending the slave trade”

Timeline
<b>1772-</b> Somerset vs Stewart. English courts declare it is unlawful for enslaved African purchased in Virginia to be forcibly transported out of England
<b>1787-</b> The ‘Society for Effecting the Abolition of the Slave Trade’ was founded in England
<b>1789</b> – Autobiography “The Interesting Narrative of the Life of Olaudah Equiano or Gustavus Vassa the African” was published
<b>1791-</b> The Haitian Revolution, led by Toussaint L’Ouverture results in Haiti becoming first independent black nation
<b>1800-</b> Enslaved Gabriel Prosser planned a large-scale rebellion against slave holders in Virginia. (Prosser was executed)
<b>1807</b> – Slave Trade (not slavery) was abolished in England
<b>1831-</b> Autobiography “the History of Mary Prince, A West African Slave” published
<b>1833-</b> Slavery abolished in British Empire
<b>1837</b> – Slave Compensation Act: £20 million in compensation awarded to over 40,000 slave owners. Britain was paying off this debt until 2015.
<b>1865-</b> End of the American Civil war leads to the abolition of Slavery in the USA.
<b>1888-</b> Brazil is the last country in the Western Hemisphere to abolish Slavery
<b>Present</b> – There are still countries where slavery is legal or common. The UN estimates there are currently over 40 million people living in some form of slavery.

## Auctions

Enslaved would be washed and dressed up, then auctioned off to white Enslavers. Africans would have to endure being poked, prodded and forced to open mouths for buyers.



*“We were all pent up together, like so many sheep in a fold, without regard to sex or age... the buyers rush at once into the yard where the slaves are confined, and make choice of that parcel they like best... terrified Africans, relations and friends separated, most of them never to see each other again.”* **Olaudah Equiano**

## Punishments

Enslaved people were punished by whipping, shacking, hanging, beating, burning, mutilation, being sold on, ... Punishments would be given for: not working hard/fast enough, being late, defying authority, attempting to escape... Punishments would be given out by an **overseer**.

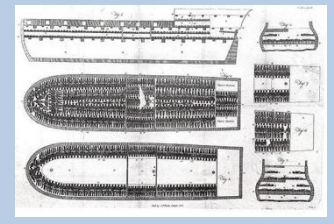
# Treatment of the Enslaved



*“There have been instances of slitting of ears, breaking of limbs, so as to make amputation necessary, beating out of eyes, and castration... In short, in the place of decency, sympathy and, morality; slavery produces cruelty and oppression.”* **James Ramsay, Doctor working for several sugar plantations in the 1700’s**

## Middle Passage

Ships carried between 150-600 enslaved Africans. Captives were chained together and forced into cramped lower decks. The average individual space was 6 feet long by 16 inches wide and 3 feet high. Food was rationed and limited. 25% of captives died of illness, starvation or stress during the journey. The British could claim back loss of cargo on their insurance!



## Life on Plantations

The enslaved has to work long hours in the sweltering sun often without water. Work was physically difficult. Enslaved were given little food and lived in poor conditions where disease and illness was common. On average 66% of enslaved children died. Women also had to endure the risk of sexual exploitation.

Slaves lived in **Slave shack’s** on plantations. These were small, dirty, had little or no furniture and were often in disrepair.



# THE ROADS TO WORLD WAR I

Term 2  
Causes and Events of the First World War



A good overview of causes of the war

<https://youtu.be/KGImSTn-eM>



The **First World War**, also known as the **Great War**, began in 1914 after the assassination of Archduke Franz Ferdinand of Austria. His murder catapulted into a war across Europe that lasted until 1918. During the conflict, Germany, Austria-Hungary, Bulgaria and the Ottoman Empire (the Central Powers) fought against Great Britain, France, Russia, Italy, Romania, Japan and, from 1917, the United States (the Allied Powers).

Thanks to new military technologies and the horrors of trench warfare, the First World War saw unprecedented levels of carnage and destruction. By the time the war was over and the Allied Powers claimed victory, more than 16 million people—soldiers and civilians alike—were dead.



Use the word **MAIN** to remember the main issues surrounding the cause of the First World War:

- **Militarism** - many countries believed it was important to build large armies and navies.
- **Alliances** - the Triple Alliance and the Triple Entente were said to have been formed to help prevent war.
- **Imperialism** - European nations were creating empires and coming into conflict.
- **Nationalism** - all countries were looking out for their own interests.

By 1914, Europe was a powder keg of problems waiting to go off



The assassination of Archduke Franz Ferdinand and his wife Princess Sofia on 28<sup>th</sup> June 1914 was a key spark of the war

# Overview of key events of the First World War

28 <sup>th</sup> June 1914 - Archduke Franz Ferdinand is assassinated in Bosnia
28 <sup>th</sup> July - Austria-Hungary declares war on Serbia. Russia begins mobilizing its troops
1 <sup>st</sup> August - Germany declares war on Russia
3 <sup>rd</sup> August - Germany declares war on France as part of the Schlieffen Plan.
4 <sup>th</sup> August - Germany invades Belgium. Britain declares war on Germany.
8 <sup>th</sup> August 1914 Britain passes DORA (the Defence of the Realm Act) which gives the government powers such as to ration food, control the news and use factories.
September 1914 The French stop the German attack at Marne, leading to the start of Trench Warfare on the Western Front
April 1915 – Poison gas is used for the first time at the Second Battle of Ypres
June 1915 – The first ever ‘dog fight’ between German and British airplanes
February 1916 - The Battle of Verdun begins between France and Germany. This battle will last until December 1916 and will finally result in a French victory.
May 31 - The largest naval battle of the war, the Battle of Jutland, is fought between Britain and Germany in the North Sea.
July 1916 – Battle of the Somme, the highest number of casualties on a single day in British History
Sept 1916 – The ever first tank is used in the Battle of the Somme
January 1917 – Conscriptio introduced in Britain
31 <sup>st</sup> July – 10 <sup>th</sup> November 1917 – The Battle of Passchendaele.
20 <sup>th</sup> November – 7 <sup>th</sup> December 1917 – The Battle of Cambrai, first large scale use of tanks in battle.
February 1918 – Representation of the People Act, this gives the first time vote to men over 21 and women over 30
21 <sup>st</sup> March – 18 <sup>th</sup> July 1917 – German Spring Offensive, Germans make the largest territorial gains in the war since 1914.
11 <sup>th</sup> November 1918 – An armistice is signed, Germany surrenders and WW1 ends
1919 – Government passes a law forcing women to leave their war time jobs as men return from the war and factories were not needed for wartime production

# Key Vocabulary

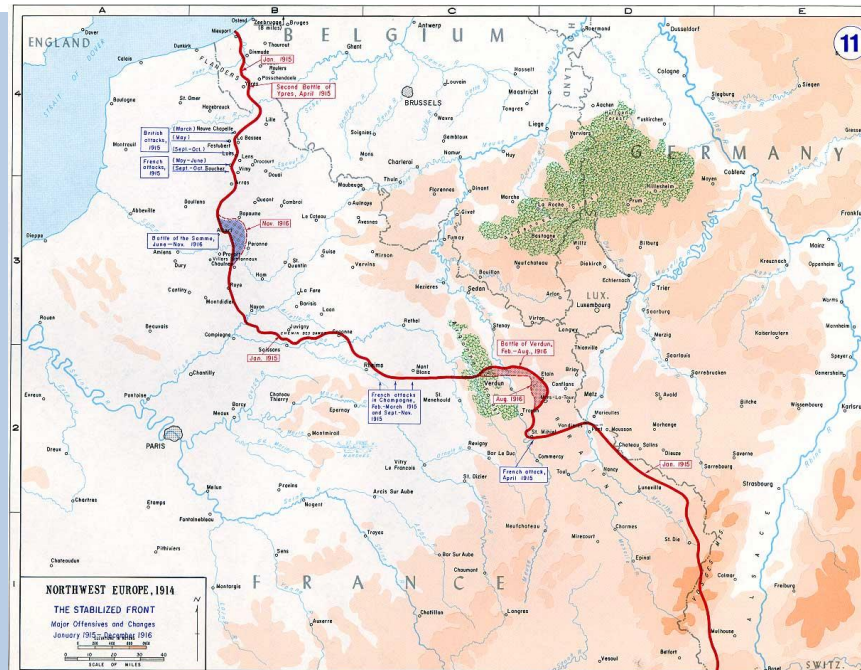
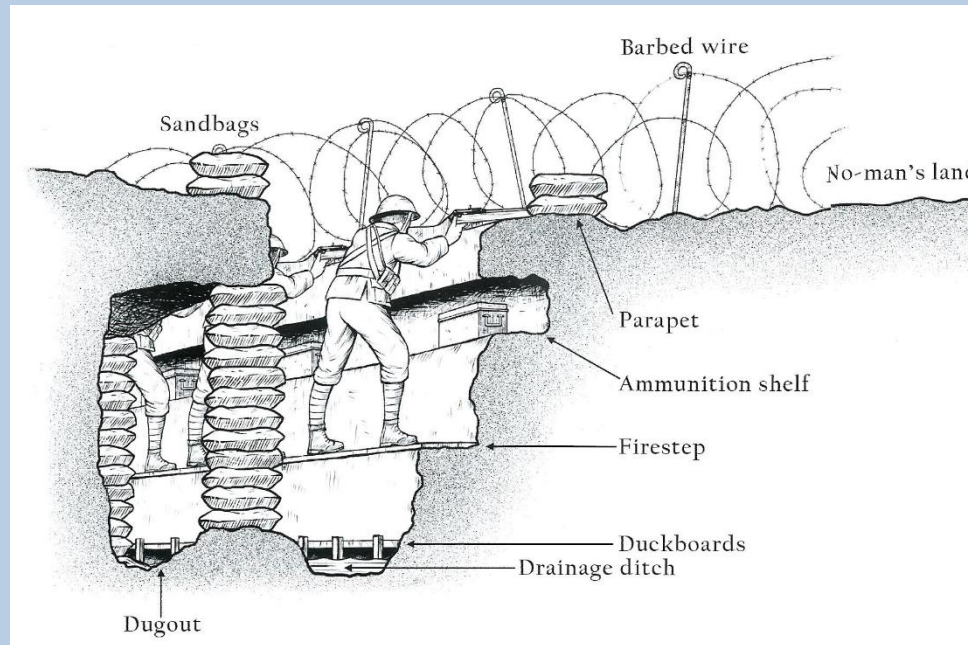
The BEF	The British Expeditionary Force, Britain's army in 1914
Conscription	Compulsory order for all men 18 to 41 to join the army
Schlieffen Plan	German plan in 1914 to attack and defeat France, then attack Russia so they would not have to fight both.
Stalemate	A deadlock where no side is able to make progress to win.
No Mans Land	Area separating opposing armies in trench warfare.
Tommy	Nickname for a British soldier.
Barbed Wire	Strong wire with sharp barbs at regular intervals, used to stop people passing.
Mustard Gas	Poisonous gas used by the Germans, French and British
Artillery	Large guns that fire explosive shells over long distances
Trench Foot	A painful condition of the feet caused by long exposure in cold water or mud, as a result some feet were amputated.
Trench Fever	A disease caused by lice bites which made soldiers very ill in the trenches.
Dugout	Shelter dug into the side of the Trench
Bayonet	A blade attached to the end of a soldiers rifle
Armistice	An agreement made by tin a war to stop fighting.
War effort	How people at war and at home contribute to the war.
Conscientious Objector	Someone who refuses to fight or be involved in war for religious, moral or political reasons, also called ‘Conchies’
Suffragette	Women who protested, using violent methods to achieve equal rights for women, like voting.
Suffrage	The right to vote in political elections.
Strike	Where workers refuse to work in protest
Munitions	Military weapons and ammunition
David Lloyd George	Prime Minster of Britain during and after WW1

## British Soldiers Equipment



The British Expeditionary Force that went to war in 1914 was arguably the best equipped and trained force in Europe. The khaki serge uniforms adopted in 1902 and worn by officers and men were the first real example of camouflaged combat clothing. Men wore a soft peaked cap with the regimental cap badge. This was replaced by the end of 1915 with a steel helmet.

## Cross-section of a typical frontline trench



## Key Concepts

<b>Trench Warfare</b>	Trench warfare is a type of fighting where both sides build deep trenches as a defence against the enemy. These trenches can stretch for many miles and make it nearly impossible for one side to advance.
<b>Western Front</b>	The area of fighting in western Europe in the First World War. A majority of fighting was done in North-Eastern France and Belgium in trenches
<b>Alliance</b>	An agreement between countries to protect each other in war. This was major cause of WW1, there were two main alliance in 1914. The Triple Entente (France, Britain and Russia) and the Triple Alliance (Germany, Austria-Hungary and Italy)
<b>War of Attrition</b>	A war based on winning by wearing down the enemies armies, economy and morale. This happened in the First World War

By the end of 1914, the trench system in Western Europe ran from the Belgian coast to the Swiss border over 480 miles away!



YouTube

Check out a First World War frontline trench here:

<https://youtu.be/FvYIIuxh2kY>



# Medical Problems on the Western Front.

## Trench Foot

Trench foot was a major problem caused by standing in waterlogged trenches with no change of boots or socks. In the first stage, the feet would swell, go numb and the skin would turn red or blue. The condition could get worse quickly, leading to gangrene and amputation of limbs!

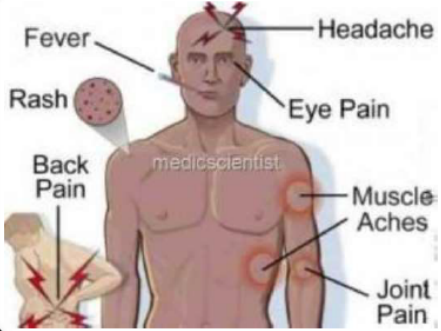
In the cold, wet winter of 1914-15 cases of Trench Foot were serious. The 27<sup>th</sup> Division of the British army experienced 12,000 cases of trench foot.

### Attempted Solutions

To prevent the impact of trench foot, medical officers ordered soldiers should carry 3 pairs of socks and change them twice a day. They were also encouraged to rub whale oil into their feet.



Attempts were made to pump out trenches to reduce waterlogging and add duckboards, but constantly bombing made this hard



## Trench Fever (PLO)

Flu like symptoms with high temperature, headache and aching muscles which was spread by lice. Men could be ill for up to a month

Estimated half a million men on the Western front were affected by Trench Fever.

### Attempted Solutions

Delousing stations were set up on the front; clothes were disinfected, men were bathed and sprayed with chemicals to prevent lice.

As a result of this, there was a decline in the numbers experiencing the condition.

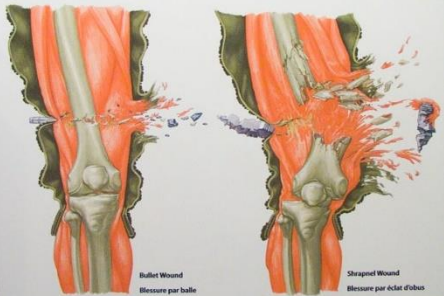


## Shell Shock

Symptoms included tiredness, headaches, nightmares, loss of speech, uncontrollable shaking and complete mental breakdown. It is estimated 80,000 British troops experienced shellshock

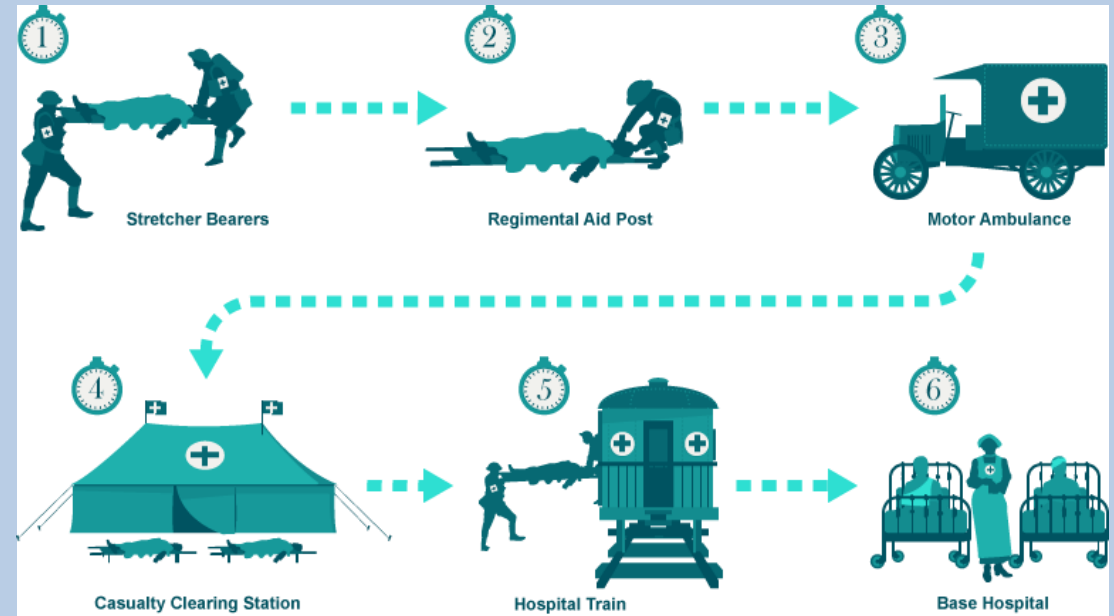
Called NYD,N (Not Yet Diagnosed, Nervous) as a code by the army for shellshock.

**Attempted Solutions** This condition was not understood at the time, some soldiers who experienced shell shock were accused of cowardice and any were punished, some even shot.



Wounds were nearly always infected by the time soldiers reached aid stations, so new methods of treatment had to be introduced

# Evacuation Route for Wounded Men



## New Wounds

The First World War introduced a wide range of wounds for medical staff to attend to. For example, high explosive shells and shrapnel (fragments of metal) were responsible for 58% of wounds whilst bullets were responsible for another 39%

The high number of head wounds led to the steel Brodie Helmet being introduced, it reduced fatal head wounds by 80%. All soldiers were given it.

60% of shrapnel wounds were to the arms and legs, a common treatment was amputation. Over 41,000 had their limbs amputated.

Most injuries often got infected due to the bacteria in the soil, causing gangrene. The impact of gangrene was reduced by tetanus injections from end of 1914.

Gas gangrene could not be cured, it could often kill in a day.

Artillery, gun fire and bombs could break bones, pierce vital organs and destroy tissue. Many never made it to hospital

## Gas Attacks

Gas caused great panic as soldiers were unprepared for it. It wasn't a major cause of death, only 6000 soldiers died during WW1.

There were 3 types used in the war:

### Chlorine: Ypres 1915

Caused death by suffocation. Before gas masks, soldiers soak cotton pads in urine and pressed them to their faces



### Phosgene 1915

Used Ypres. Faster acting than chlorine, killing an exposed person within 2 days.



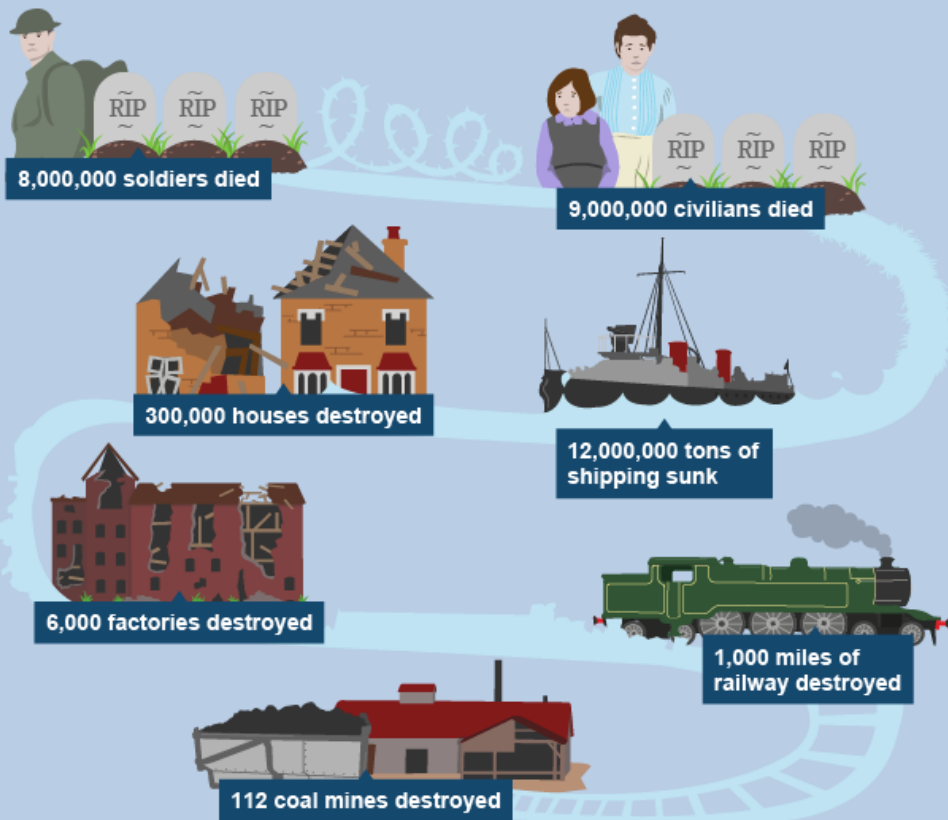
### Mustard Gas 1917

Odourless gas that worked within 12 hours. Caused internal and external blisters and could pass through clothing to burn skin.

### Solution

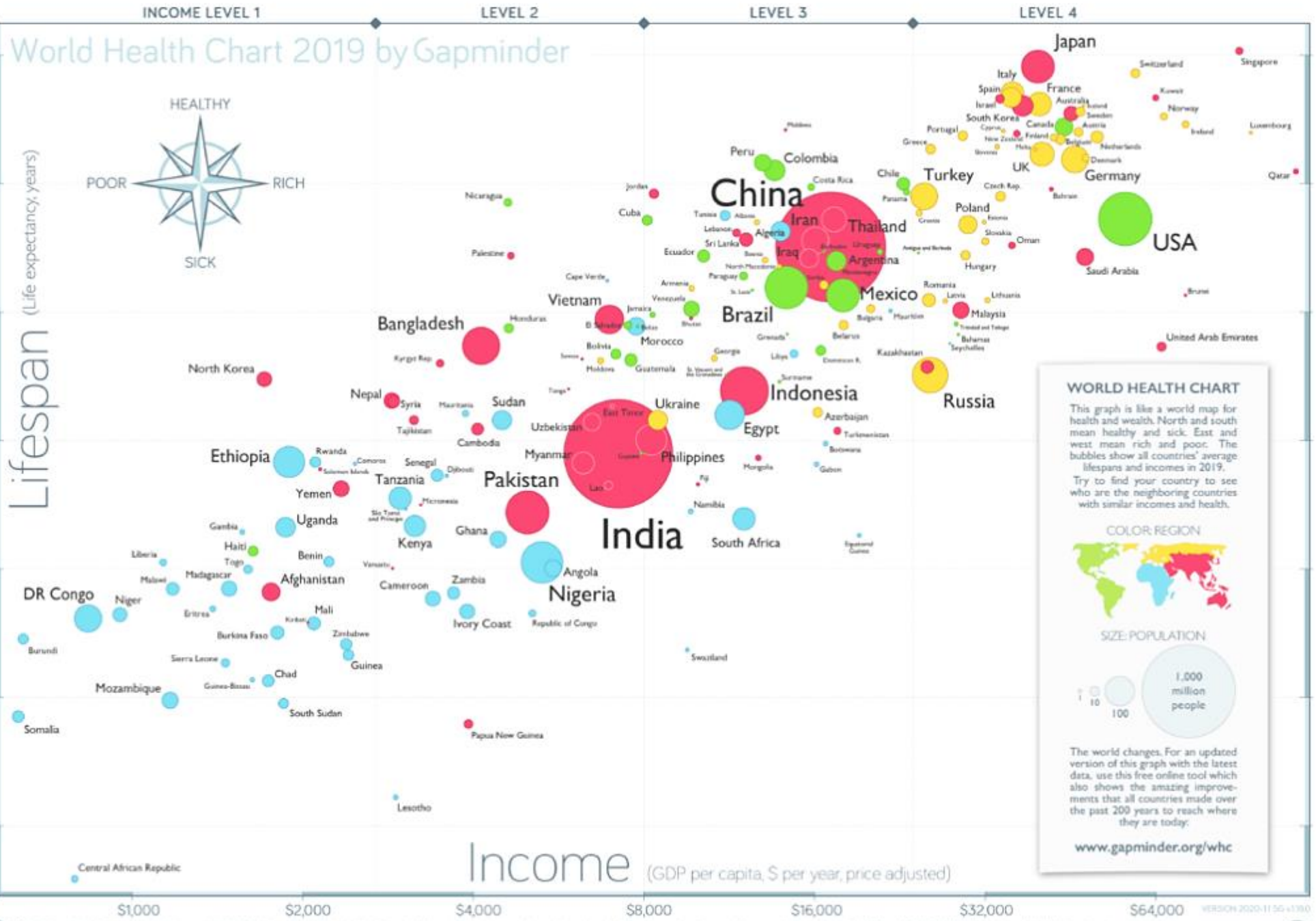
British soldiers were given Gas masks from July 1915, which became more sophisticated over time





## Consequences of the First World War:

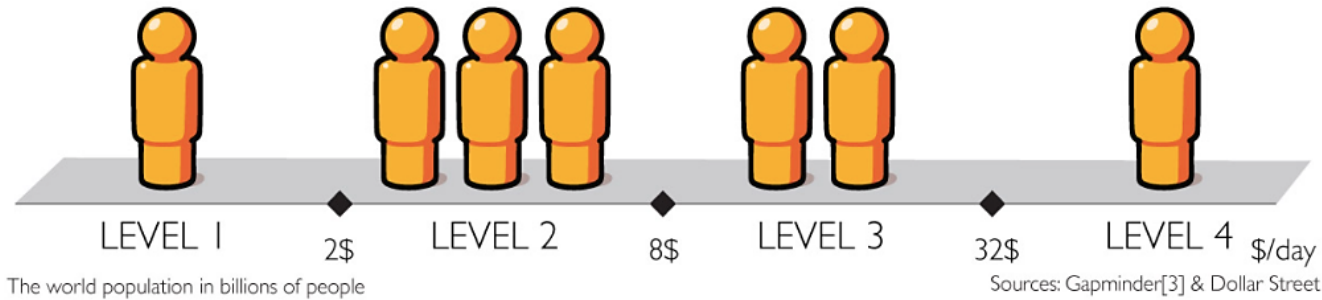
- WW1 caused the downfall of four monarchies: Germany, Turkey, Austria-Hungary and Russia.
- The war made people more open to other ideologies, such as the Bolsheviks that came to power in Russia and fascism that triumphed in Italy and even later in Germany.
- WW1 largely marked the end of colonialism, as the people became more nationalistic and the one country after the other started colonial revolts in Southeast Asia, the Middle East and Africa.
- The war changed the economical balance of the world, leaving European countries deep in debt and making the U.S. the leading industrial power and creditor in the world.
  - Inflation shot up in most countries and the German economy was highly affected by having to pay for reparations.
  - With troops traveling all over the world, influenza was spread easily and an epidemic started which killed more than 25 million people across the world.
  - With all the new weapons that were used, WW1 changed the face of modern warfare forever.
- Due to the cruel methods used during the war and the losses suffered, WW1 caused a lot of bitterness among nations, which also greatly contributed to WWII decades later.
- Social life also changed: women had to run businesses while the men were at war and labour laws started to be enforced due to mass production and mechanization. People all wanted better living standards.
- After WW1, the need for an international body of nations that promotes security and peace worldwide became evident. This caused the founding of the League of Nations.
  - WW1 boosted research in technology because better transport and means of communication gave countries an advantage over their enemies.
  - The harsh conditions of the Treaty of Versailles caused a lot of dissent in Europe, especially on the side of the Central Powers who had to pay a lot for financial reparations



Is the world as bad as we think it is?

SOURCES — INCOME: World Bank's GDP per capita, PPP (2011 international \$) extended to 2019 with IMF's projections. X-axis uses log scale to make a doubling income show the same distance on all levels. — POPULATION and LIFE EXPECTANCY: Data from UN, World Population Prospects 2019. MORE INFO AT: [www.gapminder.org/whc](http://www.gapminder.org/whc). LICENSE: Our charts are freely available under Creative Commons Attribution License. Please copy, share, modify, integrate and sell them as you like, as long as you mention "Based on a free chart from www.gapminder.org".

# Income Levels



It's easy to fall into the trap of categorizing people as either "rich" or "poor". In reality, most people are somewhere in the middle. Their basic needs – food, water, shelter, etc. – are met.

To help build a more accurate view of how people live and how their lives change as they get more money, we prefer to divide the world into four income levels.

Level 1 is made up of people who earn less than \$2 a day and live in extreme poverty.

At Level 2, people earn between \$2 and \$8 a day. Almost half the world's population lives at this income level.

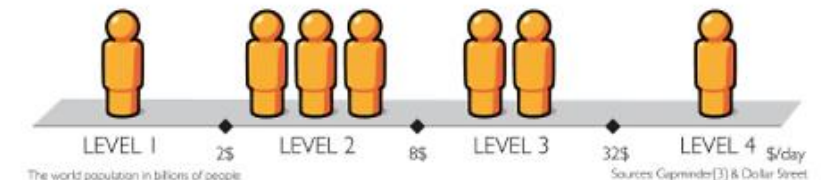
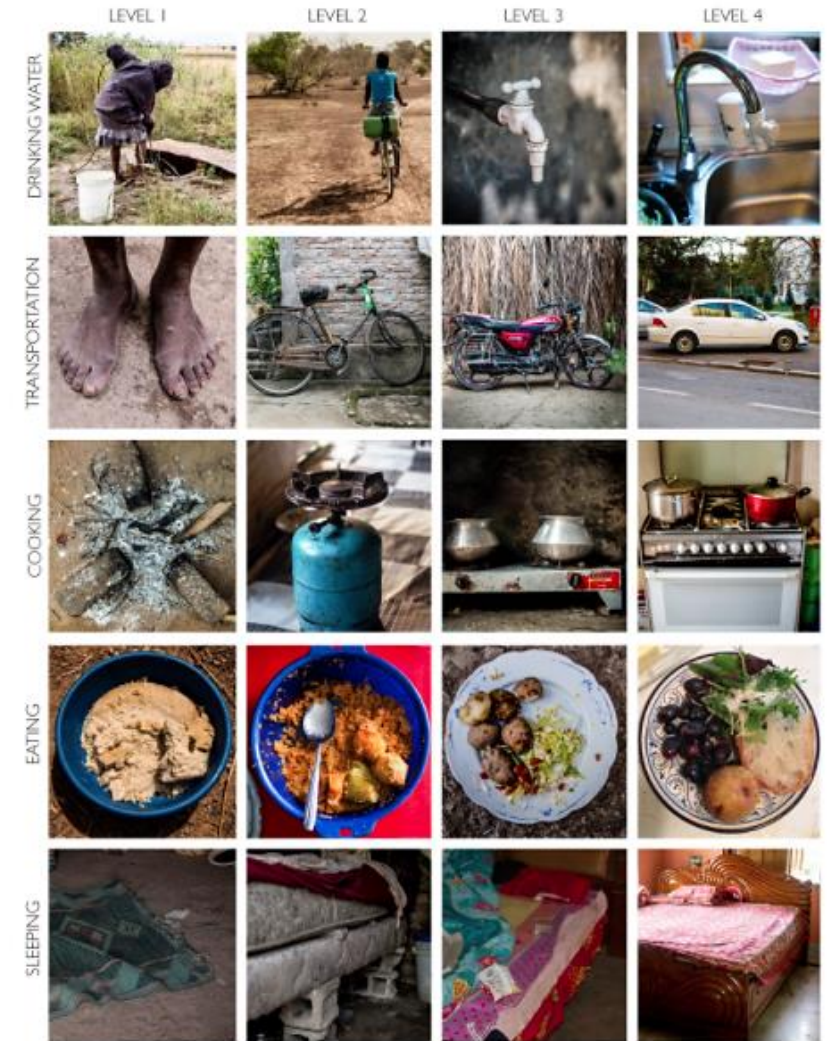
Level 3 is made up of people who live on between \$8 – \$32 per day.

The richest billion people on earth live at Level 4, where their income is more than \$32 a day

## Why doesn't everyone have the same wealth

- **War** – destroys a lot of a country's infrastructure meaning people do not have access to important education or healthcare
- **Diseases** – a country with worse of healthcare means people are less likely to survive illnesses therefore killing more people
- **Education** – A lack of education means people cannot get qualifications to get better paid jobs and improve their quality of life
- **Unfair trade and debt** – Many countries are in a lot of debt and therefore cannot pay it off. This normally results in unfair trade between countries and the poorer countries not being able to make as much money
- **Gender inequality** – many less developed countries do not have gender equality and there are more stereotypes. This normally means women are not able to work and make money. This can lead to people's standard of living and quality of life decreasing

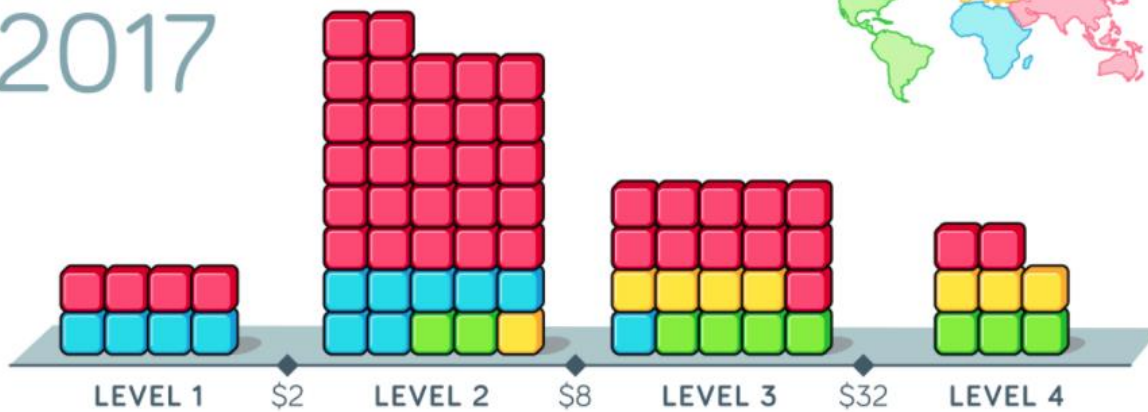
## LIFE ON THE FOUR INCOME LEVELS



# NUMBER OF PEOPLE BY INCOME AND REGION

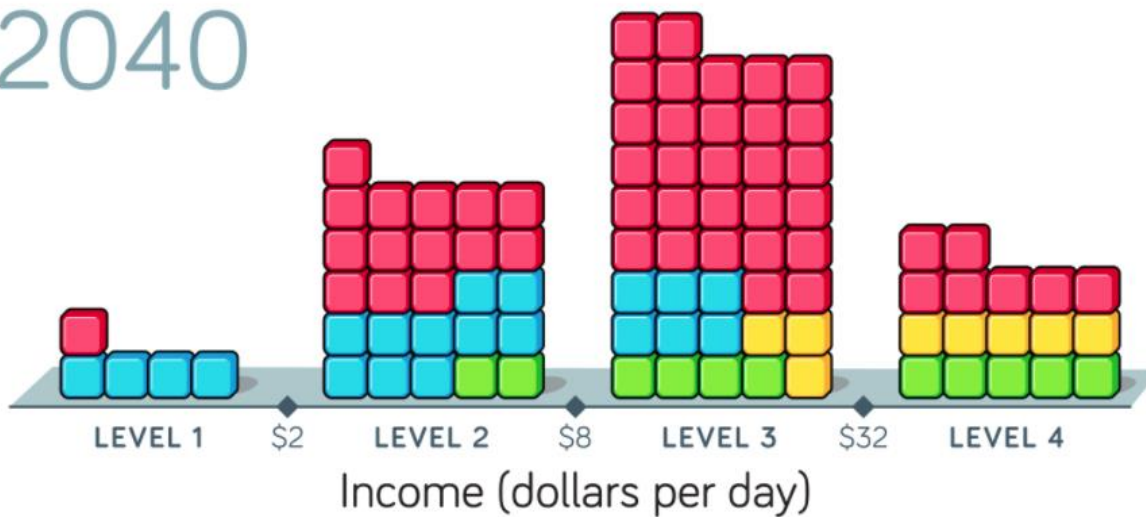
Each cube is 100 million people, colored by region.

## 2017

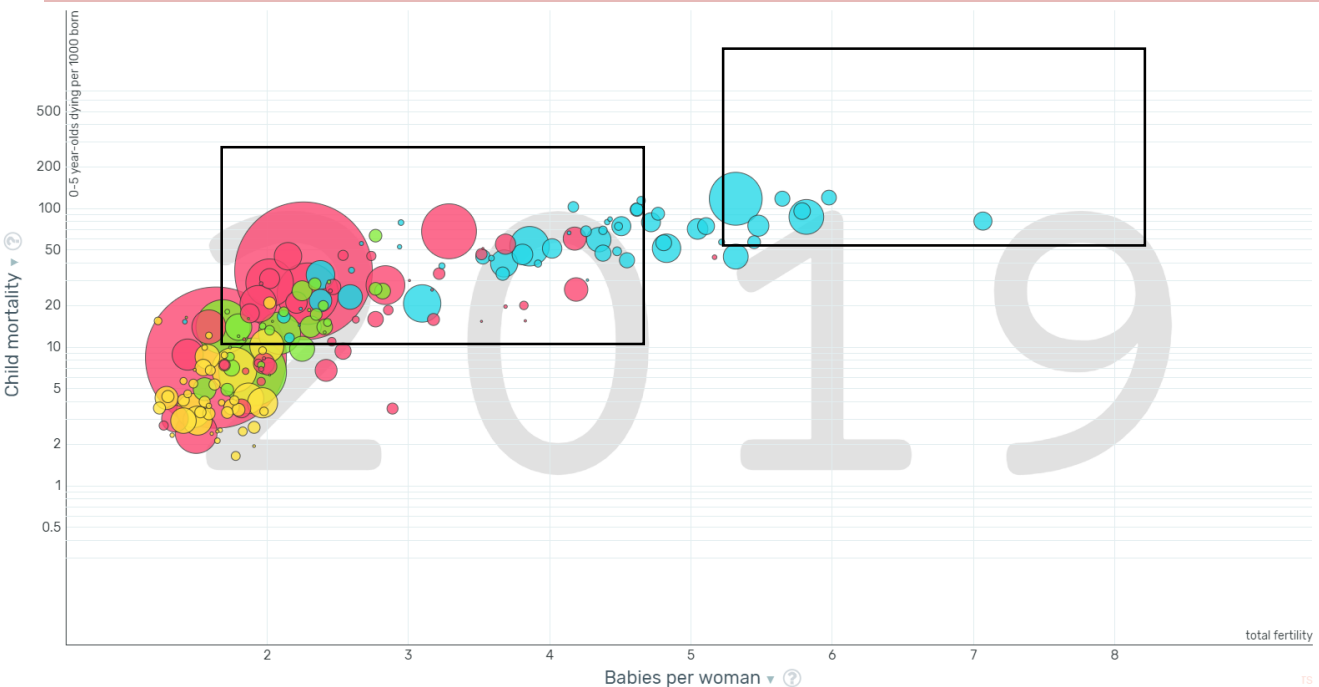
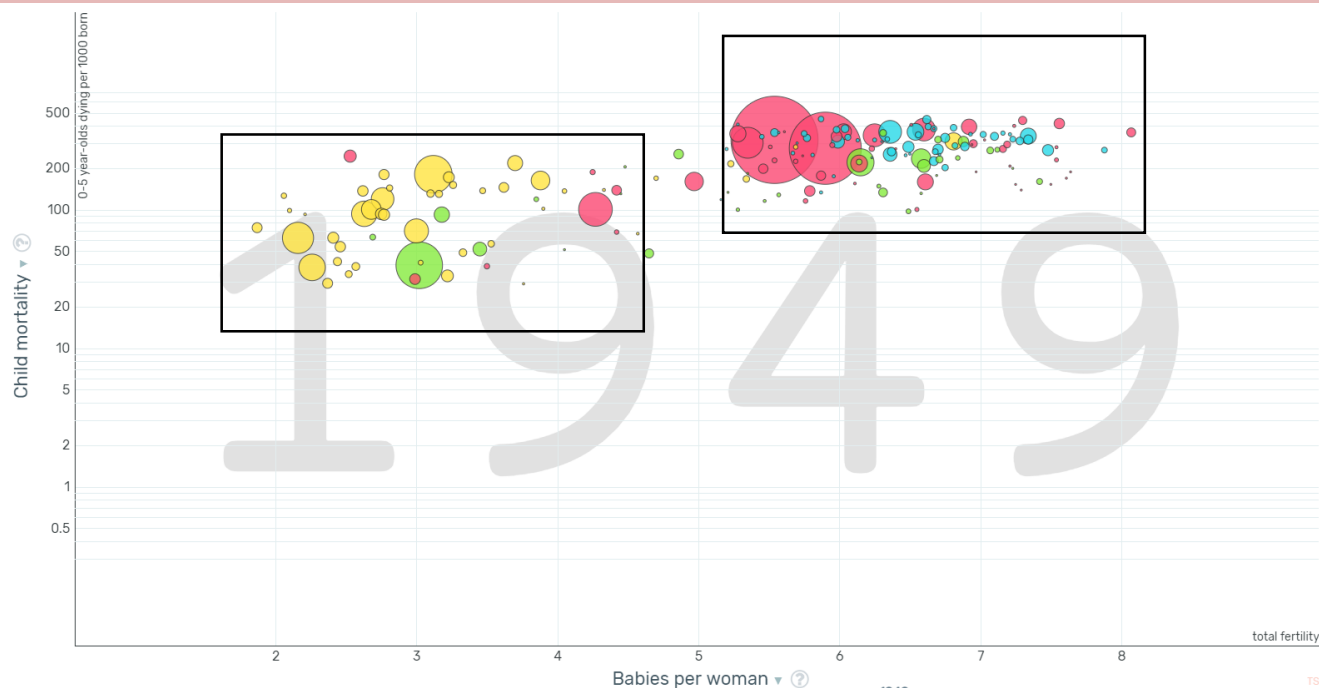


Assuming that current trends continue, this is what the world might look like in 2040.

## 2040



Dollars are adjusted for price differences and inflation. Sources: Gapminder based on PovcalNet, World Bank and IMF. See: [gapm.io/](http://gapm.io/)



## Development Indicators

Development indicators are used to illustrate progress of a country in meeting a range of economic, social, and environmental goals.

### **People per Doctor**

The average number of people for each doctor

### **Gross Domestic Product per Head**

The GDP divided by the population of a country. Sometimes called GDP per capita

### **Literacy Rate**

The percentage of adults who can read and write

### **Death Rate**

The number of deaths per year per 1000 people

## **Measures of Development**

### **Gross Domestic Product**

The total value of goods and services a country produces in a year.

### **Birth Rate**

The number of births per year per 1000 people

### **Access to safe water**

The percentage of people who get access to clean drinking water

### **Human Development Index**

This is number that's calculated using life expectancy, literacy rate, educational level (e.g. average number of years of schooling) and income per head. Every country has a positive value between 0 and 1)

### **Life Expectancy**

The average age a person can expect to live to

### **Infant Mortality Rate**

The number of babies who die under 1 year old per thousand babies born

### Is money the best indicator?

We live in a money orientated world, so doesn't it seem fair to judge how developed a country is money? However, using economic indicators to judge development can actually mislead people for the following reasons:

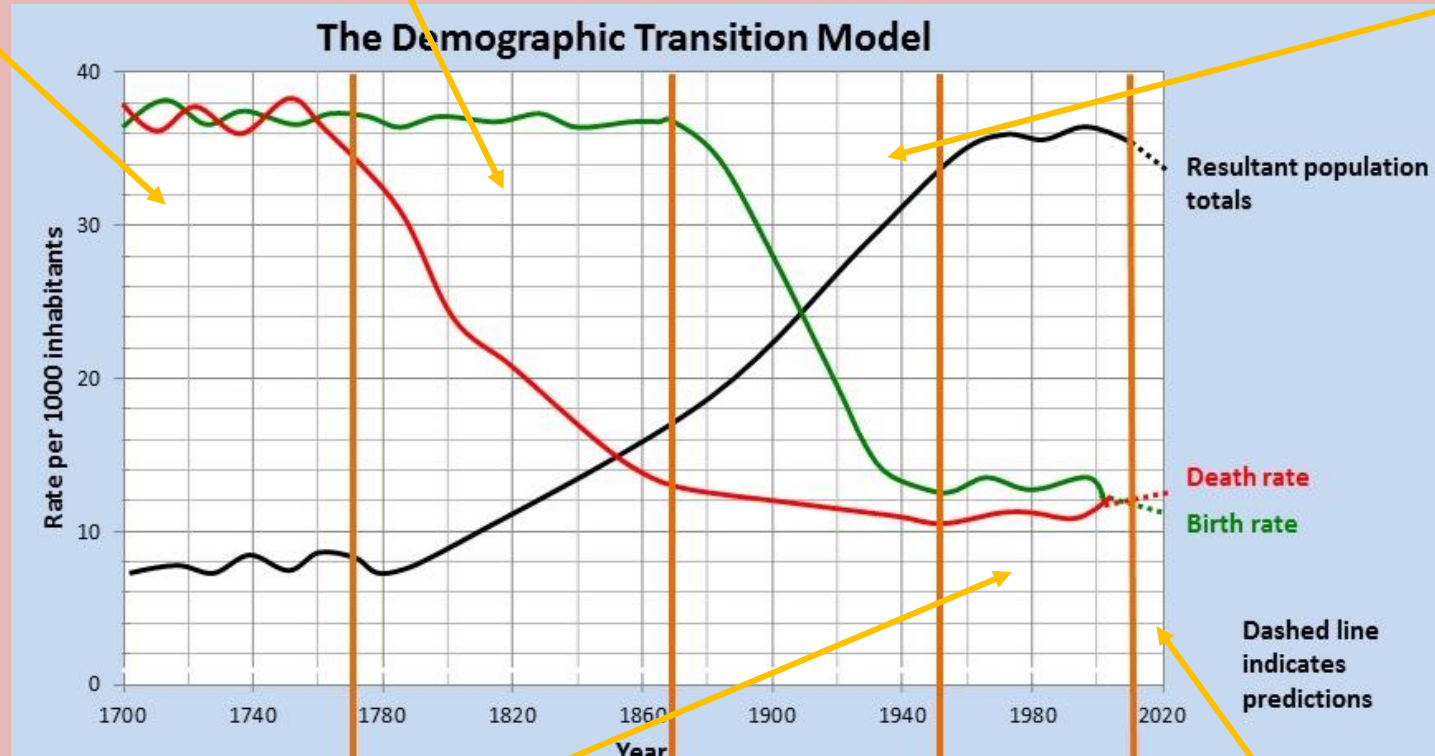
- Hides inequality of distribution
- Ignores all aspects of quality of life, eg well-being, education, life expectancy etc
- Does not acknowledge the cultural quality of life
- Does not count externalities - costs passed to others eg a polluting factory

Instead its recommended that we use a mixture of both economic indicators and social indicators to get a fair representation of development. One indicators that is considered to be more representative is called Human Development Index (HDI).

**Stage 1**  
**Birth Rate:** High (lack of education, contraception)  
**Death rate:** High (poor healthcare, war, famine, disease)  
**Population increase:** Low  
**UK:** Pre 1780  
**Present Example -** Ethiopia

**Stage 2**  
**Birth Rate:** High  
**Death rate:** Lower (improvements in education)  
**Population increase:** increasing  
**UK:** 1780-1880  
**Present Example:** Bolivia

**Stage 3**  
**Birth Rate:** start to decline  
**Death rate:** Continue to fall  
**Population increase:** Low  
**UK:** 1880-1940  
**Present Example:** China

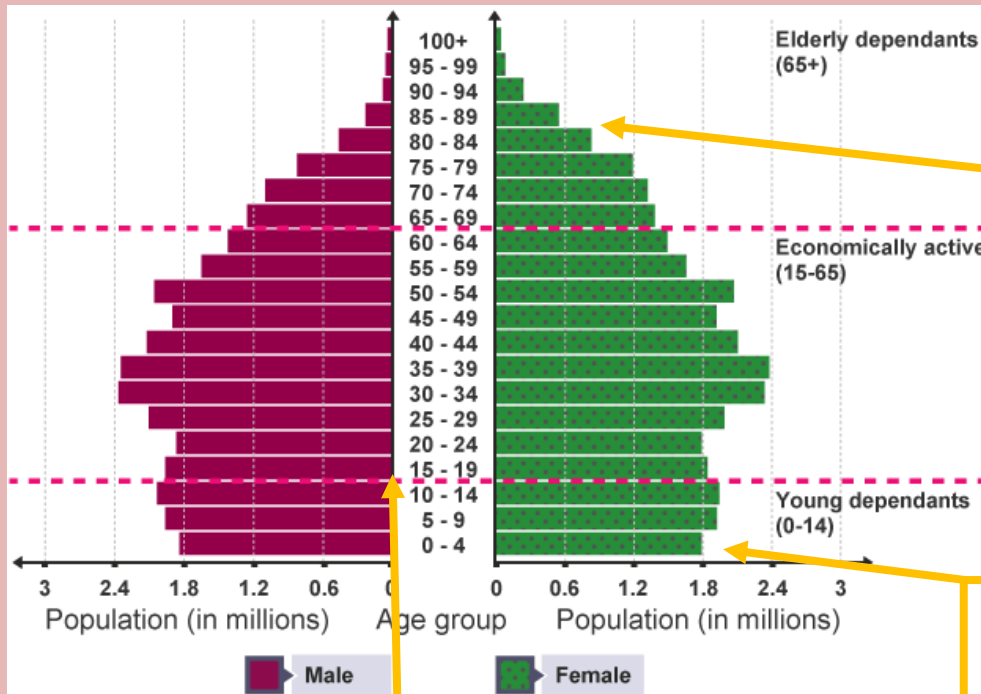


**Stage 4**  
**Birth Rate:** Low  
**Death rate:** Stay low  
**Population increase:** Low  
**UK:** Post 1940  
**Present Example:** Canada

**Stage 5**  
**Birth Rate:** Very Low  
**Death rate:** slight rise  
**Population increase:** Low  
**UK:** 2000+  
**Present Example:** Japan

## Population Pyramids

A population pyramid is a graph that allows us to see the gender and age structure of a population. There are different shapes to the pyramids which tell us different things about the population of the country. They are useful because they give a really visual idea of what the birth and death rates are like in a country, and because they show the life expectancy. They can also help governments plan for the future because they show change over time.



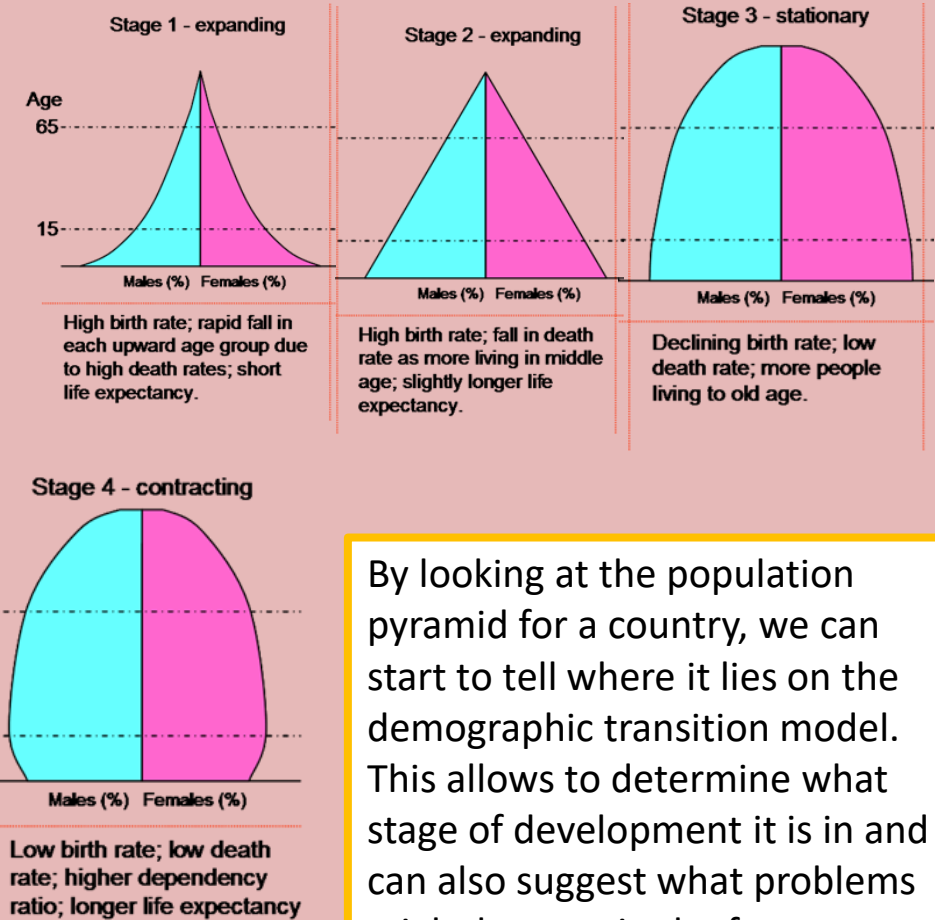
Some reasons for falling death rates include:

- increasing wealth
- better hygiene and improved healthcare
- better farming techniques
- Remember, though, that the shape of pyramids can also be affected by migration.

Some reasons for high birth rates include:

- need for large families, eg to work in rural areas
- lack of family planning
- people have many children because many infants die

- A wide base means there are lots of young people, and suggests a high birth rate.
- A narrow base means a smaller proportion of young people, suggesting a low birth rate.
- A wide middle, tall pyramid means an ageing population, suggesting that there is a long life expectancy.

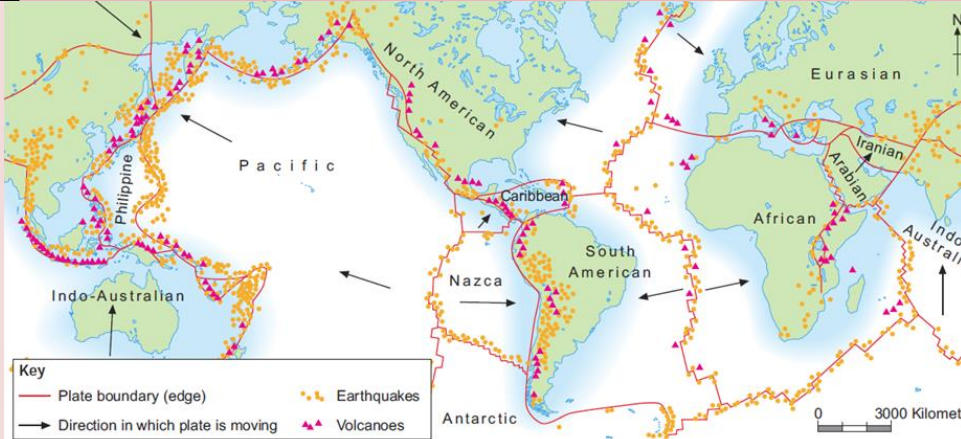


By looking at the population pyramid for a country, we can start to tell where it lies on the demographic transition model. This allows to determine what stage of development it is in and can also suggest what problems might happen in the future so nations can adjust accordingly



## Tectonic theory

Tectonic plates move because the core of the earth is very hot and having heated the magma in the mantle, this then rises as it is less dense, before reaching the crust, travelling in each direction underneath it, cooling again which makes it denser, and sinking back towards the core. As this process happens, friction moves the plates with it. Evidence for this includes matching geology and fossils on different continents, from when they were joined.

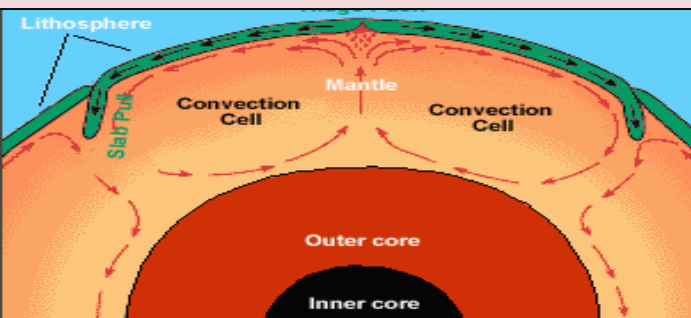


## Global distribution

Earthquakes are commonly found in thin narrow belts associated with a plate boundary. Most volcanoes are distributed along the plate boundaries, too, but only constructive and destructive boundaries/margins. Occasionally, volcanoes are found in the middle of plates (e.g. Hawaii). These are called hot spots.

## Key terms and definitions for this topic

- Inner core**- solid centre of Earth; 5500°C; extremely dense, mostly made of iron and nickel.
- Outer core**-liquid around inner core due to lower pressures+ temperatures
- Mantle**- made mostly of iron, magnesium and silicon, it is dense, hot and semi-solid.
- Crust**- outer layer, solid but fractured like a broken egg shell

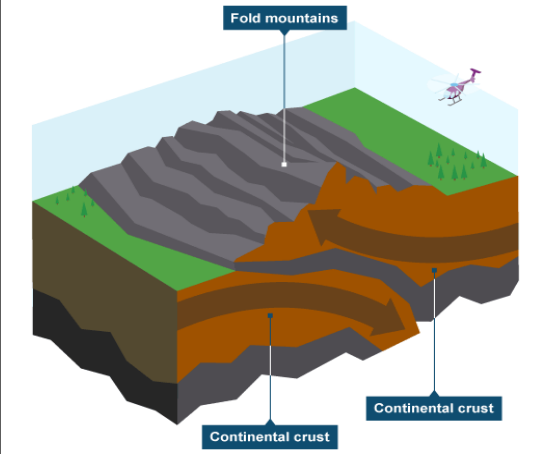


## Types of plates

There are two types of tectonic plate: oceanic and continental. Continental plates are less dense and cannot be destroyed or renewed. The Eurasian, African and North American plates are all examples of continental plates. Oceanic plates are denser and can be destroyed and renewed at plate boundaries. An example of an oceanic plate is the Pacific plate; found beneath the Pacific Ocean.

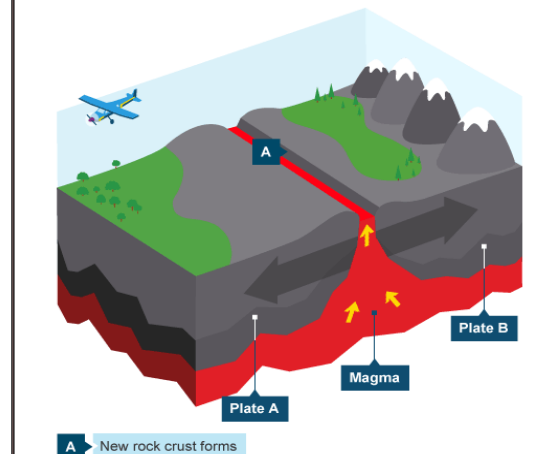
### Collision plate boundary

Two plates of equal density collide and buckle to form Fold Mountains. Found in the Himalayas.



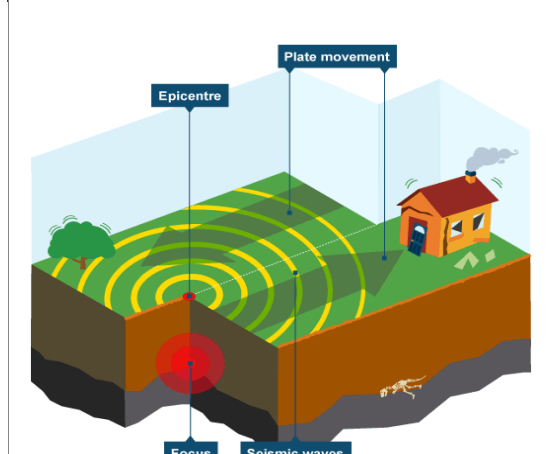
### Constructive plate boundary

As 2 plates pull apart, eruptions occur and new crust is formed. Found in the mid-Atlantic ridge.



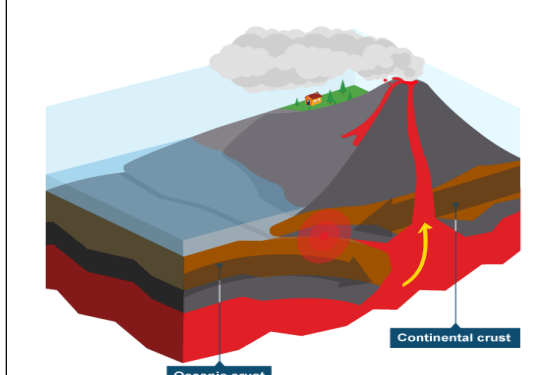
### Conservative plate boundary

Two plates scrape past each other, causing violent earthquakes. Found in the San Andreas fault.



### Destructive plate boundaries

Two plates of different densities move towards each other. The denser oceanic plate is subducted causing earthquakes, volcanoes and tsunamis. Found in the ring of fire.



**Richter Scale**- a numerical, logarithmic scale for expressing the magnitude of an earthquake on the basis of seismograph oscillations

**Magnitude**- the size of an earthquake measured on the Richter Scale

**Subduction**- the process of one plate being taken under, and destroyed under, another plate as they move towards each other

## Origins of Buddhism

Buddha was born a prince of India called **Siddhartha Gautama** about 2500 years ago. He was prophesied to become a great leader or a saviour of the people. His father wanted him to become a great leader so showered him in gifts and luxury, but never let him leave his palace. When Siddhartha was older he wanted to find out what was outside the palace walls and asked his father to go on a tour of the city. His father allowed this but made sure that his son only saw the best sights and healthy happy people. He wanted to spare him seeing the problems of the world.

When Siddhartha was on his tour, he walked off from his carriage and saw **4 sights** he had never seen before. These were **an elderly man, a sick man and a funeral of a dead man. He also saw a holy man.**

When Siddhartha returned to the palace, he could not believe all the **suffering and wanted to help.** So he left the palace, his wife and his young child for answers.

He tried to live with pain and suffering to experience what others felt. He came to realise that it was a **Middle Way** he must follow – not a life of luxury as he lived before or of suffering and poverty.

He listened to Holy men and tried to find meaning by sitting under a Bonhi tree. One day under this tree Siddhartha Gautama had a great realisation about the world . He found peace and harmony. This is what Buddhists call **enlightenment.**

When Siddhartha Gautama realized this, he became Buddha and taught others about his 4 sights and the **4 noble truths** in life. He followed eight steps to avoid suffering and keep him on the Middle Way. Buddha lived and taught for another 45 years before dying.



SCAN ME



# BVT Buddhism

## Key vocabulary

Siddhartha Gautama

4 Sights

Middle Way

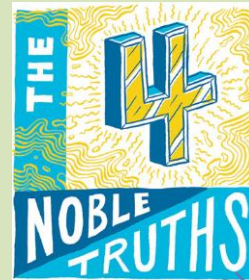
4 Noble Truths

The Eightfold Path

The 5 Precepts

Enlightenment

Buddha



## **Central Buddhist Beliefs** (details on following page)

- 4 Noble Truths in this world
- Buddhists follow a Middle Way – not living in extreme richness/luxury or poverty / suffering
- Buddhists follow beliefs called the Eightfold path and the 5 Precepts
- Buddhists have key beliefs about creation, life and our mental state. You may know Karma as one of these.
- These beliefs and guidelines were set up by Siddhartha Gautama – the Buddha.

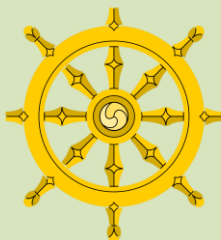
### The 4 Noble Truths

- When seeing his 4 sights Buddha came up with 4 Noble truths about the world.
- The first was that **Suffering** exists.
- The others are why suffering exist.
- The 3 things that cause suffering are: **Greed, Attachment** (being attached to things created loss) and **Craving** (creates greed and necessity, often to harmful things)
- The **best way to avoid suffering is to free yourself from the 3 last truths.**

## Key terminology and definitions

Key term	Definition
<b>Middle Way</b>	Living a balanced life: Not one of luxury/richness, but not one of poverty and suffering
<b>The 3 marks of Life</b>	These are 3 ideas about life; Anicca, Anatta and Dukkha
<b>Anicca</b>	The belief that everything in life is always changing
<b>Anatta</b>	The belief that we are always changing; we are never the same person and hold no permanent identity
<b>Dukkha</b>	The belief that we are never satisfied. This is because everything is always changing – we always want more and the next new thing.
<b>Samsara</b>	The belief of birth, death and rebirth (reincarnation). It is about the cycle of life.
<b>Karma</b>	The belief that our actions have consequences in life and between lives (after death for re-birth).
<b>Nirvana</b>	At the point of enlightenment – when Samsara ends.
<b>Wesak</b>	Buddhist Festival recognising Buddha and his teachings
<b>Tripitaka</b>	Buddhist religious text/scripture
<b>Temple</b>	Place of worship, medication and offering
<b>Vihara</b>	Where Buddhist monks live – the area in the temple

This is the Buddhist symbol of the **wheel**. It can represent Samsara – the cycle of life. Or the Eightfold Path actions to live by, by the 8 spokes of the wheel.



# Buddhism

## Key vocabulary

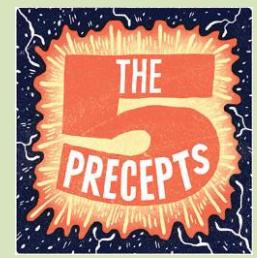
Middle Way  
 3 marks of Life  
 Anicca  
 Anatta  
 Dukkha  
 Samsara  
 Karma  
 Nirvana  
 The 5 Precepts  
 The Eightfold path

## The 5 Precepts

The 5 precepts are **5 rules** Buddhists should live by to ensure they follow the **right action** of the Eightfold Path.

*These 5 are:*

1. I will not harm another living being
2. I will not take what is not given
3. I will avoid harmful sexual activity
4. I will not speak falsely e.g. I will not lie, gossip or hurt people with my words
5. I will not cloud my mind with alcohol or drugs



## The Eightfold Path



## The Eightfold path

The Eightfold path are the **beliefs and principles Buddha decided** upon to live by. Buddhists **follow these guidelines through life** so they follow the Middle Way. These 8 guidelines affect how they behave to others, live their life and their mental state.

Most are beliefs that everyone could follow with some effort and you could find examples of these in your everyday lives. However, you may think they would be difficult to follow all of the time!

# Buddhism

## Key Quotes from Buddha

### Buddhist Practices

#### Worship:

- **Shrine room** – centre of worship. Often has a statue of Buddha
- **Offerings** are made in the shrine room to Buddha
- Offering which usually given are flowers, food, lighting a candle or burning incense
- The temple is open to all Buddhists to worship or take part in meditation and chanting
- Temples often have a **Vihara** (monastery) attached to them where Buddhist monks live
- Some temples have Halls for learning, where Buddhist monks train and learn. Monks can also give advise like other religious leaders do.

#### Religious Text:

The **Tripitaka** is the source of authority for Buddhists. It contains 3 sections:

1. Contains rules for how Buddhist monks and society should behave. These are chanted at worship
2. The teachings and sayings of Buddha
3. Teachings about the nature of life and reasons for being, including guidelines on how to reach enlightenment

#### Festival of Wesak:

Wesak recalls **the birth, enlightenment and death of Buddha**; it is every year on the full moon in May

#### During the festival Buddhists:

- Decorate homes, light lanterns and eat vegetarian foods for the week
- Attend Temple – listen to talks about Buddha
- Make offerings to the temple but also to the poor and vulnerable
- Meditation and follow the 5 precepts

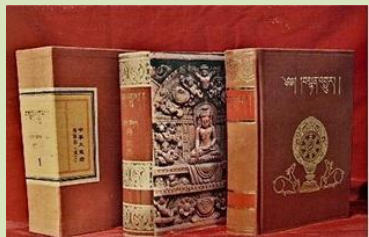
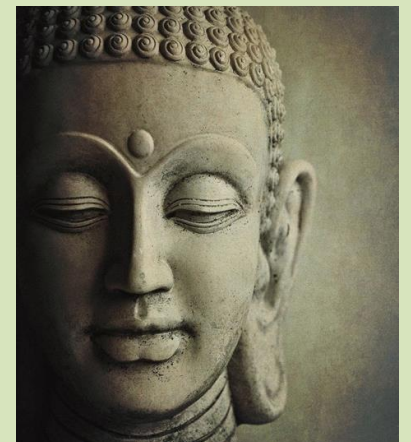
*“Nothing is impermeable, strive on with awareness”*

*“happiness is a choice and suffering is optional”*

*“Contentment is the greatest wealth”*

*“Speak well of others, not of their faults”*

*“Self control is strength”*



**Human rights** - the rights a person is entitled to simply because they are human

**Human Rights Act** - a law which protects the rights of all human beings and allows us to challenge when these are violated

**Justice** - getting fairness

**Rights** - entitlements, e.g. the right to education

**UN Declaration of Human Rights** - a statement adopted by the United Nations organisation to protect all human beings

**Exploitation** - misuse of power to treat people or things unfairly

**Discrimination** - actions based on prejudice, often negative

**Homophobia** - prejudice against someone on the grounds of their (perceived) sexuality

**Positive discrimination** - discriminating in favour of a person with a protected characteristic

**Prejudice** - pre-judging someone based on a characteristic they have, e.g. their looks

**Racism** - prejudice based on a person's racial/ethnic origins

**Tolerance** - acceptance of difference

## BVT: Human Rights



**Freedom of religion** - the right to believe or practise whatever religion one chooses

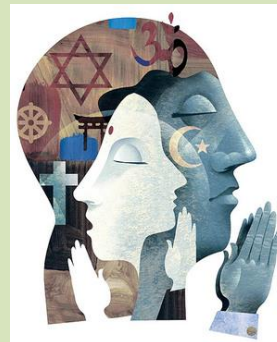
**Freedom of religious expression** - the right to worship, preach and practise one's faith in whatever way one chooses

### Examples of religious expression:

Islam – wearing Hijab or Niqab.

Christianity – freedom to worship or wear a cross

**Sikhs – carrying the kirpan.** This is worn by Sikhs, both men and women, and is one of their five articles of faith. As it is a reminder of their faith, it is symbolic and the knife inside is not used or taken out



**The Universal Declaration of HUMAN RIGHTS**

Adopted by the General Assembly of the United Nations in 1948, the Universal Declaration states basic rights and fundamental freedoms to which all human beings are entitled.

**WE ARE ALL BORN FREE AND EQUAL**

**EVERYONE IS ENTITLED TO THESE RIGHTS**  
NO MATTER YOUR RACE, RELIGION OR NATIONALITY

**EVERYONE HAS THE RIGHT TO LIFE, FREEDOM AND SAFETY**

No one has the right to hold you in slavery.

You have the right to own property.

No one has the right to torture you.

Everyone has the right to belong to a religion.

You have the right to recognition everywhere as a person before the law.

Freedom of Expression: You have the right to free thought and to voice your opinions to others.

We are all equal before the law and are entitled to equal protection of the law.

Everyone has the right to gather as a peaceful assembly.

You have the right to seek legal help if your rights are violated.

You have the right to help choose and to take part in governing your country, directly or through chosen representatives.

No one has the right to wrongly imprison you or force you to leave your country.

You have the right to a fair and public trial.

Everyone is innocent until PROVEN guilty.

You have the right to privacy. No one can interfere with your reputation, family, home or correspondence.

Workers' rights: Every adult has the right to a job, a fair wage and to join a trade union.

You can travel wherever you want.

You have the right to seek asylum in another country if you are being persecuted in your own country.

Everyone has the right to leisure and rest from work.

Everyone has the right to an adequate standard of living for themselves and their family.

Everyone has the right to education.

Your intellectual property as an artist or scientist should be protected.

All adults have the right to marriage and to raise a family.

We are all entitled to social order so we can enjoy these rights.

**You have the responsibility to respect the rights of others**

**NO ONE CAN TAKE AWAY ANY OF YOUR RIGHTS**

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# Humanism



## What is Humanism?

Humanism is a non-religious worldview or approach to life.

### 5 principles of Humanism:

1. Human nature and potential
2. Using science to understand the natural world (**no belief in God**)
3. One life and the freedom to find happiness
4. Using **empathy** and considering the **impact of our actions**
5. Human **responsibility**

**THINK FOR YOURSELF,  
ACT FOR EVERYONE**

## Golden Rule in Humanism

‘Treat other people as you'd want to be treated in their situation.’

‘We won't all come up with the same list of values. But we seem already to have a plausible list of values which many people would accept – kindness, consideration, peace, love, cooperation, honesty, loyalty, fairness, mutual respect, and tolerance.’  
**Richard Norman, humanist philosopher**



## Worldview

## Definitions

Humanist	Humanists believe it is possible to lead a good, happy, and meaningful life without the need for religion or belief in God.
Theist	Theist's believe in God
Atheist	Atheist's do not believe in God. They may be humanist or not
Agnostic	Are open the idea and possibility of God. They may be humanist or not.



## Beliefs about Humanism Ethics:

- The origins of morality lie inside human beings
- We should aim to **improve human welfare and happiness** in the here and now
- We should **think for ourselves** about how to act, using **reason and empathy**

## Humanist viewpoints on being good

‘The time to be happy is now... The way to be happy is to make others so.’

Robert Ingersoll, American humanist

‘Every good deed is like a pebble in a pond, sending ripples out in all directions...’

Kindness is catching.’

Rutger Bregman, historian

## Women

Women play an **important role** in Islam. They are mothers and wives and as family is very important to Allah, their role is very important.

- Islam says men and women are equal in the sight of Allah. They're accountable for their own actions and will be judged equally by Allah.
- *"Be you a man or woman, you are equal to the other"* Qur'an
- Men and women have different roles. Women are to look after children and the family. Men are to provide for the family.
- Women are not allowed to become an Imam (Islamic leader), nor are they allowed to pray at the front of the mosque with men.

### Muslim Women headscarf's

- In the Qur'an it says that women should cover their modesty. This means to hide their beauty in public; to be modest.
- *The Qur'an says "draw their veils over their body and not display their beauty except to their husbands and family".*
- Muslim women choose to cover their head, hair or face as they wish. However, in some countries this may be heavily influenced by male family members or even enforced by laws.



"Hijab"

"Niqab"

"Burka"

## BVT: Human Rights

### Key vocabulary

Morality police  
Religious expression  
Hijab  
Niqab  
Burka

In Iran, there have been laws about how women should express and cover themselves

1936	New monarchy passed laws to force women to remove veils
1941-79	No laws. However many women wore veils to protest against the 1936 monarchy's law to remove them. Others wore them as male family members influenced female family to cover their heads.
1979	Iranian Revolution: New government. "Hijab law" was enforced when women were told they had to wear the Hijab by law.
1980's	Women in Iran protested about having no choice with wearing the hijab.
1990's	Punishments for the law were introduced: fines and imprisonment time.
2018	Punishment changed: Women who broke the law were arrested and forced into detention centres to be re-educated about Islamic values.



In Europe some laws ban the use of head coverings

TERM 1 FRENCH – DISCUSSING MODERN TECHNOLOGY

KEY #LEARNING:

How to talk about / describe **your mobile**

How to talk about **what you do with modern tech**

How to talk about the **role of social media** in your life / modern society



Key questions for this term:

**As-tu un portable? Que fais-tu avec? = Do you have a 'phone? What do you do with it?**

**La technologie est importante pour toi ? = Is modern technology important for you?**

**Que penses-tu des réseaux sociaux ? = What do you think of social media?**

**As-tu un portable?**

(Do you have a mobile phone)

**Que fais-tu avec? What do you do with (it)?**

Oui, j'ai un portable... (Yes I have a phone)

Il est ... (it is) + description

je l'utilise ... (I use it...) pour

télécharger la musique (to download music)

faire mes devoirs (to do my homework)

regarder des vidéos (to watch videos)

faire du shopping (to do shopping)

faire des recherches (to do research)

rester en contact avec ma famille (stay in contact with my family)

quelquefois (sometimes)

des fois (at times)

le matin (in the mornings)

le soir (in the evenings)

au collège (at school)

quand je suis avec des amis (when I'm with my friends)

Je peux ... (I can)

On peut... (one can / you can)

prendre des photos (take photos)

envoyer des textos (send texts)

tchatter avec des amis (chat with my friends)

aller en ligne (go on line)

jouer aux jeux vidéos (play games)

Modal verbs

A modal verb is a word like 'can', 'must', 'should' etc.

You use it with an **infinitive** verb.

**Je peux aller en ligne** = I can go on line

**Je ne peux pas prendre des photos** = I can't take photos

**On peut faire du shopping** = You can / one can do shopping

**Je dois faire mes devoirs** = I must / have to do my homework

Direct object pronouns.

The words for 'it', or 'them'. In English, 'I use it every day'; 'I like them'

Je **l'**utilise chaque jour

Je **les** aime

Notice it goes before the verb.

A reminder about French adjectives. Don't forget to make the adjective 'agree' with the noun. Is it masculine or feminine? Singular or plural?



Masculine Singular	Feminine Singular	Masculine plural	Feminine Plural	ENGLISH
<b>vieux</b>	vieille	vieux	vielles	<b>old</b>
<b>nouveau</b>	nouvelle	nouveaux	nouvelles	<b>new</b>
<b>moderne</b>	moderne	modernes	modernes	<b>modern</b>
<b>mince</b>	mince	minces	minces	<b>thin</b>
<b>laid</b>	laide	laid	laides	<b>ugly</b>
<b>joli</b>	jolie	jolis	jolies	<b>pretty</b>
<b>utile</b>	utile	utiles	utiles	<b>useful</b>
<b>cher</b>	chère	chers	chères	<b>expensive</b>
<b>noir</b>	noire	noirs	noires	<b>black</b>
<b>petit</b>	petite	petits	petits	<b>small</b>



**KEY #LEARNING:**

How to talk about / describe **your tastes in film, TV and music!**

**Describe** a film / TV programme and explain why you like it

In Year 8, you first met the **‘perfect tense’**. This is used to talk about what you **‘did’**.

The **imperfect tense** is used to talk about what you were doing / used to do...

I **watched** a comedy on Saturday

I **was watching** / I **used to watch** comedies on Saturday

je regardais = **I used to watch**

tu regardais = **you used to watch**

il regardait = **he used to watch**

nous regardions = **we used to watch**

vous regardiez = **you used to watch**

ils regardaient = **they used to watch**



**Key questions for this term:**

Que penses-tu de la musique française ? = **What do think of Spanish music?**

As-tu vu un film français ? = **Have you ever seen a Spanish film?**

Quelles sortes de film aimes-tu ? = **What sort of programmes / films do you like?**

As-tu une émission préférée ? = **Do you have a favourite TV programme?**



*Aimes- tu la musique / ... Do you like music / TV / films?)*

*Quelle sorte de ... aimes -tu? (What type of ... do you like?)*

*Mon film prefere , c'est... my favourite film is... )*

*j'adore / j'aime (I love / Ilike)*

*je n'aime pas (I don't like)*

*je ne supporte pas (I can't stand)*

*les films d'action / de guerre (war)*

*les émissions de sport (sports programmes)*

*les dessins animés (cartoons)*

*les feuilletons (soaps)*

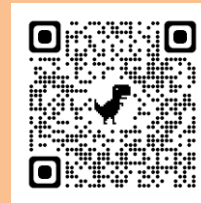
*le rock*

*la musique classique*

*c'est*

*intéressant*

*ennuyeux*



*As-tu vu...? (Have you ever seen...?)*

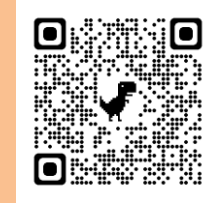
*La semaine dernière... (last week)*

*Il y a deux semaines (two weeks ago)*

*j'ai vu... (I saw)*

*C'était ... (it was)*

*Je l'ai trouvé ... (I found it...)*



**KEY #LEARNING:**

How to talk about / describe **your mobile**

How to talk about **what you do with modern tech**

How to talk about the **role of social media** in your life / modern society



**Key questions for this term:**

¿Tienes un móvil? Que haces con él= **Do you have a 'phone? What do you do with it?**

¿La tecnología moderna es importante para ti?= **Is modern technology important for you?**

¿Qué opinas de las redes sociales?= **What do you think of social media?**

**¿Tienes un móvil?**

(Do you have a mobile phone)

**¿Qué haces con él?**What do you do with it?)

Sí, tengo un móvil(Yes I have a phone)

Es... (it is) + description

Lo uso para (I use it...)

descargar música (to download music)

hacer mis deberes (to do my homework)

ver videos (to watch videos)

hacer compras (to do shopping)

hacer investigación (to do research)

mantenerme en contacto con mi familia (stay in contact with my family)

A veces (sometimes)

algunas veces(at times)

Por la mañana (in the mornings)

Por la tarde (in the evenings)

En el colegio (at school)

Cuando estoy con mis amigos (when I'm with my friends)

Puedo...(I can)

Se puede... (one can / you can)

No puedo/ no se puede(I can't / you can't)

sacar fotos (take photos)

mandar mensajes (send texts)

charlar con mis amigos (chat with my friends)

ir en linea(go on line)

jugar a los juegos (play games)

**Modal verbs**

A modal verb is a word like 'can', 'must', 'should' etc.

You use it with an infinitive verb.

Puedo ir en linea= I can go on line

No puedo tomar fotos = I can't take photos

Se puede hacer compras = You can / one can do shopping

Debo hacer mis deberes = I must / have to do my homework

Debes hacer los deberes= You should go and see your cousins

**Direct object pronouns in Spanish**

You usually put the object pronoun **before** the verb. In English we put it **after** the verb.

*Ejemplos:*

Uso mi móvil para ver videos.

*I use my phone to watch videos*

**Lo** uso para ver videos.

*I use **it** to watch videos*

Masculine Singular	Feminine Singular	Masculine plural	Feminine Plural	ENGLISH
<b>alto</b>	alta	altos	altas	<b>Tall</b>
<b>bajo</b>	baja	bajos	bajas	<b>Short</b>
<b>debil</b>	débil	débiles	débiles	<b>Weak</b>
<b>delgado</b>	delgada	delgados	delgadas	<b>Thin</b>
<b>A reminder about adjectives (describing something)</b>				
<b>De estatura media</b>				<b>Medium height</b>
<b>De talla media</b>				<b>Medium build</b>
<b>esbelto</b>	esbelta	esbeltos	esbeltas	<b>Slim</b>
<b>feo</b>	fea	feos	feas	<b>Ugly</b>
<b>flojo</b>	floja	flojos	flojas	<b>Weak</b>
<b>fuerte</b>	fuerte	fuertes	fuertes	<b>Strong</b>
<b>gordo</b>	gorda	gordos	gordas	<b>Fat</b>
<b>guapo</b>	guapa	guapos	guapas	<b>Good-looking</b>
<b>hermoso</b>	hermosa	hermosos	hermosas	<b>Beautiful</b>
<b>moreno</b>	morena	morenos	morenas	<b>Dark</b>
<b>precioso</b>	preciosa	preciosos	preciosas	<b>beautiful</b>
<b>rubia</b>	rubia	rubios	Rubias	<b>Blond</b>

## TERM 2 SPANISH– DISCUSSING FILM, TV AND MUSIC

### KEY #LEARNING:

How to talk about / describe **your tastes in film, TV and music!**

**Describe** a film / TV programme and explain why you like it

### Key questions for this term:

¿Que piensas de la música española?= **What do think of Spanish music?**

¿Has visto una película española?= **Have you ever seen a Spanish film?**

¿Qué tipo de programas / películas te gustan?= **What sort of programmes / films do you like?**

¿Tienes un programa de televisión favorito?= **Do you have a favourite TV programme?**



## The imperfect tense

The first past tense that you learnt in Spanish was the preterite tense. This describes single completed actions that took place at a particular time in the past and had a clear beginning and end. You are now going to learn the imperfect tense. This has two main uses:

1. To say what someone used to do or what used to happen over a longer and vaguer time frame (i.e. when I was little)

2. To describe a scene or say what something was like. For example: Llovía mucho y la gente era antipática (It was raining a lot and the people were unpleasant).

*¿Te gusta la música / televisión / películas?(Do you like music / TV / films?)*

*¿Qué tipo / qué tipo de películas te gustan? (What type of films do you like?)*

*mi película favorita es ...(my favourite film)*

*me encantan/ me gustan (I love / I like)*

*detesto/no me gustan (I hate / I don't like)*

*no soporto*

*les.. películas policiacas, películas cómicas, películas de guerra (war films), películas del extranjero (foreign films), películas de espías (spy films), películas de d'aventura, películas dramáticas, películas de acción, películas animados (animated films), los westerns*

*un programa (tv programme) , un concurso (games show)*

*un dibujo animado (cartoon), las noticias (news), el tiempo (weather forecast) una telenovela (soap opera)*

*la música rock*

*la música pop*

*es*

*interesante (interesting) emocional (moving)*

*aburrido(boring) terrible (rubbish)*

*¿Has visto? (Have you ever seen...?)*

*La semana pasada (last week)*

*Hace dos semanas (two weeks ago)*

*ví... (I saw)*

*vimos (we saw)*

*mire (I watched)*

*Fue (it was)*

*Lo encuentro (I found it...)*

## The imperfect tense

Fortunately, the imperfect is fairly easy to form. It has two sets of endings and only three irregulars. The endings are as follows:

	hablar	comer	decidir
yo	habl <b>aba</b>	com <b>ía</b>	decid <b>ía</b>
tú	habl <b>abas</b>	com <b>ías</b>	decid <b>ías</b>
él/ella	habl <b>aba</b>	com <b>ía</b>	decid <b>ía</b>
nosotros	habl <b>ábamos</b>	com <b>íamos</b>	decid <b>íamos</b>
vosotros	habl <b>abais</b>	com <b>íais</b>	decid <b>íais</b>
ellos/as	habl <b>aban</b>	com <b>ían</b>	decid <b>ían</b>

The three irregulars are:	Ser (to be)	Ir (to go)	Ver (to see)
yo	<u>e</u> ra	<u>i</u> ba	ve <u>í</u> a
tú	<u>e</u> ras	<u>i</u> bas	ve <u>í</u> as
él/ella	<u>e</u> ra	<u>i</u> ba	ve <u>í</u> a
nosotros	<u>e</u> ramos	<u>i</u> bamos	ve <u>í</u> amos
vosotros	<u>e</u> rais	<u>i</u> bais	ve <u>í</u> ais
ellos/as	<u>e</u> ran	<u>i</u> ban	ve <u>í</u> an



# The Fundamentals of Art

## ESSENTIAL EQUIPMENT:

- PENCIL PACK (2B, 4B, 6B ETC)
- ERASER
- SHARPENER
- SKETCHBOOK

## OPTIONAL EQUIPMENT:

- DRAWING PENS
- WATERCOLOUR SET
- WATERCOLOUR PENCILS
- PAINTBRUSHES



## SENTENCE STARTERS

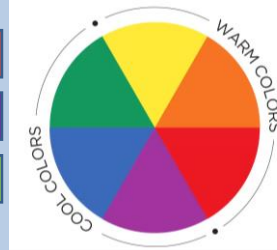
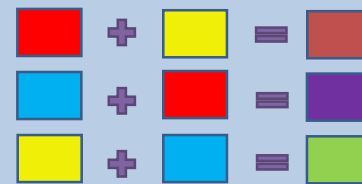
I can vary tone by...

- layering mark making
- using a range of pencils
- varying the pressure of my marks
- using an eraser to add highlights

My work is successful because...

I could develop my work further by...

My design was inspired by the work of...



# A R T I S T

## ATTITUDE

Be positive and try your best!

## RESPECT

Respect others, work and the room

## THINK

Understand and demonstrate.

## IMAGINE

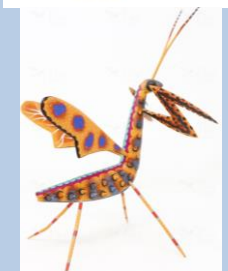
Be creative, use your imagination!

## SPOTLESS

Tidy up after yourself.

## TARGET

Follow directions.



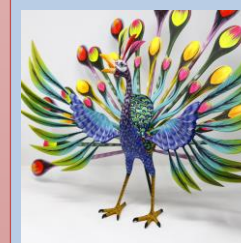
**COLOUR**  
BRIGHT  
BOLD  
VIBRANT  
PRIMARY  
SECONDARY  
TERTIARY  
RADIANT  
VIVID  
DULL  
CONTRASTING  
COMPLIMENTARY  
HARMONIOUS  
MONOCHROME  
NATURAL  
SATURATED  
PASTEL  
COOL  
WARM

**LINE**  
FLUENT  
CONTINUOUS  
CONTROLLED  
LOOSE  
POWERFUL  
STRONG  
ANGULAR  
FLOWING  
LIGHT  
DELICATE  
SIMPLE  
THICK  
THIN  
BROKEN  
OVERLAPPING  
LAYERED  
MARK MAKING

**SHAPE/Form/SPACE**  
CLOSED  
OPEN  
DISTORTED  
FLAT  
ORGANIC  
POSITIVE  
NEGATIVE  
FOREGROUND  
BACKGROUND  
COMPOSITION  
ELONGATED  
LARGE  
SMALL  
2D  
3D  
TWISTED  
JAGGED

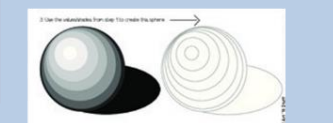
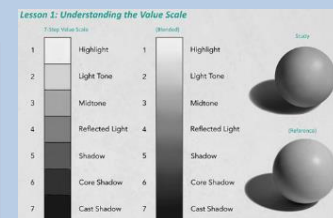
**PATTERN AND TEXTURE**  
REPEATED  
UNIFORM  
GEOMETRIC  
RANDOM  
SYMMETRICAL  
SOFT  
IRREGULAR  
UNEVEN  
ROUGH  
BROKEN  
GRID  
FLAT  
WOVEN  
ORGANIC  
SMOOTH  
ABSTRACTED

**TONE**  
BRIGHT  
DARK  
FADED  
SMOOTH  
HARSH  
CONTRASTING  
INTENSE  
SOMBRE  
STRONG  
POWERFUL  
LIGHT  
MEDIUM  
DARK  
LAYERED  
DEPTH  
DEVELOPED  
SOFT



## TAKING ABOUT ART:

- What are you looking at?
- How was it made?
- Who made it?
- How will it inspire your work?
- Do you like it/dislike it? Why?



# ALEBRIJES

## LINE

A **LINE** is the path left by a moving point, eg. A pencil or a brush dipped in paint. A **LINE** can take many forms, eg. Horizontal, diagonal or curved. A **LINE** can be used to show contours, movements, feelings and expressions.

## TEXTURE

**TEXTURE** is the surface quality of something, the way something feels or looks like it feels. There are two types of texture: **ACTUAL TEXTURE** and **VISUAL TEXTURE**. **ACTUAL TEXTURE**: really exists so you can feel it and touch it **VISUAL TEXTURE**: created using different marks that represent actual **TEXTURE**

## PATTERN

**PATTERN** is a design that is created by repeating **LINES, SHAPES, TONES** or **COLOURS**.

Patterns can be manmade or natural.

## -tone

**tone** means the lightness or darkness of something. This could be a shade or how dark or light a colour appears.

## COLOUR

There are 3 primary **COLOURS**: **RED, YELLOW, BLUE**

By mixing any 2 **PRIMARY COLOURS** together you create **SECONDARY COLOURS**: **ORANGE, GREEN, PURPLE**

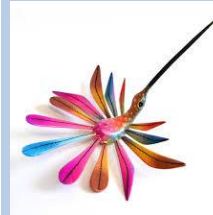
## SHAPE/FORM

A **SHAPE** is an area enclosed by a **LINE**. It could be just an outline or it could be shaded in.

**FORM** is a three dimensional shape such as a sphere, cube or a cone.

Sculpture and 3D design are about creating **FORMS**

## TERM 1 and 2



<https://www.youtube.com/watch?v=LI4zIVtiq0I>

<https://www.youtube.com/watch?v=Kiveg3IW7mE>

<https://www.youtube.com/watch?v=VRmNOdek0o>



Traditional Mexican patterns used on Alebrijes

Artists you could research:



Manuel Jimenez Ramirez

Farid Rueda



Brian Wildsmith



Pedro Linares



Alebrijes are brightly coloured Mexican folk art sculptures inspired by mythical creatures.

Artist Pedro Linares invented the style of and name of the Alebrijes, which originated in Mexico City.

The story goes that Linares was very ill in 1936 and while in his sick bed, he dreamt of strange places and animals. He saw 'a donkey with butterfly wings, a rooster with bull horns, a lion with an eagle head and all of them were shouting one word, 'Alebrijes! Alebrijes! Alebrijes!'.

Once recovered from his illness, Linares started to recreate the creatures he had dreamt about. Originally, the Alebrijes were made from a range of papers, and engrudo (a kind of glue made from wheat flour and water) to create a papier mache sculpture.

Today, most Alebrijes are made from wood (though some are still papier mache). In the 1980s Linares was invited to take part in a series of workshops with other Mexican artists and makers. Through the exposure of Linares creatures and style, other artists soon adapted their own carvings of creatures, adding more mythical elements to their own animal designs. Over the years the Alebrijes have spread from town to town.

## Year 9 Graphics: Interior and Exterior

Interior and spatial designers are involved in the design or renovation of internal spaces, including structural alterations, furnishings, fixtures and fittings, lighting and colour schemes.

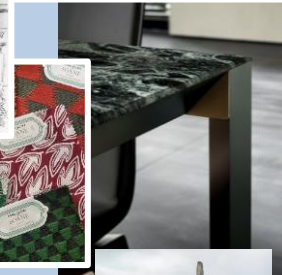
Exterior designers include, architects, public space designers, garden or landscape designers and many more! Exterior designers focus on the outside spaces and buildings, looking at functionality and aesthetics.

## What is the definition of commercial interior design?

Commercial interior design refers to the interior design done in commercial spaces, such as offices, **shops**, restaurants, lobbies, and other public spaces.

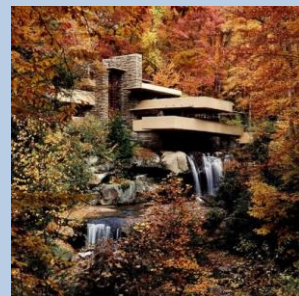
### British Design award winners 2021:

- Michel Anastassiades
- Soane Britain
- Kitty Joseph
- Tom Raffield
- Zoffany
- Sam Wilde



### Architects:

- Zaha Hadid
- Potlery Dean
- Jeanne Gang
- Frank Lloyd Wright

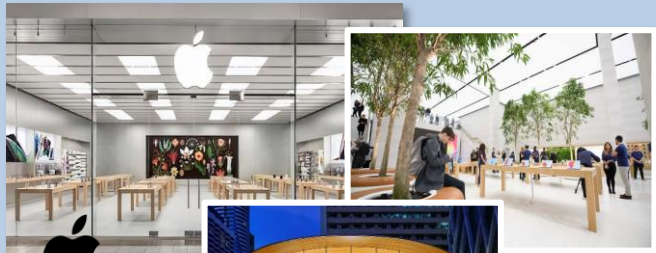


### Garden/Landscape Designers:

- Tom Stuart Smith
- Getrude Jekyll
- Derek Jarman
- Capability Brown
- Beth Chatto

KEY TERMS	DEFINITION
<b>Design Process</b>	An approach for breaking down a large project into manageable chunks.
<b>Target Audience</b>	A particular group at which a product is aimed towards.
<b>Design Brief</b>	Outlines the specifics of a design project which can include the design project overview, timelines, target audience information, and budget.
<b>Research</b>	A collection of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts and understandings.
<b>Colour Theory</b>	The collection of rules and guidelines which designers use to communicate with users through appealing colour schemes in visual interfaces.
<b>Mood board</b>	An arrangement of images, materials, pieces of text, etc. intended to present a particular style or concept.
<b>Evaluation</b>	Is a process that critically examines a design.
<b>Modelling</b>	Making a model allows designers to visualise and test how a product looks and performs in 3D and is a great way of checking a product's viability .

## EXISTING STORE RESEARCH



Think Different.

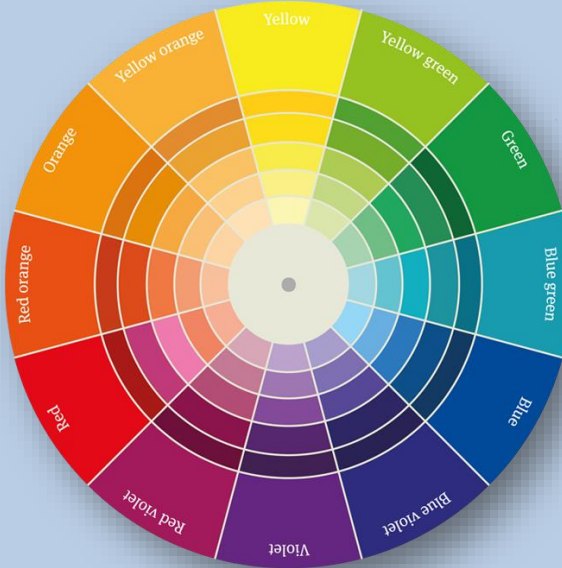
## Which Brand will you choose?...



## COLOUR PALLETS

Colours can convey a message that give us an idea of how the product or company wants to be perceived. They can entice a certain type of customer and can make us think of different things.

### The Colour Wheel.



Colour pallets which effectively reflect our company brand.

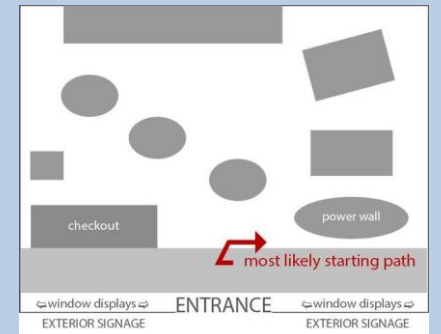
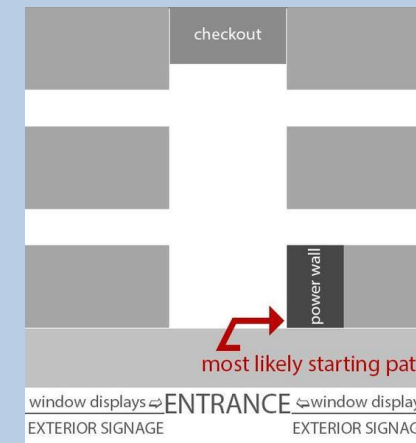
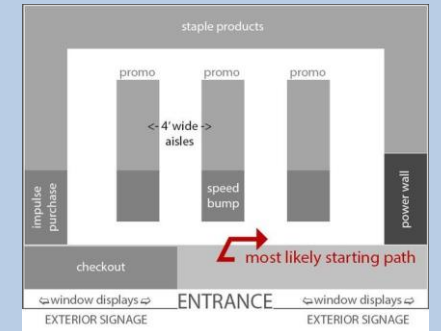
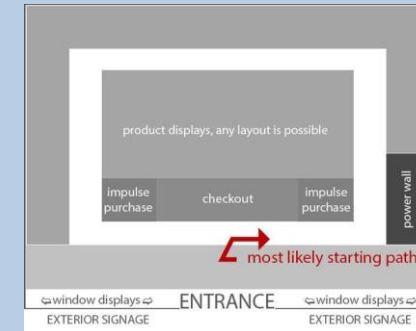


## Interior Design Considerations in Retail Store Design

- Value of Space. The value of space, depending on the location within the store, is expressed in sales per square foot of floor space, and sales per cubic foot of cubic space.
- Space Utilization and Allocation.
- Storage of Stock.
- Customer Traffic Flow.
- Types of Goods.

## CUSTOMER FLOW

Customer flow is the movement of customers around a store. Providing more check-outs increased customer flow, reduced bottlenecks and improved sales.

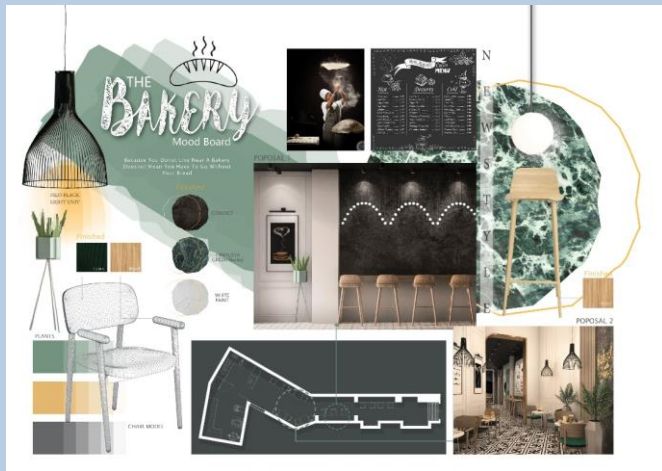


## MOOD BOARD

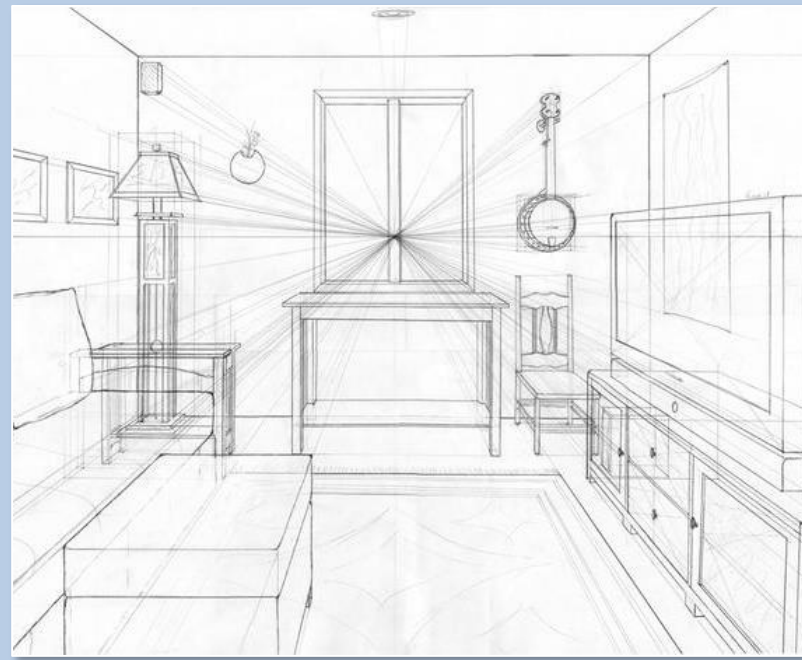
A mood board is a visual representation of ideas for a design project. At its most basic, a mood board is a collage of images. The purpose of a mood board is to help explore ideas and figure out the general style, mood, colours, and overall feel of a room or project space.



MODERN, LIGHTS, NEON, MINIMAL, CITY, URBAN

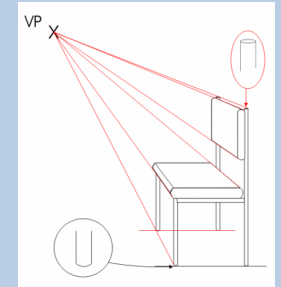
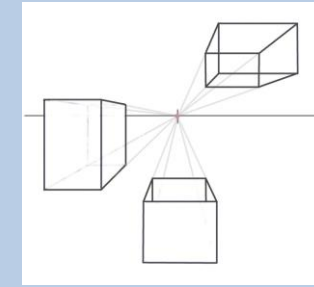


ORGANIC, NATURAL, WOOD, RUSTIC, COUNTRY



## ONE POINT PERSPECTIVE

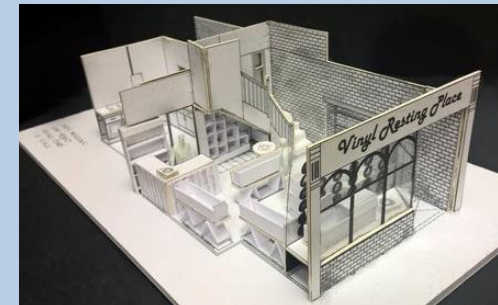
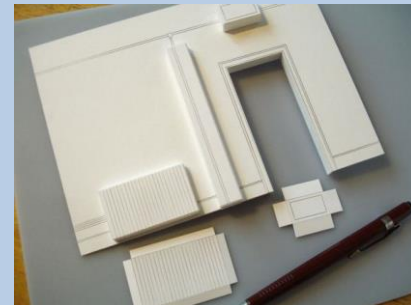
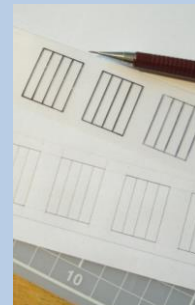
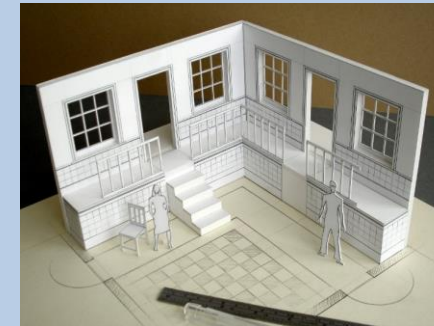
One point perspective is a drawing method that shows how things appear to get smaller as they get further away, converging towards a single 'vanishing point' on the horizon line. It is a way of drawing objects upon a flat piece of paper (or other drawing surface) so that they look three-dimensional and realistic.



## 3D MODEL

What is model in interior design?

An architectural model is a 3D representation of a proposed building design. With an architecture model, you can see the potential scale and design of a construction or interior design project.







# Dance Music

## Exploring Rhythm, Chords and Metre in Music for Dance

**D** Dynamics  
The volume of the Music

**R** Rhythm  
The order of the notation duration

**P** Pitch  
The highness or lowness of a note in sound frequency

**S** Structure and Form  
How the composition is built

**M** Melody  
The Tune

**I** Instrumentation  
The instruments used by the composer

**T** Tempo  
The Speed of the Music

**H** Harmony  
All the musical parts that support the Melody



DR P SMITH is an acronym that we use to remember the essential elements of music at Trafalgar. These are the key ingredients that combine to produce all sound and all music. Use your smartphone to scan the QR codes to find out more...

### Language for Learning

**PULSE/BEAT** – A regular beat that is felt throughout much music.

**RHYTHM** – A series of notes of different lengths that create a pattern..

**METRE** – The repeating pattern of beats and how they are grouped

**SIMPLE TIME** – 2/4, 3/4 and 4/4 time signatures

**COMPOUND TIME** – 6/8, 9/8 and 12/8 time signatures

**COMMON TIME** – Another way of referring to a 4/4 time signature, shown in staff notation by a curly “C”.

**PRIMARY CHORDS** – Chords constructed on the first (tonic: chord I), fourth (subdominant: chord IV), and fifth (dominant: chord V) notes of a scale consisting of the root, third and fifth.

**TIME SIGNATURE** – Tells us how many beats (and what type of beats) there are in each bar of music and is made up of two numbers – the top numbers tells us how many beats and the bottom number tells us what types of beats.

**BAR** – How music is divided up into different units called “bars”.

**BAR LINE** – a single line to divide music up into sections adding up to a certain number of musical beats shown by the time signature.

# Dance Music

## Exploring Rhythm, Chords and Metre in Music for Dance

The **RHYTHMS** of dance music always match the **STEPS** of the dance: the two are inter-related. Dance music is based on **CHORD PATTERNS**: mainly **PRIMARY CHORDS (I, IV & V(7))** and has a clear **MELODY** with an **ACCOMPANIMENT (HOMOPHONIC TEXTURE)**. Different dances and their music use different **METRES/TIME SIGNATURES**.



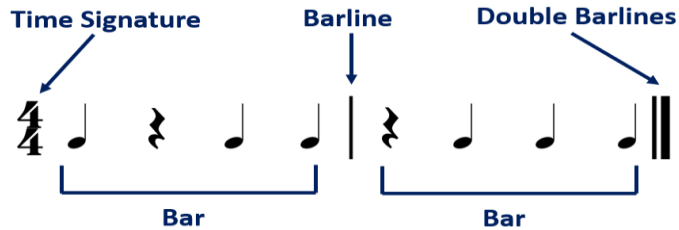
### A. Pulse, Time and Metre in Dance Music

The **BEAT** or **PULSE** of dance music is always **REGULAR**. Here is a regular crotchet pulse of 12 beats:



A single **BEAT** is a basic unit of musical time. In dance music, beats are grouped together to make a repeating pattern – normally made up of either twos, threes or fours.

The repeating pattern of beats gives us the **METRE** or the **TIME** of the music, shown by the **TIME SIGNATURE** at the start of a piece of music. Each repetition of the beat-pattern is called a **BAR** and bars are separated by vertical lines called **BARLINES**. A **DOUBLE BARLINE** always comes at the end of a piece of music or section of music.



The **TOP NUMBER** of a time signature tells you how many beats there are in each bar. The **BOTTOM NUMBER** tells you what types or note values these beats are (as divisions of a semibreve = 1):

- 1 = Semibreve
- 2 = Minim
- 4 = Crotchet
- 8 = Quaver
- 16 = Semiquaver

4/4 can also be shown by a "C" meaning COMMON TIME



### B. Simple Time in Dance Music

**SIMPLE DUPLÉ METRE: Two beats to a bar**



Dance music such as **MARCHES**, the **TANGO** and **IRISH REEL** often use simple duple metre.

**SIMPLE TRIPLE METRE: Three beats to a bar**



Dance music such as **WALTZES** and the **MINUET, COURANTE** and **SARABANDE** from the Baroque Dance Suite often use simple triple metre.

**SIMPLE QUADRUPLE METRE: Four beats to a bar**



Dance music such as the **TANGO**, the **IRISH REEL**, the **ALLEMANDE** from The Baroque Dance Suite, **AMERICAN LINE DANCE MUSIC** (Country and Western), **DISCO** and **CLUB DANCE** often use simple quadruple metre.

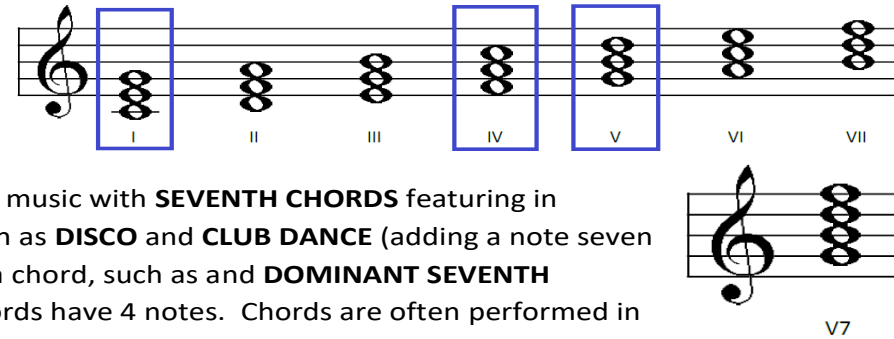
### C. Simple and Compound Time

	Simple Time Signatures			Compound Time Signatures		
Duple Metre	$\frac{2}{4}$	$\frac{3}{8}$	$\frac{3}{4}$	$\frac{6}{8}$	$\frac{6}{4}$	$\frac{6}{16}$
Triple Metre	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{9}{8}$	$\frac{9}{4}$	$\frac{9}{16}$
Quadruple Metre	$\frac{4}{4}$	$\frac{4}{8}$	$\frac{4}{8}$	$\frac{12}{8}$	$\frac{12}{4}$	$\frac{12}{16}$

Dance music such as the **IRISH JIG** and the **GIGUE** from the Baroque Dance Suite often use compound duple metre (6/8) with a "ONE and a TWO and a" feel to the music.

### D. Chords in Dance Music

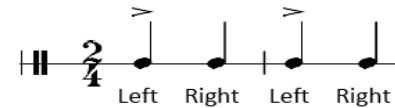
Dance music is based on **CHORD PATTERNS**. **PRIMARY CHORDS: CHORD I, CHORD IV** and **CHORD V** are most



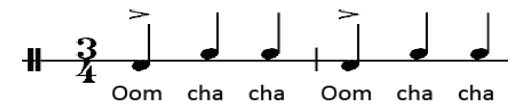
commonly used in dance music with **SEVENTH CHORDS** featuring in popular dance music such as **DISCO** and **CLUB DANCE** (adding a note seven notes above the root of a chord, such as and **DOMINANT SEVENTH CHORD**). All seventh chords have 4 notes. Chords are often performed in different ways as an **ACCOMPANIMENT** in dance music.

### E. Characteristic Rhythms in Dance Music

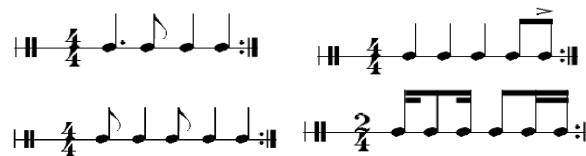
The **MARCH** has a strong **LEFT, right, LEFT, right** rhythm:



The **WALTZ** has a strong **OOM-cha-cha, OOM-cha-cha** rhythm:



The **TANGO** has several rhythms:



**FOUR-ON-THE-FLOOR** is a common rhythm in **DISCO** and more modern dance music:

Count	1	and a	2	and a	3	and a	4	and a
Bass Drum	●		●		●		●	
Snare Drum or Hand Claps			●				●	
Hi-Hat Cymbal		●●		●●		●●		●●

### F. Marches



Often with military connections or performed at ceremonies by large groups together.

**SIMPLE DUPLÉ METRE** (2/4 time signature), although some marches can be in 4/4). Strong emphasis on the first beat of the bar (**LEFT**, right, **LEFT**, right). Clear **MELODY** and **ACCOMPANIMENT (HOMOPHONIC TEXTURE)**. Uses mainly **PRIMARY CHORDS (I, IV & V)**. Often performed by **MARCHING BANDS** featuring **BRASS, DRUMS** and **PERCUSSION**.

### G. The Waltz



A **PAIRED DANCE** with couples close, arms around and facing each other. Popular in Vienna and became a fashionable

**BALLROOM DANCE**. **SIMPLE TRIPLE METRE** (3/4 time signature). Emphasis on first beat of the bar. Clear **OOM-cha-cha, OOM-cha-cha** rhythm. Clear **MELODY** and **ACCOMPANIMENT (HOMOPHONIC TEXTURE)**. **REGULAR 4-BAR PHRASES**. Slow **HARMONIC RHYTHM** using **PRIMARY CHORDS (I, IV & V)**. Performed by **ORCHESTRAS**. **STRINGS** (occasionally **WOODWIND**) normally have the **MELODY LINE**.

### H. Latin Dance: The Tango



Originated in Argentina and became a popular **LATIN BALLROOM DANCE**. A dramatic and sensual **PAIRED DANCE** with close contact, serious expressions, and quick, jerky movements. Characteristic crisp "**TANGO RHYTHMS**" (see E.) often **DOTTED/SYNCOPATED RHYTHMS**. **SIMPLE DUPLÉ METRE** (2/4) or **SIMPLE QUADRUPLE METRE** (4/4). Often **MINOR TONALITY** (sometimes **MAJOR** for contrast). Clear **MELODY** and **ACCOMPANIMENT (HOMOPHONIC TEXTURE)**. Uses mainly **PRIMARY CHORDS (I, IV & V)**. Instruments such as **BANDONEON, VIOLIN, CELLO, DOUBLE BASS** (often plucked – **PIZZICATO**), **SPANISH/ACOUSTIC GUITAR, PIANO**.

### I. The Baroque Dance Suite



Popular between 1600-1750, a collection of shorter dances (**MOVEMENTS**) grouped together to form a **SUITE**.

Dances included:

- **ALLEMANDE** (German, 4/4, Stately)
- **COURANGE** (French, 3/4, Lively, Dotted Rhythms and Disjunct melody)
- **SARABANDE** (Spanish, 3/2, Slow and Stately, emphasis on 2<sup>nd</sup> beat of bar)
- **MINUET** (3/4, Elegant, Stately)
- **GIGUE** (6/8, Fast, Lively, Triplet Rhythms)

All dances in **BINARY FORM (AB)** with each section repeated (**AABB**).

Performed by a group of instruments such as **HARPSICHORD, LUTE, VIOLIN, CELLO, OBOE, RECORDER, FLUTE**.

### J. American Line Dance

**GROUP SYNCHRONISED DANCE**. All dancers face same way standing in lines performing steps at the same time without touching.

Accompanied by **COUNTRY AND WESTERN MUSIC**:

**CATCHY MELODY, CROTCHET BASS LINE, SIMPLE HARMONY (CHORDS I & V)** in crotchets. **SIMPLE QUADRUPLE METRE** (4/4) **POPULAR SONG FORM MAJOR TONALITY**

Instruments such as **GUITARS (Electric and Acoustic), STEEL GUITAR, DRUMS, BANJO, FIDDLE, HARMONICA, ACCORDION**.



### K. Irish Jig and Reel

Traditional **FOLK DANCES** from Ireland with intricate footwork and arms by sides.

**REEL: COMPOUND TIME** (6/8); **JIG: SIMPLE TIME** (2/4 or 4/4) both with "two in a bar" feel, continuous bouncy quaver or semiquaver rhythms, fast tempo and **DECORATED** melodies. **BINARY FORM**. **MAJOR/MINOR** or **MODAL**.



### L. Disco

Appeared in 1970's as an individual, **IMPROVISED DANCE** in clubs from a mix of jazz, funk and soul.



**SIMPLE QUADRUPLE METRE** (4/4) **FAST TEMPO** (around 120 BPM) **FOUR-ON-THE-FLOOR RHYTHM** (see E.) **SYNCOPATED** bass line parts. Simple **CHORD PATTERNS** using **CHORDS I and V** and **SEVENTH CHORDS**. **POPULAR SONG FORM** with a strong **GROOVE** (long repeated rhythm section) and fade out endings, and catchy **HOOKS/RIFFS**. **GUITARS, VOCALS, DRUMS, STRING/BRASS SOUNDS, SYNTHESISERS, SAMPLES**.

### M. Club Dance



Influenced by **MUSIC TECHNOLOGY**: samplers, synthesisers, sequencers and drum machines.

Various genres: House, Techno, Drum and Bass, Garage, Trance, Ambient. Dancing in individual and **IMPROVISED** on one spot. **SIMPLE QUADRUPLE METRE** (4/4). Use of **ELECTRONIC SOUNDS**. A **STRONG BEAT** emphasised by the **DRUM** and **STRONG BASS LINES**. **SHORT PHRASES** and **REPETITIVE SECTIONS**. **FAST TEMPO** (Ambient is slower/chilled) Complex, layered drum patterns. Inclusion of **SAMPLES**.



Exploring Rhythm, Chords and Metre in Music for Dance





# SOUNDTRACKS

## Exploring Film Music

**D** Dynamics  
The volume of the Music



**R** Rhythm  
The order of the notation duration



**P** Pitch  
The highness or lowness of a note in sound frequency



**S** Structure and Form  
How the composition is built



**M** Melody  
The Tune



**I** Instrumentation  
The instruments used by the composer



**T** Tempo  
The Speed of the Music



**H** Harmony  
All the musical parts that support the Melody



### Language for Learning

**LEITMOTIF** – A frequently recurring short melodic or harmonic idea which is associated with a character, event, concept, idea, object or situation which can be used directly or indirectly to remind us of one not actually present on screen.

**SOUNDTRACK** – The music and sound recorded on a motion-picture film.

**THEME SONG** – Often a song in the popular song genre frequently performed over the opening or closing titles of a film.

**MICKEY-MOUSING** – When the music fits precisely with a specific part of the action in a film e.g. cartoons.

**CONCORD/DISCORD** – Concorde sounds calm and complete, discords create tension and suspense.

**SEQUENCING** – The repetition of a leitmotif often rising in pitch – **CHROMATIC SEQUENCING**.

**INTERVAL OF A FIFTH** – Two notes which are 5 notes apart – often used by film music composers to create an empty feeling of outer-space in Sci-Fi soundtracks.

**MUSICAL CLICHÉ** – Devices used by film music composers that are “associated with” a particular character, event or situation often used in cartoons e.g. using a bassoon to represent a foolish character.

# SOUNDTRACKS

Exploring Film Music



# SOUNDTRACKS

Exploring Film Music

## A. The Purpose of Music in Film

Film Music is a type of **DESCRIPTIVE MUSIC** that represents a **MOOD, STORY, SCENE** or **CHARACTER** through music, it is designed to **SUPPORT THE ACTION AND EMOTIONS OF THE FILM ON SCREEN**. Film Music can be used to:

- Create or enhance a mood (though the **ELEMENTS OF MUSIC**) ->
- Function as a **LEITMOTIF** (see D)
- To emphasise a gesture (**MICKEY-MOUSING** – when the music fits precisely with a specific part of the action in a film e.g. cartoons)
- Provide unexpected juxtaposition/irony (using music the listener wouldn't expect to hear giving a sense of uneasiness or humour!)
- Link one scene to another providing continuity
- Influence the pacing of a scene making it appear faster/slower
- Give added commercial impetus (released as a **SOUNDTRACK**) – sometimes a song, usually a pop song is used as a **THEME SONG** for a film.
- Illustrate the geographic location (using instruments associated with a particular country) or historical period (using music 'of the time').

## D. Leitmotifs

**LEITMOTIF** – A frequently recurring short melodic or harmonic idea which is associated with a character, event, concept, idea, object or situation which can be used directly or indirectly to remind us of one not actually present on screen. Leitmotifs can be changed through **SEQUENCING, REPETITION** or **MODULATION** giving a hint as to what may happen later in the film or may be heard in the background giving a “subtle hint” to the listener e.g. *the “Jaws” Leitmotif*



## E. History of Film Music

Early films had no soundtrack (“**SILENT CINEMA**”) and music was provided live, usually **IMPROVISED** by a pianist or organist. The first **SOUNDTRACKS** appeared in the 1920's and used existing music (**BORROWED MUSIC** – music composed for other (non-film) purposes) from composers such as Wagner and Verdi's operas and ballets. In the 1930's and 1940's Hollywood hired composers to write huge Romantic-style soundtracks. **JAZZ** and **EXPERIMENTAL MUSIC** was sometimes used in the 1960's and 1970's. Today, film music often blends **POPULAR, ELECTRONIC** and **CLASSICAL** music together in a flexible way that suits the needs of a particular film.

## B. How the Elements of Music are used in Film Music

**PITCH AND MELODY** – **RISING MELODIES** are often used for increasing tension, **FALLING MELODIES** for defeat. Westerns often feature a **BIG THEME**. **Q&A PHRASES** can represent good versus evil. The **INTERVAL OF A FIFTH** is often used to represent outer space with its sparse sound.

**DYNAMICS** – **FORTE (LOUD)** dynamics to represent power; **PIANO (SOFT)** dynamics to represent weakness/calm/resolve. **CRESCENDOS** used for increasing threat, triumph or proximity and **DECRESCENDOS** or **DIMINUENDOS** used for things going away into the distance. Horro Film soundtracks often use **EXTREME DYNAMICS** or **SUDDEN DYNAMIC CHANGES** to ‘shock the listener’.

**HARMONY** – **MAJOR** – happy; **MINOR** – sad. **CONSONANT HARMONY OR CHORDS** for “good” and **DISSONANT HARMONY OR CHORDS** for “evil”. **SEVENTH CHORDS** often used in Westerns soundtracks.

**DURATION** – **LONG** notes often used in Westerns to describe vast open spaces and in Sci-Fi soundtracks to depict outer space; **SHORT** notes often used to depict busy, chaotic or hectic scenes. **PEDAL NOTES** – long held notes in the **BASS LINE** used to create tension and suspense.

**TEXTURE** – **THIN/SPARE** textures used for bleak or lonely scenes; **THICK/FULL** textures used for active scenes or battles.

**ARTICULATION** – **LEGATO** for flowing or happy scenes, **STACCATO** for ‘frozen’ or ‘icy’ wintery scenes. **ACCENTS (>)** for violence or shock.

**RHYTHM & METRE** – 2/4 or 4/4 for Marches (battles), 3/4 for Waltzes, 4/4 for “Big Themes” in Westerns. **IRREGULAR TIME SIGNATURES** used for tension. **OSTINATO** rhythms for repeated sounds e.g. *horses*.

## C. Film Music Key Words

**SOUNDTRACK** – The music and sound recorded on a motion-picture film. The word can also mean a commercial recording of a collection of music and songs from a film sold individually as a CD or collection for digital download.

**MUSIC SPOTTING** – A meeting/session where the composer meets with the director and decides when and where music and sound effects are to feature in the finished film.

**STORYBOARD** – A graphic organiser in the form of illustrations and images displayed in sequence to help the composer plan their soundtrack.

**CUESHEET** – A detailed listing of **MUSICAL CUES** matching the visual action of a film so that composers can time their music accurately.

**CLICK TRACKS** – An electronic **METRONOME** which helps film composers accurately time their music to on-screen action through a series of ‘clicks’ (often heard through headphones) – used extensively in cartoons and animated films.

**DIEGETIC FILM MUSIC** – Music within the film for both the characters and audience to hear e.g. *a car radio, a band in a nightclub or sound effects*.

**NON-DIEGETIC FILM MUSIC** – Music which is put “over the top” of the action of a film for the audience's benefit and which the characters within a film can't hear – also known as **UNDERScore** or **INCIDENTAL MUSIC**.

## F. Film Music Composers and their Soundtracks



**Jerry Goldsmith**  
Planet of the Apes  
Star Trek: The Motion Picture  
The Omen  
Alien



**John Williams**  
Star Wars  
Jaws  
Harry Potter  
Indiana Jones  
Superman, E.T.



**James Horner**  
Titanic  
Apollo 13  
Braveheart  
Star Trek II  
Aliens



**Ennio Morricone**  
The Good, The Bad and The Ugly  
For a Few Dollars More  
The Mission



**Danny Elfman**  
Mission Impossible  
Batman Returns  
Men in Black  
Spider Man



**Hans Zimmer**  
The Lion King  
Gladiator  
Dunkirk  
Blade Runner 2049  
No Time to Die



**Bernard Herrmann**  
Psycho  
Vertigo  
Taxi Driver



# Persuasion

Term : 1 & 2

## How do we get what we want ?

Part 1 - The Psychology & Morality of Persuasion.

Part 2 - Persuasion & the Actor's Objective.

The verb – '**Want**' is one of the oldest words in any language

### Things that you will learn in this scheme

- How to identify the techniques & strategies we use to get what we want.
- How to apply these strategies as the basis of a **theme based drama**.
- How using these themes can create **depth in the scenarios** you devise and **richness in your characters**.
- How a proper investigation of **context** and **consequence** can develop your scenarios adding **substance** and **depth**.
- What are the **rights and wrongs** of persuasion- how characters can **avoid the techniques** and still get what they want.
- How the idea of persuasion **connects with Stanislavski's idea** of the **actor's objective** and other elements of his **Psychological Technique**.
- How to apply three elements of the psychological Technique to make a deep connection with your character and their situation.
- How making a deeper connection with character contributes to convincing & powerful drama in the Naturalistic genre.
- Some ways in which **advertising** works on us.
- How **montage** can be used to explore and communicate themes with variety and imagination.

## Study Focus

### An overview of terms one and two

We will study the idea of the ways in which characters persuade others to give them what they want. We will look at the ways that persuasive techniques are used in advertising and in our daily lives; in our relationships and in our conduct. We will explore the times where these techniques 'work' and the times when we need to find something more, something else, something less. **Persuasion** will be the basis for some advanced montage work, some highly focussed duologues in the **Naturalistic genre**. We will make links between the theme of persuasion and the acting techniques of a major modern practitioner, Constantin Stanislavski.

I want..You want.. he wants ...she wants .. we want...you want..They want.. I wan.

## Improvisation & exploration

We begin this topic with a simple pair exercise where we try to get our partner to do a simple task. From here we watch and identify all the different ways that characters try to get what they **want** or, seek to get others to do what they **want**. We put these techniques under the umbrella term of persuasion. The usual techniques that come up are; **bribery, blackmail, emotional blackmail, guilt trip, flattery, 'the fear of God' and sympathy bid**. You will be asked to define them.

You explore how playwrights use these techniques in their plotlines. You use improvisation and role play to explore the different ways that these techniques are used in peoples lives. You will take these ideas to develop a five scene **montage** on persuasion.

How  
do  
we  
get  
what  
we..  
How  
do  
we  
get  
what  
we..  
How  
do  
we  
get...  
we  
get...

## Skills and ideas to assist your study of persuasion

Key Previous learning that you will need to draw on when you are exploring the persuasive techniques and when you are devising your 5 edited scene montage of, Persuasion...

### The 6 Ingredients of A Play

The 6 things to remember in a **Freeze Frame**

Internal & External **MIME** technique

Remember to use **Evaluative Vocabulary (EV)** when you are evaluating in class and when you are doing written evaluations at home. Here's the list again with a few additions now that you are more experienced.

These are a collection of words that enable you to evaluate drama work specifically instead of saying something is, 'good' or 'bad' which doesn't mean very much in drama.

**Inventive** **Intelligent** **Imaginative** **Creative** **Skilful** **Exciting**  
**Informative** **Dull** **Inspiring** **Clear** **Unclear** **Muddled**  
**Confused** **Misguided** **Shallow** **Compelling** **Moving** **Heart -**  
**Wrenching** **Pedestrian** **Emotionally - Draining** **Spirited**  
**Believable** **Credible** **Convincing** **Powerful** **Entertaining** |  
**Riveting** **Gripping** **Captivating** **Engaging** **vapid** **vacuous**  
**Harrowing**

\*\*\* three ideas to assist you in finding depth and detail in your work\*\*\*

### Context

Everything happens in a context. The context affects the way a character is behaving, what they are feeling. The context is the situation that the scene comes out of. We can understand why a character is being in such a bad mood if we know that a moment or two earlier, before this scene, they discovered that their house had been burgled and all their special things smashed. You will be asked to think up the pre scenes to the scenarios that you devise so that you extend your work and put the scene, characters and their behaviour, 'into context'.

### Consequence

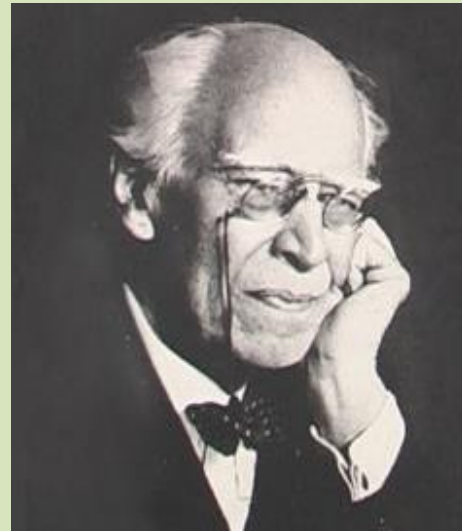
All our actions, all our words and all behaviours have consequences. Same for the characters that we play. In this scheme of work you will be asked to invent scenes that show the outcome of the characters actions- in the example above, you would need to work out a logical and creative consequence to the character's bad mood and devise a scene to show it.

### Montage

This is the technique of splicing together a number of short scenes all connected by the same theme or issue. A bit like a collage that you do in art. You first met this technique way back in Y7 when you produced a collection of scenes around the '**Joys and Jubilations, the Trials & Tribulations**' of your first few weeks at a new school. It is a technique much admired at GCSE and A level by the examination boards. We will deepen our knowledge and sharpen our skills in this technique in this SOW.

Part 2; Devising 3 emotionally charged duologues;  
The Care Home, 'School', I love you, but..

## Key Theatre Practitioners: Constantin Stanislavski



### Constantin Stanislavski

1863-1938

The father of  
modern  
drama

Undoubtedly, there is no one who has contributed more to developing the creative art of the actor, than Constantin Stanislavski. He worked as an actor and theatre director as well as a theatre teacher. The majority of his life and work were dedicated to finding ways to assist actors in playing their roles creatively, truthfully. In his time he was one of Russia's finest actors and directors. He founded the Moscow Art Theatre (MAT) and was a pioneer of Naturalistic theatre – the style that we in the west are most familiar with today. His ideas on actor training are contained in several readily available books.

Stanislavski's acting ideas are contained in his Psychological Technique (Psycho- Technique.) Together, they assist an actor in creating their role and beginning to live the life of the character on stage- that is to think, feel and behave as the character.

In this scheme we consider four of **Stanislavski's** ideas; **The Given Circumstances, Objectives, Emotion Memory** and the **Creative If**. They are taught here so that you can make your acting believable and truthful.

Most actors that you know from TV, cinema and the stage will have been affected and influenced by his ideas. Drama Schools and by many directors. He can be thought of as the Father of modern acting even though he was a Russian who lived a hundred years ago.

*We may never stray from the main purpose of our work which is to love our art with the whole of our heart and love it unselfishly.*

*Constantin Stanislavski*

### Key theatre theory:

## Stanislavski's Psychological Technique:

### The (character's) Given Circumstances.

You first met this idea in the **Walking On Ice** Exercise. The character's Given Circumstances are everything about the character and their situation that are relevant to the scene/ play. They include their age, mood, relationship status, financial situation, class, status, the situation they have come from, the situation that they are going to, what they want, what they want in this particular situation. The more you know about your character, the more rounded and detailed your portrayal of them will be.

### The Actor/character's Objective

What a character wants from a situation is called their **objective**. Their objective is what they want to achieve from a situation. We make a link between the ways characters use, bribery, flattery and other persuasive techniques to get what they want and Stanislavski's idea of the character's objective which is also about what the character wants. **An objective should always begin, 'I want...'** Some objectives are straightforward; 'I want a drink because I am thirsty', others involve a bit more psychology, 'I am taking a drink because I want time to think of a good excuse...'



## Key theatre theory continued

### Stanislavski's Psychological Technique:

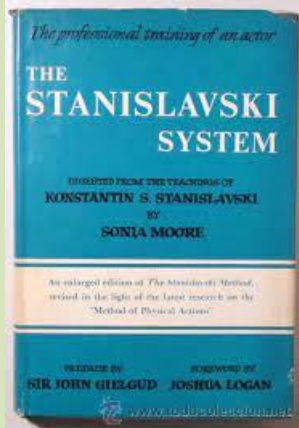
#### Emotion Memory

Often actors have to play characters in situations that they have never been in themselves and characters who have feelings that they have never felt exactly themselves. If this is true then an actor can remember feelings that are similar to the ones that the character is experiencing.

#### The Creative if

This is a good technique for keeping everything above board and honest- this helps our creative self to have faith, trust and believe. An actor can say to themselves, 'I know that I am not a new teacher on their first day in a rough school looking for the school office (**4<sup>th</sup> Year Are Animals**) but what would I do, what would I think, how would I behave, **'if I was'**. Using the creative If properly will be like using a lever to," **lift you from your everyday life and onto the plane of the Imagination.**" Stanislavski.

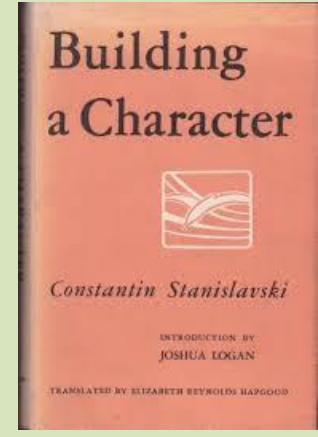
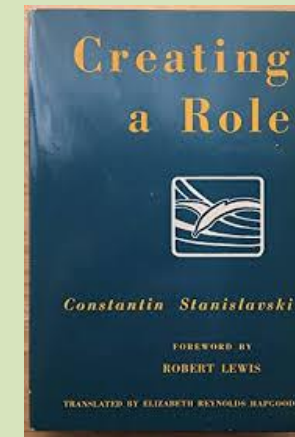
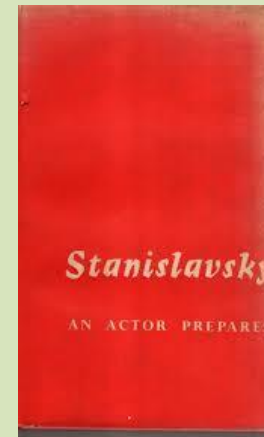
Sonia Moore's book is the clearest and most accessible book on Stanislavski's ideas on acting. It has recently been reprinted and is readily available



This work is designed to assist you in making a significant step forward with your internal acting technique. The intention is for you to learn how to act naturally and truthfully on stage

GCSE drama & Theatre Studies students use these ideas increasingly in their final performance exam.

Towards the end of his life, Stanislavski laid out the results of his, near 50 years, research into an actors craft in writing. They were translated into English in 3 volumes by Elizabeth Hapgood



Images of two vintage copies of the original translations of Stanislavski's ideas into English. I still have the one on the right.

You will develop your ability to use these Psychological techniques of Stanislavski's in two or three structured improvisations. These will all be in pairs and increasingly challenging on a number of levels. You will particularly practise Stanislavski's idea of character motivation and the actors objective

**The Actor's Objective** in a scene and how it fits in with other techniques

An actor's training is in 2 parts- training to develop imagination and feeling on the one hand, and voice and body training, on the other. The chart below compares the two different aspects of an actor's training –Actors use techniques to **discover the way** a character feels and thinks. They also do physical and vocal exercises so that they can express their character **clearly** and **creatively**.

## Internal & External Acting Technique

(Psychological technique & Physiological technique)

### Internal Technique (psychological)

**Emotion Memory**

**Creative 'If'**

**Given Circumstances**

**Actor's Objective**

### External Technique (physiological)

Vocal Training

(Accent, Projection etc.)

Physical Training

(Dance, body work,  
Posture work, mime)

## Applying previous knowledge & Past Learning

### The Ingredients of a Play- (IOP)

**Character, Plot, Setting, Theme, Speech & Genre.**

Can you define all of these now?

### Devise/ Devising-

Meaning, 'to plan & make' –You will draw heavily on your devising skills and learn how to create greater depth, imagination and credibility in your characters, relationships and scenarios.

### Freeze Frame

You will explore more of the potential of this simple technique to brainstorm ideas physically and how a proper consideration of **space** and **levels** will make your situations more **imaginative, convincing and entertaining**.

To remind you, a freeze frame is a **still image** like a photograph. You will notice I frequently refer to them as **tableau(x)**

You made a poster, way back in Y7, of all the other things that you need to consider when making a freeze frame.

Can you remember them? If not you can look again at your, **Devising** Knowledge Organiser. And in case you don't have that to hand, they are; **gesture, posture, facial expression, body language, space & levels.**

## Personal & Interpersonal Skills (PIPS)

### Keep practising these !!!

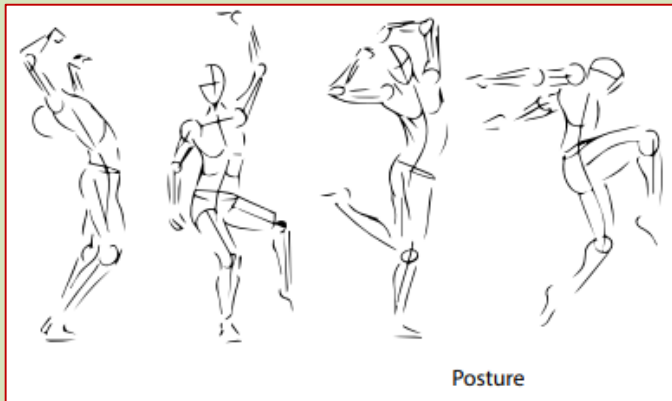
Working with others doesn't get any easier. Even though you know your classmates much better now, some may have different ideas to you, they still may not have any ideas at all, they might not listen to you etc. It can be tricky.. but it is an ideal opportunity for you to practise using your personal and interpersonal skills so that you continue to grow emotionally and be part of a solution and less of the cause of the problem.

They include; **tolerance, courage, resilience, kindness, honesty** and many more.

Do you remember when you designed your PIPS poster for home work? What skills and qualities are you bringing to your group work? What skills and qualities are you still working on?

Here is a reminder of the ways you can communicate what your character is like and what they are feeling.

As our focus at present is on your learning & using the Psychological Technique (Internal), it is worth noting that all the following (External techniques) are **physiological techniques**. I am including a chart (page 6) for you to help you see the link, because it is important



## The Actor's Use of Body

**Facial Expression (FE)** - This can show a character's thoughts, feelings and mood.

**Posture**- This is a word to describe the way we sit or stand. A poor posture could show laziness or 'attitude'. An upright posture can show the character is interested & engaged.

**Gesture**- We make gestures with our hands and head mostly. Gestures can 'say,' 'everything is okay' or, a pointed index finger at someone can show that the character is telling that person off.

**Body Language (BL)** - In life, we are often unaware of the way our body is 'talking'. For example, we may not be aware that our fidgeting shows we are nervous or our folded arms show that we are feeling a bit defensive. Drama students have to be aware of what their body is saying to make sure it is showing what their character is like and what they are feeling at the time.

### **Tempo rhythm in movement**

This is the speed and manner in which a character acts and moves. A fast, erratic movement can show someone is flustered or over excited. A slow, measured gesture or movement can show a character is confident, assured and reassuring to the audience. It is an important idea when interpreting and communicating a character.

## **Bribery .. Blackmail . Emotional Blackmail .. Guilt Trip .. Sympathy Bid .. Flattery .. Putting The *Fear of God* in Someone**

### **Assessment in this SOW**

We will continue to use two different types of assessment and their posh names; **formative assessment** and **summative assessment**. **Formative assessment** is where we look at your work and suggest things that you can do or stop doing which would improve your rate of progress. In **summative assessments**, we simply make a judgement about the quality of your work and usually give it a grade or level. **Formative assessment** of your practical and written work is given often. Sometimes you may receive lots in one lesson, particularly if you are at a place where you are ready to make lots of progress. It is a good idea to write down the **formative assessment comments** that you receive in your book. You should certainly **remember** them and **work** on them. **Summative assessments** are given once a term.

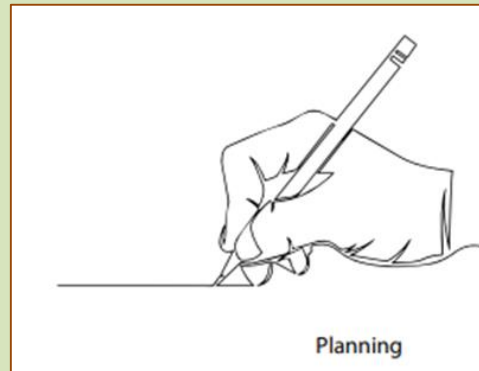
You will be assessed on your;

- Understanding of the **persuasive techniques** and the meanings of the **Psychological technique**. (in class discussion, rehearsal, devising & written homework)
- Practical application of the **persuasive techniques** and the meanings of the Psychological technique. (Rehearsal and performance).

### **Homework Tasks**

**These may include;**

- 1) Scripting scenes. For the montage performance, duologues, TV advertisement
- 2) Defining the persuasive techniques we identify in class using the definitions that we agree on in class.
- 3) Line learning
- 4) Producing a detailed product description
- 5) Producing a detailed scenario for a 30 second prime time TV advertisement.
- 6) A sales pitch.
- 7) An evaluation of a class performance using EV.



The central themes of persuasion and the way that an actor can identify these in a script and work out what objective to play when acting the scene will be very important in our next two schemes of work; Performing From Text & Plays In Context. Take time at the end of this unit to reflect and absorb the information. Remember to ask in class if you need clarification on any of these ideas.

## Advertising

In our daily lives, we are bombarded on an almost consistent basis by advertisements aimed at persuading us to part with our hard earned cash and buy their product. The stream of adverts follow us through all sections of the media and social media. In most countries now it is almost impossible to avoid it. Our studies in Persuasion investigate the many techniques that companies use to get us to buy their product. We explore the rights and wrongs of these methods and the impact that it has on our lives and relationships

You will take part in a variety of **role plays** in the exploration of these ideas and the development of this work. It is important that you do not mix up the different roles and it is very important that you appreciate the different requirements of the two key parts that you **role play** in the planning part of the devising process...

The **Multi National Executive** & the **Advertising Agency Executive** are different characters with different responsibilities in this work. Don't get mixed up !!!

## Some key terms that we use

**Pitch** – this is the ideas the advertising agency for **marketing** the product and delivering the **brand's** message – it is the key strategy in their **bid** to win the contract to make the TV advert.

**Brand** – anything that brings about awareness of a specific product or business while separating it from other establishments.

**Corporate Identity**

**New Product Development** – the creation of a new product that involves research, development, product testing and launching

**Market**

## Role 1 - Advertising executive

You will also get to play the role of an advertising executive – someone whose job it is to come up with ideas and develop ideas for a television advert that will 'sell' the new product that the multi national Innovations team has come up with.

## Role 2 -Executive in a multi - national company.

You will work with others in small groups to imagine a new and revolutionary product – it will be either a new telecommunications

## The 40 second prime time TV advertisement

You will work in a group of 5 or 6 and devise your own TV advert to perform to the rest of the class. In this assessed piece of work you will be able to demonstrate the range of persuasive techniques that you have learned. You will be able to apply knowledge of persuasive language that you have used in other subject areas. You will have the opportunity to show case your devising & performance skills

You get to **plan, make and perform** your own 90 second prime time Television advert.

## 7 Most Powerful Words in Advertising

Favourite words used by advertisers

**'You'**

**Guarantee**

**Safe**

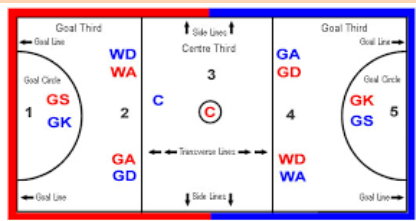
**Best**

**Proven**

See if you can work out and/ or find out why these words are so useful when trying to sell someone something.(notice the alliteration there?)



## Expectations and Routines



# Netball



## Physical Ability and Technique



## Effort and Engagement

### Positional Warm-up:

- Should the different positions of a Netball Team complete different sections of the skills warm-up?
- Can you give some examples of what activities each position could do to prepare fully for the game? (Think about the shooters and defenders)

### Netball Court & Positions:

**Goal Keeper (GK):** Defends the goal. Sections 1 & 2 only.

**Goal Defence (GD):** Defends the goal. Sections 1,2&3

**Wing Defence (WD):** Helps to defend attacking plays. Sections 2&3

**Centre (C):** Controls centre court, links attacking & defensive play. Sections:2,3,4

**Wing Attack (WA):** Helps to link attacking play to the shooters. Sections 3&4

**Goal Attack (GA):** Scores goals for the team. Sections 3,4&5

**Goal Shooter (GS):** Scores goals for the team. Sections 4&5

### Game understanding:

- How confident are you to umpire?
- How easily can you create space and lose your defender?
- When should you be involved in play?
- How would you prevent your opponent from getting the ball?
- Can you implement set plays effectively?

### Implementation of the Academic Standards to the PE Environment:

- Arrive promptly and change within the allocated time.
- Always have the correct PE kit.
- Fully engaged throughout the lesson, striving to improve performance of skills and techniques at every opportunity.
- Motivated and contributes 100% effort.
- Can work independently to complete a warm-up, drills and competitive situations.
- Perseveres and doesn't give up, demonstrates resilience when practicing and applying skills to different situations/ game scenarios.
- Participates in regularly outside of school either for a club, going to the gym or other regular physical activities.

### Ball Handling skills:

- One and two handed catching
- Moving into space to receive a pass
- Jumping to catch
- Changing direction

**Signalling:** Used to show a teammate that you are ready to catch the ball and the direction you want them to throw into. *Signal by pointing your arm in the direction you are going to move to catch the ball just before you start moving.*

**Driving into space:** Used to move into a better position to catch the ball effectively. *Sprint towards the ball hands out ready to catch.*

**Pivot:** Turn on your landing foot to step around and find the best possible pass. *Turn and step around your landing foot*

**Dodging:** Used to outwit your defender and get free into space to receive the ball  
*Basic dodge: Pretend to go one way and change direction to go the other using a signal to show your team mate your intention*

**Shooting:** Only GS and GA can shoot when their landing foot is inside the D. *Face the post, turn elbow, ball on finger tips, bend & flick. Aim for the point of an imaginary cone on top of the hoop*



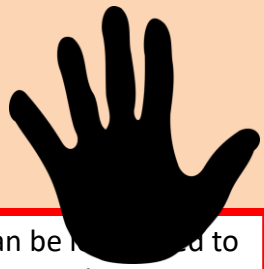
## Expectations and Routines



# Rugby



## Physical Ability and Technique



### Leadership and Communication:

- What are these skills and how important are they when leading a warm-up?
- Can you support your peers when they are practicing and developing their skills and techniques?



## Effort and Engagement

### Basic Rules

1. Game is started by kicking the ball from the centre spot forwards.
2. The U14 game has 15 players and 25 min half.
3. Referee and two assistants will officiate the game.
4. The ball must be passed backwards
5. If a ball goes over a touch line an uncontested lineout is taken.
6. To score the ball must cross the opposition's goal line.
7. Tackling – Must be below the shoulder.
8. 8 player scrum –strike and push. Number 8 pick up and run.
9. Ruck and maul – unlimited.
10. Fend-off below armpits.

### Game understanding:

- What are the different types of tackle and when would you use them?
- What player positions are used in an 8 player scrum?
- What are the different ways to kick at goal and how many points are on offer?
- Why might the number 8 pick up and run at a scrum?

### Implementation of the Academic Standards to the PE Environment:

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- Can work independently to complete a warm-up, drills and competitive situations.
- Perseveres and doesn't give up, demonstrates resilience when practicing and applying skills to different situations/ game scenarios.
- Participates in regularly outside of school either for a club, going to the gym or other regular physical activities.

**Passing:** The pass must go backwards. Passes can be used to cover ground quickly), short (often softer pass due to close support) or special e.g. loop (this will involve teammates changing direction and tight passing to outwit your opponent).

**Tackling:** There are different types of tackle. These are front on, side on and from behind. They all require the tower of power, cheek to cheek and ring of steel, however they will need to be adapted depending on the position.

**Maul** – A maul occurs when the ball carrier is held by one or more opponents and one or more of the ball carrier's team mates holds on (binds) as well (a maul therefore needs a minimum of three players). The ball must be off the ground.

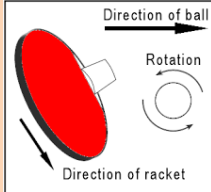
The team in possession of the ball can attempt to gain territory by driving their opponents back towards the opponents' goal line. The ball can then be passed backwards between players in the maul and eventually passed to a player who is not in the maul, or a player can leave the maul carrying the ball and run with it.

**Scrum:** 8 players in the scrum. Crouch, bind, set will be instructed by the referee and players can only push when the ball has entered the scrum. Players must maintain their tower of power, they must also maintain their bind. Number 8 can pick up and run.

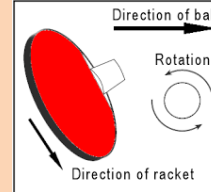
**Uncontested Lineout:** 3 players from each team stand in a line opposite each other with space between them, team throwing in the ball must retain possession.



## Expectations and Routines



# Table Tennis



## Physical Ability and Technique



### Developing tactical practices to outwit your opponent:

- Using targets as part of your skills practice to develop accuracy and directional control.

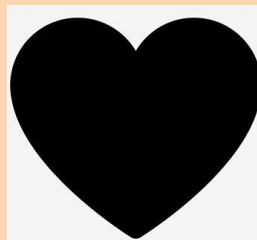
### Basic Rules of Table Tennis

1. To start a point, the server must stand at the back of the table and can serve either forehand or backhand. The ball must be thrown up either equal to or above the height of the net before striking the ball and the ball must be thrown from an open palm to stop finger spin.
2. A serve must hit both your side of the table and your opponent's side to be seen as a 'good' serve.
3. If the ball hits the net on a serve but continues over the other side then a 'let' is played.
4. There are no second serves.
5. Service must can be straight or diagonal in singles but can only travel diagonal in doubles.
6. Players are allowed to hit the ball around the side of the net.
7. The ball must bounce on a player's side of the table before playing their shot.
8. During play, competitors are not allowed to touch the table.

### Game understanding:

#### Applying a slice

1. You only slice when you're far in the back court.
2. Raise the racket. Let the ball come to you and strike down and forward as though you were trying to slice off a piece of the ball.
3. Keep the ball low.



## Effort and Engagement

### Implementation of the Academic Standards to the PE Environment:

- Arrive promptly and change within the allocated time.
- Always have the correct PE kit.
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- Motivated and contributes 100% effort.
- Can work independently to complete a warm-up, drills and competitive situations.
- Perseveres and doesn't give up, demonstrates resilience when practicing and applying skills to different situations/ game scenarios.
- Participates in regularly outside of school either for a club, going to the gym or other regular physical activities.

### Doubles

Service must be diagonal, from the right half court (marked by a white line) to the opponent's right half court.

### Service changeover in doubles is as follows:

- At the start of a game, the serving team will decide which player will serve first. The first player to serve is A1 and;
- A1 serves to B1 (2 services)
- B1 then serves to A2 (2 services)
- A2 then serves to B2 (2 services)
- B2 serves to A1 (2 services)
- Repeat until one team wins the game.

### Rotation rules for doubles

In doubles, you should alternate hitting the ball with your partner. So, for example, A1 serves the ball to B1, who serves the ball. A2 then hits the ball and B2 returns this. A1 hits to B2, A2 hits and B1 returns...and so on.

### Examples of tactics played in Table Tennis

- Play to opponents crossover point (playing elbow)
- Use wide angles
- Add spin to your shots
- Keep everything tight and short so opponents cannot attack
- Always try to attack first
- Vary your serves
- Keep ball away from your opponents strongest side





## Analysis

### What skills do you think you should focus when warming up for a match?

1. Pulse Raiser
2. Dynamic stretches
3. Skill practice/ Drills
4. Mental Preparation

### Analysis of Performance:

- What are the key teaching points for each of the 6 main skills of volleyball?
- What are the strengths of the player?
- What are the areas to improve?

### Basic Rules:

- The server stands at the back of the court and can serve either over- or under-arm into the opponent's side of the court
- The opposing team is allowed a maximum of three touches on their side of the court before they must send the ball back over the net
- The player cannot touch the ball twice in two consecutive touches but could on the first and third contact.
- The ball must be hit - not caught
- Whichever team wins the point then goes on to serve
- Every time your team wins the serve from the other team your players rotate their position on court – clockwise so that everyone gets a chance to serve



# Volleyball

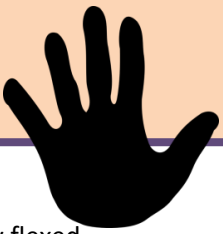


## Leadership

### Implementation of the Academic Standards to the PE Environment:

- Arrive promptly and change within the allocated time.
- Always have the correct PE kit.
- Fully engaged throughout the lesson, striving to improve performance of skills and techniques at every opportunity.
- Motivated and contributes 100% effort.
- Can work independently to complete a warm-up, drills and competitive situations.
- Perseveres and doesn't give up, demonstrates resilience when practicing and applying skills to different situations/ game scenarios.

## Technique



### Set/ Volley:

#### Stage one

- Stand in position on the balls of your feet, with knees slightly flexed.
- Drive off from legs to get towards the path of the ball.
- Call for the ball.
- Get in line with the ball's path.
- Keep your eyes on the ball at all times.

#### Stage two

- Move towards the ball.
- Extend your elbows so that your arms are out in front of you at head height.
- Slightly flex your elbows.
- Have your palms facing up and fingers spread.
- Keep your eyes on the ball.

#### Stage three

- Watch the ball.
- Face the ball in ready position with knees slightly flexed.
- Hands are held above the head, palms up.
- Move body underneath the ball and push the ball into the air with your fingertips.
- Extend knees to help with the push into the air.
- Follow through with fingers pointing at the sky

### Dig:

#### Stage one

- Stand in position on the balls of both feet, with knees slightly flexed.
- Drive off from legs to get towards the path of the ball.

#### Stage two

- Keep both eyes on the ball.
- Place the back of the right hand on top of the palm of the left hand.
- Bring both thumbs together and place them side by side.
- Keep fingers and thumbs close together.
- Lock your elbows together.
- Hold arms out straight in front.


#### Stage three

- Hands start low in front of the body and swing up to strike the ball upwards.
- Strike the ball with the lower forearms.
- Follow through with the hands pointing towards the intended target or the sky.

The fashion and textiles industry today has been transformed by the advent of new technologies and the development of computers and processors has led to the automation of a lot of areas within manufacturing processes.

## CAD – Computer Aided Design

Computer Aided Design – allows designers to draw, design, plan and model on screen using a computer.

Advantages of CAD	Disadvantages of CAD
Designs can be created, saved and edited easily, saving time.	CAD software is complex to learn.
Designs or parts of designs can be easily copied or repeated.	Software can be very expensive. Upgrades may be necessary.
Designs can be worked on by remote teams simultaneously.	Compatibility issues with software.
Designs can be rendered to look photo-realistic to gather public opinion in a range of finishes.	Security issues - Risk of data being corrupted or hacked or get a 'virus'
CAD is very accurate.	 <p>CAD Software</p>
CAD software can process complex stress testing and model materials and components.	
Designs can be presented easily with the client or other members of the team.	

## CAM – Computer Aided Manufacture

Computer Aided Manufacture is the manufacturing of products designed using CAD. CAM can create a faster production process.

Advantages of CAM	Disadvantages of CAM
Quick – Speed of production can be increased.	Training is required to operate CAM. This can add to cost.
Consistency – All parts manufactures are all the same.	High initial outlay for the machines.
Accuracy – Accuracy can be greatly improved using CAM.	Production stoppage – If the machines break down or there's a power cut, the production would stop.
Fewer Mistakes – There is no human error unless pre programmed.	Social issues . Areas can decline as human jobs are taken. This will lead to unemployment.
Cost Savings – Workforce can be reduced.	

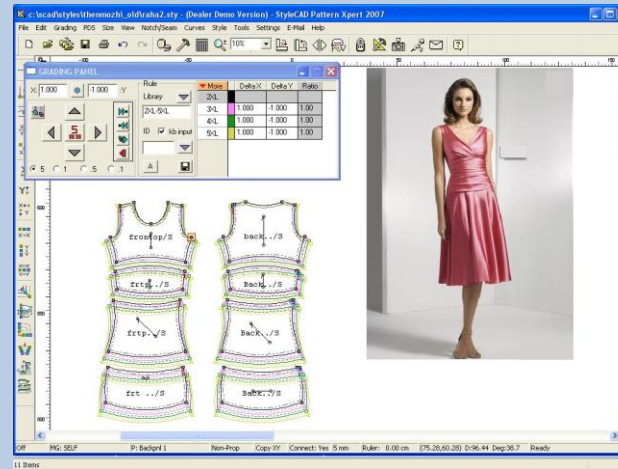
If you are designing products and they are made in another country you need to talk to the factory ALL the time.

E-mail used to be THE THING but now that's moved on to virtual 'cloud based' sites where product information can be uploaded to and which can be accessed from anywhere on the globe. So it's quick and easy. Designs can be worked on by remote teams simultaneously



## 3D Modelling

With a good CAD program you don't need to be able draw at all – a CAD program will do it for you! You can also see what the fabric for the product looks like, how it drapes and whether it is the correct material for the product.

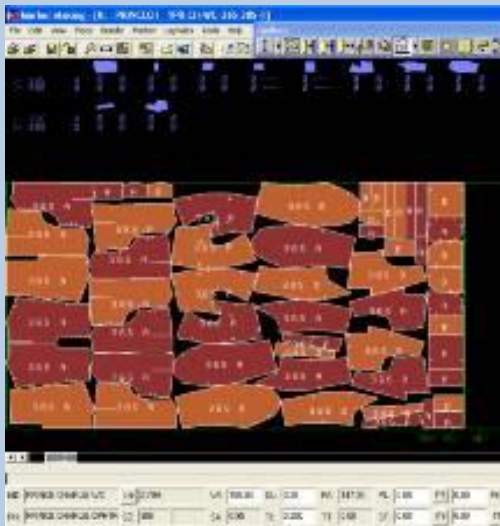


## Cutting out of materials



Once you have created the layplan/layout you can use CAM to follow this and cut out the fabric. Many layers are usually cut out at the same time.

## Drawing patterns and layplans



CAD is also used in planning how to cut out the fabric pieces. This is called a **layplan** or **layout**. It makes sure you are using the fabric economically – so there's no wastage.

Below are some of the main types of machines used in the manufacture of textile products.



Digital jet printer



Digital Knitting machine



Laser Cutter



Multi-head embroidery machine

**Digital Printing** is the process uses a computer to print directly onto fabric that have been coated with a special chemical wash. The fabric is steamed to set the design on the fabric. This can be used on natural fabrics.

**Transfer or Direct printing** is the process of applying designs directly to a paper. The designs are then transferred to fabric using heated rollers for mass-produced designs or a heat press for small scale designs. This works best on synthetic or synthetic blend fabrics.

# Scales of Production

**One off/Bespoke:** when you make a unique item.

**Batch:** when a limited number of the same product is made.

**Mass:** when a large quantity of the same product are made over a long period of time. This typically uses a production line.

**Just-In-Time:** a form of stock control when goods are delivered 'just in time' to use on the production line.

# Production Line

In Industry products are usually made by passing each stage of making down a line: this is known as a **production line**. At each stage of making, a specific operator carried out a required task then passes it on to the next machine or person to continue making the product.

# Planned Obsolescence





Sometimes manufacturing companies plan or design products to have a short useful life. They do this so the product will become obsolete or unfashionable or they will no longer function after a certain period of time and new products will have to be purchased. This is called **planned obsolescence**.

The following table explains how these production methods are used in the textile industry:

System	Product market	Design and production	Skill Level and Cost
Bespoke	Made-to-measure, eg suit, wedding dress;	Made-to-measure garments are made to fit the measurements of an individual <a href="#">client</a> [client: person or organisation that wants a product manufactured - eg a retailer. ]; the garment design is developed from a <a href="#">basic block pattern</a> [basic block pattern: pattern made with standard-sized pattern pieces ] and a <a href="#">toile</a> [toile: a prototype garment made from low-cost fabric. ] is made to test the fabric drape, <a href="#">the fit</a> [the fit: how well the size and shape of a garment fits a human body. ] and order of assembly	Very high-level skills in design and manufacture; high-cost materials; high labour costs
One-off	Haute Couture, eg made by fashion houses	Fashion designers such as Vivienne Westwood design Haute Couture garments for individual clients. These designers have catwalk shows which set trends for high street shops.	Very high-level skills in design and manufacture; high-cost material and labour costs
Batch production	Ready-to-wear (RTW) designer label, eg Designers at Debenhams	Garments are designed to fit a range of standard sizes and shapes. Garment patterns are developed from a basic block using CAD: Computer Aided Design - a system which helps the user produce accurate drawings.. A sample garment is made up in a medium size, from the intended fabric. Once the design has been approved it is put into production in a range of standard sizes. They are sold through up-market retailers.	High-level design, pattern making and sampling skills; cost-effective materials and lower manufacturing costs
Mass production	Mass-market retailers, e.g. Top Shop	Similar production methods to batch production: garments produced in limited range of sizes; standardised production methods are used to produce a wide range of styles. Most fashion products are batch produced in large batches e.g. 20,000. Some classic products like jeans are mass produced for a world market.	High-level design, pattern making and sampling skills; cost-effective materials; products often made overseas where labour costs are low

# Technical Textiles

A 'Smart material' is one which reacts to an external stimulus or input. This means that it can alter its functional or aesthetic properties in response to a changing environment. This group of materials can react to stimuli such as heat, pressure, moisture, stress, PH level, light (including UV) and electricity.

Name and stimulus	Characteristics	Uses
Thermochromic pigments <b>Heat</b>	Pigments embedded into the thermochromic material respond to temperature changes by changing colour. They normally change as they heat up and cool down, but some versions are irreversible.	Flexible thermometers, temperature indicators, clothing, novelty goods, over-heating or over cooling indicators. 
Photochromic pigments <b>UV light</b>	The pigments that are embedded into photochromic material respond to changes in the UV light levels by changing colour or darkening. Once the UV light is taken away they change back or lighten.	Novelty products, paints and clothing that change colour in UV light 
Shape Memory Alloy (Nitinol) <b>Heat or electricity</b>	A shape can be programmed when heated to 540°C; it can be deformed and will return to the memory shape when reheated to 70°C.	Frames for glasses, dental braces, self-expanding stents used in surgical procedures to open capillaries. 
Hydrochromic	Hydrochromic inks change colour (become transparent) when wet or if moisture is present.	Often used on novelty products to bring out the colours of text or an image – e.g. an umbrella.
Hydrophobic	Hydrophobic finishes <b>REPEL</b> water and cause water to form nearly perfect spheres that roll off coated materials.	Products that require waterproofing –outdoor items such as tents and awnings.
Photo luminescent (Glow-in-the dark) <b>Light</b>	Glow in the dark materials carry inorganic phosphors that absorb light in the visible and ultra violet wavelengths and then re-emit visible light, or a "glow".	Toys, stickers, paints, clock face/dials, emergency signs. 

Modern materials are materials that are constantly progressing as well as new ways of working with materials.

Name	Characteristics	Uses
<b>Polylactic acid PLA</b>	Widely used in 3D printers as reels of filament, it is non-toxic, easily moulded and fully biodegradable.	Bottles, pots, disposable food and drink containers, pens, phone cases and 3D printed items
<b>Polyhydrox y-butyrate PHB Biopol</b>	Stable, stiff, quite brittle, non-toxic, easily processed and moulded, has limited chemical resistance, fully (but slowly) biodegradable.	Bottles, pots, household items, disposable food containers.
<b>Flexible MDF</b>	Flexible in one direction along the cut groove, easily shaped into natural curves and waves, easily finished, can be laminated and veneered, not good in wet conditions	Modern furniture, curved and wave-shaped forms for interior spaces, interior walls and room dividers.
<b>Titanium</b>	High strength to weight ratio, anti-corrosive, can be easily formed and welded, hypoallergenic.	Jewellery and watches, medial uses such as joint and dental implants, aircraft, spacecraft and sports car parts.
<b>Fibre optics</b>	Flexible cable capable of transferring digital data at extremely fast speeds, light and images can be sent and received.	Data transfer cables, endoscopic cameras, novelty and bespoke lighting displays
<b>Graphene</b>	Highly conductive, flexible, stretchable, incredibly strong yet lightweight, impermeable to all known substances.	To be developed but potential use in the medical, electronic and energy industries amongst many others.
<b>Metal foams</b>	Strong, lightweight, electrically and thermally conductive, very porous, good sound absorptions.	Medical implants, aircrafts, aircrafts and car parts, lightweight load-bearing structures, impact absorption in vehicles.

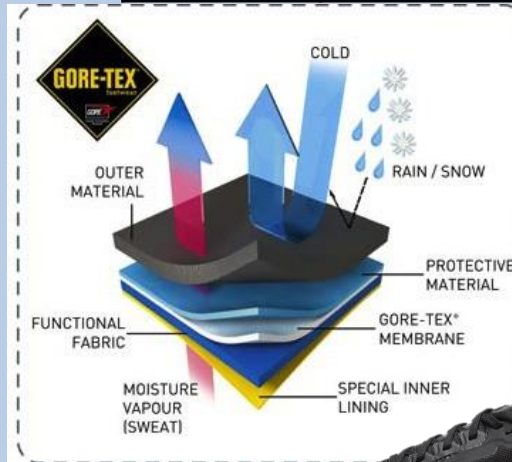
Technical textiles are textiles that have been developed with enhanced properties to withstand specific uses.

The function is vastly more important than the aesthetics.

Composite Materials are formed when two to more distinctly different materials are combined together to create a new material with improved properties and functionality.

Name	Characteristic	Uses
<b>Gore-Tex</b>	Waterproof, wind proof, breathable fabric, moisture vapour can escape.	Outdoor clothing from skiwear to mountain wear, walking boots, cross country trainers, gloves sportswear.
<b>Kevlar Poly-paraphenylene terephthalamide</b>	Extremely strong and hard-wearing, excellent cut and tear resistance, high thermal protection, non-flammable, good chemical resistance.	Personal armour, helmets, bullet-proof vests, motorcycle safety clothing, extreme sports equipment, audio equipment, musical instruments.
<b>Conductive fabrics and threads</b>	The thread or fabric can pass an electrical current along its length, linking electronic components. It allows for flexible and wearable control of electronic products for entertainment, safety health and fitness.	Connecting wearable inputs, processes and outputs, such as switches, lights, Bluetooth connectivity and speakers in technical clothing, children's soft electronic toys, wearable electronic sports equipment and anti-static clothing.
<b>Fire resistant fabrics</b>	Resists heat and ignition from the naked flame to protect the wearer.	Fire blankets, firefighting or safety clothing such as gloves, aprons and boiler suits. Protection for racing car drivers.
<b>Microfibres &amp; Micro-encapsulation</b>	Very depending on the specific textile, can be statically charged to pick up dust and filter particles, can be absorbent yet fast drying.	Medical textiles, fabrics, cloths and towels. High-tech clothing which can be anti-bacterial, heat regulating or insect repelling.

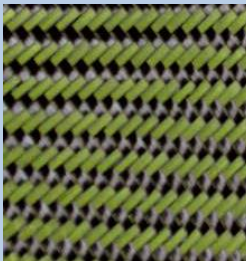
Name	Characteristics	Uses
<b>Glass Reinforced Plastic (GRP)</b>	Lightweight, good strength to weight ratio, good corrosion, chemical and heat resistance, waterproof, high VOCs/resins used. Can be trimmed with rotating blade. Labour intensive to produce.	Boat hulls, car and truck parts, liquid storage tanks, pipes, helmets, seating.
<b>Carbon-fibre reinforced plastic.</b>	Very high strength to weight ratio, good tensile strength but not good compressive strength, stiff and rigid, very expensive, high VOCs/resins used, waterproof, and resistant to chemicals. Manufacture is labour-intensive and skilled process.	Supercars and sports cars, top-end sports equipment, bespoke boats and musical instruments, increasingly developed for prosthetic uses.



Gore-Tex



Kevlar



## Design Strategies

You can use design strategies to come up with initial design ideas without getting you on a bad one. Designing is a really complex process and there are several different ways of doing it:

**Systems approach:** This means breaking down the process into a number of different strategies and doing each in turn.

**User-Centred design:** The wants and needs of the client are prioritised - their thoughts are given a lot of attention at every stage of design and manufacture

**Iterative design:** Centred around the design process of evaluation and improvement at each stage of designing.

When you are designing a product it is easy to get stuck on a particular idea. This is called design fixation and it can stop you thinking creatively and coming up with innovative ideas.

Following the design strategy can help you avoid design fixation and encourage you to look at your design in a critical way to make improvements.

A=Aesthetics

C=Cost

C=Customer

E=Environment

S=Size

S=Safety

F=Function

M=Materials

You can also annotate your designs to fully explain further using ACCESSFM

- Different people and cultures have different needs.

Technology and design affects and can have an impact on culture.

- The culture of a particular country or a group of people covers everything from their religion, beliefs and laws to their dress and traditions.

- If you're designing a product aimed at a specific target market, you'll need to take into account their views and feelings of people from that particular culture.

- New technology can also impact fashion and trends.


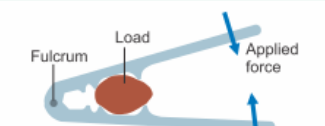

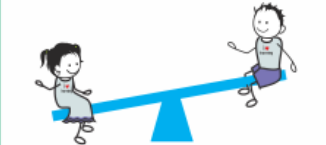
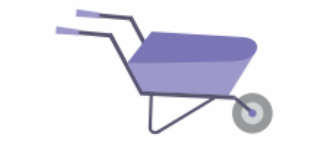

- Fashion itself is continually affected by new materials and techniques. Technology can also have an impact on fashion trends. The internet allows people to find out about fashion trends that are happening all over the world and new clothes can be seen by a global audience e.g. social media and blogs.

- Products can be designed to avoid having a negative impact on other people by being sensitive to their needs.

## Eyelet Press



An eyelet press is a hand tool that uses a lever arm that converts your simple movement into enough pressure to crimp and press a metal eyelet and washer together securely. This creates a neat and strong hole for cord to pass through.

First class lever	Second class lever	Third class lever
Lever in which <b>fulcrum is situated in between load and effort</b> is called first class lever. e.g. pair of scissors, see-saw, pliers	Lever in which <b>load is situated in between fulcrum and effort</b> is called second class lever. e.g. nut cracker, wheel barrow, bottle opener	Lever in which <b>effort is situated in between the fulcrum and the load</b> is called third class lever. e.g. fishing rod, pair of tongs, stapler
 Scissor	 Nut cracker	 Pair of tongs
 See-saw	 Wheel barrow	 Fishing rod

A lever is used to lift a load with the least amount of effort. Placing the fulcrum (the point which the lever turns) in different places effects where the load can be lifted.

The table on the left shows you the three different classes of lever.

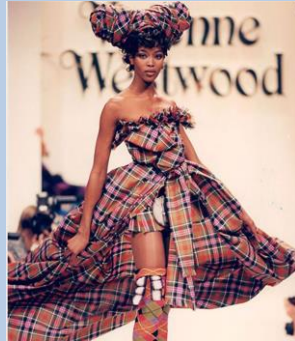
## Design Culture

GCSE Preparation.

*"Design creates culture. Culture shapes values. Values determine the future."* Robert L Peters.

### Vivienne Westwood (1941-2022)

Her iconic clothing became popular during the punk rock movement in the 1970s. She has since become a world famous fashion designer. Her designs often take inspiration from traditional British clothing and historical paintings.



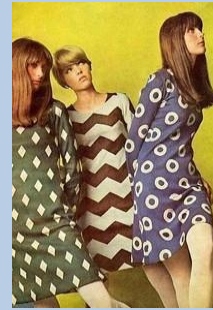
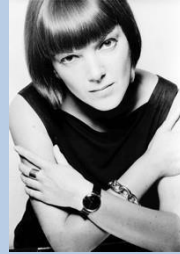
### Coco Chanel (1883-1971)

A fashion designer known for introducing practical casual-chic clothing for women who had traditionally worn corsets and long skirts.



### Mary Quant (1934-2023)

A fashion designer who popularised the mini skirt, hot pants and OVC in the sixties. Her clothing often featured white collars, simple shapes and bold colours.



### Alexander McQueen (1969-2010)

An influential fashion designer known for his theatrical, well tailored clothing and dramatic catwalk presentation displaying his collections.



### Rei Kawakubo (1942 - Present)

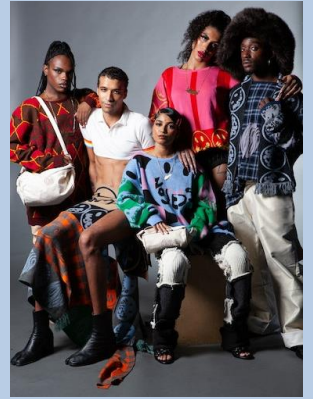
Rei Kawakubo is a self-taught Japanese fashion designer based in Tokyo and Paris. She is the founder of Comme des Garçons



COMME des GARÇONS

### Pierre Davis

The founder of gender-neutral fashion label No Sesso (Italian for No Gender). Their belief is fashion is about pursuing art and inclusivity.



### William Morris (1834-1896)

A wallpaper, furniture and furnishings designer. His designs were often based on nature and repeat patterns. He is one of the founders of the Arts and Crafts movement



### Joe Casely-Hayford OBE (1959 - 2019)

A renowned British fashion designer known for his innovative designs and contributions to men's fashion. Early in his career he dressed The Clash and U2 whilst working on his eponymous brand for men and women.





# Knowledge Organiser – Year 9 Food

## Macro and Micro nutrients

There are 5 main groups of nutrients. These 5 groups can be divided into 2 groups

**Macronutrients** which are needed by the body in large amounts.

**Micronutrients** which are needed by the body in small amounts.

Macronutrients

Micronutrients

## Food Poisoning

Living organisms (including bacteria) need certain “things” or conditions to survive:



Oxygen

Warmth

Moisture

Food

Time

### What are Nutrients?

Nutrients are the building blocks that make up food and have specific and important roles to play in the body. Some nutrients provide energy while others are essential for growth and maintenance of the body.

Macro Nutrient	Role in the body	Food Example
<b>Carbohydrate</b>	The main source of energy for the body.	Bread, rice, pasta, potatoes
<b>Protein</b>	Provides the body with growth and repair.	Meat, poultry, beans, eggs, lentils, tofu, fish
<b>Fat</b>	Provides the body with insulation and a small amount protects vital organs. Provides essential fatty acids for the body.	Butter, oil, cheese, cream, nuts, oily fish, crisps

Vitamin	Role in the body	Food examples
<b>A</b>	Helps to keep the eyes healthy and strengthen the immune system.	Dark green leafy vegetables, carrots, liver
<b>B</b>	Helps to release the energy from the food we eat.	Bread, milk, cereals, fish, meat
<b>C</b>	Help with skin healing and healthy skin. Help with the absorption of Iron.	Fresh fruit, broccoli, tomatoes
<b>D</b>	Important for absorbing calcium and help with healthy bone structure	Oily fish, eggs, butter, Sunshine
Mineral	Role in the body	Food Examples
<b>Calcium</b>	Important for strong teeth and bones. It also helps with blood clotting.	Milk, yoghurt, soya, dark green leafy vegetables
<b>Iron</b>	Needed for red blood cells which help to transport oxygen around the body.	Nuts, whole grains, dark green leafy vegetables, meat, liver

## Hygiene



### Personal

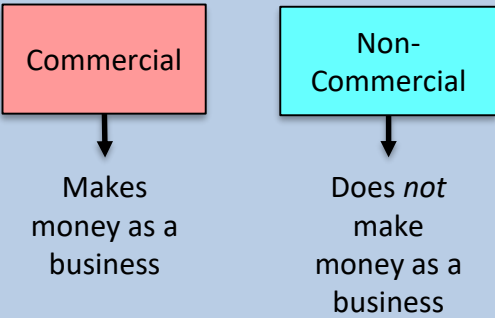
**Hair up** – Reduces the risk of bacteria transferring to food through hair dropping in  
**Aprons on** – Protects you from spillages and reduces risk of bacteria transferring to food from everyday clothing  
**Washing hands** - regularly using hot soapy water to reduce the bacteria on your hands  
**Blue plasters** – Blue plasters should be used to cover cuts and grazes as they will be easily seen if they accidentally fall into food.

### Food – Understanding the 4 C’s Concept

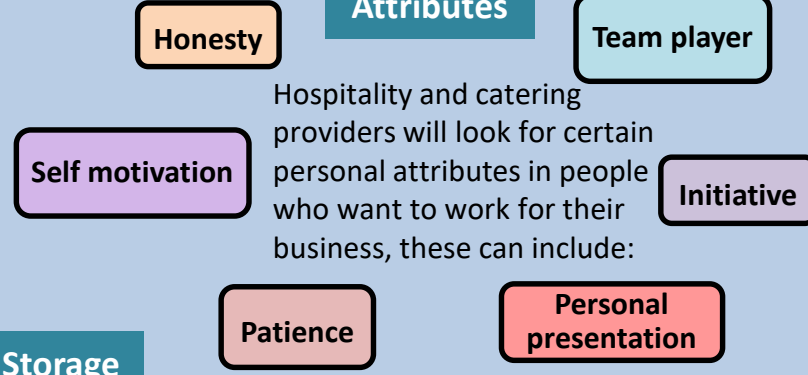
**Cooking** – thorough cooking kills bacteria so ensure food is cooked to 75°C to make sure all bacteria are killed – check this by using a food probe.  
**Cleaning** – effective cleaning removes harmful bacteria and stops them spreading so ensure all work tops, utensils and equipment are cleaned thoroughly with hot soapy water.  
**Cooling** – effective chilling prevents harmful bacteria multiplying so ensure all food is stored at the correct temperatures, ensure cooked food is cooled within 90 minutes.  
**Cross contamination** – Good hygiene practice prevents Cross contamination so when raw food comes into contact with ready to eat food. For example raw meat juices spilling onto salad.

# Knowledge Organiser – Year 9 Food

Hospitality and Catering providers fall under two main categories



## Personal Attributes



Hospitality and catering providers will look for certain personal attributes in people who want to work for their business, these can include:

Factors affecting food choice	
Biological	Hunger appetite and taste
Economic	Cost of food, income, availability
Physical	Access to shops, food skills, education, time
Social	Family, culture, meal patterns
Attitudes	Knowledge about food and beliefs
Seasonality	The food is locally grown at certain times, cheaper
Religion	Certain religions restrict certain foods
Ethical	Your beliefs prevent you from eating some foods
Medical	Some illnesses dictate your diet like diabetes
Age	Activity levels and mobility affect requirements

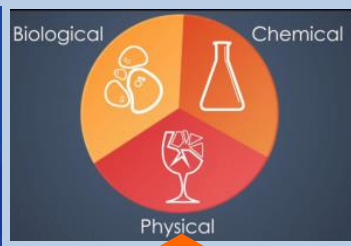
## Fridge Storage

You should store meat and poultry on the bottom shelf of the fridge to prevent liquid dripping on to other food. Store in a clean, sealed container. Keep cooked and raw meats separate to avoid cross contamination. The fridge temperature should be between 1°C - 5°C.



### Understand the 4 C's Concept

- C** – Good Hygiene practice prevents Cross Contamination
- C** – Effective Cleaning removes harmful bacteria and stops them spreading
- C** – Effective Chilling prevents harmful bacteria multiplying
- C** – Thorough Cooking kills bacteria



## Allergies

Itchy skin, Swelling, Itchy mouth, Vomiting, Red rashes, Swollen throat

Are immune system reactions (symptoms of a reaction can include)

In extreme cases, it can cause **"anaphylactic shock"**

## Intolerances

A food intolerance is not the same as a food allergy. It is not an immune system response. It is a chemical reaction in the gut.

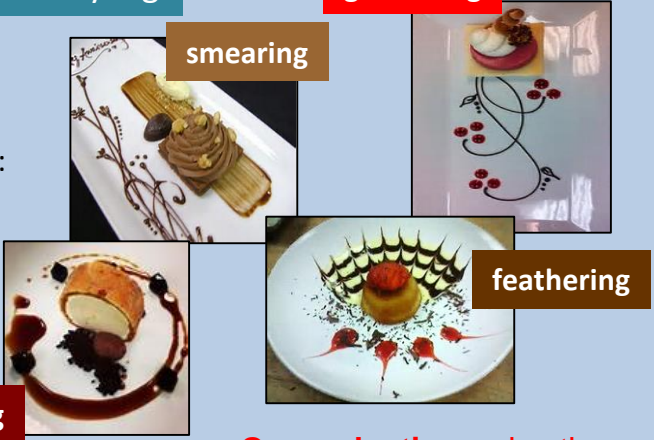
Cramping gut, Diarrhoea, Bloating, Migraine

What are some of the symptoms?

## Food Styling

Food styling is where a chef creates a dish and then uses a range of presentation techniques, these can include:

- Different textures
- Different flavours
- Different shapes/colour
- Interesting to look at
- Appetising



**Organoleptic** = using the senses

# Design and Technology

## Key terms

**Input device:** something that can give an input signal to the system.

**Output device:** something that responds to an instruction of change in control elements.

**Input signal:** information given to the system by an input device.

**Output signal:** an instruction the system gives to an output device.

**Program:** a set of instructions the system controller has been given to make the electronic system do what it is supposed to do. If a transistor (see page 34) is used, there is no program, just a simple switching action due to the rise in voltage on the base of the transistor above 0.6 volts.

**Resistance:** an electrical quantity that is a measure of how the device or wire reduces the electric current flow through it.

**Component:** an individual piece of a circuit.

**Circuit:** individual components are joined up with a conductive material so electricity can flow through them and perform a task.

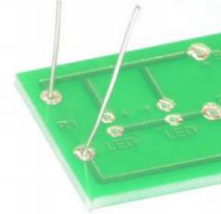
**Voltage:** the amount of potential electrical force available that could make electricity flow.

**Current:** the amount of electricity that is flowing through a circuit.

**Semi-conductor:** a material that allows electricity to flow under certain conditions. It can behave as an insulator or conductor.

### 1 INSERT COMPONENT

Place the component into the board, making sure that it goes in the correct way around, and the part sits closely against the board. Bend the legs slightly to secure the part. Place the board so you can access the pads with a soldering iron.



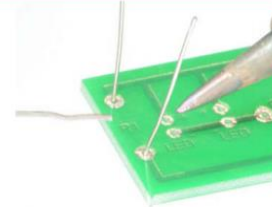
### 2 CLEAN SOLDERING IRON

Make sure the soldering iron has warmed up. If necessary use a brass soldering iron cleaner or damp sponge to clean the tip.



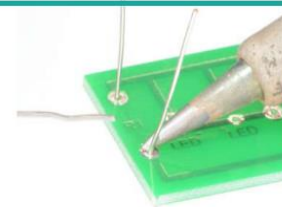
### 3 PICKUP IRON AND SOLDER

Pick up the Soldering Iron in one hand, and the solder in the other hand.



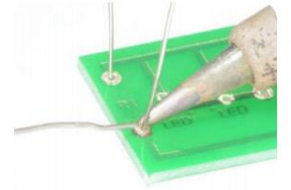
### 4 HEAT PAD

Place soldering iron tip on the pad.



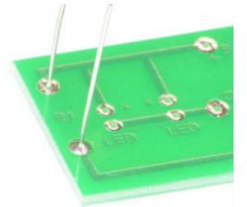
### 5 APPLY SOLDER

Feed a small amount of solder into the joint. The solder should melt on the pad and flow around the component leg.



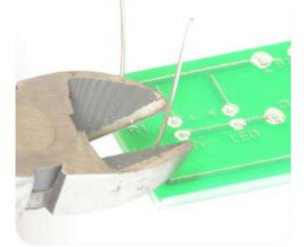
### 6 STOP SOLDERING

Remove the solder, and then remove the soldering iron.



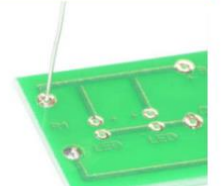
### 7 TRIM EXCESS

Leave the joint to cool for a few seconds, then using a pair of cutters trim the excess component lead.

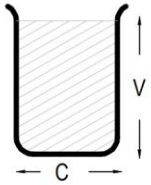


### 8 REPEAT

Repeat this process for each solder joint required.



## What is a capacitor?

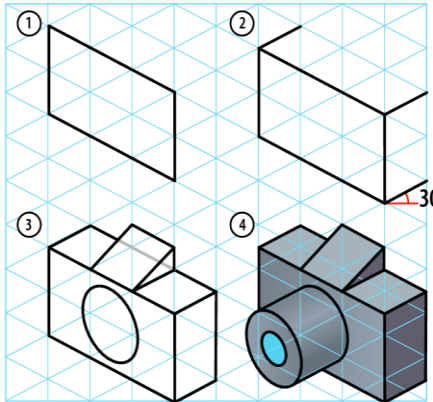
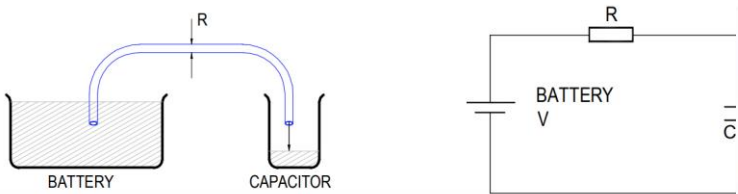


A capacitor is a component that can store electrical charge (electricity). In many ways, it is like a rechargeable battery.

A good way to imagine a capacitor is as a bucket, where the size of the base of the bucket is equivalent to the capacitance (C) of the capacitor and the height of the bucket is equal to its voltage rating (V).

The amount that the bucket can hold is equal to the size of its base multiplied by its height, as shown by the shaded area.

## Filling a capacitor with charge



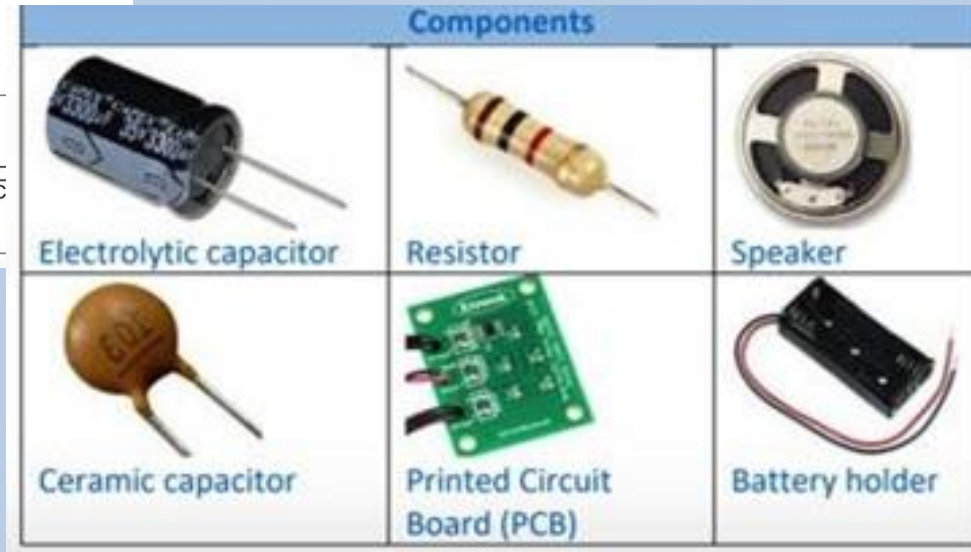
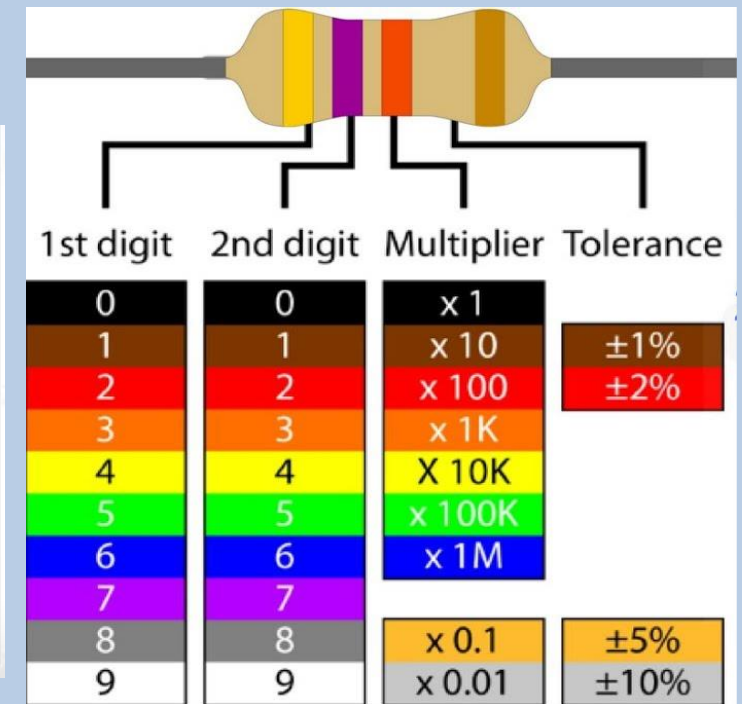
## Isometric

Isometric drawings look more realistic than oblique ones and are based on 30-degree lines. For support, use isometric grid paper to guide your angles:

- 1 Instead of drawing the 2D front view in oblique, you begin with an edge of the product – draw this as a vertical straight line.
- 2 From this line, create **construction lines** going off at 30 degrees.
- 3 Fill in the next vertical lines.
- 4 From these vertical lines, draw your next construction lines going off at 30 degrees (repeat steps 3 and 4 depending on the complexity of your drawing).
- 5 Within these construction lines, draw your product.

## Resistor Values

A resistor is a device that opposes the flow of electrical current. The bigger the value of a resistor, the more it opposes the current flow. The value of a resistor is given in  $\Omega$  (ohms) and is often referred to as its 'resistance'.



Alternating current supplied to the loudspeaker creates sound waves in the following way:

	Capacitor circuit symbol
	Resistor circuit symbol
	Speaker circuit symbol

1. a current in the coil creates a magnetic field
2. the magnetic field interacts with the permanent magnet generating a force, which pushes the cone outwards
3. the current is made to flow in the opposite direction
4. the direction of the magnetic field reverses
5. the force on the cone now pulls it back in
6. repeatedly alternating the current direction makes the cone vibrate in and out
7. the cone vibrations cause pressure variations in the air - which are sound waves

The variety of methods used to join timbers  
 The advantages and disadvantages of a range of surface finishes that can be applied to timber



Name	Appearance	Advantages	Disadvantages
Butt		Easy to make, it is just square ends glued together	<ul style="list-style-type: none"> <li>Weak: there is no mechanical strength, just the glue</li> <li>Not aesthetically pleasing</li> </ul>
Dowel		Automated machines can drill the dowel holes quickly and accurately	Hard to line up the dowels accurately by hand
Lap		Quite easy to cut	Not very strong
Housing		<ul style="list-style-type: none"> <li>Holds a shelf or divider securely in the middle of a carcass (frame)</li> <li>Pairs well with corner lap joints</li> </ul>	<ul style="list-style-type: none"> <li>Can be tricky to cut neatly on a wide board</li> <li>Very accurate marking out and cutting required to ensure a shelf is exactly level</li> </ul>
Mitre		<ul style="list-style-type: none"> <li>Looks good because no end grain shows</li> <li>Good for picture frames</li> </ul>	Weak, it is only a butt joint at 45°
Mortise and tenon		<ul style="list-style-type: none"> <li>A strong joint</li> <li>Good for joining a table or chair frame to legs</li> </ul>	Time consuming to cut by hand
Dovetail		<ul style="list-style-type: none"> <li>A very strong joint – the dovetails lock together securely</li> <li>Good for a drawer front that will get pulled hard</li> </ul>	Very tricky to cut accurately by hand



Type	Description	Advantages	Disadvantages
Paint	A coloured pigment in liquid that dries out	Available in a range of colours	Covers up the natural woodgrain
Stain	A coloured liquid that soaks into the wood surface	Makes a pale coloured wood like pine a darker colour to mimic more expensive woods like oak or mahogany	Does not look quite like another wood as the pine grain still shows
Varnish	A clear coating that dries to shine	Gives a hard wearing finish that shows the grain of the wood Can be a high gloss or a matte finish	Can scratch or chip and expose the wood
Wax	A soft solid that is rubbed into the surface with a cloth	Easy to apply Gives a plain natural look	Rubs away and needs reapplying Not a glossy finish
Oil	Is rubbed onto the surface and soaks in	Good waterproofing for timber Vegetable oil on kitchen ware is non toxic	Surface feels oily
Shellac	A cloudy liquid made from a resin secreted by a beetle Lots of layers are rubbed on and polished to a finish called French polish	Traditionally used on expensive furniture for its glossy lustre	Easily damaged by water and heat
Veneer	A thin layer of wood glued onto the surface	An expensive decorative wood like mahogany can be put onto a cheaper wood like pine or chipboard	The veneer is natural wood so it still needs a finish applied